November 3, 2022

Mr. Robert Lowell
Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA 02114

Re: DRAFT TSCA Risk Based Cleanup Plan – Revised 11/3/2022
DCR Neponset Reservation Adjacent to Former Lewis Chemical
Hyde Park, MA
CDW Project # 1363.40
MassDEP Release Tracking Number 3-31548

Dear Mr. Lowell:

CDW, on behalf of DCR has revised the Draft TSCA Risk-Based Cleanup Plan that was originally dated May 25, 2021. The plan was submitted to EPA for review in March 2022. This plan is revised to correct an error in sampling result B16 (0-2'). Sample B16 (0-2') was inadvertently reported as 155,500 mg/kg for total PCBs. This draft version of the report changes the total PCB concentration in that sample from 155,500 mg/kg to 15,550 mg/kg.

Let me know if you have any questions.

Very truly yours,

CDW CONSULTANTS, INC.

Brian J. Miller, LSP
Associate/Senior Project Manager

DRAFT

TSCA RISK-BASED CLEANUP & DISPOSAL PLAN

DCR Neponset River Reservation
Adjacent to Former Lewis Chemical
12-24 Fairmount Court
Hyde Park, MA

MassDEP RTN 3-31548

Prepared for and Submitted on Behalf of:

Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA 02114

Revised
November 3, 2022

CDW Project # 1363.40

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EXECUTIVE SUMMARY

CDW Consultants, Inc. (CDW) has been retained by the Massachusetts Department of Conservation and Recreation (DCR) to prepare this RBC Plan for the excavation, handling and disposal of PCB-contaminated soils at the Site. The Site consists of a vacant 8,500 square foot elongated parcel of land located between the Neponset River and the FLC property at 12-24 Fairmount Court in Hyde Park, Massachusetts. The narrow parcel is vegetated with grass and small trees along the border with the Neponset River. The adjacent Neponset River flows in an easterly direction, and there is an adjacent steep riverbank that is reinforced with a rip-rap stone embankment.

Several contaminants were identified during initial investigations of soil and groundwater on the DCR site by others, triggering a 120-day reporting condition to the Massachusetts Department of Environmental Protection (MassDEP). The Site was listed as a disposal site with MassDEP in accordance with the Massachusetts Contingency Plan (MCP) in May 2013. The primary contaminants of concern at the Site are polychlorinated biphenyls (PCBs) and chlorinated VOCs in soil and groundwater with petroleum and lead as secondary contaminants in soil. The source of contaminants at the Site is chemical mismanagement and surface discharges through pipes from the adjacent Former Lewis Chemical Property (FLC).

The adjacent FLC property was originally listed with the USEPA under the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) on May 1, 1983 and under ID # MAD053455911 and was archived on September 10, 1986. The release was originally reported to MassDEP on January 15, 1987 due to releases to the ground surface by mis-managed stored chemicals.

Additional assessments were conducted by CDW Consultants, Inc. (CDW), on behalf of the Massachusetts Department of Conservation and Recreation (DCR) from September 2014 to December 2020 to further characterize the extent of PCBs, chlorinated volatile organic compounds (CVOCs) and petroleum in soil and groundwater.

Currently, PCB-contaminated soils remain at the Site at concentrations as high as 155,500 parts per million (ppm). To address the PCB-contaminated soils remaining at the Site, the current owner of the Site, DCR, has prepared this TSCA Risk-Based Cleanup & Disposal Plan (RBC Plan). The objectives of the work to be undertaken pursuant to this RBC Plan are to:

- properly excavate and manage specific volumes of PCB contaminated soils;
- reduce or eliminate long-term exposure risks to residual PCB-contaminated soil with the construction and maintenance of an earthen cap;
- collect soil data at the Site to support such purposes; and

- through the collective implementation of these activities, address the outstanding issues identified above with respect to the Site's status under federal and state law.

Under the RBC Plan, certain PCB-impacted soils will be excavated and disposed off-site as PCB remediation waste. A constructed cap will reduce the potential for direct contact with PCB-contaminated soils that remain at the Site, thereby satisfying applicable conditions of the TSCA Determination, and achieving a level of No Significant Risk as required by the MCP. Recording a deed notice in the form of a notice of activity and use limitation (AUL) and a Long Term Maintenance & Monitoring Plan, will serve to enforce cap maintenance obligations and to address applicable long-term monitoring and maintenance requirements in the TSCA Determination.

1 INTRODUCTION

CDW Consultants, Inc. (CDW) has been retained by DCR to prepare this RBC Plan for the excavation, handling and disposal of PCB-contaminated soils at the Site. The Site is a vacant narrow parcel of land located between the FLC property and the Neponset River. This RBC Plan is being submitted on behalf of the owner, Commonwealth of Massachusetts, to remediate the Site and facilitate redevelopment of the adjacent FLC parcel. The RBC Plan describes the management of PCB-contaminated soils that will be generated as a result of remedial activities. The purpose of this RBC Plan is to apply in writing to the EPA Regional Administrator for approval to sample, excavate, and dispose of PCB remediation waste at the Site using a risk-based cleanup approach under 40 CFR §§ 761.61(a) and (c).

2 SITE BACKGROUND & HISTORY

The Site consists of a single parcel of land comprising approximately 8,500 square feet, identified as Boston Assessor's Parcel ID 1810602000. The FLC property directly abuts the Site upgradient and to the north and northwest. The Neponset River is located adjacent and southeast of the Site, with approximately 575 feet of frontage, and flows in a northeasterly direction. An MBTA commuter railroad is located to the northwest of the Site. A vacant parcel owned by the City of Boston is located adjacent to the northern area of the Site with approximately 50 feet of common boundary. The elevated Fairmount Avenue borders the Site to the northeast with approximately 10 feet of common boundary. The Site is located at latitude 42° 15' 09" N, and longitude 71° 07' 11" W and at approximate Universal Transverse Mercator ("UTM") coordinates 4,679,987 mN, 325,141 mE. A Site Location Map showing features in the general vicinity of the Site is provided as Figure 1. Plans showing the Site and proposed building features are included as Appendix A. Although PCB contamination is known to be present on the adjoining FLC parcel, this RBC Plan is limited to the Site parcel described above and shown on Figures 2 and 3.

2.1 Historic PCB Use

There is no documented use of PCBs on the Site. However, it is well documented that the adjacent FLC property handled and mismanaged a variety of hazardous wastes, primarily CVOCs, as part of the FLC solvent recovery operations. Significant releases of hazardous wastes were documented by state and local authorities during FLC's operations, and finally the operations at Lewis Chemical Company were shut down by the State in 1983 after an explosion at the facility.

Likely off-site sources and the paths for contaminant transport onto the DCR parcel as the downgradient receptor from FLC included: subsurface direct discharge to groundwater though

foundation openings (floor drains, pits, sumps), surface soil impacts from illicit discharges through pipes and other openings observed at the building foundation, and improper handling of stored waste containers on the tank storage pad on the southern portion of the FLC property.

Recent soil sampling in June and December 2020 identified elevated concentrations in two primary locations, adjacent to a former aboveground tank storage pad and in the vicinity of an aboveground pipe and other opening at the base of the former building. Elevated concentrations of CVOCs were also identified in both areas confirming those as release areas for other contaminants. Two additional secondary areas of soil impact were identified, each on opposite ends of the Site, with no specific source area.

Based on a review of Sanborn maps, the Site appears to have been vacant since the late 1800's except for the easternmost corner, which was occupied by a tailor in the late 1800's, a printer in 1905, and then vacant or possibly residential in 1911. Within the last 100 years, the Site has had no history of use, generation, storage, or disposal of hazardous materials.

The adjacent northerly FLC property was occupied by several businesses in the late 1800s and early 1900s including the Royal Remedy Co Laboratory, a mason and picture painting company, a quilted brush factory, mill stone manufacturing, a carpenter, dental tool manufacturing, a knitting business, a chemical and dye company, and residential apartments. From 1940 until the early 1960s, a leather manufacturing company operated at this property.

The FLC operated at this property from 1963 until 1983 and the FLC building was located at the property line of the Site. FLC collected and processed hazardous waste, including the recovery of industrial solvents from waste liquids, for over 20 years. In 1983, the FLC operations were terminated by court order by the Massachusetts DEQE (the predecessor to the MassDEP) after an explosion and fire. Numerous violations of federal, state, and local laws regarding the safe handling, transport, storage, and treatment of hazardous materials, as well as complaints from many local residents, were documented during FLC's time of operation. These violations documented chemical and hazardous waste mismanagement over a long period of time. Once FLC was shut down, it was abandoned. In 1986, the EPA performed an initial assessment but declined to place the FLC site on the National Priorities List. In 1987, it was added to the MassDEP database of waste disposal sites.

The City of Boston acquired the FLC site in 2000 by tax foreclosure, and the property has remained vacant since that time. The City is exempt from environmental liability under the Municipal Tax Lien Exemption. Between 2010 and early 2013, a pilot vapor extraction system was implemented as a Release Abatement Measure (RAM) within the FLC building footprint and operated to reduce the overall soil concentrations of VOCs. During a walk-through of the building, large trench drains were observed, and the remnant of a PCV discharge pipe exiting the building towards a visibly eroded

section of the DCR parcel. The FLC building was demolished by the City in 2013 and there are no remaining buildings. In April 2015 the City submitted a Phase II Comprehensive Site Assessment to MassDEP, and in August 2015 the City submitted a Release Notification Form documenting the discovery of approximately ¼ inch of LNAPL on groundwater. No further assessment or response actions have been documented at the FLC disposal site.

2.2 Site Ownership

The Site is owned by the Commonwealth of Massachusetts. Currently, there are no plans for ownership change. The adjacent FLC property is owned by the City of Boston.

2.3 Site Use

The Site is vacant of improvements. The perimeter of the Site is secured with a chain link fence, which also encompasses the adjacent FLC property. New fencing was installed along the Neponset River side a few years ago by DCR, due to deterioration of the original fence. The Site is unpaved and fairly level except where it slopes rather steeply down to the Neponset River.

2.4 Nature of Contamination

The Site was first reported to MassDEP in May 2013 under the MCP, however, the adjacent FLC Site was first investigated in 1986 by EPA and listed with MassDEP in 1987. Since 2013, investigation activities on the Site and adjacent FLC property have been conducted by separate parties, DCR and City of Boston. The primary contaminants of concern (COC) in soil are PCBs and CVOCs, with secondary contaminants consisting of petroleum-related compounds, and lead. PCBs, CVOCs and petroleum related compounds have also been detected in overburden and bedrock groundwater. All of the contaminants identified in soil and groundwater, except possibly lead in soil, are likely related to FLC's former operations. The presence of lead on the Site and the FLC parcel may be fill material deposited on both properties.

Groundwater is located at depths between approximately 5 and 10 feet below surface grade (bsg) depending on season. The highest concentrations of PCBs in groundwater were found in overburden well ESM-05 and piezometers PZ-02 and PZ-08, which align with areas of elevated PCB concentrations detected in soil.

Elevated concentrations of CVOCs are located in the same general areas of elevated PCBs in soil; however, the CVOCs extend to depths of at least_12 feet in soil and to bedrock groundwater. The occurrence of elevated PCBs in groundwater in these areas may be a result of the effect of comingling with CVOCs making them more soluble.

2.5 Previous Assessment & Remediation Activities

2.5.1 Documentation

The assessment and remediation activities which have been conducted at the Site and adjacent FLC Site have been documented in numerous reports, letters, and memorandums. Many of these documents are available for public review on the MassDEP Waste Site / Reportable Release Look Up (http://public.dep.state.ma.us/SearchableSites2/Search.aspx). Below is a list of some of the most relevant documents for the Site:

- November 2014 Phase I Initial Site Investigation
- February 2018 Phase II Comprehensive Site Assessment
- December 2019 Phase III Remedial Action Plan (RAP)

Adjacent FLC Site, RTN 3-1616 (Includes data on Site):

- March 2003 Phase I Brownfields Site Investigation Report
- May 2007 Interim Phase II Comprehensive Site Assessment
- June 2013 Release Abatement Measure Completion Report
- February 2014 Targeted Brownfield Site Assessment
- April 2015 Phase II Comprehensive Site Assessment
- August 2015 Release Notification for LNAPL

2.5.2 Assessments on Adjacent FLC Property (Includes Site)

Prior sampling completed at the Site was part of multiple investigations conducted on the adjacent FLC property starting in 1986. An initial study was documented in a "Phase I Preliminary Assessment" completed by Wehran Engineering. That report was not available for review; however, according to DEP correspondence, further investigation was recommended due to former waste handling practices and documented spills. In 1998, DEP conducted sampling that revealed VOC impacts to surface water and sediments in the Neponset River. Initial assessments including soil and groundwater sampling were conducted in 1988 and 1991, however PCBs were first discovered during a Phase I Brownfields Site Investigation conducted in 2003.

Phase I Brownfields Site Investigation Report, ESM, March 2003
In March 2003, a "Phase I Brownfields Site Investigation Report" was completed by Environmental Strategies & Management, Inc. (ESM) on behalf of the City of Boston. The Phase I included a historical review, a detailed site inspection, and soil, groundwater, sediment and surface water sampling and analyses, and a ground penetrating radar (GPR) survey. Sampling during that

investigation extended onto the Site. The GPR survey along with test pits conclusively identified one 8,000-gallon underground tank with 600 gallons of liquid, on the former FLC property. PCBs in one soil sample and VOCs in several soil samples were detected above MCP RCs at the Site. PCBs were detected in one sample collected from the Site at concentrations above RCs. The highest VOC concentrations were detected in samples collected on the Site. Trichloroethylene was detected in Site groundwater at concentrations 800 times higher than the applicable RC. Metals were identified in soil and sediment samples on the Site. The report concluded that additional investigations regarding the geologic and hydrogeologic conditions beneath the Site and river would be required to determine imminent hazard conditions or other long-term risks to human health and the environment.

Interim Phase II - Comprehensive Site Assessment, ESM, May 2007

An "Interim Phase II – Comprehensive Site Assessment" was completed by ESM in May 2007 for the City of Boston. The investigation included the installation of overburden wells, bedrock wells, piezometers, collection of soil gas samples, sediment sampling, collection of water table and potentiometric surface data, and groundwater sampling. Contaminants of concern were identified as chlorinated and non-chlorinated VOCs, petroleum hydrocarbons, metals and PCBs. The report summarized the primary areas of concern as beneath the former FLC building, and between the building and the Neponset River (the Site). It was concluded that releases and spills during operations in the FLC building entered the subsurface through floor drains inside the building and through releases from the aboveground tank storage pad.

The report also concluded that solvents in groundwater migrated to the Neponset River and impacted sediments. Upper Concentration Limits were exceeded for CVOCs in groundwater from wells ESM-3 and ESM-5 located on the Site. Lead was detected throughout soils at both the FLC property and the Site. The highest concentration (4,800 mg/kg) of lead in soil was detected on the FLC property. A concentration of 710 mg/kg was detected on the Site. There was no identified source of lead at the former FLC property. PCBs were also detected in groundwater on the Site and may have become soluble in groundwater as a result of mixing with solvent releases originating from FLC.

Soil Sampling for PCBs, November 2008

Data on PCB analysis conducted in November 2008 was obtained from tables and a figure by Woodard and Curran from the DEP file. The highest concentration of total PCBs in soil (300 mg/kg) was detected on the Site near the former aboveground tank storage pad (GP-2) at a depth of 0-3 feet. No laboratory data or individual Aroclors were provided. Furthermore, it is not known if these samples were analyzed by laboratory or field methods.

Release Abatement Measure and Soil Sampling, Woodard and Curran, July 2010

A Release Abatement Measure was conducted by Woodard and Curran between September 2010 and February 2013 consisting of a soil vapor extraction system beneath the building on the adjacent FLC

property. The system operated for a total of 649 days and approximately 1,500 pounds of VOCs were reportedly removed prior to system shut down.

Targeted Brownfield Site Assessment, Nobis Engineering, February 2014

A targeted Brownfield Site Assessment report was completed by Nobis Engineering on behalf of the City of Boston in February 2014. The report was limited to a data transmittal for field activities completed from September 2013 to November 2013. Twenty-eight (28) soil borings were completed and 101 soil samples collected across the Site and adjacent former FLC property. Eight of the sample locations were completed on the Site. Laboratory analyses included VOCs, PCBs and PP13 Metals. Elevated PCBs and VOCs were detected in several Site samples, particularly around the former drum and tank storage area located southwest of the former FLC building. PCBs were detected at a maximum concentration of 13,000 mg/kg at a depth of 2.5 feet BGS. PCBs were detected at elevated concentrations as deep as 10-15 feet BGS. Only PCB Aroclor 1248 was detected. The concentrations of VOCs and PCBs detected on the Site parcel were higher than those detected on the adjacent FLC parcel.

Data from this assessment was used to support this RBC Plan.

Phase II Comprehensive Site Assessment, Woodard & Curran, April 2015

The Final Phase II Comprehensive Site Assessment was completed for the City in 2015. As part of the Phase II study, a Method 3 Human Health Risk Characterization was completed. The Method 3 concluded that impacted soil, groundwater and Neponset River sediments pose potential significant risks to future users of the Site, and additional response actions are required at the Site to mitigate the potential risks. The study indicated that the next step in the Site cleanup process was to evaluate potential response actions (remedial actions), determine which remedial action(s) will meet the objective of mitigating the potential risks posed by the site contamination, and select the most appropriate and feasible remedial action(s) for the Site.

2.5.3 Recent Assessments Conducted by DCR

In early 2013, specific data collected on the DCR parcel during a Phase II – Comprehensive Site Assessment of FLC by others was transmitted by MassDEP to DCR. In April 2013, DCR and CDW conducted a Site walk. It was observed that the FLC building contained multiple trench drains and sumps, some of which led to openings and pipes on the southern wall of the FLC building foundation. On May 17, 2013, based upon this data, DCR submitted a release notification to DEP. The RNF listed 13 constituents in soil and 13 constituents in groundwater that exceeded applicable MCP Reportable Concentrations.

A second RTN (3-31697) is also associated with the parcel for a release condition related to total lead concentrations in soil. The Site was Tier Classified on November 4, 2014. Because the source, nature and extent of lead in soil could not be directly related to the other constituents, a revised RNF was submitted to exclude lead in soil, and a separate RNF was submitted on August 2, 2013 for lead only (RTN 3-31697). DCR submitted a Permanent Solution Statement that MassDEP retracted and requested that lead be addressed in RTN 3-31548.

Downgradient Property Status and Termination, CDW, January and June 2014
Based upon elevated groundwater concentrations of VOCs and other chemicals on the DCR property, and the well-documented chemical and waste storage and release history at the upgradient FLC, CDW on behalf of DCR submitted a Downgradient Property Status (DPS) report to MassDEP on January 24, 2014. MassDEP disagreed with the DPS submittal and terminated the DPS with a Notice of Audit (NOAF) Findings on June 5, 2014.

Phase I Initial Site Investigation and Tier Classification, CDW, November 2014
On November 4, 2014, CDW submitted a Phase I – Initial Site Investigation and Tier Classification for RTN 3-31548. The Site was classified as a Tier II Disposal Site because none of the Tier I inclusionary criteria were met.

Phase II Comprehensive Site Assessment, CDW, January 2018
In January 2018, CDW, on behalf of DCR, submitted a Phase II-Comprehensive Site Assessment. From March 2015 through January 2018, CDW completed subsurface investigation activities to support the Phase II study. The investigation consisted of soil borings and installation of overburden and bedrock wells and piezometers, soil and groundwater sampling and analysis, and a groundwater flow survey. A total of five borings were advanced and four were completed as monitoring wells. Soil and groundwater results indicated that the highest concentrations of VOCs in both soil and groundwater were found near the former building discharge pipes and near the above ground tank pad. In April 2015 and January 2018, CDW installed and sampled piezometers along the river for VOCs and PCBs. Three VOCs were detected above Method 1 GW-3 Standards in PZ-02D, first sampled in January 2018. Toluene was detected above the UCL during that sampling event. PCBs were detected above GW-3 Standards in piezometer PZ-08D in April 2015.

Exposure point concentrations (EPC) were calculated during the Method 1 risk assessment to evaluate the contaminants of concern at the Site. Soil data collected from 2002 through 2017 was included and groundwater data from 2015, 2017 and 2018 was included. EPCs for VOCs and PCBs in soil exceeded applicable Method 1 standards. Therefore, a condition of no significant risk of harm to human health did not exist at the Site with respect to soil for current or future use. EPCs for VPH, VOCs, and PCBs in groundwater exceeded the applicable Method 1 GW-3 standards. Therefore, with respect to Site groundwater, a condition of no significant risk of harm to human health did not

exist for both current and future uses of the Site. Upper concentration limits were exceeded by PCB exposure point concentrations calculated in soil and VPH, VOC, and PCB exposure point concentrations calculated for groundwater. Therefore, a condition of no significant risk to public welfare and the environment did not exist with respect to both soil and groundwater.

Phase III Remedial Action Plan, CDW, December 2019

In December 2019, CDW submitted a Phase III Remedial Action Plan on behalf of DCR. Additional groundwater sampling was conducted in October 2018 to support the Phase III. Overall, CVOC concentrations in overburden groundwater have decreased since 2006. PCB concentrations in groundwater have either increased or decreased over time depending on location. The highest PCB concentrations in groundwater are located in overburden well ESM-05 located near the area of a former discharge pipe and other foundation openings. The Phase III evaluated several remedial alternatives including soil excavation, capping, earthen barrier, permeable reactive barrier, monitored natural attenuation, groundwater extraction and treatment, air sparge/soil vapor extraction, and in-situ thermal remediation. The selected remedial alternative based on feasibility, ease of implementation, and cost was a combination of soil excavation, capping, institutional controls and monitored natural attenuation. A groundwater sampling program to monitor natural attenuation could last up to 30 years.

3 SAMPLING PROCEDURES AND SUMMARY OF RECENT ASSESSMENTS

CDW conducted soil sampling in June 2020, December 2020 and March 2021 to characterize the extent of PCBs across the Site. In summary, PCBs were detected in 373 of 540 soil samples collected at the Site between June 2020 and March 2021 as part of investigations to characterize the extent of PCBs in soil. Concentrations of PCBs in 234 of the 373 soil samples where PCBs were detected contained PCB concentrations above the MCP Method 1, S-1 Standard of 1 mg/kg, and 87 of 373 samples contained PCBs at 50 mg/kg or above. Finally, 67 of the 373 samples exceeded the MCP UCL of 100 mg/kg. The highest PCB concentration was measured in B-16 (0-2') at 15,550 ppm. The average total PCB concentration of the samples which were collected at 0-3 feet were higher than samples collected between 3 and 15 feet. PCBs were detected up to 18 feet deep at various concentrations. Elevated PCBs were most notably detected in deeper soil in borings A-24 and B-24. A summary of average concentrations is included in Table 13. These investigations are described in detail below.

3.1 Soil Assessment – June 2020

From June 9 through 16, 2020, CDW's subcontractor, Crawford Drilling, completed 62 test borings using a direct drive drill rig. Soil samples were obtained in five-foot long disposable plastic sleeves. Samples for laboratory analyses were collected continuously in two-foot lengths. All samples were screened for total organic volatiles (TOVs) using a Photoionization Detector (PID). The results showed TOVs ranging from non-detect in most samples to as high as 3,961 parts per million by volume (ppmv) in the 8-10 foot depth sample at A16. TOVs are presented in Table 7B along with the PCB soil laboratory results. Elevated TOVs were noted in several samples at varying depths, mainly below 2 feet. Elevated TOVs do not generally coincide with elevated total PCBs indicating that the source of the elevated TOVs is CVOCs in soil. Excess soil generated during soil sampling was returned to the borings where it originated. The borings were completed to depths ranging between 5 and 20 feet below ground surface (bgs). Borings were completed in either 20x20 foot grids or 10x10 foot grids. Disposable acetate sleaves were used to collect the samples. Drilling equipment was decontaminated using alconox and water between borings. Soil boring logs are included in Appendix B.

A total of 391 soil samples were analyzed for PCBs by EPA Method 8082 with Soxhlet extraction at ESS Laboratory. The results showed total PCB concentrations ranging from non-detect to 15,550 mg/kg. PCBs were detected in 245 of the 391 samples. An apparent source area was identified in the area of a former pipe discharging from the former building between borings A16, B16, A17, and B17. The highest PCB concentrations in that area were in the 0-2 foot depth samples at 15,550 mg/kg (B16), 9,610 mg/kg (B17) and 4,240 mg/kg (A16). In general, the highest PCB concentrations were identified in the top 2 feet of soil with some areas of elevated concentrations extending to depths up to 12 feet. Additionally, 34 of the 391 samples collected throughout the Site exceeded the MCP Upper Concentrations Limit of 100 mg/kg for PCBs. PCB Aroclors 1242, 1248, 1254, and 1260 were identified in the results, with Aroclors 1242 and 1248 predominant. Table 7B lists every grid on the Site, and where applicable, the volume and depth of soil to be excavated within each grid. Laboratory reports are included in Appendix A.

3.2 Soil Assessment – December 2020

Based upon the initial results from June 2020, CDW completed additional soil borings in December 2020. The purpose of these borings were to fill in data gaps generated from the June 2020 results. The borings were advanced in specific grid areas where results reported PCBs ≥ 50 ppm. The results, summarized in Table 7B, further refined the areas and volumes requiring excavation and off-site disposal under TSCA.

On December 8 and 9 2020, CDW advanced 17 borings using a manual AMS sampler. This method was used for these borings due to drill rig accessibility issues and uneven terrain along the top of the riverbank. The AMS sampler utilizes a weighted bar to manually drive the sampler into the ground. Refusal was encountered at 2 feet in 13 of the borings, and 3 feet in 4 of the borings, therefore only shallow data was collected along this line. Excess soil generated during soil sampling was returned to the location from which it had been removed. The sampling equipment was decontaminated between the collection of each sample with alconox and water. A total of 21 soil samples were analyzed for PCBs by Soxhlet extraction from these hand borings. The results showed PCBs detected in all 21 samples. Samples from 9 of the borings exceed the TSCA limit of 50 mg/kg, and 5 of those exceed the MCP UCL of 100 mg/kg. The highest concentrations were found in borings HB6 through HB9 with total PCB concentrations in shallow soil ranging from 356 mg/kg to 7,930 mg/kg.

On December 21 and 22, 2020, CDW advanced 37 soil borings using a direct push geoprobe drill rig. Crawford Drilling completed the soil borings. The location of these borings was based on the results of the June 2020 investigation and served to fill in data gaps remaining after that investigation. Soil samples were collected in dedicated 5-foot long, acetate liners. Excess soil generated during soil sampling was returned to the location from which it had been removed. Soil sample locations, shown on Figure 2 and 3, were selected to fill in data gaps remaining after the June 2020 PCB investigation. Where PCB concentrations were found above 50 mg/kg, the next deepest sample was analyzed until results were reported below 50 mg/kg. Twenty (20) soil samples exceed the TSCA limit of 50 mg/kg, and 16 of those exceed the MCP UCL of 100 mg/kg. The highest concentrations were found between borings A18 and A19 with concentrations as high as 3,340 mg/kg at 0-2 feet, and between A23 and A25 with concentrations as high as 1,520 mg/kg at a depth of 2-4 feet. PCB Aroclors 1242, 1248 and 1260 were identified in the results, with Aroclors 1242 and 1248 predominant.

As summarized in Table 7B, PCBs were detected in 93 of the 111 soil samples collected at the Site by CDW in December 2020.

3.3 Soil Assessment – March 2021

Based upon the results from December 2020, CDW completed additional soil sampling in March 2021. The purpose of this sampling was to obtain additional soil data from the riverbank to assess the extent of PCBs in the direction of the Neponset River.

On March 11, 2021, CDW collected soil samples from 33 new locations along the riverbank. Seven of these locations (HB-18 through HB-24) were hand borings advanced to between depths of 2 to 4 feet. Six of the locations (RS-6 through RS-11) were shallow samples collected between large rip rap boulders along the embankment, and 20 locations (SS-1 through SS-20) were shallow soil samples collected between the boulders and the river. The results showed PCBs detected up to 10,300 mg/kg in the HB series, up to 5,860 mg/kg in the RS samples collected between the rip rap boulders

and up to 3,890 mg/kg detected in the SS samples collected closest to the river. PCB Aroclor 1248 was identified in all but two samples where Aroclor 1242 was identified.

Based on the location of sampling locations SS-1through SS-20, CDW evaluated whether these samples would be classified as soil or sediment, based on seasonal variations in the level of water in the Neponset River. These samples were collected along the lower embankment, below the armored boulders. This area was observed to be submerged in the spring of 2015 during abnormally highwater levels in the Neponset River. During all other periods of observation, these areas were exposed above the water line, including in March 2021 during collection of samples. These samples were observed to be sandy with minimal organics. Based on this, it is CDW's opinion that these are considered soil samples.

As summarized in Table 7B, PCBs were detected in 33 of the 38 soil samples collected at the Site by CDW in March 2021.

Figures 2 and 3 show the proposed depths to be excavated coded by color.

3.4 Groundwater Assessment

Groundwater has been sampled and analyzed for PCBs and other constituents several times since 2006. Shallow and overburden monitoring wells ESM-03, ESM-03B-S, ESM-03B-D, ESM-04, ESM-05, ESM-05B, ESM-06, ESM-07, ESM-09, CDW-2, CDW-3, CDW-4, and CDW-5 as well as several piezometers have been sampled for PCBs. The highest concentrations have been historically detected in overburden well ESM-05 and piezometers PZ-02S and PZ-08D. Concentrations in ESM-05 have ranged from 90 mg/l in 2018 to 3.32 mg/l in 2020. ESM-05 is located in an area where some of the highest PCB concentrations in soil were detected. Concentrations as high as 136 mg/l were detected in shoreline piezometers located downgradient of the areas of elevated PCBs in soil. PCB concentrations in one well and two piezometers have exceeded applicable MCP Method 1 Standards. VPH and CVOCs have also been detected at elevated concentrations in several wells where PCBs have been found possibly contributing to the solubility of PCBs in groundwater. Elevated CVOCs detected in ESM-05 include trichloroethene, 1,1,1-trichloroethane, cis, 1,2-dichloroethene, and chlorobenzene. Groundwater has been observed at depths of approximately 5 to 13 feet bsg. The locations of these wells are shown on Figure 4. Soil boring logs and well construction diagrams are attached to this RBC Plan as Appendix B.

The most recent sampling round was completed on June 16, 2020 when four monitoring wells (ESM-03, ESM-05, ESM-06 and CDW-3 were sampled for PCBs. Monitoring well CDW-2 was intended to be sampled but could not be located. The results of ESM-06 and CDW-3 were generally consistent with past results. The concentrations of PCBs in ESM-05 decreased significantly from the previous sampling round in 2018 and decreased below the Method 1 standard for the first time since sampling.

PCBs were detected in ESM-03 for the first time since initially sampling in 2006, but were below Method 1 standards. PCB Aroclors 1242 and 1248 were detected in groundwater. PCB Aroclor 1232 was detected in shoreline piezometer PZ-08D in 2015.

Groundwater has been measured at depths ranging between approximately 5 and 12 feet below grade, depending on season. The highest groundwater levels were measured in March and April 2015, and the lowest groundwater levels were measured in September 2014.

4 HUMAN HEALTH RISK ASSESSMENT & ECOLOGICAL RISK ASSESSMENT

PCBs at concentrations above the prescriptive PCB cleanup standards at 40 CFR § 761.61(a) are proposed to be left in place at the Site under this RBC Plan; therefore, CDW has evaluated the need for a Human Health Risk Assessment and Ecological Risk Assessment for the Site, which is presented within the following section. This evaluation has focused on the contaminant concentrations remaining in the soil and groundwater at the Site as contact with impacted soil is the primary potential exposure pathway at the Site. Surface water, sediment and pore water were sampled previously by others. While some conclusions can be made, further sampling may be needed to fully evaluate those media.

4.1 Ecological Evaluation of Risk

In August 2015, Woodard and Curran conducted sediment, pore water and surface water sampling within the Neponset River. The sampling was conducted at locations within reach of the Site and at upstream and downstream areas to evaluate Site and local conditions to support an updated Stage I Ecological Screening Assessment.

The sampling consisted of nine surface water, six pore water, and seven sediment samples collected along the property boundary. Four surface water, three pore water, and four sediment samples were collected upstream of the Site. Samples were submitted for laboratory analyses for VOCs, MCP14 metals, PCBs, organic carbon, and total and/or dissolved hardness.

The results showed that concentrations of VOCs, metals and PCBs were detected along the Site boundary and at upstream locations. Generally, the highest concentrations of PCBs were detected in sediment within reach of the Site. However, historical data on the Neponset River indicate elevated concentrations of PCBs exist in upstream locations. The former LE Mason PCB Site is located upstream of the Site along the Mother Brook, a tributary to the Neponset River. The Mother Brook has undergone cleanup of PCBs in sediment due to impacts from that Site. Water and sediment within the river are impacted by local conditions due to industrial use, which includes a variety of

contaminants including PCBs, metals, VOCs and SVOCs. Further, the USGS conducted a sediment analyses survey that suggested that PCBs from the LE Mason Site have impacted sediments throughout the Neponset River from the Mother Brook to Boston Harbor.

W&C noted that access to sediments along the Site boundary was severely limited by the presence of stone armoring at the bottom of the river. The highest PCB and VOC concentrations were found in sediment and pore water samples SW-12/SED-12/PW-12, SW-15/SED-15/PW-15 and SW-16/SED-16/PW-16 collected along the Site boundary. It should be noted that PCB Aroclor 1232 was primarily identified in sediment and pore water both along the Site boundary and upriver of the Site, while PCB Aroclors 1242 and 1248 were primarily identified in soil and groundwater at the Site. While this shows a potential conflict of PCB sources, degradation of chlorine is possible to change aroclors.

The following conclusions were made relative to the conditions of the Neponset River: " *In pore water, chlorinated VOCs and barium exceeded benchmark concentrations at a frequency and magnitude that suggested the potential for adverse effects to ecological receptors. In sediment, chromium, barium, lead, mercury, vanadium and zinc were present in a number of samples at the Property and in the river at concentrations exceeding the range of benchmark values. However, these metals were also detected in reference samples in some cases above benchmark values indicating that there are local background conditions that will need to be evaluated further. Surface water COPCs were determined to pose negligible environmental risk.*

VOCs, metals and PCBs have been detected in pore water, surface water and sediment within the reach of the Neponset River adjacent to the Property, as well as in upriver Reference areas. A comparison of recent 2015 pore water, surface water and sediment analytical results suggest higher concentrations of certain COPCs along the embankment at the Property, particularly for pore water and sediment. However, historical and recently collected Reference data indicate that elevated concentrations of metals and PCBs also exist in upriver locations. In the context of historical data, concentrations measured in the vicinity of the former Lewis Chemical facility in 2015 for many constituents are consistent with those of upriver areas."

4.2 Human Health Risk

The current EPCs for soil were calculated as the arithmetic average of the total PCBs and other contaminants of concern including several chlorinated VOCs and lead from 0 to 3 feet and 3 to 15 feet across the Site. Results from CDW's investigations conducted between June 2020 and March 2021, and a September 2013 investigation by Nobis were included in the calculations. A total of 245 samples were included in the 0-3 foot average and a total of 402 samples were included in the 3-15 foot average. Total PCBs in individual soil samples used to support this risk characterization are presented in Table 7B. For samples which did not contain detectable concentrations of PCBs, one half of the detection limit for a single PCB compound was utilized in the calculation of the current PCB EPC. Although some of these concentrations are significantly higher than the calculated EPC,

due to the apparent random distribution of elevated PCB concentrations in the upper soil, the high density of the data, and the relatively small size of the Site, CDW believes that an arithmetic average is appropriate. The current PCB EPC for soil between 0 and 3 feet was calculated to be 483 ppm and the current PCB EPC for soil between 3 and 15 feet was calculated to be 49 ppm.

As part of this RBC Plan, approximately 825 cubic yards of soil will be excavated for off-site disposal from specific areas and depths. Therefore, the future PCB EPCs for soil were calculated as the arithmetic average of total PCBs which will remain at the Site after 825 cubic yards of soils are removed and disposed of off-site. Soil from the following sample locations will be removed from the Site:

Sample ID	Cell Square Feet	Highest Concentration (ppm)	Excavation Depth (ft)
B1/B1 C	295	214	2
RS-11	80	21.3	1
A15/B15	120	22.3	2
A14/B14	110	8.9	2
HB-4 - HB-9 and HB-18 – HB-21	507	10,300	2
A16/B16	125	15,550	8
A17/A18/B17/B18	386	9,610	6
A19	140	209	10
B19	106	220	4
A20, B20, B21, B22	450	20.7	2
A21	100	171	4
A22 - A23	175	664	6
A24	75	265	10
B23	80	951	8
B24	80	337	12
HB-10/HB-11/HB-12 RS-6 – RS-8 and HB-22	488	679	2
A25/A26/B25/B26	320	318	2
A27/B27-B28	212	102	4
C29	244	191	4
HB-15 and RS-10	135	5,860	2
C30/C30A	120	241	6
G-6	91	130	2
SS-3 to SS-15	620	3,890	1

Sample ID	Cell Square Feet	Highest Concentration (ppm)	Excavation Depth (ft)
HB-13 and HB-14	190	41	2
HB-16 and HB-17	203	39	2
A14 and B14	132	8.9	1
A28, A29, B29, B30	404	13.5	2
A1/B2 through A11/B11	3,200	7.4	1
SS-16, SS-17, HB-24	130	20.8	1

For samples which did not contain detectable concentrations of PCBs, one half of the detection limit for a single PCB compound was utilized in the calculation of the future PCB EPC. In areas where the top foot will be removed, but only 0-2 foot data exists, that data was included in the future PCB EPC calculations. Although some of these concentrations are significantly higher than the calculated EPC, due to the somewhat random distribution of elevated PCB concentrations in the soil, the high density of the data, and the relatively small size of the Site, CDW believes that an arithmetic average is appropriate. Much of the top 2 feet of the Site will be removed and replaced with clean fill to create a cap. As shown in Table 13, the future PCB EPC for soil in the top 3 feet was calculated to be 6.1 ppm which is considerably lower than the current PCB EPC for upper soil of 422 ppm. The future PCB EPC for soil at a depth of 3-15 feet was calculated to be 4.24 ppm which is considerably lower than the current PCB EPC for upper soil of 49 ppm. In accordance with 761.61(a)(4), bulk PCB remediation wastes may remain at a cleanup site at concentrations >25 ppm and ≤ 100 ppm if the site is covered with a cap meeting certain requirements. The highest individual concentration remaining onsite after soil excavation would be 69.8 ppm at a depth of 10-12 feet. Given the Site is part of the Neponset River Reservation and no buildings are located on the Site, the anticipated use of the Site would be low occupancy.

The calculated future PCB and other future COCs EPCs for 0-3 foot soil were entered into the MassDEP Method 3 Shortform for construction worker exposure to soil. The Method 3 Shortforms have been developed by MassDEP to streamline the MCP Method 3 risk assessment process by utilizing recommended, protective exposure assumptions and toxicity information in the Shortforms to calculate risk in certain standard exposure scenarios such as construction worker exposure or park visitor. The future EPCs for each individual compounds were calculated as the arithmetic average concentration for the samples in the upper soil which will remain on Site; for samples which did not contain detectable concentrations of a compound, one half of the detection limit was utilized in the calculation of the future EPCs for each COC. The completed Method 3 Shortforms are included as Appendix D. Potential current exposure is limited to workers performing environmental assessment and trespassers. Potential future exposures include construction workers performing remedial, redevelopment or utility work, park visitors or residents, subject to earthen cap maintenance

requirements through the implementation of an AUL as described in Section 8.5.7. As the Excess Lifetime Cancer Risk for park visitors, construction workers and trespassers is less than 1 x 10^{-5} and the Hazard Index for constructions workers is less than 1, an acceptable risk level would be achieved for future exposure scenarios. The earthen cap will be installed at the Site because bulk PCB remediation waste remains at the Site at concentrations greater than 1 ppm and less than 50 ppm. Additionally, the Method 3 Shortforms indicate that the Hazard Index for the residential scenario, in the absence of a restriction on exposure, would be greater than 1 and therefore residential has been removed from future use consideration. Post excavation confirmatory sampling will provide final results for use in risk characterization. A summary of post-remedial risk by likely potential receptor is listed in the table below.

Potential Receptor	ELCR	Hazard Index	Subchronic Hazard Index
Park Visitor 0-3' Soil	3.20E-06	0.61	0.83
Park Visitor 3-15' Soil	3.5E-06	0.49	0.68
Trespasser 0-3' Soil	2.0E-07	0.067	0.077
Trespasser 3-15' Soil	2.3E-07	0.054	0.063
Construction Worker 0-3' Soil	1.2E-07	0.31	-
Construction Worker 3-15' Soil	1.4E-07	0.26	-

5 DATA USABILITY ASSESSMENT

In an effort to evaluate the usability of the data relied upon to formulate the conclusions within this RBC Plan, CDW has performed a data quality assessment. This data quality assessment was limited to the data for PCBs in soil, as PCBs in soil are the primary driver of risk at the Site. Information reviewed included sample custody, field quality control (QC), holding times, surrogate recoveries, method blanks, and laboratory control samples.

5.1 September 2013 Nobis Investigation

The data quality assessment for the soils analyzed in 2013 as part of the Nobis Investigation include 40 samples (G-3 through G-9 borings) collected from depths up to 21 feet bgs. CDW did not collect these samples, therefore cannot comment on field methods. Below is a summary of laboratory reports and any non-conformances.

Contest Report 13I1053, September 2013 – 40 samples
No laboratory non-conformances noted. In general, the soil samples collected by Nobis conform to the QA/QC requirements of the analytical method and are suitable for use in the risk characterization process.

5.2 June 2020 through March 2021 CDW Investigations

CDW collected soil samples between June 2020 and March 2021 for PCB analyses by Soxhlet extraction to evaluate and define the extent of PCBs in soil at the Site. In June 2020, samples were initially collected in the upland areas in a grid pattern with 10 foot spacing between samples. Samples were collected continuously to depths up to 10 feet below grade in most areas and up to 20 feet below grade in some areas. Samples were analyzed continuously to the final depths and consisted of two foot lengths (0-2 ft, 2-4 ft, etc.) The second round of sampling and analyses conducted in December 2020 focused on filling data gaps in the upland areas and expanding the investigation to the upper portion of the riverbank. Upper riverbank samples were only able to be advanced with hand equipment and reached a maximum depth of 3 feet bgs. A third round of sampling and analyses was completed in March 2021 by hand to expand the riverbank sampling to the lower bank areas. Samples were able to be collected to depths between 6 inches and 4 feet bgs in areas with difficult access along the rather steep embankment and between large boulders used for armament of the riverbank. A data gap was identified between samples SS-10 and SS-11, which both had elevated concentrations of PCBs.

Samples were collected in disposable acetate sleeves and downhole equipment was decontaminated between boreholes. All soil sampling by CDW was conducted with the purpose of characterizing soil to be removed or managed to remediate PCBs at the Site. Soil samples collected by CDW were packed on ice and were accompanied by a chain of custody from the time of sample collection to the time of sample delivery. No method holding times were exceeded for respective analyses, and all data packages were reviewed with respect to both MassDEP and EPA method protocols. Below is a summary of laboratory reports and any non-conformances.

June 2020 Samples

ESS Report 20F0373, June 2020, 20 Samples
Percent difference between the primary and confirmation results exceeds 40% - 1 sample

ESS Report 20F0374, June 2020, 20 Samples
No laboratory non-conformances noted.

ESS Report 20F0375, June 2020, 20 Samples
Surrogate recoveries diluted below the MRL (SD) - 1 sample.

ESS Report 20F0376, June 2020, 20 Samples
No laboratory non-conformances noted.

ESS Report 20F0453, June 2020, 20 Samples
Surrogate Recoveries below lower control limit – 1 sample

ESS Report 20F0454, June 2020, 20 Samples
No laboratory non-conformances noted.

ESS Report 20F0455, June 2020, 20 Samples
Surrogate Recoveries outside of criteria due to matrix - 1 sample

ESS Report 20F0456, June 2020, 16 Samples
Lower value is used due to matrix interferences – 1 sample
The percent difference between the primary and confirmation results exceeds 40% - 1 sample
Surrogate recoveries diluted below the MRL (SD) - 1 sample.

ESS Report 20F0457, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL – 7 samples
Lower value is used due to matrix interferences – 1 sample
Percent difference between the primary and confirmation results exceeds 40% - 1 sample

ESS Report 20F0458, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL – 6 samples

ESS Report 20F0459, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL – 6 samples
Surrogate recoveries above upper control limit – 1 sample

ESS Report 20F0460, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL – 5 samples
Surrogate Recoveries outside of criteria due to matrix - 1 sample

ESS Report 20F0540, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL – 5 samples

ESS Report 20F0541, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL – 2 samples

ESS Report 20F0542, June 2020, 17 Samples
Surrogate recoveries diluted below the MRL –4 samples

ESS Report 20F0543, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL –8 samples

ESS Report 20F0544, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL –14 samples

ESS Report 20F0578, June 2020, 18 Samples
Surrogate recoveries diluted below the MRL –3 samples

ESS Report 20F0579, June 2020, 16 Samples
Surrogate recoveries diluted below the MRL –2 samples

ESS Report 20F0580, June 2020, 13 Samples
Surrogate recoveries diluted below the MRL –2 samples

ESS Report 20F0581, June 2020, 8 Samples
No laboratory non-conformances noted.

ESS Report 20F0516, June 2020, 20 Samples
Surrogate recoveries diluted below the MRL –7 samples

ESS Report 20F0517, June 2020, 15 Samples
Surrogate recoveries diluted below the MRL –1 samples

Where surrogate recoveries were diluted below the Method Reporting Limit (MRL), this does not affect data quality because instrument QC and batch QC were within acceptable ranges. Because these samples were not used to identify regulatory Reportable Limits above 1 mg/kg, any additional non-conformances are not expected to affect data usability.

December 2020 samples

ESS Report 20L0449, December 2020, 9 Samples
Surrogate recoveries diluted below the MRL – 6 samples

ESS Report 20L0450, December 2020, 12 Samples
Surrogate recoveries diluted below the MRL – 12 samples

ESS Report 21A0378, December 2020, 2 Samples

No laboratory non-conformances noted.

ESS Report 20L0769, December 2020, 20 Samples
Surrogate recoveries diluted below the MRL – 10 samples
Lower value is used due to matrix interferences – 2 samples
Percent difference between the primary and confirmation results exceeds 40% - 2 samples

ESS Report 20L0770, December 2020, 18 Samples
Surrogate recoveries diluted below the MRL – 10 samples

ESS Report 20L0771, December 2020, 14 Samples
Surrogate recoveries diluted below the MRL – 4 samples

ESS Report 20L0772, December 2020, 11 Samples
Surrogate recoveries diluted below the MRL – 8 samples

ESS Report 20L0773, December 2020, 20 Samples
Surrogate recoveries diluted below the MRL – 5 samples

ESS Report 21A0155, December 2020, 6 Samples
No laboratory non-conformances noted.

Where surrogate recoveries were diluted below the Method Reporting Limit (MRL), this does not affect data quality because instrument QC and batch QC were within acceptable ranges. Because these samples were not used to identify regulatory Reportable Limits above 1 mg/kg, any additional non-conformances are not expected to affect data usability.

March 2021 samples

ESS Report 21C0555, March 2021, 18 Samples
Surrogate recoveries diluted below the MRL – 18 samples

ESS Report 21C0999, March 2021, 20 Samples
Surrogate recoveries diluted below the MRL – 10 samples
Reported above the quantitation limit – Estimated Value E – 1 sample
Surrogate recoveries outside of criteria due to matrix (UCM/coelution/matrix is present((SM) – 1 sample

Where surrogate recoveries were diluted below the Method Reporting Limit (MRL), this does not affect data quality because instrument QC and batch QC were within acceptable ranges. Because these samples were not used to identify regulatory Reportable Limits above 1 mg/kg, any additional non-conformances are not expected to affect data usability.

6 COMPLIANCE WITH FEDERAL AND STATE REGULATORY STANDARDS

The following is a brief discussion of how compliance with federal and state standards will be met during implementation of the activities under this RBC Plan.

6.1 Federal Standards

Compliance with the federal regulations for PCBs, found in 40 CFR Part 761, will be achieved under the provisions of 40 CFR § 761.61(c). This Plan serves as the written application to EPA for the risk-based disposal approval required thereunder. Information required under the notification and certification requirements in 40 CFR § 761.61(a)(3) is included herein. No cleanup activities as described in this RBC Plan will be performed until written approval is received from EPA. At the completion of the activities conducted under this RBC Plan, such activities will be documented in a RBC Plan Completion Report.

6.2 State Standards

The work described herein is also being implemented in accordance with the provisions of the MCP, 310 CMR 40.0000, and will be conducted under a Phase IV Remedy Implementation Plan (RIP) per 310 CMR 40.0870. Under the MCP, the PCB Method 1 cleanup standard for the S-1 category soil is 1 ppm. However, the MCP provides for an alternative to meeting prescribed Method 1 cleanup standards via a site-specific Method 3 Risk Characterization. The site-specific Method 3 may take into account limited use of the Site if exposure is eliminated through establishment of an AUL. The proposed cleanup for the Site will include the establishment of an AUL which will include the construction and enforcement of a permanent cap across the Site as well as restrictions on future uses of the Site. As a result, exposure to the upper soil at the Site will be limited to emergency utility workers and construction workers, and exposure to lower soil will only be permitted in accordance with a Soil Management Plan and a Health and Safety Plan (HASP). Following the completion of the Phase IV RIP, achievement of a condition of No Significant Risk and a Permanent Solution will be documented in a Permanent Solution Statement with Conditions to be filed with MassDEP.

7 EVALUATION OF PCB CLEANUP ALTERNATIVES

CDW, on behalf of DCR, completed and submitted a Phase III Remedial Action Plan to MassDEP in December 2019. The Phase III evaluated several remedial alternatives including soil excavation, capping, earthen barrier, permeable reactive barrier, monitored natural attenuation, groundwater extraction and treatment, air sparge/soil vapor extraction, and in-situ thermal remediation. The selected remedial alternative based on feasibility, ease of implementation, and cost was a combination of soil excavation, capping, institutional controls and monitored natural attenuation.

The Phase III RAP concluded that natural attenuation in groundwater is already occurring, based on historical groundwater data. However, source areas remaining on the adjacent FLC property could limit the effectiveness of this program. Until a collaborative approach between the Site and upgradient property is implemented, active groundwater remediation is not feasible on the Site, as contaminants from the FLC property would continue to affect the downgradient Site groundwater. The report also stated that it is not feasible to achieve or approach background unless an active groundwater remediation system is implemented that considers the disposal site as a whole. Achieving background would require removal of a significant amount of soil across the Site, possibly to depths down to bedrock or 20 feet. Successful soil excavation would reduce concentrations of PCBs to below UCL's in soil, which is expected to contribute the reduction of groundwater concentrations to below UCLs.

Soil excavation would remove the majority of PCB contaminated soil and some of the CVOC contaminated soils to a maximum depth of 12 feet and substantially reduce the total volume and mass of PCBs at the Site. Final capping and the implementation of institutional controls would then be implemented. In addition, the completion of this alternative would reduce the site-wide average concentration of PCBs remaining in soil, to eventually support a Permanent Solution for the Site in accordance with the MCP.

8 CLEANUP PLAN

8.1 Plan Objectives

The objectives of the work to be undertaken pursuant to this RBC Plan are to properly excavate and manage specific soils to reduce or eliminate long-term exposure risks to PCB-contaminated soil with the construction and maintenance of an earthen cap, and to collect additional soil data at the Site to support such purposes. Through the collective implementation of this plan, both state and federal requirements will be met and final regulatory closure will be achieved.

8.2 Party Conducting Cleanup

Party Conducting Cleanup:	Massachusetts Department of Conservation and Recreation
Contact:	Robert Lowell
Address:	251 Causeway St., Boston, MA 02114

The parcel is currently owned by the Commonwealth of Massachusetts. The soil removal and restoration work conducted under the RBC Plan will be performed by a contractor selected as part of a public bid process retained by DCR. The DCR will separately retain CDW to conduct various environmental-specific activities, including on-site oversight of all excavation, dust monitoring, cap construction, soil sampling, and documentation of these activities.

8.3 Groundwater Evaluation

Groundwater sampling since 2006 has shown that concentrations of PCBs in groundwater at the Site have varied significantly. PCB concentrations in well ESM-05 ranged between 26 ug/l and 31.1 ug/l during 4 sampling rounds between 2006 and 2015. PCB concentrations then increased in October 2018 to 90 ug/l, then dropped significantly to 3.32 ug/l in June 2020. Groundwater sampling data collected by CDW and others are summarized in Table 12. As previously discussed, monitoring well ESM-05 is located in Area 2 where the highest concentrations of PCBs were detected in soil. PCBs were detected in several other wells, both overburden and bedrock, at concentrations below the MCP GW-3 standard of 10 ug/l. The concentrations of PCBs in two shoreline piezometers exceeded the MCP GW-3 standard during single sampling events between 2006 and 2015. The data collected to date suggests that PCB migration via groundwater is possible at or from the Site. The excavation and off-site disposal of soils with elevated PCBs is expected to reduce or remove a continuing source of PCBs to groundwater. Based on PCBs concentrations in groundwater collected during the past 15 years, a sampling program for PCBs in groundwater will be incorporated into the LTMMP. This may include bi-annual groundwater sampling and analyses to track trends in natural attenuation for up to 5 years. Progress would be evaluated every five years to determine if an alternative or more aggressive remedial method is needed.

8.4 Risk-Based Site Cleanup Remedial Goals

The goals for this RBC Plan are as follows:

- Conduct soil removal to depths ranging from 1 to 12 feet below existing grade, with verification sampling (see Section 10.1.2);
- Install a geotextile fabric in excavated areas at a depth of 1 to 2 feet;
- Construct an earthen cap of clean soil of at least 2 feet in upland and upper embankment areas, and 1 foot in lower embankment areas to eliminate a route of exposure to PCB-contaminated soils;

- Implement institutional controls (AUL) and a long term maintenance and monitoring plan to ensure the long-term viability of the earthen cap; and
- Conduct groundwater monitoring for at least 5 years to evaluate post excavation reduction in groundwater contaminant levels.

8.5 Plan Implementation

Excavation activities will start in the far western portion of the Site and proceed towards the eastern side of the Site (Site entrance/exit) to avoid cross contamination. To achieve a level of No Significant Risk under a risk-based cleanup, soil from depths up to 12 feet will be excavated for off-site disposal. Excavation cell sizes are based on sampling data and range in depth from 1 to 12 feet. Soil in uplands areas and along the riverbank are proposed for removal. Approximately 673 cubic yards of soil located in uplands areas and 137 cubic yards of soil located along the river embankment would be slated for removal. The embankment is armored with large boulders in many areas, mainly on the upper portion. Elevated PCBs have been detected in soil between these boulders to depths up to approximately 3 feet. In order to remove these soils, many of these boulders may need to be temporarily moved to access the soil beneath or soils between the boulders will be removed with a vacuum truck. Soils along the lower embankment to a depth of 1 foot will be removed using vacuum methods. All soil with concentrations of 50 mg/kg and above that is located within the top 4 feet will be excavated for off-site disposal. Some soil volumes within the top 4 feet where PCB concentrations approach 50 mg/kg will also be excavated for off-site disposal. All soil with concentrations ≥100 at depths below 4 feet will be excavated for off-site disposal. Soils slated for excavation have been found to contain concentrations of PCBs as high as 15,550 mg/kg and will be managed and disposed in accordance with the procedures described in the following sections. The backfill will consist of clean, imported material.

Soils generated during excavation and construction activities will be managed within the Site boundaries. All generated soil will be considered as TSCA waste because concentrations are mostly 50 mg/kg and above. Due to the presence of PCB-contaminated soil in certain areas that will be disturbed, proper handling and storage techniques for all excavated soils, as detailed below, will be followed in order to minimize the potential for human exposure with the contaminated materials, and prevent the release of PCBs to air and/or uncontaminated soil or groundwater media.

The Remedial Contractor will perform soil management in accordance with this RBC Plan, its site-specific HASP, and applicable contract specifications. Managed soil will be handled to minimize excessive movement and kept covered to reduce the potential for air emissions. The Remedial Contractor shall not expand the excavation area beyond the limits of the property or beyond the limits of the areas delineated for removal. It is expected that all excavated soil will be disposed off-site and none will be reused on-site.

Off-site transportation of the excavated PCB remediation waste will be conducted by trained and licensed personnel only and will require stringent procedural and administrative controls for management and tracking.

8.5.1 Site Security

The Site currently consists of an elongated vacant, unpaved parcel of land that is secured with a chain link fence. The work site will be located within a fenced-in secure construction zone, which will be off limits to the general public. Each excavation cell within PCB-contaminated soil will be further designated an exclusion zone where only assigned Occupational Safety and Health Administration (OSHA) certified and protected workers will be allowed. These areas will be further marked out with caution tape and temporary fencing to discourage entry. Prior to initiation of work, the fence surrounding the work site will be examined to ensure that unauthorized personnel are prohibited from entering.

8.5.2 Soil Management

Remedial activities will result in the management of PCB-contaminated soil from depths up to 1 to 12 feet below grade, depending on location. An evaluation of the COC EPCs, discussed in Section 4.3, has concluded that in order to achieve a level of No Significant Risk, removal of approximately 875 cubic yards of soil as TSCA waste at the Site is required. Construction of an earthen cap of 2 feet of clean soil over most of the Site will further reduce the level of risk at the Site.

Site Plans depicting the proposed excavation areas where soil will be generated are included as Figures 2 and Figure 3. Soil will be shipped for off-site disposal as TSCA waste under hazardous waste manifest. Further precharacterization may classify any of these soils as hazardous waste if other hazardous constituents are identified or present that classify it as a listed or characteristic waste. The CVOCs tetrachloroethene, trichloroethene, and 1,1,1 trichloroethane have been identified in certain areas of proposed PCB excavations. These soil volumes may be classified as a listed hazardous waste pending soil precharacterization results.

Soil management and Site development will be conducted in the following sequence:

1. Excavate, stockpile, and dispose off-site approximately 673 cubic yards of uplands soil
2. Construct an earthen cap consisting of at least 2 feet of clean soil in all excavated upland areas and upper embankment areas and 1 foot of clean soil in lower embankment areas
3. Excavate stockpile, and dispose off-site approximately 137 cubic yards of soil along armored embankment
4. Restore armored embankment and soil

5. Replant and restore native grasses.

8.5.3 Storage Areas

All soil will be stored in covered roll off containers on the eastern portion of the Site. Temporary storage areas will be created on the DCR parcel to facilitate the proper management and staging of soil from the excavation areas. Temporary stockpiles will be located on areas that have not been excavated to avoid contamination of excavated areas. The soil storage areas are shown on Figures 2 and 3. Soil may be stockpiled on a temporary basis adjacent to each cell prior to moving to roll off containers. Soil will not be stockpiled overnight.

When not being moved or added to, all stored soil will be placed on and covered with minimum 6 mil polyethylene sheeting and surrounded by erosion control. Access to contaminated stockpiled soil will be restricted to authorized personnel for adding to or removing soils. Trucks used to transport soils across the Site will follow a predetermined path across the Site to eliminate the potential for cross-contamination. The adjacent Neponset River will be protected with hay bales and silt fencing.

8.5.4 Contingency Plan

Adequate assessment of the soils which require management has been conducted to identify soils which will require off-site disposal. Prior to remedial activities, additional assessment will be conducted to properly characterize soils for off-site disposal. After soil excavation, confirmatory soil samples will be collected to confirm cleanup. If confirmatory soil samples exceed 50 ppm in any grid, additional soils will be excavated and disposed of from that grid and it will be re-tested. Sidewall samples will be collected along the upgradient property boundary but additional excavation will not be conducted beyond the property.

8.5.5 Dust Control

During implementation of this alternative, short-term exposure to contaminated soil could occur primarily through dust generation while performing necessary excavation and materials handling tasks. To mitigate potential exposure by site workers and/or off-site receptors, engineering controls will be implemented to govern any activity that might disturb or expose contaminated soils. Ambient air monitoring and dust suppression will occur throughout excavation activities to minimize potential off-site migration of airborne contaminants.

To mitigate dust emissions, the construction contractor will utilize the following specific measures:

- Wetting agents will be used regularly to control and suppress dust that may come from exposed excavations, chipping, sawing, etc.

- Gravel tracking pads will be provided at all construction entrances.
- All trucks that enter the site and drive on non-gravel surfaces will be subject to wheel cleaning as the vehicle exits the site. This will entail dry removal techniques and/or hosing down the truck wheels while the truck is on the gravel tracking pad, just before the truck exits the site. If trucks and/or equipment are operating within the PCB-impacted areas other than being parked on a designated decontamination pad for loading and transport, they will be required to undergo a dry removal and testing or a double wash-rinse procedure as outlined in Section 8.5.11 below.
- Short duration stockpiling of soil (intended for immediate reuse) will be stabilized, and surrounded by erosion controls.
- No storage of construction debris will be allowed on-site, other than in dumpsters.
- Construction practices will be monitored to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized and that any emissions of dust are minimal.
- All soils, when transported upon public roadways, shall be covered to minimize fugitive dust, and where necessary, truck tire and undercarriage washing shall be employed to minimize tracking of soils onto public roadways.

8.5.6 Groundwater/Construction Dewatering

Groundwater is not expected to be encountered or require management as remedial wastewater during the excavation activities proposed under the RBC Plan. Groundwater is estimated to be located at depths between 5 and 13 feet bgs depending on season. Depth to overburden groundwater across the Site in July averaged 7.5 feet, and in October averaged 7.14 feet. Average depth to groundwater across the Site in March and April was 6.68 feet. Two of the excavation cells will be completed to 8 feet bgs, two will be completed to 10 feet, and one will be completed to 12 feet. Regardless, the work will be conducted between June and November to avoid higher groundwater. A groundwater contour map shows the groundwater flow direction at the Site is included as Figure 4.

As a contingency, if localized dewatering of relatively small quantities in the deeper areas is required, a vacuum truck will be utilized to extract groundwater for disposal as TSCA remedial waste.

8.5.7 Earthen Cap Construction, Monitoring & Maintenance

An earthen cap will be installed at the Site to prevent human exposure to remaining PCB-impacted soil and to minimize water infiltration and erosion. An earthen cap constructed in accordance with 40 CFR § 761.61(a)(7) requires a minimum of 6 inches of concrete, but an alternate cap design is being proposed as part of this RBC Plan. As shown on the Site Cap Plan in Appendix E, approximately 90 percent of the overall uplands portion of the Site will be excavated to varying depths, then replaced with clean fill imported from off-site. A two foot earthen cap consisting of 6

inches of loam over 18 inches of dense grade fill underlain with a high visibility, low permeability geotextile fabric is proposed for most of the uplands and upper embankment. Portions of the upper embankment where remaining PCB concentrations are lower will have a one foot earthen cap comprised of 10 inches of dense grade material and 2 inches of loam with a geotextile fabric. Stone rip rap boulders are currently located along several areas of the embankment and will be replaced after soil excavation in those areas, and will serve as an added barrier. Where it is not practical to remove boulders, soil between them will be extracted with a vacuum truck. A vacuum truck will also be used to extract soil in the lower embankment area where equipment access is limited or cause disturbance to the river. The earthen cap on the lower embankment will be a minimum of 1 foot of capping material consisting of clean gravel fill over geotextile fabric. Upon completion of backfill, the Site will be seeded to restore native grasses. Specifications for the earthen cap, a Site Cap Plan, Site Plans and Profiles, and a statement of financial assurance for the earthen cap are included in Appendix E.

The earthen cap shall be maintained in perpetuity by the owner of the property. Maintenance of the cap in conjunction with site activity and use restrictions shall be enforced through the implementation of an AUL on the Site. Compliance with the AUL's terms as to ongoing maintenance of the earthen cap and site activity and use controls will render any remaining PCBs and other COCs in site soils an acceptable risk level. In satisfaction of 40 CFR § 761.61(a)(8)(i)(A), the AUL shall be recorded with the Registry of Deeds within 60 days of the completion of the construction of the cap. In accordance with 40 CFR § 761.61(a)(8)(i)(B), a certification signed by the owner stating that the notation specified in 40 CFR § 761.61(a)(8)(i)(A) has been recorded shall be submitted to the EPA Regional Administrator. The AUL will serve to notify any potential purchaser of the property: (1) that the land has been used for PCB remediation waste disposal; (2) of the existence of the cap and the requirement to maintain the cap; and (3) the applicable cleanup levels left at the Site under the cap. The AUL will also stipulate that a visual inspection of the cap shall be conducted minimally twice per year, and that repair of any breach, including deep rooted vegetative growth, which could impair the integrity of the cap, shall be initiated within 72 hours of discovery.

8.5.8 Long Term Monitoring & Maintenance Plan

A LTMMP has been prepared to address the long term maintenance of the earthen cap and groundwater monitoring. The LTMMP is included as Appendix F of this plan. The Plan includes the following:

1. a description of the activities that will be conducted, including routine ground surface maintenance activities; groundwater quality monitoring locations, as applicable; sampling protocols, sampling frequency, and analytical criteria; and reporting requirements.

2. a communications component which details where the maintenance and monitoring information is maintained and communicated, if requested, to interested stakeholders; and,

Activities required under the LTMMP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary. Long term groundwater quality monitoring at the Site has also been included within the LTMMP. The use restrictions for the property and the long-term monitoring and maintenance requirements on the areas addressed by the LTMMP will be described in the deed notice in the form of an AUL. This will include any restrictions on future development or activity on the Site to prevent exposure to subsurface soils that are contaminated with PCBs.

8.5.9 Health and Safety Plan

The Remediation Contractor shall ensure that a worker HASP is implemented as required by OSHA under the Occupational Safety and Health Act of 1970, 29 U.S.C. § 651, as amended, and 29 CFR 1910.120(e), as well as any other applicable federal, state and local law. The site work involving PCB-contaminated soils will be performed by OSHA 40-hour HAZWOPER trained workers. The HASP will include the following information:

- Site Description and History
- Qualifications of Key Site Safety Personnel
- Safety and Health Hazard Assessment
- Education and Training
- Personal Protective Equipment
- Environmental Air Monitoring
- Standard Operating Procedures
- Site Control Measures
- Soil Management
- Decontamination Procedures
- Logs, Reports and Recordkeeping
- Heat and Cold Stress Monitoring
- Emergency Response Plan
- Spill Containment Plan

8.5.10 Air Monitoring

As required under both federal and state regulations, the HASP shall include the institution of air monitoring activities, as necessary, to protect the public from exposure to gases and airborne

particulates. The primary anticipated hazard at the Site is airborne particulates as fugitive dust. CDW has designed and developed an Air Monitoring Plan necessary to characterize and quantify airborne contaminants that may be present during work activities. These air monitoring strategies and protocols, presented below, address appropriate air monitoring in work zones and at the perimeter of the work zones.

Work Zone and Work Zone Perimeter Monitoring

Air monitoring will address airborne soil particulates as fugitive dust during sampling activities. Because the PCB release is co-mingled with a release of CVOCs, air monitoring for VOCs will be included. Contaminant specific action levels for soil particulates and VOCs as fugitive dust will be established. The action levels for the engineering control measures will be based on work zone air monitoring. Action levels for the upgrade or downgrade of worker personal protective equipment and gases and airborne particulates within the work zone will be based upon information published by the American Conference of Governmental Industrial Hygienists (ACGIH), OSHA, and EPA. Action levels will be based upon established Permissible OSHA Exposure Limit and ACGIH Threshold Limit Values. The action levels will be established for each work activity and contaminant present. The physical boundary of the work zone perimeter will be defined as the perimeter of the Site.

Qualified personnel will monitor the ambient air for soil particles as fugitive dust at downwind locations of the excavation area. Monitoring will be performed while intrusive work activities are occurring, at a frequency of one reading every fifteen minutes. Monitoring will be conducted using a real time dust monitor (Miniram Model PDM3 or similar), capable of measuring and recording a minimum dust particle concentration of 50 ug/m^3 with a probability of detection of 95 percent. Additionally, CDW will periodically monitor ambient air within the work zone using a PID calibrated to an isobutylene standard. If warranted based upon visual observation, perimeter dust monitoring will be conducted periodically, to measure particulates that could become airborne in areas of the Site where contamination levels could create potentially unhealthy exposure to humans.

Action Levels

Action levels for work activities will be based on the observed air contaminant concentrations for the implementation of dust suppression measures and other engineering control measures to protect construction workers from the release of fugitive dust, exposure route of the materials, and sound personal protection practices. In order to determine the toxic particulate concentration which would be associated with a measured airborne dust level, the following calculation is made, on behalf of the two primary contaminants of concern in soil, PCBs and lead:

$$X\ (\mu g/m^3\ dust) = \frac{Air\ Std.\ for\ Contaminant\ (\mu g/m^3) * CF\ of\ 10^6 (mg/kg)}{Soil\ Conc.\ of\ Contaminant\ (mg/kg)}$$

This calculation assumes uniform distribution of the contaminant in soil and that the ratio in soil will be the same as the airborne dust. The solution to the equation gives the total airborne dust concentration which would result in contaminant concentration at the PEL (or TLV, or AAL, or NAAQS, etc.).

An air standard of 0.11 ug/m^3 for PCBs, as established from the GE Hudson River Superfund Site, was conservatively utilized; along with the maximum detected PCB concentration in soils which will be disturbed of 15,550 ppm. Therefore, a PM-10 value will be calculated using 15,550 mg/kg. The resultant concentration is a maximum PM-10 value of 7.07 ug/m$^{3.}$

An air standard of 0.15 ug/m^{3}for lead, the National Ambient Air Quality Standard (NAAQS), was conservatively utilized; along with the maximum detected lead concentration in soils which will be disturbed of 120 ppm. The resultant concentration is a maximum PM-10 value of 1,250 ug/m^3.

In this case, the PM-10 values of 7.07 ug/m^3 for PCBs is much lower than the calculated PM-10 value for lead and the NAAQS particle pollution standard for PM-10, which is 150 ug/m^3. Therefore, 7.07 ug/m^3 will be utilized during excavating as the particulate dust action level that is protective of surrounding receptors' potential exposure to airborne concentrations of these primary contaminants.

The Site Safety Health Officer (SSHO) will implement vapor control and/or dust suppression measures immediately upon exceeding half of the action level. The SSHO will then notify appropriate on-site personnel within two hours of such an exceedance of half of the action level. The SSHO will temporarily cease intrusive activities if, following implementation of vapor control and/or dust suppression measures, two consecutive readings indicates a continued exceedance of the action level. Engineering controls, vapor control and dust suppression measures, which may be employed during the work include, but are not limited to, the application of water as a dust suppressant and the placement of polyethylene tarpaulins and/or synthetic fabrics.

If PID levels greater than 10 ppmv are detected, mitigating measures may be needed to protect human health such as temporary evacuation of VOCs from work areas.

It is not anticipated that contamination which requires the use of Level C protection will be encountered during this work. If Level C protection is needed, work will cease and the project manager will be required to reevaluate and modify the HASP.

8.5.11 Decontamination

Construction equipment and other moveable equipment that come into contact with PCB-contaminated soils ≥ 50 ppm (any site excavation) will be decontaminated using the Double Wash/Rinse Method as outlined in 40 CFR 761 Subpart S. This procedure is utilized to quickly and effectively remove PCBs on surfaces. The double-wash-rinse procedure involves several wash-rinse steps, including an initial water/detergent or solvent wash to clean the affected surfaces, a potable water rinse to remove residuals left from the initial wash, a solvent wash to decontaminate PCBs, and a final solvent rinse to clean and rinse the surface. As with other decontamination procedures described by the TSCA PCB regulations, a solvent meeting the performance-oriented decontamination fluid is required.

Personal Protective Equipment (PPE) will be used at all times when working within the PCB-impacted areas. It is anticipated that Level D protection will be employed, with modification made as deemed necessary by the SSHO upon collecting on-site screening data. A proper worker decontamination corridor will be established as part of the Site access and control. Personnel will undergo decontamination procedures intended to eliminate the potential for transfer of contaminants of concern outside of the area of concern prior to exiting the exclusion zone.

All PPE and other decontamination waste shall be managed in accordance with 40 CFR 761.79(g). All PCB waste, excluding decontamination wastes, shall be properly stored in accordance with 40 CFR 761.65 and marked in accordance with 40 CFR 761.40 while being managed on-site.

8.5.12 PCB Remediation Waste and Waste Management

Soils requiring off-site disposal must be transported to facilities that are licensed, permitted, or approved to accept such materials by appropriate federal, state or local authorities. Soils which meet the criteria defining a listed or characteristic hazardous waste shall, when transported from a disposal site, comply with the requirements of 310 CMR 30.000. All soil generated as part of this project is expected to be TSCA waste with PCB concentrations equal to or greater than 50 ppm. Soil will be shipped for off-site disposal as TSCA waste under hazardous waste manifest.

8.6 Implementation Schedule

Implementation of the RBC Plan is tentatively scheduled to begin in late 2021 but is contingent upon the written approval by EPA. The soil removal activities and cap implementation described in this RBC Plan are expected to take 8 weeks to complete. The AUL will be recorded with the Registry of Deeds within 60 days of the completion of final cap construction.

9 CERTIFICATION OF FILE LOCATION

The written certification required by 40 CFR § 761.61(a)(3)(i)(E) that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the Site, are on file at the location designated in the certificate, and are available for EPA inspection has been signed by the owner of the property where the Site is located and the party conducting the cleanup. These signed certifications are attached to this RBC Plan as Appendix G.

10 SAMPLING QA/QC PLAN

10.1 Sampling Frequency

10.1.1 Soil Screening

Based on a robust sampling plan conducted to date, contaminated soil of varying concentrations is present at the Site. CDW will be on-site during all excavation activities to conduct soil field screening using a PID for total VOCs. Visual and olfactory indications of contamination will also be used to identify and segregate, if needed, those soils exhibiting characteristics inconsistent with existing laboratory data. Field screening for PCBs is not a reliable method; therefore, the existing laboratory analysis results will direct the segregation of soils into the soil categories established in Section 8.5.2.

10.1.2 Soil Sampling

Confirmatory soil samples will be collected from the sidewall(s) and/or bottom(s) of excavation areas upon completion of excavation activities in each of these areas. Samples for laboratory PCB analyses by Soxhlet will be collected every 5 feet in a grid pattern at the base of excavations. Where sidewalls remain, samples will be collected every 5 linear feet per 2 feet of sidewall depth. The goal of the confirmatory soil sampling will be to ensure that the final Site layout will include a PCB data value in each of the excavated cell areas and to verify that actual post excavation soil PCB EPCs are lower than pre-excavation soil PCB EPCs and are comparable with calculated post excavation EPCs. Soil sampling for lead in certain areas may also be conducted to confirm removal of elevated concentrations.

10.1.3 Groundwater Sampling

Existing groundwater monitoring wells will be retained for future sampling, if possible. If these wells are damaged or destroyed during soil excavation, they will be replaced. Groundwater sampling for PCBs and other target COCs will be conducted twice annually for at least 5 years after soil removal to track changes in concentrations over time. The groundwater monitoring program will consist of the collection of groundwater samples from up to 6 existing monitoring wells. These samples will be submitted for laboratory analysis of PCBs, VOCs, and natural attenuation parameters.

10.2 Extraction & Analysis Methods

Chemical extraction of PCBs from individual and composite samples of PCB remediation waste will be conducted utilizing Method 3500B/3540C or Method 3500B/3550B from EPA's SW-846, Test Methods for Evaluating Solid Waste. Method 8082 from SW-846 will be utilized to analyze these extracts for PCBs.

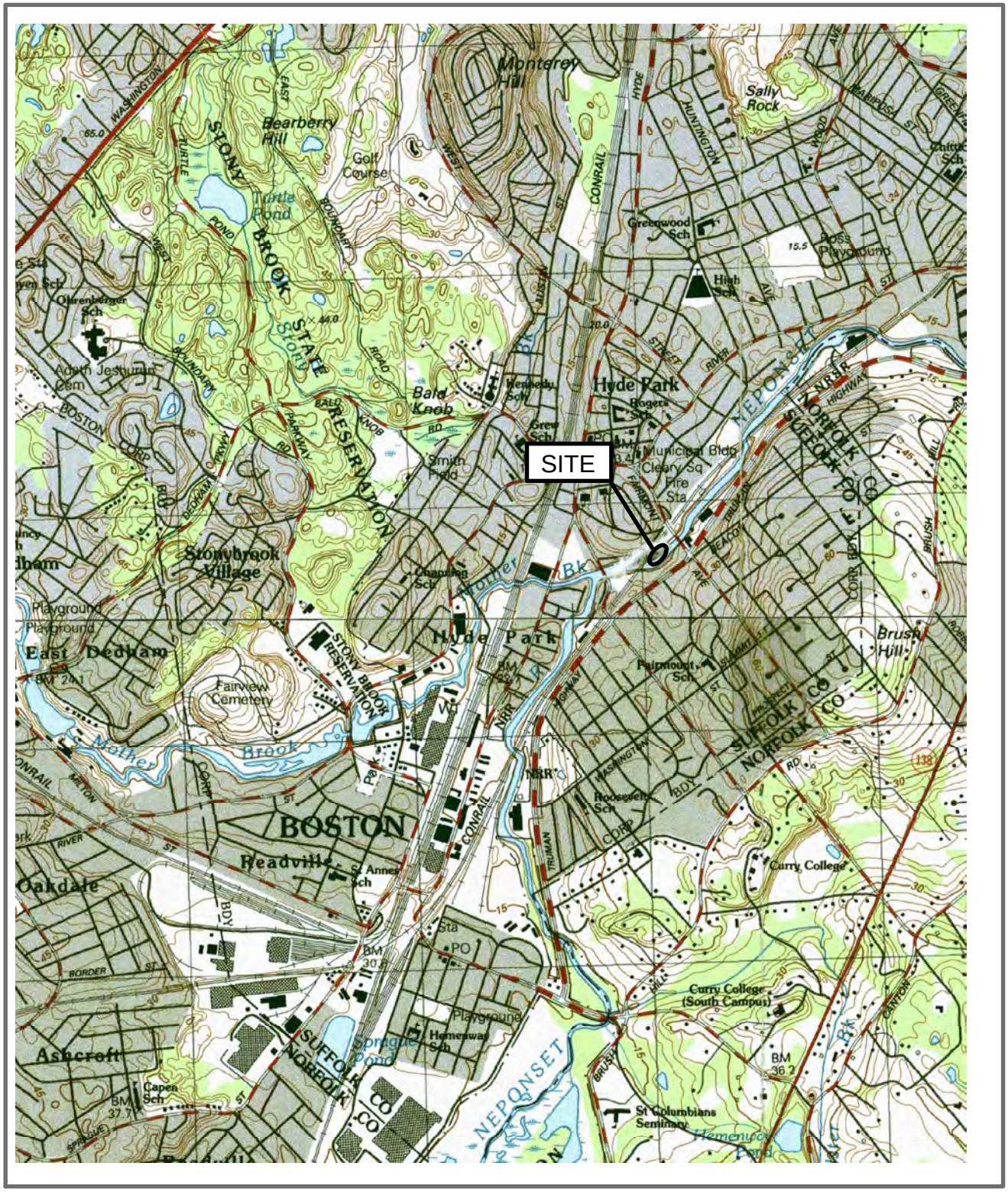
10.3 Data Validation

CDW will perform a data quality assessment on the laboratory data for all samples representative of soil remaining on Site following the completion of the activities described in this RBC Plan. This data quality assessment will include a review of sample custody, field quality control (QC), holding times, surrogate recoveries, method blanks, and laboratory control samples. If this review determines than any of the resulting data is not reliable, CDW will determine if additional supplemental samples must be collected.

11 SITE ACCESS & CLEANUP AUTHORITY

The Site is currently owned by the Commonwealth of Massachusetts Department of Conservation and Recreation (DCR). DCR will be responsible to complete the activities described in this RBC Plan.

FIGURES



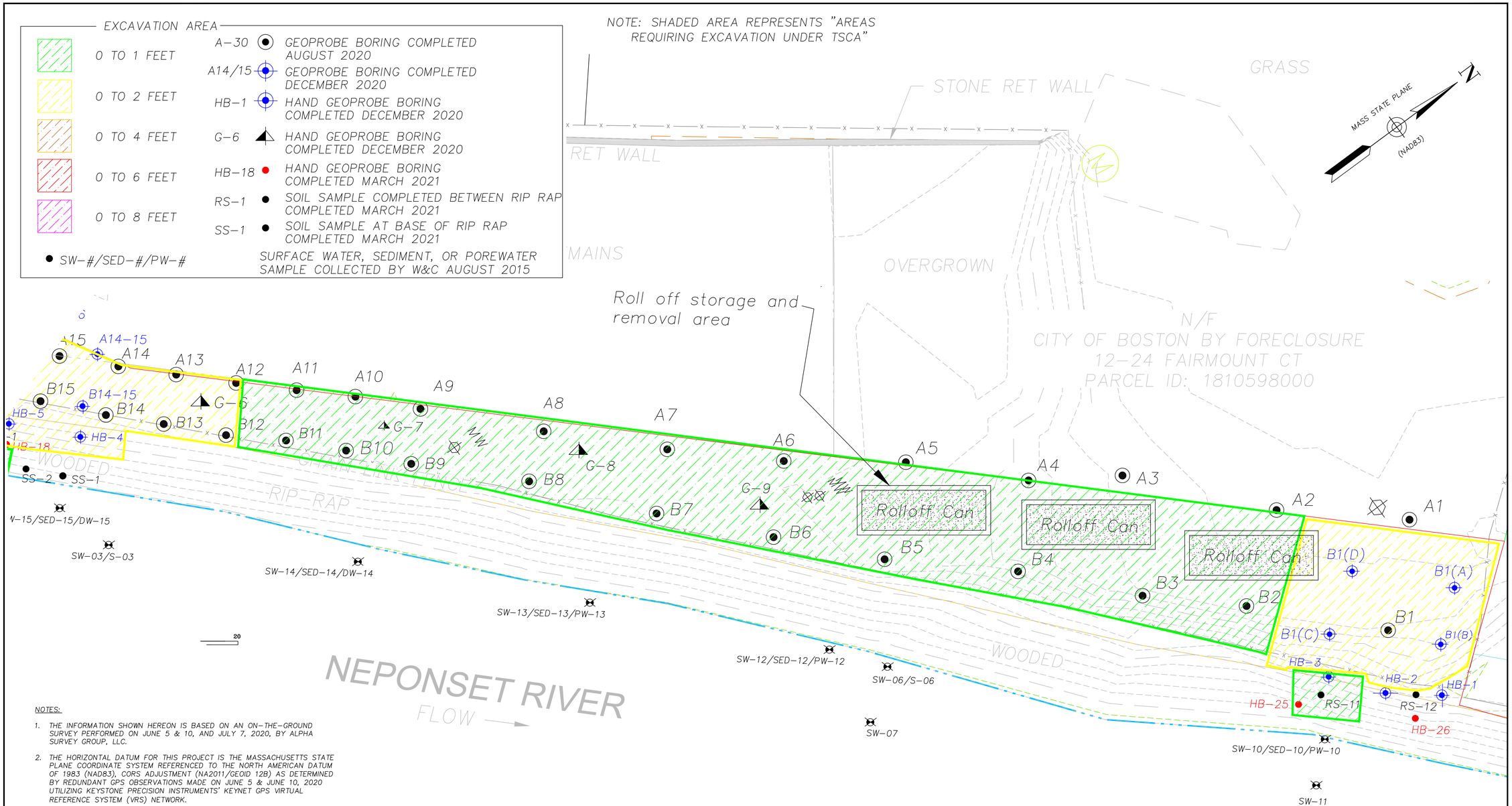
CDW CONSULTANTS, INC.

SITE LOCATION MAP
DCR NEPONSET RIVER RESERVATION
ADJACENT TO 12-24 FAIRMOUNT CT.
HYDE PARK, MA

SOURCE: MA Geographic Information System

PROJECT NO.: 1363.00
APROX. SCALE: 1:25,000

FIGURE 1



NOTES:

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4. THE BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORDED DEEDS AND PLANS, WITH THE EXCEPTION OF THOSE WITHOUT LABELS WHICH WERE COMPILED FROM GIS DATA.

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DRAWING LEGEND

UTILITY POLE	
GUY WIRE ANCHOR	
DRAIN MANHOLE	D
SEWER MANHOLE	S
ELECTRIC MANHOLE	E
CATCH BASIN (ROUND)	
HAND HOLE	HH
MONITORING WELL	MW#
SEWER LINE	S
OVERHEAD ELECTRIC	OHW
CHAIN LINK FENCE	X X
TREELINE	
RR	RAILROAD
RETAINING	RET.
CONCRETE	CONC.
BITUMINOUS	BIT.
STONE BOUND	SB
CONCRETE BOUND WITH PLUG & PIN	CB/PP
DRILL HOLE	DH
IRON PIPE	IP
FOUND	-F
GEOPROBE SAMPLING LOCATION	A-5

PLAN REFERENCES:

1.) LAND COURT PLAN 38601A
2.) SHLO #6491
3.) PLAN ENTITLED "NEPONSET RIVER FLOOD CONTROL, LAND TAKING PLAN NO. N.R.F.C.-9" DATED JUNE 5, 1964.

BAR SCALE
10 5 0 10 20

REGISTERED PROFESSIONAL LAND SURVEYOR FOR ALPHA SURVEY GROUP, LLC

DATE

NO	DATE	REVISIONS

SEAL

DATE : 08/19/20202
DRAWN : AMS
SCALE : AS SHOWN

PCB SOIL SAMPLING LOCATIONS AND EXCAVATION PLAN A-1 THROUGH A-12

DCR NEPONSET RIVER RESERVATION
ADJACENT TO 12 TO 24 FAIRMOUNT COURT
HYDE PARK, MASSACHUSETTS

FIGURE 2

1363.4

EXCAVATION AREA

- 0 TO 1 FEET
- 0 TO 2 FEET
- 0 TO 4 FEET
- 0 TO 6 FEET
- 0 TO 8 FEET
- 0 TO 10 FEET
- 0 TO 12 FEET

RS-1 SOIL SAMPLE BETWEEN RIP RAP COMPLETED MARCH 2021

SS-1 SOIL SAMPLE BASE OF RIP RAP COMPLETED MARCH 2021

SW-#/SED-#/PW-# SURFACE WATER, SEDIMENT, PORE WATER COLLECTED BY W&C AUGUST 2015

A-30 GEOPROBE BORING COMPLETED JUNE 2020

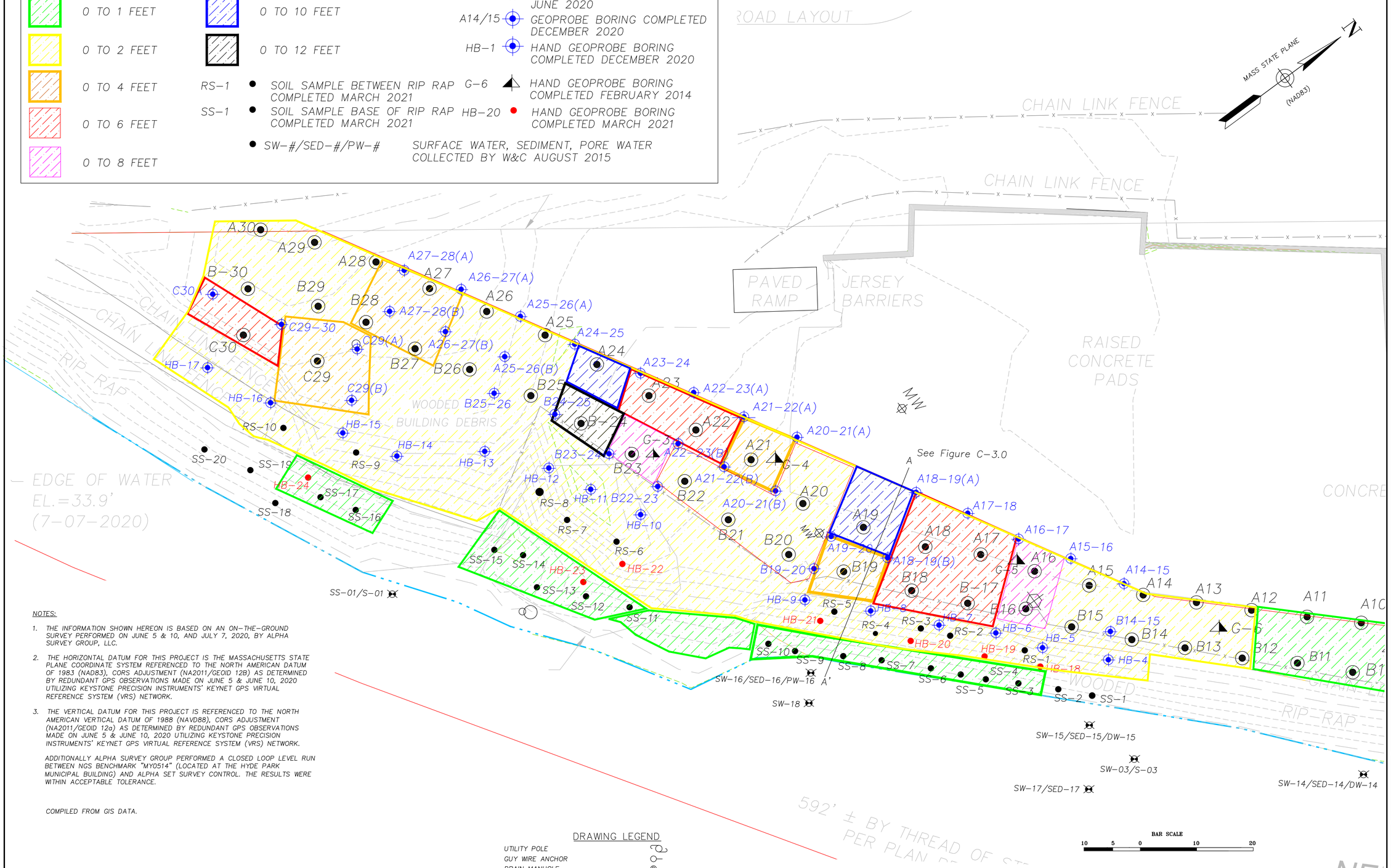
A14/15 GEOPROBE BORING COMPLETED DECEMBER 2020

HB-1 HAND GEOPROBE BORING COMPLETED DECEMBER 2020

G-6 HAND GEOPROBE BORING COMPLETED FEBRUARY 2014

HB-20 HAND GEOPROBE BORING COMPLETED MARCH 2021

NOTE: SHADED AREA REPRESENTS "AREA REQUIRING EXCAVATION UNDER TSCA"



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COMPILED FROM GIS DATA.

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DRAWING LEGEND

UTILITY POLE	
GUY WIRE ANCHOR	
DRAIN MANHOLE	D
SEWER MANHOLE	S
ELECTRIC MANHOLE	E
CATCH BASIN (ROUND)	
HAND HOLE	HH
MONITORING WELL	MW#
SEWER LINE	S
OVERHEAD ELECTRIC	OHW
CHAIN LINK FENCE	X X
TREELINE	
RR	RAILROAD

RETAINING	RET.
CONCRETE	CONC.
BITUMINOUS	BIT.
STONE BOUND	SB
CONCRETE BOUND WITH PLUG & PIN	CB/PP
DRILL HOLE	DH
IRON PIPE	IP
FOUND	-F
GEOPROBE SAMPLING LOCATION	A-5

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BAR SCALE 10 5 0 10 20

REGISTERED PROFESSIONAL LAND SURVEYOR FOR ALPHA SURVEY GROUP, LLC

DATE

NO	DATE	REVISIONS

SEAL

DATE : 08/19/20202
DRAWN : AMS
SCALE : AS SHOWN

PCB SOIL SAMPLING LOCATION AND EXCAVATION PLAN A-12 to A-30

DCR NEPONSET RIVER RESERVATION
ADJACENT TO 12 TO 24 FAIRMOUNT COURT
HYDE PARK, MASSACHUSETTS

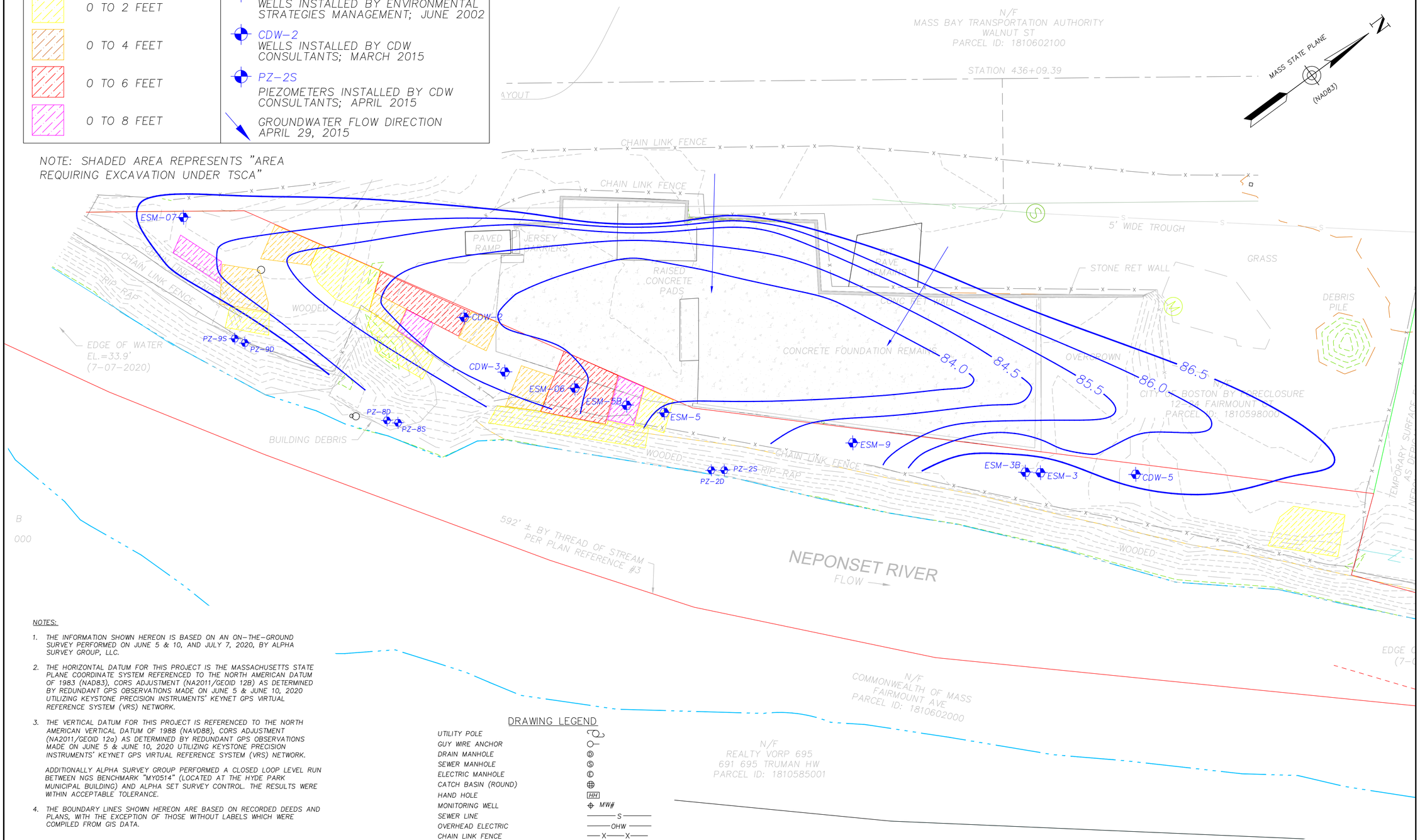
CDW CONSULTANTS
Environmental and Civil Engineering

FIGURE 3

1363.4

EXCAVATION AREA	LEGEND
0 TO 2 FEET	ESM-06 WELLS INSTALLED BY ENVIRONMENTAL STRATEGIES MANAGEMENT; JUNE 2002
0 TO 4 FEET	CDW-2 WELLS INSTALLED BY CDW CONSULTANTS; MARCH 2015
0 TO 6 FEET	PZ-2S PIEZOMETERS INSTALLED BY CDW CONSULTANTS; APRIL 2015
0 TO 8 FEET	GROUNDWATER FLOW DIRECTION APRIL 29, 2015

NOTE: SHADED AREA REPRESENTS "AREA REQUIRING EXCAVATION UNDER TSCA"



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DRAWING LEGEND

UTILITY POLE	
GUY WIRE ANCHOR	
DRAIN MANHOLE	D
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ELECTRIC MANHOLE	E
CATCH BASIN (ROUND)	
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20 0 20 40 60
1" = 20'

UTILITY NOTE:

NO UTILITY INVESTIGATION WAS PERFORMED FOR THIS PROJECT. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. BEFORE DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACK FILLING, GRADING, PAVEMENT RESTORATION OR REPAIRING, ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS. ALPHA SURVEY GROUP, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE FUTURE CONNECTIONS, THE APPROPRIATE UTILITY ENGINEERING DEPARTMENTS MUST BE CONSULTED. CALL "DIG SAFE" AT 811.

REGISTERED PROFESSIONAL LAND SURVEYOR FOR ALPHA SURVEY GROUP, LLC

DATE

NO	DATE	REVISIONS

SEAL

DATE : 08/19/2020
DRAWN : AMS
SCALE : AS SHOWN

GROUNDWATER MONITORING WELL LOCATIONS AND FLOW DIRECTION

DCR NEPONSET RIVER RESERVATION
ADJACENT TO 12 TO 24 FAIRMOUNT COURT
HYDE PARK, MASSACHUSETTS

CDW CONSULTANTS
Environmental and Civil Engineering

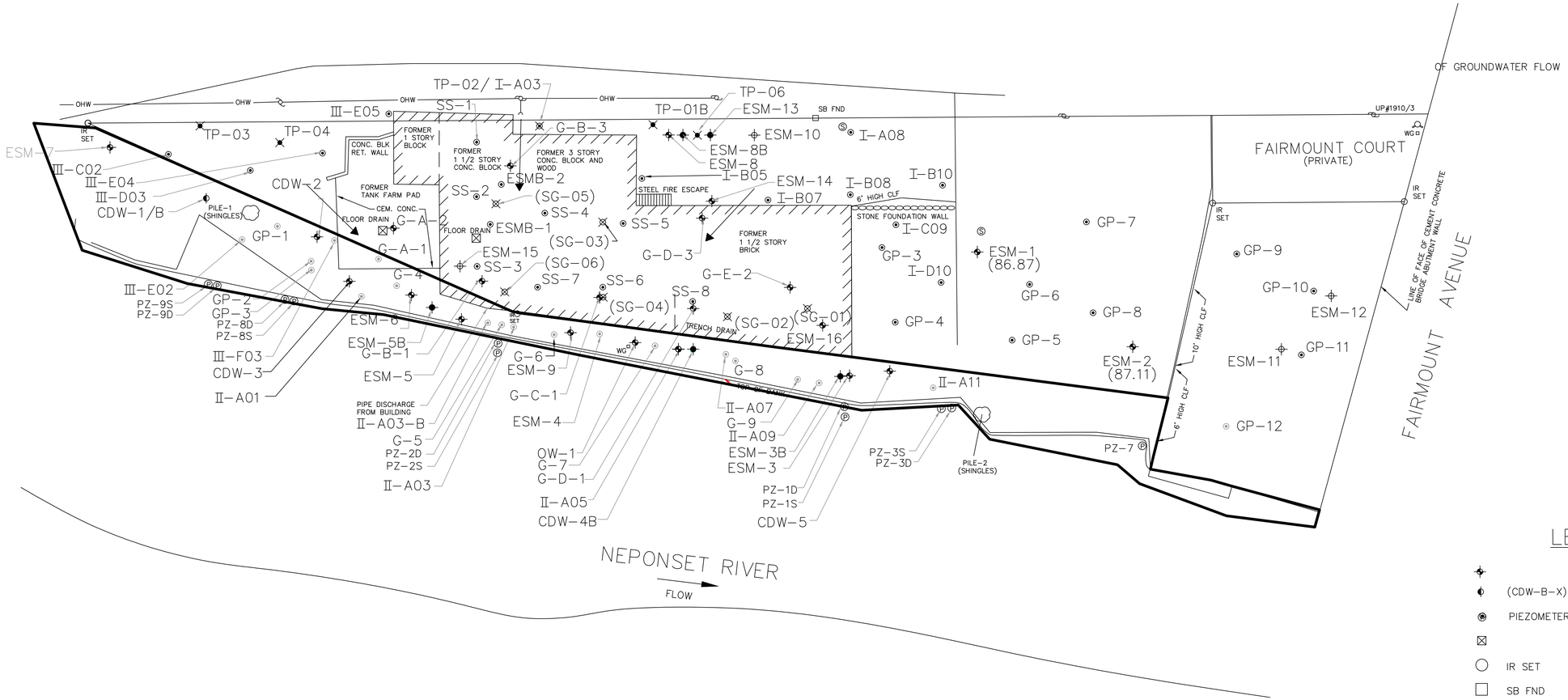
FIGURE 4

1363.2

NOTES:

1. SEE CITY OF BOSTON ASSESSOR'S PLAN WARD #18, BLOCK #199, LOT #10598 AND #10601 FOR SITE REFERENCE. SITE IS KNOWN AS #12 AND #0 FAIRMOUNT COURT.

2. SEE S.C.R.D. BOOK 8338, PG 650, AND LC 38601 FOR SITE PROPERTY LINE INFORMATION.



SITE PLAN

LEGEND

	MONITORING WELL
(CDW-B-X)	CDW SOIL BORING
PIEZOMETER	PZ-XX
	DRAIN
IR SET	IRON ROD SET
SB FND	STONE BOUND FOUND
	PROPERTY LINE
	BUILDING SLAB FOOT PRINT
	UTILITY POLE (UP)
	SEWER MANHOLE
	HYDRANT
WG	WATER GATE
RET.	RETAINING
CEM. CONC.	CEMENT CONCRETE
CONC. BLK	CONCRETE BLOCK
FND	FOUND
	CHAIN LINK FENCE (CLF)
OHW	OVERHEAD WIRES
	TRENCH DRAIN
	APPROXIMATE DIRECTION

20 0 20 40
SCALE IN FEET

CDW CONSULTANTS
Environmental and Civil Engineering

1	REVISED PLAN	06/14/15

SOURCE: SITE PLAN BY WOODARD AND CURRAN

Pre-TSCA INVESTIGATION SAMPLING LOCATIONS

DCR NEPONSET RIVER PARCEL
ADJACENT TO FORMER LEWIS CHEMICAL

JOB NO.:	1363.20
DATE:	05/6/15
SCALE:	AS NOTED

FIGURE 5

TABLES

Table 1
Soil Headspace Screening Results - TOVs (ppmv)
DCR Neponset River Reservation, Hyde Park, MA
March 11 and 12, 2015

Sample ID	Depth	PID (11.7 eV)	PID (10.6 eV)
CDW-1/B			
S-1	0-2'	0.5	0.1
S-2	3-5'	2	0.6
S-3*	8-10'	1.9	0.7
S-4	13-15'	0.6	0.4
S-5	18-20'	0.6	0.3
S-6	23'	0.4	0.1
CDW-2			
S-1*	0-2'	0.2	0.6
S-2*	3-5'	2.2	5.4
S-3	8-10'	NR	NR
S-4	13-15'	0.4	0.3
S-5	18-20'	0.7	0.2
S-6	20-21'	0.1	0.0
CDW-3			
S-1	0-2'	0.4	0.1
S-2	5-7'	23.2	19.5
S-3*	10-12'	645	610
S-4	15-17'	23.6	20.2
S-5	20-21'	7.1	4
CDW-4			
S-1	0-2'	1	NM
S-2	5-7'	4.8	NM
S-3*	10-12'	58	NM
S-4	15-15.5'	5.5	NM
CDW-5			
S-1*	0-2'	0.8	NM
S-2	5-7'	2	NM
S-3*	10-12'	243	NM
S-4	15-17'	16.1	NM

PPMV = Parts Per Million By Volume
MN = Not Measured
NR = No Recovery
*Sample Submitted for Analysis

Table 2
Groundwater Gauging and Elevation Data
DCR Neponset River Reservation, Hyde Park, MA

Well ID	Depth of Well	Well Casing Elevation	Well Casing Elevation (by CDW)*	Depth to Water (ft)								GW Elevation 9/25/2014	GW Elevation 4/6/2015	GW Elevation (well casing elevation by CDW) 4/6/2015*	GW Elevation 4/29/2015	GW Elevation (well casing elevation by CDW) 4/29/2015*
				4/6/2006	9/25/2014	3/19/2015	4/6/2015	4/29/2015	7/10/2017	10/3/2018	6/16/2020					
Site wells																
ESM-3	13.25	92.5	92.5	7.1	10.35	4.66	4.94	5.67	7.01	8.01	6.05	82.15	87.56	87.56	86.83	86.83
ESM-3B-S	39.55	92.71	92.74	7.85	10.51	7.05	6.85	–	9.6	–	–	82.20	85.86	85.89	–	–
ESM-3B-D	70.55	92.72	92.73	7.59	11	7.65	7.5	–	9.68	9.04	–	81.72	85.22	85.23	–	–
ESM-4	–	92.08	92.14	5.08	10.15	–	5.09	5.71	–	–	–	81.93	86.99	87.05	86.37	86.43
ESM-5	15.22	91.82	91.97	7.17	9.96	6.37	6.21	7.31	9.33	8.02	8.36	81.86	85.61	85.76	84.51	84.66
ESM-5B	39.1	92.75	92.9	8.18	11.04	7.59	7.48	-	10.17	9.06	–	81.71	85.27	85.42	–	–
ESM-6	15.33	92.05	92.04	7.12	10.04	–	5.81	7.21	–	6.11	8.27	82.01	86.24	86.23	84.84	84.83
ESM-7	19.96	98.36	98.36	13.40	16.4	–	10.57	11.94	–	–	–	81.96	87.79	87.79	86.42	86.42
ESM-9	10.74	92.28	92.41	7.35	10.4	5.55	5.42	6.98	9.04	4.76	–	81.88	86.86	86.99	85.30	85.43
OW-01	10.28	–	92.11	–	10.06	–	5.16	5.63	–	–	–	–	86.95	86.95	86.48	86.48
CDW-2	18.80	–	92.93	–	–	7.43	7.22	8.2	–	–	–	–	85.71	85.71	84.73	84.73
CDW-3	17.81	–	92.35	–	–	6.85	6.64	7.76	9.86	8.52	8.89	–	85.71	85.71	84.59	84.59
CDW-4B	33.06	–	91.7	–	–	6.1	5.89	–	7.68	7.25	–	–	85.81	85.81	–	–
CDW-5	16.24	–	93.36	–	–	7.15	6.67	7.22	9.78	7.43	–	–	86.69	86.69	86.14	86.14
off-site wells																
ESM-01	22	99.36	99.24	13.10	16.77	–	11.95	12.49	–	–	–	82.59	87.41	87.29	86.87	86.75
ESM-02	20	98.66	98.61	12.62	16.1	–	11.38	11.55	–	–	–	82.48	87.28	87.23	87.11	87.06
ESM-08	15	98.03	98.12	10.71	12.93	–	9.03	–	–	–	–	<85.1	89	89.09	–	–
ESM-11	18	95.48	–	13.37	14.05	–	–	–	–	–	–	<81.43	–	–	–	–
ESM-12	17	99.26	–	12.56	16.4	–	–	–	–	–	–	<82.86	–	–	–	–
ESM-13	17	98.44	–	11.08	14.31	–	–	–	–	–	–	<84.13	–	–	–	–
G-A-2	20.5	91.78	–	–	9.94	–	–	7.31	–	–	–	81.84	–	–	84.47	–
G-B-1	16	92.33	92.49	–	10.47	–	6.8	7.88	–	–	–	81.86	85.53	85.69	84.45	84.61
G-B-3	18	92.25	92.42	–	10.29	–	6.7	7.8	–	–	–	81.96	85.55	85.72	84.45	84.62
G-C-1	18	91.48	91.62	–	9.6	–	5.91	6.89	–	–	–	81.88	85.57	85.71	84.59	84.73
G-D-1	14	91.61	91.79	–	9.7	–	6.01	7	–	–	–	81.91	85.6	85.78	84.61	84.79
G-D-3	18	91.76	91.91	–	9.82	–	6.11	7.19	–	–	–	81.94	85.65	85.8	84.57	84.72
G-E-2	17.5	91.4	91.57	–	9.41	–	5.61	6.72	–	–	–	81.99	85.79	85.96	84.68	84.85

shaded = dry at measured depth
DTW = Depth to Groundwater
DTB = Depth to Bottom of Well
* well casing elevation surveyed by CDW, benchmark well (ESM-7) elevation measured by others

Table 3
Piezometer and River Gauging Data
DCR Neponset River Reservation, Hyde Park, MA

Piezometer ID	Depth of Piezometer Below Ground Surface (ft)	Length of Riser Above Ground Surface (ft)	Depth to Water From Top of Riser (ft)				Water Level Above/Below Ground Surface (ft)				Comments
			4/6/2015	4/29/2015	7/2/2015	1/18/2018	4/6/2015	4/29/2015	7/2/2015	1/18/2018	
PZ-09S	2.35	2.6	1.35	2.41	3.47	2.21	1.25	0.19	-0.87	0.39	falling water table on 4/6
PZ-09D	7.58	3.38	2.35	3.08	4.1	Dry/Frozen	1.03	0.3	-0.72	–	rising water table on 4/29 & 7/2
PZ-08S	2.09	2.81	2.89	3.09	Dry	2.86	-0.08	-0.28	–	-0.05	falling water table on 4/6
PZ-08D	5.75	3.24	7.17	3.31	4.51	3.25	-3.93	-0.07	-1.27	-0.01	rising water table on 4/29 & 1/18
PZ-02S	2.75	2	1.4	–	2.99	Dry/Frozen	0.6	–	-0.99	–	falling water table on 4/6 & 7/2
PZ-02D	10	2	3.57	–	5.85	Unable to Gauge	-1.57	–	-3.85	–	
PZ-01S	2	2.33	1.48	1.62	4.55	–	0.85	0.71	-2.22	–	falling water table on 4/6 & 4/29
PZ-01D	5	3.16	2.64	3.01	Obstructed	Unable to Gauge	0.52	0.15	–	–	
PZ-03S	2	2.66	2.0	1.75	2.61	–	0.66	0.91	0.05	–	rising water table on 4/6
PZ-03D	7	5	3.8	5.01	6.29	–	1.2	-0.01	-1.29	–	rising water table on 4/29 & 7/2
Staff Gauge Reading from Top	–	–	16-9"	18"	30"	–	–	–	–	–	rapid rise in river levels on 4/6

Table 4
Groundwater Quality Data
DCR Neponset River Reservation

Well ID	pH		Temp. (°C)		Sp. Conductance		Dissolved Oxygen (mg/l)		ORP	
date	9/25/2014	3/19/2015	9/25/2014	3/19/2015	9/25/2014	3/19/2015	9/25/2014	3/19/2015	9/25/2014	3/19/2015
ESM-3	5.56	6.10	17.85	4.81	3442	403	94.81	2.01	-0.5	148.3
ESM-3B-S	6.56	6.70	13.45	8.96	10653	10994	0.32	1.05	96.5	148.7
ESM-3B-D	6.88	6.67	14.51	8.38	57888	54406	4.54	4.25	51.3	172.5
ESM-5	5.94	6.11	15.80	7.54	2060	331	0.62	0.63	-2.3	97.3
ESM-5B	7.39	7.31	13.53	7.68	35369	33792	0.33	5.65	20.5	101.8
ESM-6	6.07	–	15.62	–	2088	–	-0.01	–	81.5	–
ESM-7	5.64	–	12.43	–	2161	–	6.28	–	170.4	–
CDW-2	–	6.42	–	8.14	–	2565	–	0.32	–	-420
CDW-3	–	6.32	–	7.73	–	1378	–	0.32	–	-311
CDW-4B	–	7.24	–	8.12	–	7128	–	0.90	–	-152
CDW-5	–	6.14	–	5.62	–	465	–	2.65	–	92.2

DTW = Depth to Groundwater
DTB = Depth to Bottom of Well
ORP = Oxidation Reduction Potential

Table 5
Soil Analytical Results - VOCs (mg/kg)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to August 2005

Sample ID	Depth	Date	Acetone	Benzene	Bromoform	2-Butanone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon Disulfide	Chlorobenzene	Chloroethane	1,2-Dichlorobenzene	1,4-Dichlorobenzene
June 2002														
ESM-03	10-12'	6/13/2002	<0.005	<0.005	<0.005	<0.005	<0.005	0.630E	0.16	<0.005	0.230E	<0.005	5.400E	1.200E
ESM-03 DL	10-12'	6/13/2002	<12.000	<12.000	<12.000	<12.000	<12	<12	<12.000	<12.000	<12.000	<12.000	16.000D	<12.000
ESM-04	10-12'	6/13/2002	<0.005	<0.005	0.006	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.014	<0.005
ESM-04 DL	10-12'	6/13/2002	<0.096	<0.096	<0.096	0.120D	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096
ESM-05	13-15'	6/12/2002	0.091	<0.005	<0.005	<0.005	<0.005	0.032	<0.005	<0.005	0.260E	<0.005	<0.005	<0.005
ESM-05 DL	13-15'	6/12/2002	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600	<0.600
ESM-06	11-13'	6/12/2002	0.056	<0.004	<0.004	<0.004	<0.004	0.039	<0.004	<0.004	0.005	0.004	0.270E	0.013
ESM-06 DL	11-13'	6/12/2002	<0.091	<0.091	<0.091	0.130D	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	0.150D	<0.091
ESM-07	10-12'	6/12/2002	0.061	<0.005	0.004J	0.021	<0.005	<0.005	<0.005	0.004J	<0.005	<0.005	<0.005	<0.005
ESM-09	14-15'	6/14/2002	0.034	<0.005	0.005	0.012	<0.005	<0.005	<0.005	0.003J	<0.005	<0.005	<0.005	<0.005
ESM-09 DL	14-15'	6/14/2002	<0.096	<0.096	<0.096	0.170D	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096	<0.096
August/September 2005														
II-A-01-S	0-6"	8/31/2005	<3.4	<0.34	<0.34	<3.4	<0.34	<0.34	<0.34	<3.4	<0.34	<0.68	<0.34	<0.34
II-A-01-M	5-7'	8/31/2005	<120	<12	<12	<120	<12	<12	<12	<120	<12	<24	<12	<12
II-A-01-D	14-15'	8/31/2005	<0.21	<0.005	<0.005	<0.052	<0.005	<0.005	<0.005	<0.052	<0.005	<0.01	<0.005	<0.005
II-A-03-S	0-6"	8/31/2005	<2.6	<0.26	<0.26	<2.6	<0.26	<0.26	<0.26	<2.6	<0.26	<0.53	<0.26	<0.26
II-A-03-M	5-7'	8/31/2005	***<2600***	<260	<260	<2600	<260	<260	<260	<2600	<260	<520	<260	<260
II-A-03-M DUP	5-7'	8/31/2005	***<1400***	<140	<140	<1400	<140	<140	<140	<1400	<140	<280	<140	<140
II-A-03-D	14-15'	8/31/2005	<4.7	<0.47	<0.47	<4.7	<0.47	2.4	<0.47	<4.7	<0.47	<0.93	<0.47	<0.47
II-A-05-D	8-10.5'	8/31/2005	<6.5	<0.65	<0.65	<6.5	<0.65	<0.65	<0.65	<6.5	<0.65	<1.3	<0.65	<0.65
II-A-07-D	12-13'	8/31/2005	<0.2	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	<0.05	<0.005	<0.01	0.008	<0.005
II-A-09-M	6-8'	8/30/2005	<5.5	<0.55	<0.55	<5.5	<0.55	<0.55	<0.55	<5.5	<0.55	<1.1	1.9	<0.55
II-A-09-D	13-14'	8/30/2005	<61	<6.1	<6.1	<61	<6.1	<6.1	<6.1	<61	<6.1	<12	19	<6.1
II-A-11-M	9-10'	8/30/2005	<5.9	<0.59	<0.59	<5.9	<0.59	<0.59	<0.59	<5.9	<0.59	<1.2	1.7	<0.59
II-A-11-M2	14-15'	8/30/2005	<26	<2.6	<2.6	<26	<2.6	<2.6	<2.6	<26	<2.6	<5.2	<2.6	<2.6
II-A-11-D	18-20'	8/30/2005	<2.6	<026	<0.26	<2.6	<0.26	<0.26	<0.26	<2.6	<0.26	<0.52	<0.26	<0.26
III-E-02-M	5-7'	8/31/2005	<3.4	<0.34	<0.34	<3.4	<0.34	<0.34	<0.34	<3.4	<0.34	<0.67	<0.34	<0.34
III-F-03-S	0-6"	9/1/2005	<3	<0.3	<0.3	<3	<0.3	<0.3	<0.3	<3	<0.3	<0.61	<0.3	<0.3
III-F-03-M	5-7'	9/1/2005	<3.3	<0.33	<0.33	<3.3	0.35	<0.33	<0.33	<3.3	<0.33	<0.66	2.1	<0.33
III-F-03-D	17-19'	9/1/2005	<0.22	<0.006	<0.006	<0.055	<0.006	<0.006	<0.006	<0.055	<0.006	<0.011	<0.006	<0.006
March 2015														
CDW-2/S-2	(3-5')	3/11/2015	<0.467	<0.0467	<0.0467	<0.467	<0.0467	<0.0467	<0.0467	<0.0933	<0.0467	<0.0933	<0.0467	<0.0467
CDW-3/S-3	(10-12')	3/11/2015	<0.364	<0.0364	<0.0364	<0.364	1.33	0.217	<0.0364	< 0.0727	<0.0364	<0.0727	0.202	< 0.0364
CDW-4/S-3	(10-12')	3/12/2015	<1.17	<0.117	<0.117	<1.17	<0.117	<0.117	<0.117	<0.235	0.685	<0.235	6.29	<0.117
CDW-5/S-3	(10-12')	3/12/2015	<2.92	<0.292	<0.292	<2.92	0.789	<0.292	<0.292	<0.584	<0.292	<0.584	11.8	0.546
Method 1 Standard S-1/GW-2			50	40	1	NA	NA	NA	NA	NA	3	NA	100	1
Method 1 Standard S-1/GW-3			400	40	300	NA	NA	NA	NA	NA	100	NA	300	80

Bold = Exceed MCP Method 1 Standards
mg/kg = milligram per kilogram
NM = Not Measured

Table 5
Soil Analytical Results - VOCs (mg/kg)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to August 2005

Sample ID	Depth	Dichlorodifluoromethane (Freon 12)	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Methylene Chloride	4-Methyl-2-pentanone	Methyl tert-butyl ether
June 2002													
ESM-03	10-12'	0.016	<0.005	<0.005	3.600E	<0.005	<0.005	6.000E	0.640E	2.700E	<0.005	<0.005	<0.005
ESM-03 DL	10-12'	<12.000	4.300DJ	<12	14.000D	11.000DJ	<12.000	10.000DJ	<12.000	<12	<12.000	<12.000	<12.000
ESM-04	10-12'	<0.005	0.045	0.006	<0.005	0.240E	0.002J	0.053	<0.005	<0.005	0.019B	<0.005	0.002J
ESM-04 DL	10-12'	<0.096	<0.096	<0.096	<0.096	0.058DJ	<0.096	<0.096	<0.096	<0.096	0.140D	<0.096	<0.096
ESM-05	13-15'	<0.005	0.18	0.510E	3.200E	1.800E	<0.005	0.15	0.012	0.019	0.280EB	0.140	0.003J
ESM-05 DL	13-15'	<0.600	<0.600	<0.600	1.100D	0.800D	<0.600	<0.600	<0.600	<0.600	0.400DJ	<0.600	<0.600
ESM-06	11-13'	<0.004	0.055	0.009	<0.004	1.300E	0.002J	0.073	0.004	0.032	0.019B	<0.004	0.002J
ESM-06 DL	11-13'	<0.091	<0.091	<0.091	0.130D	0.400D	<0.091	0.028DJ	<0.091	<0.091	0.052DJ	<0.091	<0.091
ESM-07	10-12'	<0.005	0.022	0.001J	<0.005	0.062	0.003J	0.012	0.004J	<0.005	0.009B	<0.005	0.002J
ESM-09	14-15'	<0.005	0.041	0.018	0.019	0.200E	0.004J	0.003J	<0.005	<0.005	0.030B	<0.005	0.002J
ESM-09 DL	14-15'	<0.096	<0.096	<0.096	0.047DJ	0.110D	<0.096	<0.096	<0.096	<0.096	0.150D	<0.096	<0.096
August/September 2005													
II-A-01-S	0-6"	<0.68	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<1.4	<3.4	<0.34
II-A-01-M	5-7'	<24	<12	<12	<12	20	<12	<12	<12	<12	<4B	<120	<12
II-A-01-D	14-15'	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.052	<0.052	<0.005
II-A-03-S	0-6"	<0.53	<0.26	<0.26	<0.26	0.32	<0.26	<0.26	<0.26	<0.26	<1.1	<2.6	<0.26
II-A-03-M	5-7'	<520	<260	<260	<260	<260	<260	<260	<260	<260	<1000	<2600	<260
II-A-03-M DUP	5-7'	<280	<140	<140	<140	<140	<140	<140	<140	<140	<550	<1400	<140
II-A-03-D	14-15'	<0.93	<0.47	<0.47	<0.47	<0.47	<0.47	0.61	<0.47	<0.47	<1.9	<4.7	<0.47
II-A-05-D	8-10.5'	<1.3	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<2.6	<6.5	<0.65
II-A-07-D	12-13'	<0.01	0.014	<0.005	<0.005	<0.005	<0.005	0.007	<0.005	<0.005	<0.05	<0.05	<0.005
II-A-09-M	6-8'	<1.1	<0.55	<0.55	<0.55	0.58	<0.55	4	<0.55	5	<2.2	<5.5	<0.55
II-A-09-D	13-14'	<12	<6.1	<6.1	<6.1	47	<6.1	8	<6.1	<6.1	<24	<61	<6.1
II-A-11-M	9-10'	<1.2	<0.59	<0.59	<0.59	1.3	<0.59	<0.59	<0.59	<0.59	<2.3	<5.9	<0.59
II-A-11-M2	14-15'	<5.2	6.1	<2.6	<2.6	33	<2.6	<2.6	<2.6	<2.6	<10	<26	<2.6
II-A-11-D	18-20'	<0.52	0.64	<0.26	<0.26	4.4	<0.26	<0.26	<0.26	<0.26	<1	<2.6	<0.26
III-E-02-M	5-7'	<0.67	<0.34	<0.34	<0.34	0.89	<0.34	0.4	<0.34	<0.34	<1.3	<3.4	<0.34
III-F-03-S	0-6"	<0.61	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<1.2	<3	<0.3
III-F-03-M	5-7'	<0.66	3.3	<0.33	<0.33	3.6	<0.33	2.7	<0.33	<0.33	<1.3	<3.3	<0.33
III-F-03-D	17-19'	<0.011	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.055	<0.055	<0.006
March 2015													
CDW-2/S-2	(3-5')	<0.0933	0.0523	<0.0467	<0.0467	0.0574	<0.0467	0.0928	<0.0467	<0.0467	<0.0933	<0.467	<0.0467
CDW-3/S-3	(10-12')	< 0.0727	0.541	< 0.0364	0.622	5.16	< 0.0364	0.673	<0.0364	0.0763	< 0.0727	<0.364	<0.0364
CDW-4/S-3	(10-12')	<0.235	0.834	<0.117	<0.117	1.96	0.135	9.63	<0.117	<0.117	<0.235	<1.17	<0.117
CDW-5/S-3	(10-12')	<0.584	0.292	<0.292	<0.292	2.11	<0.292	11.3	0.345	2.69	<0.584	<2.92	<0.292
Method 1 Standard S-1/GW-2		NA	9	0.1	40	0.1	1	500	NA	NA	NA	NA	100
Method 1 Standard S-1/GW-3		NA	500	20	500	100	500	500	NA	NA	NA	NA	100

Bold = Exceed MCP Method 1 Standards
mg/kg = milligram per kilogram
NM = Not Measured

Table 5
Soil Analytical Results - VOCs (mg/kg)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to August 2005

Sample ID	Depth	Napthalene	n-Propylbenzene	Styrene	Tetrachloroethene	Toluene	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene	Trichlorofluoromethane (Freon 11)	1,1,2-Trichlorotrifluoroethane (Freon 113)	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
June 2002														
ESM-03	10-12'	1.900E	2.700E	0.12	<0.005	7.500E	0.240E	<0.005	<0.005	6.5E	1.600E	NA	4.100E	2.900E
ESM-03 DL	10-12'	<12.000	<12	<12.000	**340.000D**	300	<12.000	120.000D	<12.000	**190D**	<12.000	NA	6.900DJ	2.600DJ
ESM-04	10-12'	0.003J	<0.005	<0.005	0.006	0.031	<0.005	0.010	<0.005	0.009	<0.005	NA	0.004J	<0.005
ESM-04 DL	10-12'	<0.096	<0.096	<0.096	<0.096	0.053DJ	<0.096	<0.096	<0.096	<0.096	<0.096	NA	<0.096	<0.096
ESM-05	13-15'	0.064	0.026	<0.005	3.100E	1.200E	<0.005	<0.005	0.041	3.900E	<0.005	NA	0.160	0.053
ESM-05 DL	13-15'	<0.600	<0.600	<0.600	7.500D	3.000D	<0.600	8.900D	<0.600	14	<0.600	NA	<0.600	<0.600
ESM-06	11-13'	0.011	0.013	<0.004	1.500E	0.200E	0.006	2.400E	<0.004	2.400E	<0.004	NA	0.064	0.028
ESM-06 DL	11-13'	<0.091	<0.091	<0.091	0.770D	0.080DJ	<0.091	1.100D	<0.091	2.100D	<0.091	NA	0.034DJ	<0.091
ESM-07	10-12'	0.004J	<0.005	<0.005	0.097	0.110	<0.005	0.14	<0.005	0.061	<0.005	NA	0.006	<0.005
ESM-09	14-15'	0.002J	<0.005	<0.005	0.004J	0.069	<0.005	0.240E	<0.005	0.014	<0.005	NA	0.003J	<0.005
ESM-09 DL	14-15'	<0.096	<0.096	<0.096	<0.096	0.099D	<0.096	0.210D	<0.096	<0.096	<0.096	NA	<0.096	<1.600
August/September 2005														
II-A-01-S	0-6"	<0.34	<0.34	<0.34	1.2	<0.34	<0.34	0.8	<0.34	1.9	<0.68	NA	<0.34	<0.34
II-A-01-M	5-7'	<12	<12	<12	<12	<12	<12	85	<12	**140**	<24	NA	<12	<12
II-A-01-D	14-15'	<0.005	<0.005	<0.005	0.016	<0.005	<0.005	0.073	<0.005	0.067	<0.01	NA	<0.005	<0.005
II-A-03-S	0-6"	<0.26	<0.26	<0.26	1.7	0.29	<0.26	0.79	<0.26	1.8	<0.53	NA	<0.26	<0.26
II-A-03-M	5-7'	<260	<260	<260	**1600**	680	<260	**3000**	<260	**1900**	<520	NA	<260	<260
II-A-03-M DUP	5-7'	<140	<140	<140	**1600**	580	<140	**2100**	<140	**1500**	<280	NA	<140	<140
II-A-03-D	14-15'	<0.47	<0.47	<0.47	1.1	<0.47	<0.47	1.1	<0.47	<0.47	<0.93	NA	1.2	0.65
II-A-05-D	8-10.5'	<0.65	<0.65	<0.65	<0.65	13	<0.65	<0.65	<0.65	<0.65	<1.3	NA	<0.65	<0.65
II-A-07-D	12-13'	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.01	NA	<0.005	<0.005
II-A-09-M	6-8'	1.1	<0.55	<0.55	<0.55	1.6	<0.55	<0.55	<0.55	<0.55	<1.1	NA	1.3	0.68
II-A-09-D	13-14'	<6.1	<6.1	<6.1	26	110	<6.1	44	<6.1	14	<12	NA	<6.1	<6.1
II-A-11-M	9-10'	2.2	0.73	<0.59	<0.59	<0.59	<0.59	0.96	<0.59	<0.59	<1.2	NA	3.4	2
II-A-11-M2	14-15'	<2.6	<2.6	<2.6	<2.6	12	<2.6	<2.6	<2.6	<2.6	<5.2	NA	<2.6	<2.6
II-A-11-D	18-20'	<0.26	<0.26	<0.26	<0.26	1.5	<0.26	0.27	<0.26	<0.26	<0.52	NA	<0.26	<0.26
III-E-02-M	5-7'	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.67	NA	<0.34	<0.34
III-F-03-S	0-6"	<0.3	<0.3	<0.3	0.91	<0.3	<0.3	0.79	<0.3	1	<0.61	NA	<0.3	<0.3
III-F-03-M	5-7'	<0.33	<0.33	<0.33	<0.33	5	<0.33	2.4	<0.33	<0.33	<0.66	NA	0.65	0.37
III-F-03-D	17-19'	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.011	NA	<0.006	<0.006
March 2015														
CDW-2/S-2	(3-5')	<0.0467	<0.0467	<0.0467	0.0961	0.168	<0.0467	0.365	<0.0467	0.195	<0.0467	0.147	<0.0467	<0.0467
CDW-3/S-3	(10-12')	0.0756	0.0494	<0.0364	**27.4**	7.97	<0.0364	126	<0.0364	**69.6**	<0.0364	9.92	0.243	0.0927
CDW-4/S-3	(10-12')	0.253	<0.117	<0.117	0.848	2.36	<0.117	2.25	<0.117	0.216	<0.117	40.8	0.384	<0.117
CDW-5/S-3	(10-12')	2.84	0.867	<0.292	<0.292	34.4	<0.292	<0.292	<0.292	<0.292	<0.292	13.2	6.24	1.83
Method 1 Standard S-1/GW-2		20	NA	4	10	500	6	500	2	0.3	NA	NA	NA	NA
Method 1 Standard S-1/GW-3		500	NA	70	30	500	700	500	40	30	NA	NA	NA	NA

Bold = Exceed MCP Method 1 Standards
mg/kg = milligram per kilogram
NM = Not Measured

Table 5
Soil Analytical Results - VOCs (mg/kg)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to August 2005

Sample ID	Depth	Vinyl Chloride	Vinyl Chloride	Total Xylenes
June 2002				
ESM-03	10-12'	**1.200E**	**1.2E**	10.000E
ESM-03 DL	10-12'	*<12*	***<12***	43.000D
ESM-04	10-12'	0.012	0.012	0.090
ESM-04 DL	10-12'	*<0.096*	*<0.096*	*<0.096*
ESM-05	13-15'	0.006	0.006	0.660E
ESM-05 DL	13-15'	*<0.600*	*<0.6*	0.310DJ
ESM-06	11-13'	0.006	0.006	0.220
ESM-06 DL	11-13'	*<0.091*	*<0.091*	0.097D
ESM-07	10-12'	*<0.005*	*<0.005*	0.008
ESM-09	14-15'	*<0.005*	*<0.005*	0.010
ESM-09 DL	14-15'	*<0.096*	*<0.096*	*<0.096*
August/September 2005				
II-A-01-S	0-6"	*<0.68*	*<0.68*	*<0.34*
II-A-01-M	5-7'	*<24*	***<24***	*<12*
II-A-01-D	14-15'	*<0.01*	*<0.01*	*<0.005*
II-A-03-S	0-6"	*<0.53*	*<0.53*	*<0.26*
II-A-03-M	5-7'	*<520*	***<520***	*<260*
II-A-03-M DUP	5-7'	*<280*	***<280***	160
II-A-03-D	14-15'	*<0.93*	*<0.93*	0.63
II-A-05-D	8-10.5'	*<1.3*	***<1.3***	1.3
II-A-07-D	12-13'	*<0.01*	*<0.01*	0.009
II-A-09-M	6-8'	*<1.1*	*<1.1*	14.3
II-A-09-D	13-14'	*<12*	***<12***	31.3
II-A-11-M	9-10'	*<1.2*	*<1.2*	0.78
II-A-11-M2	14-15'	*<5.2*	**<5.2**	5.4
II-A-11-D	18-20'	0.94	0.94	0.3
III-E-02-M	5-7'	*<0.67*	*<0.67*	1.34
III-F-03-S	0-6"	*<0.61*	*<0.61*	*<0.3*
III-F-03-M	5-7'	*<0.66*	*<0.66*	8.5
III-F-03-D	17-19'	*<0.011*	*<0.011*	*<0.006*
March 2015				
CDW-2/S-2	(3-5')	*<0.0467*	*<0.0467*	0.2378
CDW-3/S-3	(10-12')	0.0403	0.0403	1.763
CDW-4/S-3	(10-12')	**1.56**	**1.56**	18.83
CDW-5/S-3	(10-12')	0.336	0.336	39.32
Method 1 Standard S-1/GW-2		0.7	0.7	100
Method 1 Standard S-1/GW-3		1	1	500

Bold = Exceed MCP Method 1 Standards
mg/kg = milligram per kilogram
NM = Not Measured

Table 6
Soil Analytical Results - PP13 Metals (mg/kg)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to August 2005

Sample ID	Depth	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
ESM-03	10-12'	6/13/2002	3.4	30.9	0.26B	13.6	48.9	0.15B	*<0.44*	0.51B
ESM-04	10-12'	6/13/2002	1.7	19.8	*<0.11*	15.0	22.6	*<0.016*	*<0.43*	0.72B
ESM-05	13-15'	6/12/2002	2.1	15	*<0.11*	8.5	22.3	0.029B	*<0.46*	0.61B
ESM-06	11-13'	6/12/2002	2.7	18.9	*<0.11*	10.0	3.2	*<0.017*	*<0.42*	0.86B
ESM-07	10-12'	6/12/2002	1.2	12.6	*<0.11*	6.5	4.0	0.043B	*<0.45*	0.30B
ESM-09	14-15'	6/14/2002	1.7	18.7	*<0.11*	7.8	6.0	*<0.017*	*<0.44*	0.46B
II-A-01-S	0-6"	8/31/2005	NM	NM	NM	NM	150	NM	NM	NM
II-A-01-M	5-7'	8/31/2005	NM	NM	NM	NM	*<14*	NM	NM	NM
II-A-01-D	14-15'	8/31/2005	NM	NM	NM	NM	*<11*	NM	NM	NM
II-A-03-S	0-6"	8/31/2005	NM	NM	NM	NM	30	NM	NM	NM
II-A-03-M	5-7'	8/31/2005	NM	NM	NM	NM	*<13*	NM	NM	NM
II-A-03-D	14-15'	8/31/2005	NM	NM	NM	NM	*<11*	NM	NM	NM
II-A-05-S	0-6"	8/31/2005	NM	NM	NM	NM	**420**	NM	NM	NM
II-A-05-M	4-6'	8/31/2005	NM	NM	NM	NM	*<12*	NM	NM	NM
II-A-05-D	8-10.5'	8/31/2005	NM	NM	NM	NM	*<14*	NM	NM	NM
II-A-07-S	0-6"	8/31/2005	NM	NM	NM	NM	**710**	NM	NM	NM
II-A-07-M	5-7'	8/31/2005	NM	NM	NM	NM	*<12*	NM	NM	NM
II-A-09-S	0-6"	8/30/2005	NM	NM	NM	NM	150	NM	NM	NM
II-A-09-M	6-8'	8/30/2005	NM	NM	NM	NM	*<12*	NM	NM	NM
II-A-09-D	13-14'	8/30/2005	NM	NM	NM	NM	110	NM	NM	NM
II-A-11-S	0-6"	8/30/2005	NM	NM	NM	NM	110	NM	NM	NM
II-A-11-M	9-10'	8/30/2005	NM	NM	NM	NM	*<13*	NM	NM	NM
III-E-02-S	0-6"	8/31/2005	NM	NM	NM	NM	120	NM	NM	NM
III-E-02-M	5-7'	8/31/2005	NM	NM	NM	NM	*<14*	NM	NM	NM
III-E-02-D	17-19'	8/31/2005	NM	NM	NM	NM	*<12*	NM	NM	NM
III-F-03-S	0-6"	9/1/2005	NM	NM	NM	NM	120	NM	NM	NM
III-F-03-M	5-7'	9/1/2005	NM	NM	NM	NM	*<14*	NM	NM	NM
III-F-03-D	17-19'	9/1/2005	NM	NM	NM	NM	*<12*	NM	NM	NM
Method 1 Standard S-1/GW-2			20	1,000	70	100	200	20	400	100
Method 1 Standard S-1/GW-3			20	1,000	70	100	200	20	400	100

Bold = Exceed MCP Method 1 Standards
mg/kg = milligram per kilogram
NM = Not Measured

Table 7A
Soil Analytical Results - PCBs (mg/kg)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to September 2005

Sample ID	Date	Depth	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
June 2002												
ESM-03	6/13/2002	10-12'	<0.04	<0.04	<0.04	<0.04	0.44	<0.04	<0.04	NS	NS	0.44
ESM-04	6/13/2002	10-12'	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	NS	NS	BDL
ESM-05	6/12/2002	13-15'	<2	<2	<2	<2	**25**	<2	<2	NS	NS	**25**
ESM-06	6/12/2002	11-13'	<0.19	<0.19	<0.19	<0.19	**2.3**	<0.19	<0.19	NS	NS	**2.3**
ESM-07	6/12/2002	10-12'	<0.039	<0.039	<0.039	<0.039	0.078	<0.039	<0.039	NS	NS	0.078
ESM-09	6/14/2002	14-15'	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038	<0.038	NS	NS	BDL
August/September 2005												
II-A-01-S	8/31/2005	0-6"	<2.2	<2.2	<2.2	<2.2	**18**	<2.2	<2.2	<2.2	<2.2	**18**
II-A-01-M	8/31/2005	5-7'	<0.11	<0.11	<0.11	<0.11	0.35	<0.11	<0.11	<0.11	<0.11	0.35
II-A-03-S	8/31/2005	0-6"	<0.83	<0.83	<0.83	<0.83	**4.7**	<0.83	<0.83	<0.83	<0.83	**4.7**
II-A-03-M	8/31/2005	5-7'	<0.5	<0.5	<0.5	<0.5	**1.7**	<0.5	<0.5	<0.5	<0.5	**1.7**
II-A-05-M	8/31/2005	4-6'	<0.099	<0.099	<0.099	<0.099	0.83	<0.099	<0.099	<0.099	<0.099	0.83
II-A-05-D	8/31/2005	8-10.5'	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	BDL
II-A-07-S	8/31/2005	0-6"	<0.46	<0.46	<0.46	<0.46	**2.6**	<0.46	<0.46	<0.46	<0.46	**2.6**
II-A-07-M	8/31/2005	5-7'	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	<0.095	BDL
II-A-09-S	8/30/2005	0-6"	<0.086	<0.086	<0.086	<0.086	0.98	<0.086	<0.086	<0.086	<0.086	0.98
II-A-09-M	8/30/2005	6-8'	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	BDL
II-A-09-D	8/30/2005	13-14'	<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	<0.097	BDL
II-A-11-S	8/30/2005	0-6"	<0.088	<0.088	<0.088	<0.088	0.28	<0.088	<0.088	<0.088	<0.088	0.28
II-A-11-M	8/30/2005	9-10'	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	BDL
II-A-11-M2	8/30/2005	14-15'	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	BDL
III-E-02-S	8/31/2005	0-6"	<0.83	<0.83	<0.83	<0.83	**5.6**	<0.83	<0.83	<0.83	<0.83	**5.6**
III-E-02-M	8/31/2005	5-7'	<0.1	<0.1	<0.1	<0.1	0.12	<0.1	<0.1	<0.1	<0.1	0.12
III-E-02-D	8/31/2005	17-19'	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	<0.088	BDL
III-F-03-S	9/1/2005	0-6"	<0.44	<0.44	<0.44	<0.44	**2.7**	<0.44	<0.44	<0.44	<0.44	**2.7**
III-F-03-M	9/1/2005	5-7'	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	BDL
III-F-03-D	9/1/2005	17-19'	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	<0.091	BDL
November 2008												
GP-1*	11/25/2008	0-3'	–	–	–	–	–	–	–	–	–	**170**
GP-2*	11/25/2008	0-3'	–	–	–	–	–	–	–	–	–	**300**
GP-2*	11/25/2008	3-5'	–	–	–	–	–	–	–	–	–	**17**
September 2013												
G-3	9/30/2013	0.5'	<8.8	<8.8	<8.8	<8.8	**43**	<8.8	<8.8	<8.8	<8.8	**43**
	9/30/2013	2.5'	<91	<91	<91	<91	**670**	<91	<91	<91	<91	**670**
	9/30/2013	5'	<23	<23	<23	<23	**88**	<23	<23	<23	<23	**88**
	9/30/2013	10'	<0.49	<0.49	<0.49	<0.49	**1.3**	<0.49	<0.49	<0.49	<0.49	**1.3**
	9/30/2013	15'	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	BDL
	9/30/2013	20'	<0.42	<0.42	<0.42	<0.42	<0.43	<0.42	<0.42	<0.42	<0.42	BDL
G-4	9/30/2013	0.5'	<42	<42	<42	<42	**340**	<42	<42	<42	<42	**340**
	9/30/2013	2.5'	<47	<47	<47	<47	**120**	<47	<47	<47	<47	**120**
	9/30/2013	5'	<4.8	<4.8	<4.8	<4.8	**31**	<4.8	<4.8	<4.8	<4.8	**31**
	9/30/2013	10'	<5	<5	<5	<5	**19**	<5	<5	<5	<5	**19**
	9/30/2013	15'	<0.44	<0.44	<0.44	<0.44	**2.8**	<0.44	<0.44	<0.44	<0.44	**2.8**
	9/30/2013	20'	<0.42	<0.42	<0.42	<0.42	0.62	<0.42	<0.42	<0.42	<0.42	0.62
	9/30/2013	21'	<0.44	<0.44	<0.44	<0.44	**2.7**	<0.44	<0.44	<0.44	<0.44	**2.7**
G-5	9/30/2013	0.5'	<2600	<2600	<2600	<2600	**9500**	<2600	<2600	<2600	<2600	**9500**
	9/30/2013	2.5'	<2300	<2300	<2300	<2300	**13000**	<2300	<2300	<2300	<2300	**13000**
	9/30/2013	5'	<190	<190	<190	<190	**1700**	<190	<190	<190	<190	**1700**
	9/30/2013	10'	<10	<10	<10	<10	**44**	<10	<10	<10	<10	**44**
	9/30/2013	15'	<0.42	<0.42	<0.42	<0.42	**3.7**	<0.42	<0.42	<0.42	<0.42	**3.7**
	9/30/2013	16'	<0.4	<0.4	<0.4	<0.4	**2**	<0.4	<0.4	<0.4	<0.4	**2**
G-6	9/27/2013	0.5'	<22	<22	<22	<22	**130**	<22	<22	<22	<22	**130**
	9/27/2013	2.5'	<0.85	<0.85	<0.85	<0.85	**7.1**	<0.85	<0.85	<0.85	<0.85	**7.1**
	9/27/2013	5'	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45
	9/27/2013	10'	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67
	9/27/2013	15'	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46
	9/27/2013	16'	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
G-7	9/27/2013	0.5'	<0.42	<0.42	<0.42	<0.42	**3.2**	<0.42	<0.42	<0.42	<0.42	**3.2**
	9/27/2013	2.5'	<0.42	<0.42	<0.42	<0.42	0.6	<0.42	<0.42	<0.42	<0.42	0.6
	9/27/2013	5'	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51
	9/27/2013	10'	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51	<0.51
	9/27/2013	13'	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45
G-8	9/27/2013	0.5'	<0.41	<0.41	<0.41	<0.41	**2.2**	<0.41	<0.41	<0.41	<0.41	**2.2**
	9/27/2013	2.5'	<0.41	<0.41	<0.41	<0.41	0.77	<0.41	<0.41	<0.41	<0.41	0.77
	9/27/2013	5'	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/27/2013	10'	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59
	9/27/2013	13'	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44	<0.44
G-9	9/27/2013	0.5'	<0.88	<0.88	<0.88	<0.88	**7.4**	<0.88	<0.88	<0.88	<0.88	**7.4**
	9/27/2013	2.5'	<0.41	<0.41	<0.41	<0.41	0.81	<0.41	<0.41	<0.41	<0.41	0.81
	9/27/2013	5'	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42	<0.42
	9/27/2013	10'	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	9/27/2013	14'	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72
March 2015												
CDW-1/S-3/B	3/11/2015	(8-10')	<0.0207	<0.0207	<0.0207	<0.0207	**3.41**	<0.0207	<0.0207	<0.0207	<0.0207	**3.41**
CDW-2/S-1	3/11/2015	(0-2')	<0.0228	<0.0228	<0.0228	<0.0228	**3.93**	<0.0228	<0.0228	<0.0228	<0.0228	**3.93**
CDW-2/S-2	3/11/2015	(3-5')	<0.021	<0.021	<0.021	<0.021	0.224	<0.021	<0.021	<0.021	<0.021	0.224
CDW-5/S-1	3/12/2015	(0-2')	<0.0208	<0.0208	<0.0208	<0.0208	0.0348	<0.0208	<0.0208	<0.0208	<0.0208	0.0348
MCP Reportable Concentration												**1**
TSCA Limit												**50**
Upper Concentration Limit												**100**

Bold = Exceed MCP Reportable Concentrations
mg/kg = milligram per kilogram
Exceeds Upper Concentration Limit of 100 mg/kg
Exceeds TSCA Limit of 50 mg/kg
cell to be excavated

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														**1**
MCP Upper Concentration Limit														**100**
TSCA Limit														**50**
June 2020 Sampling														
A1 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.6	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.6
A1 (2-4')	6/9/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1
A1 (4-6')	6/9/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A1 (6-8')	6/9/2020	6 - 8'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A1 (8-10')	6/9/2020	8 - 10'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B1 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.7)	**43.8**	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.7)	**43.8**
B1 (2-4')	6/9/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.6	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.6
B1 (4-6')	6/9/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**4.2**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**4.2**
B1 (6-8')	6/9/2020	6 - 8'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**4.1**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**4.1**
B1 (8-10')	6/9/2020	8 - 10'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.6	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.6
A2 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A2 (2-4')	6/9/2020	2 - 4'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A2 (4-6')	6/9/2020	4 - 6'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A2 (6-8')	6/9/2020	6 - 8'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A2 (8-10')	6/9/2020	8 - 10'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
B2 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2
B2 (2-4')	6/9/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B2 (4-6')	6/9/2020	4 - 6'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2
B2 (6-8')	6/9/2020	6 - 8'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**1.8**	ND(0.05)	0.08	ND(0.05)	ND(0.05)	**1.8**
B2 (8-10')	6/9/2020	8 - 10'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.9
A3 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A3 (2-4')	6/9/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A3 (4-6')	6/9/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A3 (6-8')	6/9/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A3 (8-10')	6/9/2020	8 - 10'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B3 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1
B3 (2-4')	6/9/2020	2 - 4'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B3 (4-6')	6/9/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3
B3 (6-8')	6/9/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**5.5**	ND(0.06)	0.8	ND(0.06)	ND(0.06)	**5.5**
B3 (8-10')	6/9/2020	8 - 10'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.5	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.5
A4 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A4 (2-4')	6/9/2020	2 - 4'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
A4 (4-6')	6/9/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A4 (6-8')	6/9/2020	6 - 8'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A4 (8-10')	6/9/2020	8 - 10'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
B4 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B4 (2-4')	6/9/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B4 (4-6')	6/9/2020	4 - 6'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2
B4 (6-8')	6/9/2020	6 - 8'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B4 (8-10')	6/9/2020	8 - 10'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A5 (0-2')	6/9/2020	0 - 2'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3
A5 (2-4')	6/9/2020	2 - 4'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A5 (4-6')	6/9/2020	4 - 6'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A5 (6-8')	6/9/2020	6 - 8'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A5 (8-10')	6/9/2020	8 - 10'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B5 (0-2')	6/9/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1
B5 (2-4')	6/9/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2
B5 (4-6')	6/9/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	0.3	ND(0.05)	ND(0.05)	0.6
B5 (6-8')	6/9/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B5 (8-10')	6/9/2020	8 - 10'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A6 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.09	ND(0.05)	ND(0.05)	ND(0.05)	0.09
A6 (2-4')	6/10/2020	2 - 4'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A6 (4-6')	6/10/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A6 (6-8')	6/10/2020	6 - 8'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A6 (8-10')	6/10/2020	8 - 10'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	0.08	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.08
B6 (0-2')	6/10/2020	0 - 2'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	0.7	ND(0.05)	0.8	0.2	ND(0.05)	ND(0.05)	**1.7**
B6 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	0.4	0.1	ND(0.06)	ND(0.06)	0.8
B6 (4-6')	6/10/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														**1**
MCP Upper Concentration Limit														**100**
TSCA Limit														**50**
B6 (6-8')	6/10/2020	6 - 8'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
B6 (8-10')	6/10/2020	8 - 10'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A7 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3	0.2	ND(0.06)	ND(0.06)	ND(0.06)	0.5
A7 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A7 (4-6')	6/10/2020	4 - 6'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A7 (6-8')	6/10/2020	6 - 8'	Grab	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A7 (8-10')	6/10/2020	8 - 10'	Grab	0.1	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)
B7 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B7 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B7 (4-6')	6/10/2020	4 - 6'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B7 (6-8')	6/10/2020	6 - 8'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B7 (8-10')	6/10/2020	8 - 10'	Grab	0.2	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
A8 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
A8 (2-4')	6/10/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A8 (4-6')	6/10/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A8 (6-8')	6/10/2020	6 - 8'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A8 (8-10')	6/10/2020	8 - 10'	Grab	0.2	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
B8 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.7	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.7
B8 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.4
B8 (4-6')	6/10/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B8 (6-8')	6/10/2020	6 - 8'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B8 (8-10')	6/10/2020	8 - 10'	Grab	0.2	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
A9 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A9 (2-4')	6/10/2020	2 - 4'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A9 (4-6')	6/10/2020	4 - 6'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A9 (6-8')	6/10/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A9 (8-10')	6/10/2020	8 - 10'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B9 (0-2')	6/10/2020	0 - 2'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7	ND(0.06)	0.6	ND(0.06)	ND(0.06)	**1.3**
B9 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.8	ND(0.06)	0.2	ND(0.06)	ND(0.06)	**1**
B9 (4-6')	6/10/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B9 (6-8')	6/10/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B9 (8-10')	6/10/2020	8 - 10'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A10 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A10 (2-4')	6/10/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A10 (4-6')	6/10/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A10 (6-8')	6/10/2020	6 - 8'	Grab	0.1	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)
A10 (8-10')	6/10/2020	8 - 10'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
B10 (0-2')	6/10/2020	0 - 2'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.5	ND(0.05)	0.1	ND(0.05)	ND(0.05)	0.6
B10 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B10 (4-6')	6/10/2020	4 - 6'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.8	ND(0.05)	0.1	ND(0.05)	ND(0.05)	0.9
B10 (6-8')	6/10/2020	6 - 8'	Grab	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B10 (8-10')	6/10/2020	8 - 10'	Grab	0.3	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A11 (0-2')	6/10/2020	0 - 2'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A11 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.07	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.07
A11 (4-6')	6/10/2020	4 - 6'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	**1.3**	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	**1.3**
A11 (6-8')	6/10/2020	6 - 8'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A11 (8-10')	6/10/2020	8 - 10'	Grab	0.1	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
B11 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B11 (2-4')	6/10/2020	2 - 4'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B11 (4-6')	6/10/2020	4 - 6'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B11 (6-8')	6/10/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B11 (8-10')	6/10/2020	8 - 10'	Grab	0.0	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)
A12 (0-2')	6/10/2020	0 - 2'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1
A12 (2-4')	6/10/2020	2 - 4'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A12 (4-6')	6/10/2020	4 - 6'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A12 (6-8')	6/10/2020	6 - 8'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A12 (8-10')	6/10/2020	8 - 10'	Grab	0.2	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
B12 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.5	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.5
B12 (2-4')	6/10/2020	2 - 4'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														**1**
MCP Upper Concentration Limit														**100**
TSCA Limit														**50**
B12 (4-6')	6/10/2020	4 - 6'	Grab	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B12 (6-8')	6/10/2020	6 - 8'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B12 (8-10')	6/10/2020	8 - 10'	Grab	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A13 (0-2')	6/10/2020	0 - 2'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	0.08	ND(0.06)	ND(0.06)	0.6
A13 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A13 (4-6')	6/10/2020	4 - 6'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A13 (6-8')	6/10/2020	6 - 8'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A13 (8-10')	6/10/2020	8 - 10'	Grab	0.1	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
B13 (0-2')	6/10/2020	0 - 2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.4	ND(0.05)	0.08	ND(0.05)	ND(0.05)	0.48
B13 (2-4')	6/10/2020	2 - 4'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.09	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.09
B13 (4-6')	6/10/2020	4 - 6'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.5	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.5
B13 (6-8')	6/10/2020	6 - 8'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B13 (8-10')	6/10/2020	8 - 10'	Grab	0.2	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A14 (0-2')	6/11/2020	0 - 2'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**8.9**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**8.9**
A14 (2-4')	6/11/2020	2 - 4'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A14 (4-6')	6/11/2020	4 - 6'	Grab	50.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
A14 (6-8')	6/11/2020	6 - 8'	Grab	15.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A14 (8-10')	6/11/2020	8 - 10'	Grab	302.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B14 (0-2')	6/10/2020	0 - 2'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**3.8**	ND(0.05)	0.7	ND(0.05)	ND(0.05)	**4.5**
B14 (2-4')	6/10/2020	2 - 4'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.5	ND(0.05)	0.08	ND(0.05)	ND(0.05)	0.58
B14 (4-6')	6/10/2020	4 - 6'	Grab	2.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B14 (6-8')	6/10/2020	6 - 8'	Grab	0.3	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
B14 (8-10')	6/10/2020	8 - 10'	Grab	0.3	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A15 (0-2')	6/11/2020	0 - 2'	Grab	8.5	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.8	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.8
A15 (2-4')	6/11/2020	2 - 4'	Grab	11.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.5	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.5
A15 (4-6')	6/11/2020	4 - 6'	Grab	425	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6
A15 (6-8')	6/11/2020	6 - 8'	Grab	3,810	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A15 (8-10')	6/11/2020	8 - 10'	Grab	1,304	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A15 (10-12')	6/11/2020	10-12'	Grab	207	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A15 (12-14')	6/11/2020	12-14'	Grab	50	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.07	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.07
A15 (14-16')	6/11/2020	14-16'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.08	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.08
B15 (0-2')	6/11/2020	0 - 2'	Grab	7.2	ND(2)	ND(2)	ND(2)	ND(2)	**22.3**	ND(2)	ND(2)	ND(2)	ND(2)	**22.3**
B15 (2-4')	6/11/2020	2 - 4'	Grab	3.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7
B15 (4-6')	6/11/2020	4 - 6'	Grab	234	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B15 (6-8')	6/11/2020	6 - 8'	Grab	366.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B15 (8-10')	6/11/2020	8 - 10'	Grab	869	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B15 (10-12')	6/11/2020	10-12'	Grab	236	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**3.9**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**3.9**
B15 (12-14')	6/11/2020	12-14'	Grab	203	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B15 (14-16')	6/11/2020	14-16'	Grab	1.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A16 (0-2')	6/11/2020	0 - 2'	Grab	3.5	ND(274)	ND(274)	ND(274)	**4,240**	ND(274)	ND(274)	ND(274)	ND(274)	ND(274)	**4,240**
A16 (2-4')	6/11/2020	2 - 4'	Grab	15.6	ND(61.8)	ND(61.8)	ND(61.8)	**676**	ND(61.8)	ND(61.8)	ND(61.8)	ND(61.8)	ND(61.8)	**676**
A16 (4-6')	6/11/2020	4 - 6'	Grab	215	ND(27)	ND(27)	ND(27)	**227**	ND(27)	ND(27)	ND(27)	ND(27)	ND(27)	**227**
A16 (6-8')	6/11/2020	6 - 8'	Grab	1,742	ND(0.06)	ND(0.06)	ND(0.06)	**5.2**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**5.2**
A16 (8-10')	6/11/2020	8 - 10'	Grab	3,961	ND(0.07)	ND(0.07)	ND(0.07)	**2**	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	2
A16 (10-12')	6/11/2020	10-12'	Grab	213	ND(0.05)	ND(0.05)	ND(0.05)	0.7	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.7
A16 (12-14')	6/11/2020	12-14'	Grab	214	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.7	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A16 (14-16')	6/11/2020	14-16'	Grab	204	ND(0.05)	ND(0.05)	ND(0.05)	**4.7**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**4.7**
B16 (0-2')	6/11/2020	0 - 2'	Grab	1.4	ND(1130)	ND(1130)	ND(1130)	ND(1130)	**15,550**	ND(1130)	ND(1130)	ND(1130)	ND(1130)	**15,550**
B16 (2-4')	6/11/2020	2 - 4'	Grab	263	ND(268)	ND(268)	ND(268)	**5,220**	ND(268)	ND(268)	ND(268)	ND(268)	ND(268)	**5,220**
B16 (4-6')	6/11/2020	4 - 6'	Grab	1,162	ND(113)	ND(113)	ND(113)	**1,140**	ND(113)	ND(113)	ND(113)	ND(113)	ND(113)	**1,140**
B16 (6-8')	6/11/2020	6 - 8'	Grab	1,183	ND(11.2)	ND(11.2)	ND(11.2)	**156**	ND(11.2)	ND(11.2)	ND(11.2)	ND(11.2)	ND(11.2)	**156**
B16 (8-10')	6/11/2020	8 - 10'	Grab	1,160	ND(0.07)	ND(0.07)	ND(0.07)	**6.3**	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	**6.3**
B16 (10-12')	6/11/2020	10-12'	Grab	1,345	ND(0.05)	ND(0.05)	ND(0.05)	**4.2**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**4.2**
B16 (12-14')	6/11/2020	12-14'	Grab	281	ND(0.05)	ND(0.05)	ND(0.05)	**4**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**4**
B16 (14-16')	6/11/2020	14-16'	Grab	12	ND(0.06)	ND(0.06)	ND(0.06)	**2.3**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**2.3**
A17 (0-2')	6/11/2020	0 - 2'	Grab	22	ND(6.3)	ND(6.3)	ND(6.3)	**99.6**	ND(6.3)	ND(6.3)	ND(6.3)	ND(6.3)	ND(6.3)	**99.6**
A17 (2-4')	6/11/2020	2 - 4'	Grab	35	ND(0.05)	ND(0.05)	ND(0.05)	0.8	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.8
A17 (4-6')	6/11/2020	4 - 6'	Grab	1.3	ND(1)	ND(1)	ND(1)	**14.3**	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	**14.3**
A17 (6-8')	6/11/2020	6 - 8'	Grab	2,670	ND(0.06)	ND(0.06)	ND(0.06)	**2.7**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**2.7**

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														1
MCP Upper Concentration Limit														100
TSCA Limit														50
A17 (8-10')	6/11/2020	8 - 10'	Grab	1112	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.4	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.4
A17 (10-12')	6/11/2020	10-12'	Grab	475	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3
A17 (12-14')	6/11/2020	12-14'	Grab	133	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2
A17 (14-16')	6/11/2020	14-16'	Grab	215.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	1.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	1.3
B17 (0-2')	6/11/2020	0 - 2'	Grab	8.1	ND(1220)	ND(1220)	ND(1220)	ND(1220)	9,610	ND(1220)	ND(1220)	ND(1220)	ND(1220)	9,610
B17 (2-4')	6/11/2020	2 - 4'	Grab	21	ND(125)	ND(125)	ND(125)	2,340	ND(125)	ND(125)	ND(125)	ND(125)	ND(125)	2,340
B17 (4-6')	6/11/2020	4 - 6'	Grab	4.1	ND(28.9)	ND(28.9)	ND(28.9)	441	ND(28.9)	ND(28.9)	ND(28.9)	ND(28.9)	ND(28.9)	441
B17 (6-8')	6/11/2020	6 - 8'	Grab	214	ND(0.06)	ND(0.06)	ND(0.06)	10	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	10
B17 (8-10')	6/11/2020	8 - 10'	Grab	1,404	ND(0.07)	ND(0.07)	ND(0.07)	9.3	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	9.3
B17 (10-12')	6/11/2020	10-12'	Grab	581	ND(1.1)	ND(1.1)	ND(1.1)	14.6	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	14.6
B17 (12-14')	6/11/2020	12-14'	Grab	12.9	ND(0.05)	ND(0.05)	ND(0.05)	0.5	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.5
B17 (14-16')	6/11/2020	14-16'	Grab	1.1	ND(0.05)	ND(0.05)	ND(0.05)	0.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.4
A18 (0-2')	6/11/2020	0 - 2'	Grab	11.9	ND(1.3)	ND(1.3)	ND(1.3)	18.6	ND(1.3)	ND(1.3)	ND(1.3)	ND(1.3)	ND(1.3)	18.6
A18 (2-4')	6/11/2020	2 - 4'	Grab	5.5	ND(0.05)	ND(0.05)	ND(0.05)	3.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	3
A18 (4-6')	6/11/2020	4 - 6'	Grab	32	ND(1.1)	ND(1.1)	ND(1.1)	10.8	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	10.8
A18 (6-8')	6/11/2020	6 - 8'	Grab	36	ND(2.4)	ND(2.4)	ND(2.4)	26.6	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	26.6
A18 (8-10')	6/11/2020	8 - 10'	Grab	26	ND(1.2)	ND(1.2)	ND(1.2)	12.9	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	12.9
A18 (10-12')	6/11/2020	10-12'	Grab	64	ND(0.05)	ND(0.05)	ND(0.05)	0.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.4
A18 (12-14')	6/11/2020	12-14'	Grab	17	ND(0.05)	ND(0.05)	ND(0.05)	2.7	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	2.7
A18 (14-16')	6/11/2020	14-16'	Grab	22	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
B18 (0-2')	6/11/2020	0 - 2'	Grab	0.1	ND(24.8)	ND(24.8)	ND(24.8)	ND(24.8)	490	ND(24.8)	ND(24.8)	ND(24.8)	ND(24.8)	490
B18 (2-4')	6/11/2020	2 - 4'	Grab	10	ND(2.2)	ND(2.2)	ND(2.2)	36	ND(2.2)	ND(2.2)	ND(2.2)	ND(2.2)	ND(2.2)	36
B18 (4-6')	6/11/2020	4 - 6'	Grab	9.2	ND(26.3)	ND(26.3)	ND(26.3)	ND(26.3)	396	ND(26.3)	ND(26.3)	ND(26.3)	ND(26.3)	396
B18 (6-8')	6/11/2020	6 - 8'	Grab	22	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	3.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	3.1
B18 (8-10')	6/11/2020	8 - 10'	Grab	8.4	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.2	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.2
B18 1(0-12')	6/11/2020	10-12'	Grab	31.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B18 (12-14')	6/11/2020	12-14'	Grab	13	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.4
B18 (14-16')	6/11/2020	14-16'	Grab	18	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3
A19 (0-2')	6/11/2020	0 - 2'	Grab	2.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3
A19 (2-4')	6/11/2020	2 - 4'	Grab	5.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7
A19 (4-6')	6/11/2020	4 - 6'	Grab	11	ND(0.05)	ND(0.05)	ND(0.05)	2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	2
A19 (6-8')	6/11/2020	6 - 8'	Grab	17	ND(0.06)	ND(0.06)	ND(0.06)	1.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1.7
A19 (8-10')	6/11/2020	8 - 10'	Grab	19	ND(13)	ND(13)	ND(13)	209	ND(13)	ND(13)	ND(13)	ND(13)	ND(13)	209
A19 (10-12')	6/11/2020	10-12'	Grab	16	ND(0.06)	ND(0.06)	ND(0.06)	3.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	3.9
A19 (12-14')	6/11/2020	12-14'	Grab	20	ND(4.5)	ND(4.5)	ND(4.5)	56.5	ND(4.5)	ND(4.5)	ND(4.5)	ND(4.5)	ND(4.5)	56.5
A19 (14-16')	6/11/2020	14-16'	Grab	10.4	ND(0.08)	ND(0.08)	ND(0.08)	1.5	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	1.5
B19 (0-2')	6/11/2020	0 - 2'	Grab	0.1	ND(11.5)	ND(11.5)	ND(11.5)	ND(11.5)	220	ND(11.5)	ND(11.5)	ND(11.5)	ND(11.5)	220
B19 (2-4')	6/11/2020	2 - 4'	Grab	2.7	ND(2.5)	ND(2.5)	ND(2.5)	46.7	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	46.7
B19 (4-6')	6/11/2020	4 - 6'	Grab	6.2	ND(1.2)	ND(1.2)	ND(1.2)	23.8	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	23.8
B19 (6-8')	6/11/2020	6 - 8'	Grab	204	ND(0.06)	ND(0.06)	ND(0.06)	3.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	3.9
B19 (8-10')	6/11/2020	8 - 10'	Grab	167	ND(0.07)	ND(0.07)	ND(0.07)	2.5	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	2.5
B19 (10-12')	6/11/2020	10-12'	Grab	98	ND(0.05)	ND(0.05)	ND(0.05)	6.6	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	6.6
B19 (12-14')	6/11/2020	12-14'	Grab	68.4	ND(0.05)	ND(0.05)	ND(0.05)	0.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.4
B19 (14-16')	6/11/2020	14-16'	Grab	12	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
A20 (0-2')	6/12/2020	0 - 2'	Grab	1.1	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	20.7	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	20.7
A20 (2-4')	6/12/2020	2 - 4'	Grab	3.1	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
A20 (4-6')	6/12/2020	4 - 6'	Grab	13.1	ND(0.07)	ND(0.07)	ND(0.07)	4.5	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	4.5
A20 (6-8')	6/12/2020	6 - 8'	Grab	29.2	ND(0.06)	ND(0.06)	ND(0.06)	4.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.3
A20 (8-10')	6/12/2020	8 - 10'	Grab	21.3	ND(0.07)	ND(0.07)	ND(0.07)	5.3	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	5.3
A20 (10-12')	6/12/2020	10-12'	Grab	18.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1.8
A20 (12-14')	6/12/2020	12-14'	Grab	12.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.2
A20 (14-16')	6/12/2020	14-16'	Grab	11.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.6
B20 (0-2')	6/12/2020	0 - 2'	Grab	1.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	6
B20 (2-4')	6/12/2020	2 - 4'	Grab	2.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2.6
B20 (4-6')	6/12/2020	4 - 6'	Grab	6.3	ND(2.3)	ND(2.3)	ND(2.3)	28.5	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	28.5
B20 (6-8')	6/12/2020	6 - 8'	Grab	9.3	ND(3.5)	ND(3.5)	ND(3.5)	57.6	ND(3.5)	ND(3.5)	ND(3.5)	ND(3.5)	ND(3.5)	57.6
B20 (8-10')	6/12/2020	8 - 10'	Grab	15.4	ND(2.6)	ND(2.6)	ND(2.6)	30.1	ND(2.6)	ND(2.6)	ND(2.6)	ND(2.6)	ND(2.6)	30.1
B20 (10-12')	6/12/2020	10-12'	Grab	21.5	ND(1.1)	ND(1.1)	ND(1.1)	11.1	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	11.1
B20 (12-14')	6/12/2020	12-14'	Grab	33.1	ND(0.06)	ND(0.06)	ND(0.06)	3.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	3.7

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														**1**
MCP Upper Concentration Limit														**100**
TSCA Limit														**50**
B20 (14-16')	6/12/2020	14-16'	Grab	9.8	ND(0.06)	ND(0.06)	ND(0.06)	**6.4**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**6.4**
A21 (0-2')	6/12/2020	0 - 2'	Grab	0.5	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	**13.5**	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	**13.5**
A21 (2-4')	6/12/2020	2 - 4'	Grab	2.7	ND(27.4)	ND(27.4)	ND(27.4)	**171**	ND(27.4)	ND(27.4)	ND(27.4)	ND(27.4)	ND(27.4)	**171**
A21 (4-6')	6/12/2020	4 - 6'	Grab	8.4	ND(0.05)	ND(0.05)	ND(0.05)	**3.4**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**3.4**
A21 (6-8')	6/12/2020	6 - 8'	Grab	13.4	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A21 (8-10')	6/12/2020	8 - 10'	Grab	14.9	ND(0.07)	ND(0.07)	ND(0.07)	**12.2**	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	**12.2**
A21 (10-12')	6/12/2020	10-12'	Grab	18.6	ND(0.07)	ND(0.07)	ND(0.07)	**5.8**	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	**5.8**
A21 (12-14')	6/12/2020	12-14'	Grab	11.1	ND(0.07)	ND(0.07)	ND(0.07)	**2**	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	**2**
A21 (14-16')	6/12/2020	14-16'	Grab	9.1	ND(0.06)	ND(0.06)	ND(0.06)	0.5	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.5
B21 (0-2')	6/12/2020	0 - 2'	Grab	2.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**1.7**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**1.7**
B21 (2-4')	6/12/2020	2 - 4'	Grab	3.1	ND(0.05)	ND(0.05)	ND(0.05)	**9.1**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**9.1**
B21 (4-6')	6/12/2020	4 - 6'	Grab	53.1	ND(0.05)	ND(0.05)	ND(0.05)	**1.4**	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	**1.4**
B21 (6-8')	6/12/2020	6 - 8'	Grab	144	ND(0.06)	ND(0.06)	ND(0.06)	0.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.4
B21 (8-10')	6/12/2020	8 - 10'	Grab	123	ND(0.06)	ND(0.06)	ND(0.06)	0.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.8
B21 (10-12')	6/12/2020	10-12'	Grab	85.5	ND(0.06)	ND(0.06)	ND(0.06)	**1.1**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**1.1**
B21 (12-14')	6/12/2020	12-14'	Grab	53.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.08	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.08
B21 (14-16')	6/12/2020	14-16'	Grab	10.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A22 (0-2')	6/12/2020	0 - 2'	Grab	1.8	ND(291)	ND(291)	ND(291)	**664**	ND(291)	ND(291)	ND(291)	ND(291)	ND(291)	**664**
A22 (2-4')	6/12/2020	2 - 4'	Grab	2.8	ND(2.2)	ND(2.2)	ND(2.2)	**25.9**	ND(2.2)	ND(2.2)	ND(2.2)	ND(2.2)	ND(2.2)	**25.9**
A22 (4-6')	6/12/2020	4 - 6'	Grab	17.2	ND(2.3)	ND(2.3)	ND(2.3)	**44.6**	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	**44.6**
A22 (6-8')	6/12/2020	6 - 8'	Grab	31.1	ND(0.06)	ND(0.06)	ND(0.06)	**3**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**3**
A22 (8-10')	6/12/2020	8 - 10'	Grab	22.3	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A22 (10-12')	6/12/2020	10-12'	Grab	16.7	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3
A22 (12-14')	6/12/2020	12-14'	Grab	14.8	ND(0.06)	ND(0.06)	ND(0.06)	0.08	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.08
A22 (14-16')	6/12/2020	14-16'	Grab	11.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A22 (16-18')	6/12/2020	16-18'	Grab	10.6	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B22 (0-2')	6/12/2020	0 - 2'	Grab	0.2	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	**34.7**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	**34.7**
B22 (2-4')	6/12/2020	2 - 4'	Grab	2.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B22 (4-6')	6/12/2020	4 - 6'	Grab	4.3	ND(0.08)	ND(0.08)	ND(0.08)	0.6	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	0.6
B22 (6-8')	6/12/2020	6 - 8'	Grab	7.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B22 (8-10')	6/12/2020	8 - 10'	Grab	14.7	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.1
B22 (10-12')	6/12/2020	10-12'	Grab	24.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B22 (12-14')	6/12/2020	12-14'	Grab	33.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B22 (14-16')	6/12/2020	14-16'	Grab	9.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
A23 (0-2')	6/12/2020	0 - 2'	Grab	0.3	ND(28.4)	ND(28.4)	ND(28.4)	ND(28.4)	**114**	ND(28.4)	ND(28.4)	ND(28.4)	ND(28.4)	**114**
A23 (2-4')	6/12/2020	2 - 4'	Grab	1.2	ND(11.5)	ND(11.5)	ND(11.5)	**148**	ND(11.5)	ND(11.5)	ND(11.5)	ND(11.5)	ND(11.5)	**148**
A23 (4-6')	6/12/2020	4 - 6'	Grab	6.5	ND(22.1)	ND(22.1)	ND(22.1)	**251**	ND(22.1)	ND(22.1)	ND(22.1)	ND(22.1)	ND(22.1)	**251**
A23 (6-8')	6/12/2020	6 - 8'	Grab	11.1	ND(1.1)	ND(1.1)	ND(1.1)	**13.5**	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	**13.5**
A23 (8-10')	6/12/2020	8 - 10'	Grab	10.9	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A23 (10-12')	6/12/2020	10-12'	Grab	12.3	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A23 (12-14')	6/12/2020	12-14'	Grab	9.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A23 (14-16')	6/12/2020	14-16'	Grab	8.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B23 (0-2')	6/12/2020	0 - 2'	Grab	0.8	ND(11.8)	ND(11.8)	ND(11.8)	ND(11.8)	**197**	ND(11.8)	ND(11.8)	ND(11.8)	ND(11.8)	**197**
B23 (2-4')	6/12/2020	2 - 4'	Grab	1.5	ND(23.6)	ND(23.6)	ND(23.6)	**316**	ND(23.6)	ND(23.6)	ND(23.6)	ND(23.6)	ND(23.6)	**316**
B23 (4-6')	6/12/2020	4 - 6'	Grab	36.5	ND(56.4)	ND(56.4)	ND(56.4)	**951**	ND(56.4)	ND(56.4)	ND(56.4)	ND(56.4)	ND(56.4)	**951**
B23 (6-8')	6/12/2020	6 - 8'	Grab	51.2	ND(2.8)	ND(2.8)	ND(2.8)	**49.4**	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)	ND(2.8)	**49.4**
B23 (8-10')	6/12/2020	8 - 10'	Grab	50.1	ND(0.06)	ND(0.06)	ND(0.06)	**6.8**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**6.8**
B23 1(0-12')	6/12/2020	10-12'	Grab	37.3	ND(0.06)	ND(0.06)	ND(0.06)	**1.1**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**1.1**
B23 (12-14')	6/12/2020	12-14'	Grab	49.7	ND(0.07)	ND(0.07)	ND(0.07)	0.2	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.2
B23 (14-16')	6/12/2020	14-16'	Grab	7.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A24 (0-2')	6/12/2020	0 - 2'	Grab	0.2	ND(5.4)	ND(5.4)	ND(5.4)	ND(5.4)	**82.9**	ND(5.4)	ND(5.4)	ND(5.4)	ND(5.4)	**82.9**
A24 (2-4')	6/12/2020	2 - 4'	Grab	2.8	ND(21)	ND(21)	ND(21)	ND(21)	**265**	ND(21)	ND(21)	ND(21)	ND(21)	**265**
A24 (4-6')	6/12/2020	4 - 6'	Grab	10.9	ND(11.4)	ND(11.4)	ND(11.4)	**147**	ND(11.4)	ND(11.4)	ND(11.4)	ND(11.4)	ND(11.4)	**147**
A24 (6-8')	6/12/2020	6 - 8'	Grab	31.1	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6
A24 (8-10')	6/12/2020	8 - 10'	Grab	24.8	ND(11.3)	ND(11.3)	ND(11.3)	**155**	ND(11.3)	ND(11.3)	ND(11.3)	ND(11.3)	ND(11.3)	**155**
A24 (10-12')	6/12/2020	10-12'	Grab	16.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**1.4**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1.4
A24 (12-14')	6/12/2020	12-14'	Grab	11.7	ND(0.06)	ND(0.06)	ND(0.06)	**4.1**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**4.1**
A24 (14-16')	6/12/2020	14-16'	Grab	10.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7

Table 7B
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DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														1
MCP Upper Concentration Limit														100
TSCA Limit														50
B24 (0-2')	6/12/2020	0 - 2'	Grab	0.4	ND(6)	ND(6)	ND(6)	78	ND(6)	ND(6)	ND(6)	ND(6)	ND(6)	78
B24 (2-4')	6/12/2020	2 - 4'	Grab	2.1	ND(24.4)	ND(24.4)	ND(24.4)	337	ND(24.4)	ND(24.4)	ND(24.4)	ND(24.4)	ND(24.4)	337
B24 (4-6')	6/12/2020	4 - 6'	Grab	5.8	ND(1.1)	ND(1.1)	ND(1.1)	10	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	10
B24 (6-8')	6/12/2020	6 - 8'	Grab	7.6	ND(6.1)	ND(6.1)	ND(6.1)	88.6	ND(6.1)	ND(6.1)	ND(6.1)	ND(6.1)	ND(6.1)	88.6
B24 (8-10')	6/12/2020	8 - 10'	Grab	10.2	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
B24 (10-12')	6/12/2020	10-12'	Grab	10.8	ND(10.9)	ND(10.9)	ND(10.9)	147	ND(10.9)	ND(10.9)	ND(10.9)	ND(10.9)	ND(10.9)	147
B24 (12-14')	6/12/2020	12-14'	Grab	12.6	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B24 (14-16')	6/12/2020	14-16'	Grab	6.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A25 (0-2')	06/15/2020	0 - 2'	Grab	0.2	ND(23.6)	ND(23.6)	ND(23.6)	318	ND(23.6)	ND(23.6)	ND(23.6)	ND(23.6)	ND(23.6)	318
A25 (2-4')	06/15/2020	2 - 4'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2
A25 (4-6')	06/15/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A25 (6-8')	06/15/2020	6 - 8'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
A25 (8-10')	06/15/2020	8 - 10'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A25 (10-12')	06/15/2020	10-12'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A25 (12-14')	06/15/2020	12-14'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A25 (14-16')	06/15/2020	14-16'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B25 (0-2')	06/15/2020	0 - 2'	Grab	0.0	ND(11.3)	ND(11.3)	ND(11.3)	173	ND(11.3)	ND(11.3)	ND(11.3)	ND(11.3)	ND(11.3)	173
B25 (2-4')	06/15/2020	2 - 4'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2
B25 (4-6')	06/15/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1.3
B25 (6-8')	06/15/2020	6 - 8'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
B25 (8-10')	06/15/2020	8 - 10'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
B25 (10-12')	06/15/2020	10-12'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B25 (12-14')	06/15/2020	12-14'	Grab	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B25 (14-16')	06/15/2020	14-16'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.07	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.07
A26 (0-2')	6/15/2020	0 - 2'	Grab	0.0	ND(28.7)	ND(28.7)	ND(28.7)	ND(28.7)	199	ND(28.7)	ND(28.7)	ND(28.7)	ND(28.7)	199
A26 (2-4')	6/15/2020	2 - 4'	Grab	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7
A26 (4-6')	6/15/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A26 (6-8')	6/15/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	3.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	3.8
A26 (8-10')	6/15/2020	8 - 10'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A26 (10-12')	6/15/2020	10-12'	Grab	0.2	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
A26 (12-14')	6/15/2020	12-14'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A26 (14-16')	6/15/2020	14-16'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6
B26 (4-6')	6/15/2020	4 - 6'	Grab	0.0	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	13.8	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	13.8
B26 (6-8')	6/15/2020	6 - 8'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.1
B26 (8-10')	6/15/2020	8 - 10'	Grab	0.4	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.1
B26 (10-12')	6/15/2020	10-12'	Grab	0.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.9	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.9
B26 (12-14')	6/15/2020	12-14'	Grab	0.0	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	0.3	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	0.3
A27 (0-2')	6/15/2020	0 - 2'	Grab	0.0	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	42.3	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	42.3
A27 (2-4')	6/15/2020	2 - 4'	Grab	0.0	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	30.8	ND(2.9)	ND(2.9)	ND(2.9)	ND(2.9)	30.8
A27 (4-6')	6/15/2020	4 - 6'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	12.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	12.4
A27 (6-8')	6/15/2020	6 - 8'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A27 (8-10')	6/15/2020	8 - 10'	Grab	9.4	ND(0.07)	ND(0.07)	ND(0.07)	0.5	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A27 (10-12')	6/15/2020	10-12'	Grab	0.8	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A27 (12-14')	6/15/2020	12-14'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A27 (14-16')	6/15/2020	14-16'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A27 (16-18')	6/15/2020	16-18'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.4
A27 (18-20')	6/15/2020	18-20'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B27 (0-2')	6/15/2020	0 - 2'	Grab	0.0	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	17.6	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	17.6
B27 (6-8')	6/15/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B27 (8-10')	6/15/2020	8 - 10'	Grab	11.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.9
B27 (10-12')	6/15/2020	10-12'	Grab	2.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1
B27(12-14')	6/15/2020	12-14'	Grab	1.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B27 (14-16')	6/15/2020	14-16'	Grab	3.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B27 (16-18')	6/15/2020	16-18'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B27 (18-20')	6/15/2020	18-20'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A28 (4-6')	6/15/2020	4 - 6'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	2.5	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	2.5
A28 (6-8')	6/15/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A28 (8-10')	6/15/2020	8 - 10'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A28 (10-12')	6/15/2020	10-12'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														**1**
MCP Upper Concentration Limit														**100**
TSCA Limit														**50**
A28 (12-14')	6/15/2020	12-14'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A28 (14-16')	6/15/2020	14-16'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A28 (16-18')	6/15/2020	16-18'	Grab	0.0	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A28 (18-20')	6/15/2020	18-20'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B28 (6-8')	6/15/2020	6 - 8'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B28 (8-10')	6/15/2020	8 - 10'	Grab	1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B28 (10-12')	6/15/2020	10-12'	Grab	1.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B28 (12-14')	6/15/2020	12-14'	Grab	0.5	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B28 (14-16')	6/15/2020	14-16'	Grab	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B28 (16-18')	6/15/2020	16-18'	Grab	0.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**2.3**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**2.3**
B28 (18-20')	6/15/2020	18-20'	Grab	0.3	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A29 (4-6')	6/15/2020	4 - 6'	Grab	0.1	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	**13.5**	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	**13.5**
A29 (6-8')	6/15/2020	6 - 8'	Grab	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A29 (8-10')	6/15/2020	8 - 10'	Grab	0.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A29 (10-12')	6/15/2020	10-12'	Grab	1.1	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
A29 (12-14')	6/15/2020	12-14'	Grab	0.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A29 (14-16')	6/15/2020	14-16'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A29 (16-18')	6/15/2020	16-18'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A29 (18-20')	6/15/2020	18-20'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
C29 (0-2')	6/16/2020	0 - 2'	Grab	0.2	ND(5.2)	ND(5.2)	ND(5.2)	ND(5.2)	**65.4**	ND(5.2)	ND(5.2)	ND(5.2)	ND(5.2)	**65.4**
C29 (2-4')	6/16/2020	2 - 4'	Grab	0.2	ND(10.8)	ND(10.8)	ND(10.8)	ND(10.8)	**169**	ND(10.8)	ND(10.8)	ND(10.8)	ND(10.8)	**169**
C29 (4-6')	6/16/2020	4 - 6'	Grab	0.2	ND(1.6)	ND(1.6)	ND(1.6)	ND(1.6)	**23.7**	ND(1.6)	ND(1.6)	ND(1.6)	ND(1.6)	**23.7**
C29 (6-8')	6/16/2020	6 - 8'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.2
C29 (8-10')	6/16/2020	8 - 10'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
C29 (10-12')	6/16/2020	10-12'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
C29 (12-14')	6/16/2020	12-14'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
C29 (14-16')	6/16/2020	14-16'	Grab	0.1	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
C29 (16-18')	6/16/2020	16-18'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**6.7**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**6.7**
C29 (18-20')	6/16/2020	18-20'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
C30 (0-2')	6/16/2020	0 - 2'	Grab	0.1	ND(26.6)	ND(26.6)	ND(26.6)	ND(26.6)	**241**	ND(26.6)	ND(26.6)	ND(26.6)	ND(26.6)	**241**
C30 (2-4')	6/16/2020	2 - 4'	Grab	0.0	ND(26.7)	ND(26.7)	ND(26.7)	ND(26.7)	**173**	ND(26.7)	ND(26.7)	ND(26.7)	ND(26.7)	**173**
C30 (4-6')	6/16/2020	4 - 6'	Grab	0.1	ND(23.6)	ND(23.6)	ND(23.6)	ND(23.6)	**185**	ND(23.6)	ND(23.6)	ND(23.6)	ND(23.6)	**185**
C30 (6-8')	6/16/2020	6 - 8'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
C30 (8-10')	6/16/2020	8 - 10'	Grab	0.1	ND(5.5)	ND(5.5)	ND(5.5)	0.2	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	0.2
C30 (10-12')	6/16/2020	10-12'	Grab	0.1	ND(5.5)	ND(5.5)	ND(5.5)	**69.8**	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	ND(5.5)	**69.8**
C30 (12-14')	6/16/2020	12-14'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
C30 (14-16')	6/16/2020	14-16'	Grab	0.6	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
C30 (16-18')	6/16/2020	16-18'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
C30 (18-20')	6/16/2020	18-20'	Grab	0.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
December 2020 Sampling														
B1 A 0-2ft	12/21/2020	0-2'	Grab	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.1
B1 B 0-2ft	12/21/2020	0-2'	Grab	2.7	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
B1 C 0-2ft	12/21/2020	0-2'	Grab	0.9	ND(38.5)	ND(38.5)	ND(38.5)	**214**	ND(38.5)	ND(38.5)	ND(38.5)	ND(38.5)	ND(38.5)	**214**
B1 D 0-2ft	12/21/2020	0-2'	Grab	2.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A14-15 0-2ft	12/21/2020	0-2'	Grab	0.5	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**2.8**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**2.8**
B14-15 0-2ft	12/21/2020	0-2'	Grab	1.1	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**3.6**	ND(0.06)	0.3	ND(0.06)	ND(0.06)	**3.9**
A15-16 0-2ft	12/21/2020	0-2'	Grab	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**2.4**	ND(0.06)	0.2	ND(0.06)	ND(0.06)	**2.6**
A15-16 2-4ft	12/21/2020	2-4'	Grab	13.2	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6
A15-16 4-6ft	12/21/2020	4-6'	Grab	220	ND(0.06)	ND(0.06)	ND(0.06)	**4.1**	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	**4.1**
A15-16 6-8ft	12/21/2020	6-8'	Grab	697	ND(0.06)	ND(0.06)	ND(0.06)	0.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.9
A16-17 0-2ft	12/21/2020	0-2'	Grab	0.4	ND(2.3)	ND(2.3)	ND(2.3)	**35.1**	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	**35.1**
A16-17 2-4ft	12/21/2020	2-4'	Grab	31.3	ND(0.05)	ND(0.05)	ND(0.05)	0.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.4
A16-17 4-6ft	12/21/2020	4-6'	Grab	306	ND(0.07)	ND(0.07)	ND(0.07)	**5.1**	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	**5.1**
A16-17 6-8ft	12/21/2020	6-8'	Grab	763	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6
A17-18 0-2ft	12/21/2020	0-2'	Grab	0.1	ND(11.2)	ND(11.2)	ND(11.2)	ND(11.2)	**134**	ND(11.2)	ND(11.2)	ND(11.2)	ND(11.2)	**134**
A17-18 2-4ft	12/21/2020	2-4'	Grab	6.2	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	**25.9**	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	**25.9**
A17-18 4-6ft	12/21/2020	4-6'	Grab	45.1	ND(20.7)	ND(20.7)	ND(20.7)	**119**	ND(20.7)	ND(20.7)	ND(20.7)	ND(20.7)	ND(20.7)	**119**
A17-18 6-8ft	12/21/2020	6-8'	Grab	78.2	ND(0.06)	ND(0.06)	ND(0.06)	0.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7
A18-19 0-2ft	12/21/2020	0-2'	Grab	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.3

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														1
MCP Upper Concentration Limit														100
TSCA Limit														50
A18-19 2-4ft	12/21/2020	2-4'	Grab	4.4	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1
A18-19 4-6ft	12/21/2020	4-6'	Grab	19.3	ND(0.07)	ND(0.07)	ND(0.07)	0.7	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.7
A18-19 B 0-2ft	12/21/2020	0-2'	Grab	0.4	ND(280)	ND(280)	ND(280)	ND(280)	3,340	ND(280)	ND(280)	ND(280)	ND(280)	3,340
A18-19 B 2-4ft	12/21/2020	2-4'	Grab	5.9	ND(5.4)	ND(5.4)	ND(5.4)	ND(5.4)	33.4	ND(5.4)	ND(5.4)	ND(5.4)	ND(5.4)	33.4
A18-19 B 4-6ft	12/21/2020	4-6'	Grab	32.5	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6
A19-20 0-2ft	12/21/2020	0-2'	Grab	0.3	ND(10.9)	ND(10.9)	ND(10.9)	ND(10.9)	60.4	ND(10.9)	ND(10.9)	ND(10.9)	ND(10.9)	60.4
A19-20 2-4ft	12/21/2020	2-4'	Grab	1.9	ND(1.2)	ND(1.2)	ND(1.2)	17	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	17
A19-20 4-6ft	12/21/2020	4-6'	Grab	34.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.7
B19-20 0-2ft	12/21/2020	0-2'	Grab	0.0	ND(2.1)	ND(2.1)	ND(2.1)	ND(2.1)	35.1	ND(2.1)	ND(2.1)	ND(2.1)	ND(2.1)	35.1
B19-20 2-4ft	12/21/2020	2-4'	Grab	14.3	ND(13.5)	ND(13.5)	ND(13.5)	ND(13.5)	98	ND(13.5)	ND(13.5)	ND(13.5)	ND(13.5)	98
B19-20 4-6ft	12/21/2020	4-6'	Grab	18.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A20-21 A 0-2ft	12/21/2020	0-2'	Grab	1.9	ND(2.3)	ND(2.3)	ND(2.3)	46.6	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	46.4
A20-21 A 2-4ft	12/21/2020	2-4'	Grab	15.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2.4
A20-21 B 0-2ft	12/21/2020	0-2'	Grab	1.6	ND(2.4)	ND(2.4)	ND(2.4)	48	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	48
A20-21 B 2-4ft	12/21/2020	2-4'	Grab	9.5	ND(0.06)	ND(0.06)	ND(0.06)	11.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	11.6
A21-22 A 0-2ft	12/22/2020	0-2'	Grab	0.6	ND(5.7)	ND(5.7)	ND(5.7)	113	ND(5.7)	ND(5.7)	ND(5.7)	ND(5.7)	ND(5.7)	113
A21-22 A 2-4ft	12/22/2020	2-4'	Grab	4.4	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
A21-22 A 4-6ft	12/22/2020	4-6'	Grab	5.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.8
A21-22 B 0-2ft	12/22/2020	0-2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	7.6	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	7.6
A21-22 B 2-4ft	12/22/2020	2-4'	Grab	2.8	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
A21-22 B 4-6ft	12/22/2020	4-6'	Grab	6.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.9
A22-23 A 0-2ft	12/22/2020	0-2'	Grab	0.4	ND(28.1)	ND(28.1)	ND(28.1)	ND(28.1)	396	ND(28.1)	ND(28.1)	ND(28.1)	ND(28.1)	396
A22-23 A 2-4ft	12/22/2020	2-4'	Grab	1.4	ND(3)	ND(3)	ND(3)	ND(3)	52.9	ND(3)	ND(3)	ND(3)	ND(3)	52.9
A22-23 A 4-6ft	12/22/2020	4-6'	Grab	9.3	ND(27.4)	ND(27.4)	ND(27.4)	166	ND(27.4)	ND(27.4)	ND(27.4)	ND(27.4)	ND(27.4)	166
A22-23 A 6-8ft	12/22/2020	6-8'	Grab	26.7	ND(0.06)	ND(0.06)	ND(0.06)	0.07	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.07
A22-23 B 0-2ft	12/22/2020	0-2'	Grab	0.0	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	5	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	5
A22-23 B 2-4ft	12/22/2020	2-4'	Grab	2.2	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	38.9	ND(2.4)	ND(2.4)	ND(2.4)	ND(2.4)	38.9
A22-23 B 4-6ft	12/22/2020	4-6'	Grab	5.8	ND(1.3)	ND(1.3)	ND(1.3)	16.9	ND(1.3)	ND(1.3)	ND(1.3)	ND(1.3)	ND(1.3)	16.9
A22-23 B 6-8ft	12/22/2020	6-8'	Grab	19.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B22-23 0-2ft	12/22/2020	0-2'	Grab	0.2	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	32.1	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	32.1
B22-23 2-4ft	12/22/2020	2-4'	Grab	2.4	ND(1.1)	ND(1.1)	ND(1.1)	17.3	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	17.3
B22-23 4-6ft	12/22/2020	4-6'	Grab	2.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.3
B22-23 6-8ft	12/22/2020	6-8'	Grab	5.1	ND(0.06)	ND(0.06)	ND(0.06)	2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	2
A23-24 0-2ft	12/22/2020	0-2'	Grab	0.0	ND(12)	ND(12)	ND(12)	ND(12)	211	ND(12)	ND(12)	ND(12)	ND(12)	211
A23-24 2-4ft	12/22/2020	2-4'	Grab	1.7	ND(281)	ND(281)	ND(281)	1520	ND(281)	ND(281)	ND(281)	ND(281)	ND(281)	1,520
A23-24 4-6ft	12/22/2020	4-6'	Grab	2.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B23-24 0-2ft	12/22/2020	0-2'	Grab	0.7	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	45.6	ND(2.3)	ND(2.3)	ND(2.3)	ND(2.3)	45.6
B23-24 2-4ft	12/22/2020	2-4'	Grab	0.4	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	0.5	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	0.5
B23-24 4-6ft	12/22/2020	4-6'	Grab	2.9	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.2
B23-24 6-8ft	12/22/2020	6-8'	Grab	8.8	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	0.1
A24-25 0-2ft	12/22/2020	0-2'	Grab	0.0	ND(151)	ND(151)	ND(151)	1,240	ND(151)	ND(151)	ND(151)	ND(151)	ND(151)	1,240
A24-25 2-4ft	12/22/2020	2-4'	Grab	0.7	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.3	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.3
A24-25 4-6ft	12/22/2020	4-6'	Grab	13.8	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.8	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	0.8
B24-25 0-2ft	12/22/2020	0-2'	Grab	0.3	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)
B24-25 2-4ft	12/22/2020	2-4'	Grab	6.5	ND(6.9)	ND(6.9)	ND(6.9)	134	ND(6.9)	ND(6.9)	ND(6.9)	ND(6.9)	ND(6.9)	134
B24-25 4-6ft	12/22/2020	4-6'	Grab	11.2	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)
A25-26 A 0-2ft	12/22/2020	0-2'	Grab	0.9	ND(12.3)	ND(12.3)	ND(12.3)	186	ND(12.3)	ND(12.3)	ND(12.3)	ND(12.3)	ND(12.3)	186
A25-26 A 2-4ft	12/22/2020	2-4'	Grab	2.6	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
A25-26 B 0-2ft	12/22/2020	0-2'	Grab	0.2	ND(7.8)	ND(7.8)	ND(7.8)	ND(7.8)	146	ND(7.8)	ND(7.8)	ND(7.8)	ND(7.8)	146
A25-26 B 2-4ft	12/22/2020	2-4'	Grab	1.3	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
B25-26 0-2ft	12/22/2020	0-2'	Grab	0.1	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)	ND(0.6)
A26-27 A 0-2ft	12/22/2020	0-2'	Grab	0.0	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	17.9	ND(0.3)	ND(0.3)	ND(0.3)	ND(0.3)	17.9
A26-27 A 2-4ft	12/22/2020	2-4'	Grab	5.2	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)	ND(0.4)
A26-27 B 0-2ft	12/22/2020	0-2'	Grab	0.4	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	16.2	ND(1.2)	ND(1.2)	ND(1.2)	ND(1.2)	16.2
A26-27 B 2-4ft	12/22/2020	2-4'	Grab	6.2	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)	ND(0.2)
A27-28 A 0-2ft	12/22/2020	0-2'	Grab	0.1	ND(5.6)	ND(5.6)	ND(5.6)	ND(5.6)	102	ND(5.6)	ND(5.6)	ND(5.6)	ND(5.6)	102
A27-28 A 2-4ft	12/22/2020	2-4'	Grab	0.9	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
A27-28 B 0-2ft	12/22/2020	0-2'	Grab	0.1	ND(5.8)	ND(5.8)	ND(5.8)	ND(5.8)	69.3	ND(5.8)	ND(5.8)	ND(5.8)	ND(5.8)	69.3

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														1
MCP Upper Concentration Limit														100
TSCA Limit														50
A27-28 B 2-4ft	12/22/2020	2-4'	Grab	1.2	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)	ND(0.07)
C29 A 0-2ft	12/22/2020	0-2'	Grab	0.1	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	17.2	ND(1.1)	ND(1.1)	ND(1.1)	ND(1.1)	17.2
C29 A 2-4ft	12/22/2020	2-4'	Grab	0.5	ND(2.2)	ND(2.2)	ND(2.2)	ND(2.2)	37.8	ND(2.2)	ND(2.2)	ND(2.2)	ND(2.2)	37.8
C29 B 0-2ft	12/22/2020	0-2'	Grab	0.0	ND(11.6)	ND(11.6)	ND(11.6)	191	ND(11.6)	ND(11.6)	ND(11.6)	ND(11.6)	ND(11.6)	191
C29 B 2-4ft	12/22/2020	2-4'	Grab	0.2	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	2.6	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	2.6
C29-30 0-2ft	12/22/2020	0-2'	Grab	0.2	ND(6.7)	ND(6.7)	ND(6.7)	ND(6.7)	47.1	ND(6.7)	ND(6.7)	ND(6.7)	ND(6.7)	47.1
C29-30 2-4ft	12/22/2020	2-4'	Grab	0.0	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.7)	38	ND(2.7)	ND(2.7)	ND(2.7)	ND(2.7)	38
C29-30 4-6ft	12/22/2020	4-6'	Grab	0.1	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	16.3	ND(0.09)	ND(0.09)	ND(0.09)	ND(0.09)	16.3
C29-30 6-8ft	12/22/2020	6-8'	Grab	0.8	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
C30A 0-2ft	12/22/2020	0-2'	Grab	0.0	ND(12.1)	ND(12.1)	ND(12.1)	175	ND(12.1)	ND(12.1)	ND(12.1)	ND(12.1)	ND(12.1)	175
C30A 2-4ft	12/22/2020	2-4'	Grab	0.0	ND(0.08)	ND(0.08)	ND(0.08)	0.5	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	0.5
C30A 4-6ft	12/22/2020	4-6'	Grab	0.3	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)	ND(0.08)
C30A 6-8ft	12/22/2020	6-8'	Grab	2.9	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)	ND(0.1)
HB-1 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	0.6	ND(0.06)	0.1	ND(0.06)	ND(0.06)	0.7
HB-2 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	1.7	ND(0.06)	0.2	ND(0.06)	ND(0.06)	1.9
HB-3 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.2	ND(0.06)	ND(0.06)	ND(0.06)	ND(0.06)	4.2
HB-4 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	55	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	55
HB-5 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND (3.2)	ND (3.2)	ND (3.2)	ND (3.2)	53.1	ND (3.2)	ND (3.2)	ND (3.2)	ND (3.2)	53.1
HB-6 (0-2')	12/8/2020	0 - 2'	Grab	0.1	ND (29.4)	ND (29.4)	ND (29.4)	ND (29.4)	356	ND (29.4)	ND (29.4)	ND (29.4)	ND (29.4)	356
HB-7 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND (632)	ND (632)	ND (632)	ND (632)	7,930	ND (632)	ND (632)	ND (632)	ND (632)	7,930
HB-8 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND (112)	ND (112)	ND (112)	ND (112)	1,910	ND (112)	ND (112)	ND (112)	ND (112)	1,910
HB-9 (0-2')	12/8/2020	0 - 2'	Grab	0.0	ND (27.2)	ND (27.2)	ND (27.2)	ND (27.2)	447	ND (27.2)	ND (27.2)	ND (27.2)	ND (27.2)	447
HB-10 (0-2')	12/9/2020	0 - 2'	Grab	0.0	ND (11)	ND (11)	ND (11)	ND (11)	149	ND (11)	ND (11)	ND (11)	ND (11)	149
HB-11 (0-2')	12/9/2020	0 - 2'	Grab	0.0	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	67.3	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	67.3
HB-11 (2-3')	12/9/2020	2 - 3'	Grab	0.0	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	71.8	ND (5.4)	ND (5.4)	ND (5.4)	ND (5.4)	71.8
HB-12 (0-2')	12/9/2020	0 - 2'	Grab	0.1	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	43	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	43
HB-13 (0-2')	12/9/2020	0 - 2'	Grab	0.0	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	16.3	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	16.3
HB-13 (2-3')	12/9/2020	2 - 3'	Grab	0.1	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	13.7	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	13.7
HB-14 (0-2')	12/9/2020	0 - 2'	Grab	0.0	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	41	ND (2.8)	ND (2.8)	ND (2.8)	ND (2.8)	41
HB-14 (2-3')	12/9/2020	2 - 3'	Grab	0.0	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	38.1	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	38.1
HB-15 (0-2')	12/9/2020	0 - 2'	Grab	0.0	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	79.6	ND (5.5)	ND (5.5)	ND (5.5)	ND (5.5)	79.6
HB-15 (2-3')	12/9/2020	2 - 3'	Grab	0.0	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	90.7	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	90.7
HB-16 (0-2')	12/9/2020	0 - 2'	Grab	0.0	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	39	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	39
HB-17 (0-2')	12/9/2020	0 - 2'	Grab	0.0	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	10.7	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	10.7
March 2021 River Bank Sampling														
HB-18 0-2ft	3/11/2021	0 - 2'	Grab	ND (584)	ND (584)	ND (584)	ND (584)	ND (584)	10,300	ND (584)	ND (584)	ND (584)	ND (584)	10,300
HB-19 0-2ft	3/11/2021	0 - 2'	Grab	ND (331)	ND (331)	ND (331)	ND (331)	ND (331)	1,840	ND (331)	ND (331)	ND (331)	ND (331)	1,840
HB-19 2-4ft	3/11/2021	2 - 4'	Grab	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	33.5	ND (2.3)	ND (2.3)	ND (2.3)	ND (2.3)	33.5
HB-20 0-2ft	3/11/2021	0 - 2'	Grab	ND (3)	ND (3)	ND (3)	ND (3)	ND (3)	47.3	ND (3)	ND (3)	ND (3)	ND (3)	47.3
HB-20 2-4ft	3/11/2021	2 - 4'	Grab	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	2.8	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	2.8
HB-21 0-2ft	3/11/2021	0 - 2'	Grab	ND (865)	ND (865)	ND (865)	ND (865)	ND (865)	4,130	ND (865)	ND (865)	ND (865)	ND (865)	4,130
HB-21 2-4ft	3/11/2021	2 - 4'	Grab	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	33.7	ND (2.2)	ND (2.2)	ND (2.2)	ND (2.2)	33.7
HB-22 0-2ft	3/11/2021	0 - 2'	Grab	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	90.6	ND (7.1)	ND (7.1)	ND (7.1)	ND (7.1)	90.6
HB-23 0-2ft	3/11/2021	0 - 2'	Grab	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	1.6	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	1.6
HB-23 2-4ft	3/11/2021	2 - 4'	Grab	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	7.2	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	7.2
HB-24 0-2ft	3/11/2021	0 - 2'	Grab	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	2.5	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	2.5
HB-24 2-4ft	3/11/2021	2 - 4'	Grab	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	24.4	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	24.4
RS-6	3/11/2021	0 - 6"	Grab	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	17.2	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	17.2
RS-7	3/11/2021	0 - 6"	Grab	ND (71.2)	ND (71.2)	ND (71.2)	ND (71.2)	ND (71.2)	679	ND (71.2)	ND (71.2)	ND (71.2)	ND (71.2)	679
RS-8	3/11/2021	0 - 6"	Grab	ND (75.5)	ND (75.5)	ND (75.5)	ND (75.5)	ND (75.5)	581	ND (75.5)	ND (75.5)	ND (75.5)	ND (75.5)	581
RS-9	3/11/2021	0 - 6"	Grab	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	19.6	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	19.6
RS-10	3/11/2021	0 - 6"	Grab	ND (666)	ND (666)	ND (666)	ND (666)	ND (666)	5,860	ND (666)	ND (666)	ND (666)	ND (666)	5,860
RS-11	3/11/2021	0 - 6"	Grab	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	21.3	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	21.3
SS-1	3/11/2021	0 - 6"	Grab	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	0.09	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	0.09
SS-2	3/11/2021	0 - 6"	Grab	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	0.1	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	0.1
SS-3	3/11/2021	0 - 6"	Grab	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	19.6	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	19.6
SS-4	3/11/2021	0 - 6"	Grab	ND (3.5)	ND (3.5)	ND (3.5)	ND (3.5)	ND (3.5)	67.2	ND (3.5)	ND (3.5)	ND (3.5)	ND (3.5)	67.2
SS-5	3/11/2021	0 - 6"	Grab	ND (12.5)	ND (12.5)	ND (12.5)	ND (12.5)	ND (12.5)	185	ND (12.5)	ND (12.5)	ND (12.5)	ND (12.5)	185

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION				TOVs	PCBs SW-846 8082A (mg/Kg dry)									
	Sampling Date	Sample Depth	Sample Type	ppmv	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260	PCB 1262	PCB 1268	Total PCBs
MCP Reportable Concentration - RCS-1														1
MCP Upper Concentration Limit														100
TSCA Limit														50
SS-6	3/11/2021	0 - 6"	Grab	ND (348)	ND (348)	ND (348)	ND (348)	ND (348)	**3,890**	ND (348)	ND (348)	ND (348)	ND (348)	**3,890**
SS-7	3/11/2021	0 - 6"	Grab	ND (87)	ND (87)	ND (87)	ND (87)	ND (87)	**1,320**	ND (87)	ND (87)	ND (87)	ND (87)	**1,320**
SS-8	3/11/2021	0 - 6"	Grab	ND (74)	ND (74)	ND (74)	ND (74)	ND (74)	**921**	ND (74)	ND (74)	ND (74)	ND (74)	**921**
SS-9	3/11/2021	0 - 6"	Grab	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	**4.8**	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	**4.8**
SS-10	3/11/2021	0 - 6"	Grab	ND (70)	ND (70)	ND (70)	ND (70)	ND (70)	**797**	ND (70)	ND (70)	ND (70)	ND (70)	**797**
SS-11	3/11/2021	0 - 6"	Grab	ND (68.9)	ND (68.9)	ND (68.9)	ND (68.9)	ND (68.9)	**624**	ND (68.9)	ND (68.9)	ND (68.9)	ND (68.9)	**624**
SS-12	3/11/2021	0 - 6"	Grab	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	**14.6**	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	**14.6**
SS-13	3/11/2021	0 - 6"	Grab	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	**30.1**	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	**30.1**
SS-14	3/11/2021	0 - 6"	Grab	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	**7.7**	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	**7.7**
SS-15	3/11/2021	0 - 6"	Grab	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	**10.4**	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	**10.4**
SS-16	3/11/2021	0 - 6"	Grab	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	**8.6**	ND (0.06)	ND (0.06)	ND (0.06)	ND (0.06)	**8.6**
SS-17	3/11/2021	0 - 6"	Grab	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	**20.8**	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	**20.8**
SS-18	3/11/2021	0 - 6"	Grab	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)
SS-19	3/11/2021	0 - 6"	Grab	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)
SS-20	3/11/2021	0 - 6"	Grab	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)	ND (0.07)

Bold = exceeds RCS-1 of 1 mg/kg
Yellow Highlighted = Exceeds TSCA Limit of 50 mg/kg
Orange Highlighted = Exceeds UCL of 100 mg/kg
cell to be excavated

Table 8
Soil Analytical Results - VPH (mg/kg)
DCR Neponset River Reservation, Hyde Park, MA
March 11 and 12, 2015

Sample ID	Depth	Date	C5-C8 Aliphatics	C9-C12 Aliphatics	C9-C10 Aromatics	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
CDW-2/S-2	(3-5')	3/11/2015	0.620	*<0.193*	*0.561*	*< 0.0386*	*< 0.0386*	0.0983	0.0409	*<0.1158*	*< 0.0386*
CDW-3/S-3	(10-12')	3/11/2015	47.1	15.4	18.6	*< 0.0335*	*< 0.0335*	4.65	0.286	0.918	0.0432
CDW-4/S-3	(10-12')	3/12/2015	11.3	0.923	1.41	*< 0.136*	*< 0.136*	2.28	3.41	6.35	*< 0.136*
CDW-5/S-3	(10-12')	3/12/2015	43.2	28.1	51.2	*< 0.166*	*< 0.166*	12	4.69	18.574	2.42
Method 1 Standard S-1/GW-2			100	1,000	100	100	40	500	500	100	20
Method 1 Standard S-1/GW-3			100	1,000	100	100	40	500	500	500	500

Bold = Exceed MCP Method 1 Standards
mg/kg = milligram per kilogram
NM = Not Measured

Table 9
Groundwater Analytical Results - VPH and Target VOCs (ug/l)
DCR Neponset River Reservation, Hyde Park, MA
April 2006 and March 2015

Sample ID	Date	C5-C8 Aliphatics	C9-C12 Aliphatics	C9-C10 Aromatics	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
ESM-03	4/7/2006	**150,000**	*<10,000*	*<10,000*	*<200*	*<100*	40,000	1,600	**6,700**	*<500*
	3/20/2015	11,500	*<250*	327	*<50.0*	*<50.0*	161	*<50.0*	*<75.0*	*<50.0*
	7/16/15*	47,000	*<20,000*	<20,000	*<400*	*<200*	12,000	*<400*	790	*<1,000*
ESM -03B-S	3/20/2015	3,280	306	421	*<50.0*	*<50.0*	*<50.0*	*<50.0*	*<75.0*	*<50.0*
	7/16/15*	*<2,000*	*<2,000*	*<2,000*	*<40*	*<20*	*<40*	*<40*	*<40*	*<100*
ESM-03B-D	3/20/2015	11,400	*<250*	331	*<50.0*	*<50.0*	237	*<50.0*	*<75.0*	*<50.0*
	7/17/15*	22,000	*<10,000*	*<10,000*	*<200*	*<100*	1,100	*<200*	*<200*	*<500*
ESM-05	3/19/2015	**65,000**	1,630	1,390	*<200*	*<200*	22,400	286	928	*<200*
	7/16/15*	**100,000**	*<50,000*	*<50,000*	*<1,000*	*<500*	22,000	2,900	*<1,000*	*<2,500*
ESM-05B	3/19/2015	9,330	*<100*	439	*<20.0*	*<20.0*	*<20.0*	*<20.0*	25.6	*<20.0*
	7/17/15*	19,000	*<5,000*	*<5,000*	*<100*	*<50*	380	140	170	*<250*
CDW-2	3/19/2015	88.4	33.8	40.3	*<5.00*	*<5.00*	*<5.00*	7.72	*<7.5*	*<5.00*
CDW-3	3/19/2015	**116,000**	2,720	2,750	*<500*	*<500*	7,510	*<500*	*<750*	*<500*
	7/20/2015*	33,000	*<10,000*	*<10,000*	*<200*	*<100*	1,400	*<200*	*<200*	*<500*
CDW-4	3/20/2015	1,790	*<125*	*<125*	*<25.0*	*<25.0*	*<25.0*	*<25.0*	*<37.5*	*<25.0*
CDW-5	3/20/2015	276	41.5	129	*<5.00*	*<5.00*	232	52.7	135.4	7.00
PZ-02D	7/20/2015*	17,000	*<5,000*	*<5,000*	<100	56	11,000	100	170	*<250*
Method 1 Standard GW-2		3,000	5,000	4,000	50,000	1,000	50,000	20,000	3,000	700
Method 1 Standard GW-3		50,000	50,000	50,000	50,000	10,000	40,000	5,000	5,000	20,000
Upper Concentration Limit (UCL)		100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000

Bold = Exceeds MCP Method 1 GW-3 Concentrations
ug/l = microgram per liter
NM = Not Measured
Shaded = Exceeds Upper Concentration Limit
*Sample collected by others and included for Risk Characterization

Table 10
Groundwater Analytical Results - VOCs (ug/l)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to and January 2018

Sample ID	Depth	Date	Benzene	Chlorobenzene	Chloroethane	1,2-Dichlorobenzene	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	Cis-1,2-dichloroethene	Trans-1,2-Dichloroethene	Ethylbenzene	MTBE	Methylene Chloride	Naphthalene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichlorotrifluoroethane (freon 13)	Trichloroethene
Monitoring Wells																				
ESM-03		6/25/02	<2,500	**<2,500**	<2,500	1,300J	2,900	<2,500	2,700	**60,000**	<2,500	1,800J	<2,500	<2,500	<2,500	9,100	**55,000**	**34,000**	NM	**33,000**
		4/07/06	<400	<400	<400	850	1,600	<400	310	**63,000**	<400	1,200	<400	<1,000	<1,000	4,300	36,000	**25,000**	NM	**9,400**
		9/29/14	<500	<500	<1,000	<500	1,460	<500	<500	29,700	<500	<500	<500	<1,000	<500	825	10,200	12,000	3,320	<500
		3/20/15	<500	<500	<1,000	<500	<500	<500	<500	24,200	<500	<500	<500	<1,000	<500	<500	<500	5,920	550	<500
		7/16/15**	<400	<400	<400	450	2,200	<400	380	**90,000**	680	530	<400	<400	<400	430	16,000	**26,000**	NM	<400
		7/10/17	<1,000	<1,000	<2,000	1,000	2,500	<2,000	<1,000	**98,000**	<1,000	<1,000	<1,000	<5,000	<2,000	<1,000	37,000	**21,000**	NM	<1,000
		10/3/2018	<500	<500	<1000	<500	2000	<500	<500	**68,000**	520	<500	<500	<2500	<1000	<500	7200	17,000	NM	<500
ESM-03B-S		4/07/06	<40	<40	<40	140	230	470	1,200	92	<40	55	<40	2,900	<100	6,900	420	7,800	NM	**19,000D**
		9/26/14	<100	<100	<200	<100	<100	<100	323	192	<100	<100	<100	<200	<100	2,700	<100	1,660	1,110	4,490
		3/20/15	<100	<100	<200	<100	<100	<100	377	298	<100	<100	<100	<200	<100	2,610	<100	1,580	1,220	3,380
		7/16/15**	<40	<40	<40	42	41	68	400	210	<40	<40	<40	<40	<40	2,900	<40	1,700	NM	**6,000**
		7/10/17	<50	<50	<100	<50	<50	<100	280	72	<50	<50	<50	<250	<100	2,400	<50	1,000	NM	4,500
		10/3/2018	<40	<40	<80	70	<40	<40	170	79	<40	<40	<40	<200	<40	3500	<40	990	NM	3500
ESM-03B-D		4/7/06	<400	<400	<400	<400	430	1,600	3,000	<400	<400	<400	<400	12,000	<1,000	14,000	2,500	**23,000**	NM	**57,000**
		9/26/14	<1,000	<1,000	<2,000	<1,000	<1,000	2,480	5,230	<1,000	<1,000	<1,000	<1,000	16,000	<1,000	14,000	2,250	**22,600**	6,940	**67,500**
		3/20/15	<250	<250	<500	<250	388	1,240	1,700	<250	<250	<250	<250	5,560	<250	3,320	252	8,140	1,130	**16,300**
		7/17/15**	<400	<400	<400	<400	660	1,800	5,200	<400	<400	<400	<400	12,000	<400	12,000	1,600	18,000	NM	**68,000**
		7/10/17	<100	<100	<200	<100	180	740	1,000	<100	<100	<100	<100	<500	<200	380	<100	2,000	NM	**9,800**
		10/3/2018	<40	<40	<80	<40	45	250	220	<40	<40	<40	<40	<200	<80	400	<400	510	NM	3,300
ESM-03B	21-30'	3/23/06			<40	240	<40	<40	160	370		41		<100	<100	8,700	180	2,500	NM	4,200
	30-40'	3/23/06			<40	160	55	210	660	73		43		870	<100	6,600	170	4,100	NM	**12,000**
	40-50'	3/24/06	NS	NS	<400	<400	<400	1,500	2,500	<400	NS	<400	NS	10,000	<1,000	9,200	1,200	19,000	NM	**50,000**
	50-60'	3/30/06			<1,000	<1,000	<1,000	1,700	3,500	<1,000		<1,000		12,000	<3,000	13,000	2,000	**24,000**	NM	**58,000**
	60-70'	3/30/06			<1,000	<1,000	1,000	3,900	4,900	<1,000		<1,000		29,000	<3,000	20,000	6,600	**49,000**	NM	**100,000**
ESM-04		6/25/02	<120	<120	<120	<120	550	28J	56J	3,000	72J	<120	<120	<120	<120	<120	100J	680	NM	54J
		4/10/06	<20	<20	<20	<20	500	<20	<10	2,700	53	<20	<20	<50	<50	<20	<20	900	NM	<20
ESM-04 DUP		6/25/02	<100	<100	<100	<100	530	25J	75J	2,700	73J	<100	<100	<100	<100	<100	79J	740	NM	52J
ESM-05		6/25/02	<10,000	**<10,000**	<10,000	**<10,000**	5,500J	5,500J	15,000	**52,000**	<10,000	**<10,000**	<10,000	<10,000	<10,000	17,000	**77,000**	**21,000**	NM	**250,000**
		4/10/06	<400	**2,300**	<400	<400	4,900	1,300	2,800	**110,000**	460	<400	<400	1,300	<1,000	21,000	38,000	**280,000D**	NM	**360,000D**
		9/25/14	<1,000	<1,000	<2,000	<1,000	1,320	<1,000	<1,000	**62,900**	<1,000	<1,000	<1,000	<2,000	<1,000	5,420	6,930	**56,100**	4,190	**34,000**
		3/20/15	<1,000	**2,820**	<2,000	<1,000	1,740	<1,000	<1,000	47,700	<1,000	<1,000	<1,000	<2,000	<1,000	19,100	27,200	**76,800**	5,700	**83,000**
		7/16/15**	<800	**2,900**	<800	<800	2,300	<800	1,700	**95,000**	<800	<800	<800	<800	<800	18,000	31,000	**130,000**	NM	**130,000**
		7/11/17	<1,000	**2,000**	<2,000	<1,000	2,800	<2,000	<1,000	**100,000**	<1,000	<1,000	<1,000	<5,000	<2,000	2,900	9,000	**46,000**	NM	**20,000**
		10/3/2018	<200	340	<400	<200	1200	<200	<200	18000	<200	<200	<200	<1000	<400	6200	380	15,000	NM	**8,800**
ESM-05B		4/10/06	<20	<20	<20	93	180	120	320	62	<20	32	<20	1,200	<50	2,700	<20	6,300	NM	**7,100**
		9/25/14	<250	<250	<1,000	385	250	<250	1,640	<250	<250	<250	<250	658	<500	4,690	<250	11,900	4,370	**14,400**
		3/19/15	<200	<200	<400	340	<200	<200	2,020	<200	<200	<200	<200	<400	<200	5,720	<200	12,000	6,580	**12,400**
		7/17/15**	<400	<400	<400	1,100	<400	<400	3,300	<400	<400	<400	<400	950	<400	14,000	520	**27,000**	NM	**34,000**
		7/11/17	<100	<100	<200	450	840	<200	<100	<100	<100	<100	<100	<500	<200	5,200	<100	5,500	NM	**8,500**
		10/3/2018	<100	<100	<200	230	<100	<100	740	<100	<100	<100	<100	<500	<200	2200	<100	4700	NM	**11000**
ESM-05B	20-30'	3/27/06			<400	**2,000**	<400	<400	2,900	460		<400		2,000	<1,000	23,000	1,500	**38,000**	NM	**54,000**
	30-40'	3/28/06			<400	960	<400	<400	1,700	<400		<400		3,800	<1,000	12,000	910	**29,000**	NM	**31,000**
	40-50'	3/28/06	NS	NS	<200	420	<200	510	590	<200	NS	<200	NS	4,100	<500	3,200	310	9,000	NM	**14,000**
	50-60'	3/28/06			<200	<200	<200	300	440	<200		<200		2,500	<500	5,200	610	9,200	NM	**11,000**
	60-70'	3/29/06			<40	41	<40	120	220	<40		<40		1,000	<100	3,100	650	6,800	NM	**7,100**
ESM-06		6/25/02	<7,500	**<7,500**	<7,500	1,600J	3,600J	<7,500	14,000	**470,000**	<7,500	**<7,500**	<7,500	<7,500	<7,500	18,000	<7,500	**160,000**	NM	**200,000**
		4/10/06	<40	<40	<40	<40	280	<40	140	8,800	43	<40	<40	<100	<100	1,600	<40	11,000	NM	**11,000**
		9/26/14	<200	<200	<400	<200	600	<200	<200	11,500	<200	<200	<200	<400	<200	418	<200	1,530	632	662
		7/16/15**	<10	<10	<10	16	80	<10	17	2,800	31	<10	<10	<10	<10	770	<10	1,600	NM	1,200
ESM-07		6/25/02	<10	<10	<10	<10	54	<10	5J	260	<10	<10	9J	<10	<10	73	<10	140	NM	200
		4/10/06	<2	<2	<2.0	<2	58	<2	<1	110	<2	<2	<2	<5	<5	37	<2	63	NM	90
		9/29/14*	<1	<1	<2.0	<1	16.7	<1	<1	49.7	1.5	<1	<1	<2	<1.0	26.6	<1	20.7	2.3	44.5
		7/16/15**	<2	<2	<2	<2	14	<2	<1	43	<2	<2	<2	<2	<2	20	<2	25	NM	39
ESM-09		6/25/02	<400	<400	<400	<400	2,000	200J	290J	6,400	130J	<400	<400	89J	<400	<400	1,800	11,000	NM	250J
		4/10/06	<100	<100	<1000	<100	3,500	290	470	26,000	240	<140	<100	<300	<300	<100	5,900	**35,000**	NM	<100
		7/17/15**	<10	<10	<10	<10	640	42	39	4,100	87	<10	<10	<10	<10	420	36	3,500	NM	510
		7/11/17	<100	<100	<200	<100	100	<200	<100	7,700	<100	<100	<100	<500	<200	360	<100	1,800	NM	280
		10/3/2018	<100	<100	<200	<100	<330	<100	<100	5200	140	<100	<100	<500	<200	400	<100	2200	NM	190
ESM-09 DUP		4/10/06	<100	<100	<100	<100	3,400	290	480	25,000	230	140	<100	<300	<300	<100	5,800	**34,000**	NM	<100
CDW-2		3/19/15	<1.0	1.7	3.2	1.1	52.9	<1.0	<1.0	15.0	1.0	9.0	<1.0	<2.0	<1.0	1.3	6.1	32.3	95.3	1.8
CDW-3		3/19/15	<5,000	**<5,000**	<10,000	<5,000	<5,000	<5,000	<5,000	17,700	<5,000	<5,000	<5,000	<10,000	<5,000	7050	6850	**246,000**	10,200	**87,200**
		7/20/15**	<20	<20	28	<20	1,000	<20	1,000	28,000	620	64	<20	33	<20	1200	1600	**100,000**	NM	**23,000**
		7/11/17	<50	<50	<100	<50	150	<100	150	3,700	<50	<50	<50	<250	<100	660	<50	810	NM	720
		10/3/2018	<200	<200	400	<200	210	<200	<200	7800	<200	<200	<200	<1000	<400	1800	<200	19,000	NM	3200
CDW-4B		3/19/15	<50.0	<50.0	<100	<50.0	<50.0	<50.0	194	<50.0	<50.0	<50.0	<50.0	<100	<50.0	648	<50.0	686	366	2,220
		7/11/17	<25	<25	<50	<25	<25	<50	92	<25	<25	<25	<25	<120	<50	470	<25	320	NM	1,700
		10/3/2018	<10	<10	<20	<10	<10	<10	28	<10	<10	<10	<10	<50	<20	230	<10	100	NM	620
CDW-5		3/20/15	<1.0	<5.0	<2.0	34.2	39.2	<5.0	<5.0	68.8	1.8	72.2	<1.0	<10.0	9.1	60.8	290	73.5	263	43.3
		7/10/17	<5.0	<5.0	<10	55	72	<10	<5.0	340	14	50	<5.0	<25	<10	38	50	140	NM	80
		10/3/2018	<1.0	<2.0	<4.0	<2.0	56	<2.0	<2.0	98	12	<2.0	<2.0	<10	<4.0	80	<2.0	180	NM	80
Piezometers																				
PZ-01D		7/20/15**	<2	<2	<2	<2	24	3	<1	44	<2	<2	<2	<2	<2	<2	<2	9	NM	<2
		1/18/2018	<100	<100	<200	<100	1,000	<100	<100	5,600	<100	<100	<100	<500	<500	<100	2,200	1,200	NM	110
PZ-02D		7/20/15**	<200	<200	<200	<200	1,700	1,800	250	19,000	<200	<200	<200	460	<200	<200	10,000	9,200	NM	710
		1/18/18	<250	<250	<500	<250	7,100	3,900	770	43,000	<250	<250	<250	<1200	<1200	2,800	**140,000**	**29,000**	NM	**8,300**
PZ-08S		4/29/15	<1	<1	9.7	<1	99.7	<1	<1	54.8	<1	<1	<1	<2	<1	<1	<1	35.5	<1	<1
		1/18/18	<1.0	<1.0	<2.0	<1.0	37	<1.0	<1.0	49	1.0	<1.0	<1.0	<5.0	<5.0	1.1	<1.0	120	NM	1.2
PZ-08D		4/29/15	<1	<1	55.6	<1	19.9	<1	<1	21.1	1.1	41.7	<1	<2	1	<1	15.2	23.9	<1	<1
		7/20/15**	<2	<2	12	<2	41	4	<1	83	10	<2	<2	<2	<2	<2	<2	29	NM	2
		1/18/18	<1.0	<1.0	14	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	1.3	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0	NM	<1.0
PZ-09S		4/29/15	<1	<1	3.5	<1	27.9	<1	1	35.7	1.1	<1	<1	<2	<1	1.2	<1	41.2	8.2	3.1
		1/18/18	<4.0	<4.0	<8.0	<4.0	170	<4.0	5.9	370	<4.0	<4.0	<4.0	<20	<20	<4.0	<4.0	4	NM	<4.0
PZ-09D		4/29/15	<1	<1	13	<1	45.1	3.2	2.8	150	1.2	<1	<1	<2	<1	<1	2	51.4	10.3	<1
Method 1 Standard GW-2			1,000	200	NS	8,000	2,000	5	80	20	80	20,000	50,000	NS	700	50	50,000	4,000	NS	5
Method 1 Standard GW-3			10,000	1,000	NS	2,000	20,000	20,000	30,000	50,000	50,000	5,000	50,000	NS	20,000	30,000	40,000	20,000	NS	5,000
Upper Concentration Limits (UCL)			100,000	10,000	NS	80,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	NS	100,000	100,000	100,000	100,000	NS	50,000

Bold = Exceeds MCP Method 1 GW-3 Concentrations
ug/l = microgram per liter
NM = Not Measured
NS = No Standard Established
* DUP collected here during 9/14 sampling
**Sample collected by others and included for Risk Characterization
Red Underlined = Exceeds Upper Concentration Limit

Table 10
Groundwater Analytical Results - VOCs (ug/l)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to and January 2018

Sample ID	Depth	Date	1,2,4-Trimethylbenzene	Vinyl Chloride	Xylene (Total)
Monitoring Wells					
ESM-03		6/25/02	*<2,500*	*<2,500*	**7,100**
		4/07/06	*<400*	*<400*	**5,200**
		9/29/14	*<500*	1,380	1,500
		3/20/15	*<500*	*<500*	*<750*
		7/16/15**	*<400*	*<400*	1,790
		7/10/17	*<1,000*	*<2,000*	2,900
		10/3/2018	*<500*	*<500*	<500
ESM-03B-S		4/07/06	*<40*	*<40*	61
		9/26/14	*<100*	*<100*	*<200*
		3/20/15	*<100*	*<100*	*<150*
		7/16/15**	*<40*	*<40*	*<40*
		7/10/17	*<50*	*<100*	*<150*
		10/3/2018	*<40*	*<80*	*<40*
ESM-03B-D		4/7/06	*<400*	*<400*	*<400*
		9/26/14	*<1,000*	*<1,000*	*<2,000*
		3/20/15	*<250*	*<250*	*<375*
		7/17/15**	*<400*	*<400*	*<400*
		7/10/17	*<100*	*<200*	*<300*
		10/3/2018	*<40*	*<80*	*<80*
ESM-03B	21-30'	3/23/06	60	NS	*<40*
	30-40'	3/23/06	*<40*		*<40*
	40-50'	3/24/06	*<400*		*<400*
	50-60'	3/30/06	*<1,000*		*<1,000*
	60-70'	3/30/06	*<1,000*		*<1,000*
ESM-04		6/25/02	*<120*	340	*<120*
		4/10/06	*<20*	25	*<20*
ESM-04 DUP		6/25/02	*<100*	330	*<100*
ESM-05		6/25/02	*<10,000*	*<10,000*	***<10,000***
		4/10/06	*<400*	490	610
		9/25/14	*<1,000*	*<1,000*	*<2,000*
		3/20/15	*<1,000*	*<1,000*	*<1,500*
		7/16/15**	*<800*	*<800*	990
		7/11/17	*<1,000*	*<2,000*	*<3,000*
		10/3/2018	*<200*	*<400*	*<400*
ESM-05B		4/10/06	*<20*	*<20*	30
		9/25/14	*<250*	*<250*	*<500*
		3/19/15	*<200*	*<200*	*<300*
		7/17/15**	*<400*	*<400*	*<400*
		7/11/17	*<100*	*<200*	*<300*
		10/3/2018	*<100*	*<200*	<200
ESM-05B	20-30'	3/27/06	*<400*	NS	*<400*
	30-40'	3/28/06	*<400*		420
	40-50'	3/28/06	*<200*		*<200*
	50-60'	3/28/06	*<200*		*<200*
	60-70'	3/29/06	*<40*		*<40*
ESM-06		6/25/02	*<7,500*	*<7,500*	***<7,500***
		4/10/06	*<40*	*<40*	*<40*
		9/26/14	*<200*	1,750	*<400*
		7/16/15**	*<10*	31	*<10*
ESM-07		6/25/02	*<10*	*<10*	*<10*
		4/10/06	*<2*	16	*<2*
		9/29/14*	*<1*	6.2	*<2*
		7/16/15**	*<2*	*<2*	*<2*
ESM-09		6/25/02	*<400*	280J	110J
		4/10/06	*<100*	1,700	*<100*
		7/17/15**	*<10*	340	*<10*
		7/11/17	*<100*	*<200*	*<300*
		10/3/2018	*<100*	<200	<200
ESM-09 DUP		4/10/06	*<100*	1,600	*<100*
CDW-2		3/19/15	*<1.0*	19.3	5.6
CDW-3		3/19/15	*<5,000*	*<5,000*	***<7,500***
		7/20/15**	*<20*	400	163
		7/11/17	*<50*	*<100*	<150
		10/3/2018	*<200*	*<400*	<200
CDW-4B		3/19/15	*<50*	*<50.0*	*<75*
		7/11/17	*<25*	*<50*	*<75*
		10/3/2018	*<10*	*<20*	*<20*
CDW-5		3/20/15	16.2	24.6	218.3
		7/10/17	22	330	182
		10/3/2018	<2.0	<4.0	<4.0
Piezometers					
PZ-01D		7/20/15**	*<2*	37	*<2*
		1/18/2018	*<100*	2,500	*<100*
PZ-02D		7/20/15**	*<200*	320	*<200*
		1/18/18	*<250*	530	*<250*
PZ-08S		4/29/15	*<1*	17.1	*<2*
		1/18/18	*<1.0*	*< 2.0*	*<1.0*
PZ-08D		4/29/15	2.6	9	37.5
		7/20/15**	*<2*	18	*<2*
		1/18/18	*<1.0*	*<5.0*	*<1.0*
PZ-09S		4/29/15	*<1*	11.4	*<2*
		1/18/18	*<4.0*	86	*<4.0*
PZ-09D		4/29/15	*<1*	63.9	*<2*
Method 1 Standard GW-2			NS	2	3,000
Method 1 Standard GW-3			NS	50,000	5,000
Upper Concentration Limits (UCL)			NS	100,000	100,000

Bold = Exceeds MCP Method 1 GW-3 Concentrations
ug/l = microgram per liter
NM = Not Measured
NS = No Standard Established
* DUP collected here during 9/14 sampling
**Sample collected by others and included for Risk Characterization
Red Underlined = Exceeds Upper Concentration Limit

Table 11
Groundwater Analytical Results - Dissolved PP13 Metals (ug/l)
DCR Neponset River Reservation, Hyde Park, MA
June 2002 to April 2006

Sample ID	Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
ESM-03	4/07/06	*<0.01*	0.07	*<0.005*	*<0.005*	*<0.01*	*<0.0009*	*<0.05*	*<0.007*
	6/25/02	4.4B	189B	*<2.0*	*<3.0*	*<1.0*	*<0.13*	*<8.0*	*<2.0*
ESM-04	06/25/02	4.6B	260	*<2.0*	*<3.0*	*<1.0*	*<0.13*	*<8.0*	2.6B
ESM-05	4/10/06	*<10*	180	*<5*	*<50*	*<10*	*<0.9*	*<50*	*<7*
	6/25/02	9.7B	187B	*<2.0*	*<3.0*	*<1.0*	*<0.13*	*<8.0*	2.9B
ESM-05B	04/10/06	*<10*	220	*<5*	*<50*	*<10*	*<0.9*	*<50*	*<7*
ESM-06	06/25/02	7.8B	109B	*<2.0*	*<3.0*	*<1.0*	*<0.13*	*<8.0*	*<2.0*
ESM-07	06/25/02	*<3.0*	42.1B	*<2.0*	*<3.0*	1.5B	*<0.12*	*<8.0*	*<2.0*
ESM-09	06/25/02	4.2B	244	*<2.0*	*<3.0*	*<1.0*	*<0.13*	*<8.0*	2.5B
Method 1 Standard GW-2		NA	NA	NA	NA	NA	NA	NA	NA
Method 1 Standard GW-3		900	50,000	4	300	10	20	100	7

Bold = Exceeds MCP Method 1 GW-3 Concentrations
ug/l = microgram per liter
NM = Not Measured

Table 12
Groundwater Analytical Results - PCBs (ug/l)
DCR Neponset River Reservation, Hyde Park, MA
April 2006 to January 2018

Sample ID	Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Aroclor-1262	Aroclor-1268	Total PCBs
ESM-03	4/7/2006	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	9/29/2014	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204
	3/20/2015	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206
	6/16/2020	<0.12	<0.12	<0.12	<0.12	1.38	<0.12	<0.12	<0.12	<0.12	1.38
ESM-03B-S	4/7/2006	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	9/26/2014	1.52	<0.202	<0.202	<0.202	<0.202	<0.202	<0.202	<0.202	<0.202	1.52
	3/20/2015	0.404	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	0.404
ESM-03B-D	4/7/2006	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	9/26/2014	0.368	<0.211	<0.211	<0.211	<0.211	<0.211	<0.211	<0.211	<0.211	0.368
	3/20/2015	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204
ESM-04	4/10/2006	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
ESM-05	4/10/2006	<6	<6	<6	**26**	<6	<6	<6	<6	<6	**26**
	9/25/2014	**31.1**	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	**31.1**
	3/20/2015	<0.204	<0.204	<0.204	<0.204	**23.9**	<0.204	<0.204	<0.204	<0.204	**23.9**
	7/16/2015*	<5	<5	<5	**28**	<5	<5	<5	NM	NM	**28**
	10/3/2018	<8.0	<8.0	<8.0	**90**	<8.0	<8.0	<8.0	<8.0	<8.0	**90**
	6/16/2020	<0.1	<0.1	<0.1	<0.1	**3.32**	<0.1	<0.1	<0.1	<0.1	3.32
ESM-05B	4/10/2006	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	9/25/2014	0.847	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	0.847
	3/19/2015	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206
	7/11/2017	<0.2	<0.2	<0.2	1.8	<0.2	<0.2	<0.2	<0.2	<0.2	1.8
	10/3/2018	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
ESM-06	4/10/2006	<0.3	<0.3	<0.3	3.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	9/26/2014	1.37	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	1.37
	7/16/2015*	<0.25	<0.25	<0.25	1.2	<0.25	<0.25	<0.25	NM	NM	1.2
	10/3/2018	<0.20	<0.20	<0.20	0.67	<0.20	<0.20	<0.20	<0.20	<0.20	0.67
	6/16/2020	<0.1	<0.1	<0.1	0.53	<0.1	<0.1	<0.1	<0.1	<0.1	0.53
ESM-07	4/10/2006	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
	9/29/2014	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206
ESM-09	4/10/2006	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
PZ-02-S	4/10/2006	**<20**	**<20**	**<20**	**95**	**<20**	**<20**	**<20**	**<20**	**<20**	**95**
CDW-2	3/19/2015	<0.202	<0.202	<0.202	3.41	<0.202	<0.202	<0.202	<0.202	<0.202	3.41
CDW-3	3/19/2015	<0.206	<0.206	<0.206	6.42	<0.206	<0.206	<0.206	<0.206	<0.206	6.42
	7/11/2017	<0.2	<0.2	<0.2	0.79	<0.2	<0.2	<0.2	<0.2	<0.2	0.79
	10/3/2018	<0.20	<0.20	<0.20	1.1	<0.20	<0.20	<0.20	<0.20	<0.20	1.1
	6/16/2020	<0.1	<0.1	<0.1	1.36	<0.1	<0.1	<0.1	<0.1	<0.1	1.36
CDW-4	3/19/2015	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206
CDW-5	3/20/2015	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204	<0.204
PZ-02D	1/18/2018	<1.0	<1.0	<1.0	8.2	<1.0	<1.0	<1.0	<1.0	<1.0	8.2
PZ-08S	1/18/2018	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PZ-08D	4/29/2015	<2.86	<2.86	**136**	<2.86	<2.86	<2.86	<2.86	<2.86	<2.86	**136**
PZ-09S	4/29/2015	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	1/18/2018	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
PZ-09D	4/29/2015	4.59	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Method 1 Standard GW-2											5
Method 1 Standard GW-3											10
Upper Concentration Limits (UCL)											100

Bold = Exceeds MCP Method 1 GW-3 Concentrations
ug/l = microgram per liter
Shaded = Exceeds Upper Concentration Limit
*Sample collected by others and included for Risk Characterization
NM = Not Measured

Table 13
Soil Exposure Point Concentrations - Pre-Remedial

	0-3' Depth			3-15' Depth			0-15' Depth			Applicable Standards		
	# Samples Averaged	Maximum	Average	# Samples Averaged	Maximum	Average	# Samples Averaged	Maximum	Average	MCP RCS-1/GW-3	TSCA Limit	MCP UCL
Total PCBs	246	**15,550**	**483**	402	**5,220**	**49**	561	**15,550**	**225**	1	50	100
Tetrachloroethene	5	420	84.7	48	**1,600**	**59.1**	53	**1,600**	**65.5**	30	–	10,000
1,1,1-Trichloroethane	5	5	1.49	48	**3,000**	90	53	**3,000**	97	500	–	10,000
Trichloroethene	5	39.0	8.76	48	**1,900**	**76**	53	**1,900**	**69**	30	–	600
Vinyl Chloride	5	ND	ND	47	**1.56**	**6.98***	52	**1.56**	**8***	1	–	600
Lead	8	**710**	**226.25**	18	110.00	15.9	26	710	80.65	200	–	6000

Bold = exceeds MCP RC

Exceeds UCL

* Elevated due to RL Exceedances

Table 14
Proposed Soil Excavation Volumes by Cell
DCR Neponset River Reservation, Hyde Park, MA

Cell Area	Cell Sq Feet	Excavation Depth	Cubic Feet	Cubic Yards	Comments
B1/B1 C	295	2	590	21.85	uplands
RS-11	80	1	80	2.96	upper embankment
A15/B15	120	2	240	8.89	uplands
A14 and B14	110	2	220	8.15	upper embankment
HB-4 to HB-9 and HB-18 to HB-21	507	2	1014	37.56	upper embankment
A16/B16	125	8	1000	37.04	uplands
A17-A18/B17-B18	386	6	2316	85.78	uplands
A19	140	10	1400	51.85	uplands
B19	106	4	424	15.70	uplands
A20, B20, B21, B22	450	2	900	33.33	uplands
A21	100	4	400	14.81	uplands
A22-A23	175	6	1050	38.89	uplands
A24	75	10	750	27.78	uplands
B23	80	8	640	23.70	uplands
B24	80	12	960	35.56	uplands
HB-10, HB-11 and HB-12, RS-6 to RS-8 and HB-22	488	2	976	36.15	upper embankment
A25-A26/B25-B26	320	2	640	23.70	uplands
A27, B27, B28	212	4	848	31.41	uplands
C29	244	4	976	36.15	uplands
HB-15 and RS-10	135	2	270	10.00	upper embankment
C30/C30A	120	6	720	26.67	uplands
G-6	91	2	182	6.74	uplands
SS-3 to SS-15	620	1	620	22.96	lower embankment
HB-13 and HB-14	190	2	380	14.07	lower embankment
HB-16 and HB-17	203	2	406	15.04	upper embankment
A14 and B14	132	1	132	4.89	uplands
A28, A29, B29, B30	404	2	808	29.93	uplands
A1/B2 through A11/B11	3200	1	3200	118.52	uplands
SS-16, SS-17, HB-24	130	1	130	4.81	lower embankment
Total Yards				**824.89**	
Estimated Tons (1.6 multiplier)				**1319.82**	

APPENDIX A

LABORATORY RESULTS AND CHAIN OF CUSTODY RECORDS

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0373

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 2:14 pm, Jun 17, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

SAMPLE RECEIPT

The following samples were received on June 10, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0373-01	B5 0-2	Soil	8082A
20F0373-02	B5 2-4	Soil	8082A
20F0373-03	B5 4-6	Soil	8082A
20F0373-04	B5 6-8	Soil	8082A
20F0373-05	B5 8-10	Soil	8082A
20F0373-06	A5 0-2	Soil	8082A
20F0373-07	A5 2-4	Soil	8082A
20F0373-08	A5 4-6	Soil	8082A
20F0373-09	A5 6-8	Soil	8082A
20F0373-10	A5 8-10	Soil	8082A
20F0373-11	A6 0-2	Soil	8082A
20F0373-12	A6 2-4	Soil	8082A
20F0373-13	A6 4-6	Soil	8082A
20F0373-14	A6 6-8	Soil	8082A
20F0373-15	A6 8-10	Soil	8082A
20F0373-16	B6 0-2	Soil	8082A
20F0373-17	B6 2-4	Soil	8082A
20F0373-18	B6 4-6	Soil	8082A
20F0373-19	B6 6-8	Soil	8082A
20F0373-20	B6 8-10	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0373-01 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0373-01 through 20F0373-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 17, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B5 0-2
Date Sampled: 06/09/20 12:50
Percent Solids: 95
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/10/20 20:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1248	**P 0.1** (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 7:32		DF01009
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 7:32		DF01009

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B5 2-4
Date Sampled: 06/09/20 12:52
Percent Solids: 96
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/10/20 20:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1248	**0.2** (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 7:52		DF01009
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 7:52		DF01009

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B5 4-6
Date Sampled: 06/09/20 12:55
Percent Solids: 95
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/10/20 20:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1248 [2C]	**0.3** (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1260 [2C]	**0.3** (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 8:12		DF01009
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 8:12		DF01009

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B5 6-8
Date Sampled: 06/09/20 12:57
Percent Solids: 90
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/10/20 20:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 8:32		DF01009
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 8:32		DF01009

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B5 8-10
Date Sampled: 06/09/20 13:00
Percent Solids: 80
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 22:28		DF01008
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 22:28		DF01008

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A5 0-2
Date Sampled: 06/09/20 13:10
Percent Solids: 94
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1248	**0.3** (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 19:05		DF01009
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 19:05		DF01009

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A5 2-4
Date Sampled: 06/09/20 13:22
Percent Solids: 88
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 19:25		DF01009
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 19:25		DF01009

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A5 4-6
Date Sampled: 06/09/20 13:25
Percent Solids: 94
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 19:45		DF01009
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 19:45		DF01009

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A5 6-8
Date Sampled: 06/09/20 13:27
Percent Solids: 77
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1221	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1232	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1242	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1248	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1254	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1260	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1262	ND (0.07)		8082A		1	06/12/20 20:05		DF01009
Aroclor 1268	ND (0.07)		8082A		1	06/12/20 20:05		DF01009

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A5 8-10
Date Sampled: 06/09/20 13:30
Percent Solids: 81
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 20:24		DF01009
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 20:24		DF01009

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A6 0-2
Date Sampled: 06/10/20 07:40
Percent Solids: 95
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1254 [2C]	**0.09** (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 1:44		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 1:44		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A6 2-4
Date Sampled: 06/10/20 07:42
Percent Solids: 90
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 2:04		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 2:04		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A6 4-6
Date Sampled: 06/10/20 07:45
Percent Solids: 96
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 2:24		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 2:24		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A6 6-8
Date Sampled: 06/10/20 07:47
Percent Solids: 72
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1221	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1232	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1242	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1248	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1254	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1260	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1262	ND (0.07)		8082A		1	06/13/20 2:43		DF01109
Aroclor 1268	ND (0.07)		8082A		1	06/13/20 2:43		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A6 8-10
Date Sampled: 06/10/20 07:50
Percent Solids: 79
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1242 [2C]	**0.08** (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 3:03		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 3:03		DF01109

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B6 0-2
Date Sampled: 06/10/20 08:00
Percent Solids: 94
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1242	**0.7** (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1254	**0.8** (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1260 [2C]	**0.2** (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 3:23		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 3:23		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B6 2-4
Date Sampled: 06/10/20 08:02
Percent Solids: 93
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1242 [2C]	**0.3** (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1254	**0.4** (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1260 [2C]	**0.1** (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 3:42		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 3:42		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B6 4-6
Date Sampled: 06/10/20 08:05
Percent Solids: 95
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 4:02		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 4:02		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B6 6-8
Date Sampled: 06/10/20 08:07
Percent Solids: 79
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1221	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1232	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1242	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1248	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1254	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1260	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1262	ND (0.07)		8082A		1	06/13/20 4:22		DF01109
Aroclor 1268	ND (0.07)		8082A		1	06/13/20 4:22		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B6 8-10
Date Sampled: 06/10/20 08:10
Percent Solids: 74
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0373
ESS Laboratory Sample ID: 20F0373-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1221	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1232	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1242	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1248	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1254	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1260	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1262	ND (0.07)		8082A		1	06/13/20 4:41		DF01109
Aroclor 1268	ND (0.07)		8082A		1	06/13/20 4:41		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01008 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0174*		mg/kg wet	*0.02500*		*69*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0173*		mg/kg wet	*0.02500*		*69*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0206*		mg/kg wet	*0.02500*		*83*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0205*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		93	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		92	40-140	3	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		94	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		90	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0236*		mg/kg wet	*0.02500*		*95*	*30-150*			
Batch DF01009 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01009 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	1	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	0.5	30	
Surrogate: Decachlorobiphenyl	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Batch DF01109 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01109 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0204*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140	0.8	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	0.8	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140	0.03	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical ESS Laboratory Work Order: 20F0373

Notes and Definitions

U	Analyte included in the analysis, but not detected
P	Percent difference between primary and confirmation results exceeds 40% (P).
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0373

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0373
Date Received: 6/10/2020
Project Due Date: 6/17/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:
Rec'd Jar cap = A8(8.10), Label = A6(8.10)

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? Shelby Amsel Date: 6/11/20 Time: 1650 By: ML

Label matches COC; cap is incorrect

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	51703	Yes	N/A	Yes	4 oz. Jar	NP	
2	51704	Yes	N/A	Yes	4 oz. Jar	NP	
3	51705	Yes	N/A	Yes	4 oz. Jar	NP	
4	51706	Yes	N/A	Yes	4 oz. Jar	NP	
5	51707	Yes	N/A	Yes	4 oz. Jar	NP	
6	51708	Yes	N/A	Yes	4 oz. Jar	NP	
7	51709	Yes	N/A	Yes	4 oz. Jar	NP	
8	51710	Yes	N/A	Yes	4 oz. Jar	NP	
9	51711	Yes	N/A	Yes	4 oz. Jar	NP	
10	51712	Yes	N/A	Yes	4 oz. Jar	NP	
11	51713	Yes	N/A	Yes	4 oz. Jar	NP	
12	51714	Yes	N/A	Yes	4 oz. Jar	NP	
13	51715	Yes	N/A	Yes	4 oz. Jar	NP	
14	51716	Yes	N/A	Yes	4 oz. Jar	NP	
15	51717	Yes	N/A	Yes	4 oz. Jar	NP	
16	51718	Yes	N/A	Yes	4 oz. Jar	NP	
17	51719	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0373
Date Received: 6/10/2020

18	51720	Yes	N/A	Yes	4 oz. Jar	NP
19	51721	Yes	N/A	Yes	4 oz. Jar	NP
20	51722	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/10/20 1925

Reviewed By: _____ Date & Time: 6/10/20 1937

Delivered By: _____ 6/10/20 1937

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0373
Date Received: 6/10/2020
Project Due Date: 6/17/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:
Rec'd Jar cap = A8(8.10), Label = A6(8.10)

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)
1	51703	Yes	N/A	Yes	4 oz. Jar	NP	
2	51704	Yes	N/A	Yes	4 oz. Jar	NP	
3	51705	Yes	N/A	Yes	4 oz. Jar	NP	
4	51706	Yes	N/A	Yes	4 oz. Jar	NP	
5	51707	Yes	N/A	Yes	4 oz. Jar	NP	
6	51708	Yes	N/A	Yes	4 oz. Jar	NP	
7	51709	Yes	N/A	Yes	4 oz. Jar	NP	
8	51710	Yes	N/A	Yes	4 oz. Jar	NP	
9	51711	Yes	N/A	Yes	4 oz. Jar	NP	
10	51712	Yes	N/A	Yes	4 oz. Jar	NP	
11	51713	Yes	N/A	Yes	4 oz. Jar	NP	
12	51714	Yes	N/A	Yes	4 oz. Jar	NP	
13	51715	Yes	N/A	Yes	4 oz. Jar	NP	
14	51716	Yes	N/A	Yes	4 oz. Jar	NP	
15	51717	Yes	N/A	Yes	4 oz. Jar	NP	
16	51718	Yes	N/A	Yes	4 oz. Jar	NP	
17	51719	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0373
Date Received: 6/10/2020

18	51720	Yes	N/A	Yes	4 oz. Jar	NP
19	51721	Yes	N/A	Yes	4 oz. Jar	NP
20	51722	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/10/20 1925

Reviewed By: _____ Date & Time: 6/10/20 1937

Delivered By: _____ 6/10/20 1937

CHAIN OF CUSTODY

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0373 | Page 5 of 8

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW CONSULTANTS INC
Address: 6 HURON DRIVE
NATICK MA
Phone: 508 875 2675
Email Distribution List:
BMILLER@CDWCONSULTANTS.COM
SAMSEL@CDWCONSULTANTS.COM

PROJECT INFORMATION

Project Name: LEWIS CHEMICAL
Project Location: HYDE PARK, MA
Project Number: 1363
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBS	Total Number of Bottles
1	06/09/20	1250	GRAB	SOIL	B5 (0-2)		
2		1252			B5 (2-4)		
3		1255			B5 (4-6)		
4		1257			B5 (6-8)		
5		1300			B5 (8-10)		
6		1310			A5 (0-2)		
7		1322			A5 (2-4)		
8		1325			A5 (4-6)		
9		1327			A5 (6-8)		
10		1330			A5 (8-10		

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by :

Laboratory Use Only
Cooler Temperature (°C): 3.0

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/10/20	10:24	[signature]	[signature]	6/10/20	15:43	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0373 | Page 6 of 8

Turn Time: ☒ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2657
Email Distribution List: Bmiller@cdwconsultants.com, Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06/10/20	0740	Grab	Soil	A6 (0-2)	X	1
12		0742			A6 (2-4)	X	1
13		0745			A6 (4-6)	X	1
14		0747			A6 (6-8)	X	1
15		0750			A6 (8-10)	X	1
16		0800			B6 (0-2)	X	1
17		0802			B6 (2-4)	X	1
18		0805			B6 (4-6)	X	1
19		0807			B6 (6-8)	X	1
20		0810			B6 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/10/2020	10:24	[signature]	[signature]	6/10/20	15:43	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0374

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 4:37 pm, Jun 17, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0374

SAMPLE RECEIPT

The following samples were received on June 10, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0374-01	B3 0-2	Soil	8082A
20F0374-02	B3 2-4	Soil	8082A
20F0374-03	B3 4-6	Soil	8082A
20F0374-04	B3 6-8	Soil	8082A
20F0374-05	B3 8-10	Soil	8082A
20F0374-06	A3 0-2	Soil	8082A
20F0374-07	A3 2-4	Soil	8082A
20F0374-08	A3 4-6	Soil	8082A
20F0374-09	A3 6-8	Soil	8082A
20F0374-10	A3 8-10	Soil	8082A
20F0374-11	A4 0-2	Soil	8082A
20F0374-12	A4 2-4	Soil	8082A
20F0374-13	A4 4-6	Soil	8082A
20F0374-14	A4 6-8	Soil	8082A
20F0374-15	A4 8-10	Soil	8082A
20F0374-16	B4 0-2	Soil	8082A
20F0374-17	B4 2-4	Soil	8082A
20F0374-18	B4 4-6	Soil	8082A
20F0374-19	B4 6-8	Soil	8082A
20F0374-20	B4 8-10	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0374

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0374

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0374

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0374-01 through 20F0374-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (X) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 17, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B3 0-2
Date Sampled: 06/09/20 11:30
Percent Solids: 94
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1248 [2C]	**0.1** (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 5:01		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 5:01		DF01109

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*54 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B3 2-4
Date Sampled: 06/09/20 11:32
Percent Solids: 91
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 5:21		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 5:21		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B3 4-6
Date Sampled: 06/09/20 11:36
Percent Solids: 93
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1248	**0.3** (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 5:40		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 5:40		DF01109

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*54 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*56 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B3 6-8
Date Sampled: 06/09/20 11:38
Percent Solids: 87
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 6:00		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 6:00		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 6:00		DF01109
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 6:00		DF01109
Aroclor 1248	**5.5** (0.3)		8082A		5	06/14/20 15:59		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 6:00		DF01109
Aroclor 1260 [2C]	**0.8** (0.06)		8082A		1	06/13/20 6:00		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 6:00		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 6:00		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B3 8-10
Date Sampled: 06/09/20 11:40
Percent Solids: 91
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1248	**0.5** (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 6:20		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 6:20		DF01109

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A3 0-2
Date Sampled: 06/09/20 11:45
Percent Solids: 93
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1248	**0.2** (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 6:39		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 6:39		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*62 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A3 2-4
Date Sampled: 06/09/20 11:47
Percent Solids: 97
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 6:59		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 6:59		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*57 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A3 4-6
Date Sampled: 06/09/20 11:50
Percent Solids: 96
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 7:19		DF01109
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 7:19		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*49 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A3 6-8
Date Sampled: 06/09/20 11:52
Percent Solids: 92
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1248	**0.2** (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 7:38		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 7:38		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A3 8-10
Date Sampled: 06/09/20 11:55
Percent Solids: 92
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:06

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 7:58		DF01109
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 7:58		DF01109

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*59 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A4 0-2
Date Sampled: 06/09/20 12:00
Percent Solids: 96
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 0:22		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 0:22		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A4 2-4
Date Sampled: 06/09/20 12:02
Percent Solids: 94
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1248	**0.1** (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 0:42		DF01110
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 0:42		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*74 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A4 4-6
Date Sampled: 06/09/20 12:05
Percent Solids: 93
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1248	**0.2** (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1260 [2C]	ND (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 1:01		DF01110
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 1:01		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A4 6-8
Date Sampled: 06/09/20 12:07
Percent Solids: 96
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 1:21		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 1:21		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A4 8-10
Date Sampled: 06/09/20 12:10
Percent Solids: 73
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1221	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1232	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1242	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1248	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1254	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1260	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1262	ND (0.07)		8082A		1	06/13/20 1:41		DF01110
Aroclor 1268	ND (0.07)		8082A		1	06/13/20 1:41		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B4 0-2
Date Sampled: 06/09/20 12:20
Percent Solids: 97
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 2:00		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 2:00		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*54 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B4 2-4
Date Sampled: 06/09/20 12:22
Percent Solids: 97
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1248 [2C]	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 2:20		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 2:20		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*57 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B4 4-6
Date Sampled: 06/09/20 12:25
Percent Solids: 96
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1248	**0.2** (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 2:40		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 2:40		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*58 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B4 6-8
Date Sampled: 06/09/20 12:27
Percent Solids: 96
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 3:00		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 3:00		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B4 8-10
Date Sampled: 06/09/20 12:30
Percent Solids: 81
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0374
ESS Laboratory Sample ID: 20F0374-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 3:19		DF01110
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 3:19		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0374

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01109 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0204*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140	0.8	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	0.8	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140	0.03	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		90	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Batch DF01110 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0374

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01110 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0226*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	0.9	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140	0.3	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical ESS Laboratory Work Order: 20F0374

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0374

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0374
Date Received: 6/10/2020
Project Due Date: 6/17/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	51723	Yes	N/A	Yes	4 oz. Jar	NP	
2	51724	Yes	N/A	Yes	4 oz. Jar	NP	
3	51725	Yes	N/A	Yes	4 oz. Jar	NP	
4	51726	Yes	N/A	Yes	4 oz. Jar	NP	
5	51727	Yes	N/A	Yes	4 oz. Jar	NP	
6	51728	Yes	N/A	Yes	4 oz. Jar	NP	
7	51729	Yes	N/A	Yes	4 oz. Jar	NP	
8	51730	Yes	N/A	Yes	4 oz. Jar	NP	
9	51731	Yes	N/A	Yes	4 oz. Jar	NP	
10	51732	Yes	N/A	Yes	4 oz. Jar	NP	
11	51733	Yes	N/A	Yes	4 oz. Jar	NP	
12	51734	Yes	N/A	Yes	4 oz. Jar	NP	
13	51735	Yes	N/A	Yes	4 oz. Jar	NP	
14	51736	Yes	N/A	Yes	4 oz. Jar	NP	
15	51737	Yes	N/A	Yes	4 oz. Jar	NP	
16	51738	Yes	N/A	Yes	4 oz. Jar	NP	
17	51739	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0374
Date Received: 6/10/2020

18	51740	Yes	N/A	Yes	4 oz. Jar	NP
19	51741	Yes	N/A	Yes	4 oz. Jar	NP
20	51742	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/10/20 1919

Reviewed By: _____ Date & Time: 6/10/20 1940

Delivered By: _____ 6/10/20 1940

CHAIN OF CUSTODY

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0374 | Page 3 of 8

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW CONSULTANTS INC
Address: 6 HURON DRIVE
NATICK MA
Phone: 508 875 2657
Email Distribution List:
BMILLER@CDWCONSULTANTS.COM
BAMSEL@CDWCONSULTANTS.COM

PROJECT INFORMATION

Project Name: LEWIS CHEMICAL
Project Location: HYDE PARK, MA
Project Number: 1363
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/09/20	1130	GRAB	SOIL	B3 (0-2)	X	
2		1132	↓	↓	B3 (2-4)	↓	
3		1136			B3 (4-6)		
4		1138			B3 (6-8)		
5		1140			B3 (8-10)		
6		1145			A3 (0-2)		
7		1147			A3 (2-4)		
8		1150			A3 (4-6)		
9		1152			A3 (6-8)		
10		1155			A3 (8-10)	↓	
						7	
						9	
						1	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: MIKE O'BRIEN

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 3.0

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/10/20	10:24	[signature]	[signature]	6/10/20	15:43	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0574 | Page 4 of 8

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CON CONSULTANTS INC
Address: 6 HURON DRIVE
NATICK MA
Phone: 508 875 2657
Email Distribution List:
B MILLER@ CONCONSULTANTS.COM
SAMSEL@ CONCONSULTANTS.COM

PROJECT INFORMATION

Project Name: LEWIS CHEMICAL
Project Location: HYDE PARK, MA
Project Number: 1363
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06/09/20	1200	GRAB	SOIL	A4 (0-2)	X	
12		1202	↓	↓	A4 (2-4)	↓	
13		1205			A4 (4-6)		
14		1207			A4 (6-8)		
15		1210			A4 (8-10)		
16		1220			B4 (0-2)		
17		1222			B4 (2-4)		
18		1225			B4 (4-6)		
19		1227			B4 (6-8)		
20		1230			B4 (8-10)		

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: MIKE O'BRIEN

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 3.0

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/10/20	10:24	[signature]	[signature]	6/10/20	15:43	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0375

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 4:40 pm, Jun 17, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

SAMPLE RECEIPT

The following samples were received on June 10, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0375-01	A1 0-2	Soil	8082A
20F0375-02	A1 2-4	Soil	8082A
20F0375-03	A1 4-6	Soil	8082A
20F0375-04	A1 6-8	Soil	8082A
20F0375-05	A1 8-10	Soil	8082A
20F0375-06	B1 0-2	Soil	8082A
20F0375-07	B1 2-4	Soil	8082A
20F0375-08	B1 4-6	Soil	8082A
20F0375-09	B1 6-8	Soil	8082A
20F0375-10	B1 8-10	Soil	8082A
20F0375-11	A2 0-2	Soil	8082A
20F0375-12	A2 2-4	Soil	8082A
20F0375-13	A2 4-6	Soil	8082A
20F0375-14	A2 6-8	Soil	8082A
20F0375-15	A2 8-10	Soil	8082A
20F0375-16	B2 0-2	Soil	8082A
20F0375-17	B2 2-4	Soil	8082A
20F0375-18	B2 4-6	Soil	8082A
20F0375-19	B2 6-8	Soil	8082A
20F0375-20	B2 8-10	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)
20F0375-06 **Surrogate recovery(ies) diluted below the MRL (SD).**

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0375-01 through 20F0375-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	Data User Note: ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 17, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A1 0-2
Date Sampled: 06/09/20 10:00
Percent Solids: 95
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1248	**0.6** (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 3:39		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 3:39		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*59 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A1 2-4
Date Sampled: 06/09/20 10:02
Percent Solids: 95
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1248	**0.1** (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 3:59		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 3:59		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*63 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A1 4-6
Date Sampled: 06/09/20 10:06
Percent Solids: 97
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1260 [2C]	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 4:19		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 4:19		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*40 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*45 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*69 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A1 6-8
Date Sampled: 06/09/20 10:08
Percent Solids: 95
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1248	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1260 [2C]	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 4:38		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 4:38		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*42 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*49 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A1 8-10
Date Sampled: 06/09/20 10:10
Percent Solids: 91
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1248	**0.2** (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 4:58		DF01110
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 4:58		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*48 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*50 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 0-2
Date Sampled: 06/09/20 10:30
Percent Solids: 95
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1221	ND (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1232	ND (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1242	ND (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1248	**43.8** (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1254	ND (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1260	ND (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1262	ND (2.7)		8082A		50	06/14/20 12:42		DF01110
Aroclor 1268	ND (2.7)		8082A		50	06/14/20 12:42		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%		30-150
Surrogate: Decachlorobiphenyl [2C]	%		30-150
Surrogate: Tetrachloro-m-xylene	%		30-150
Surrogate: Tetrachloro-m-xylene [2C]	%		30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 2-4
Date Sampled: 06/09/20 10:32
Percent Solids: 98
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1248	**0.6** (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 5:38		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 5:38		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*46 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*50 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 4-6
Date Sampled: 06/09/20 10:36
Percent Solids: 98
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 5:57		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 5:57		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 5:57		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 5:57		DF01110
Aroclor 1248	**4.2** (0.3)		8082A		5	06/14/20 13:01		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 5:57		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 5:57		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 5:57		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 5:57		DF01110

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*46 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*51 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 6-8
Date Sampled: 06/09/20 10:38
Percent Solids: 97
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 6:17		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 6:17		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 6:17		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 6:17		DF01110
Aroclor 1248	**4.1** (0.3)		8082A		5	06/14/20 13:21		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 6:17		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 6:17		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 6:17		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 6:17		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*53 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 8-10
Date Sampled: 06/09/20 10:40
Percent Solids: 94
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:34

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1221	ND (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1232	ND (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1242	ND (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1248 [2C]	**0.6** (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1254	ND (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1260	ND (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1262	ND (0.05)		8082A		1	06/13/20 6:37		DF01110
Aroclor 1268	ND (0.05)		8082A		1	06/13/20 6:37		DF01110

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*45 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A2 0-2
Date Sampled: 06/09/20 10:50
Percent Solids: 96
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1248	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 19:46		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 19:46		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A2 2-4
Date Sampled: 06/09/20 10:52
Percent Solids: 96
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1248	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 20:05		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 20:05		DF01111

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A2 4-6
Date Sampled: 06/09/20 10:56
Percent Solids: 96
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1248	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 20:24		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 20:24		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A2 6-8
Date Sampled: 06/09/20 10:58
Percent Solids: 95
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1248	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 20:43		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 20:43		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A2 8-10
Date Sampled: 06/09/20 11:00
Percent Solids: 90
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1248	**0.3** (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 21:02		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 21:02		DF01111

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*116 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B2 0-2
Date Sampled: 06/09/20 11:05
Percent Solids: 97
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1248	**0.2** (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 21:21		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 21:21		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B2 2-4
Date Sampled: 06/09/20 11:07
Percent Solids: 96
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1248	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 21:39		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 21:39		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B2 4-6
Date Sampled: 06/09/20 11:10
Percent Solids: 96
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1248	**0.2** (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 21:59		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 21:59		DF01111

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B2 6-8
Date Sampled: 06/09/20 11:12
Percent Solids: 95
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 22:17		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 22:17		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 22:17		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 22:17		DF01111
Aroclor 1248 [2C]	**1.8** (0.1)		8082A		2	06/12/20 22:17		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 22:17		DF01111
Aroclor 1260 [2C]	**0.08** (0.05)		8082A		1	06/12/20 22:17		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 22:17		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 22:17		DF01111

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B2 8-10
Date Sampled: 06/09/20 11:15
Percent Solids: 88
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0375
ESS Laboratory Sample ID: 20F0375-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1248	**0.9** (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 22:36		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 22:36		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01110 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0226*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	0.9	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140	0.3	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Batch DF01111 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01111 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0278*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0255*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Surrogate: Decachlorobiphenyl	*0.0284*		mg/kg wet	*0.02500*		*113*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		102	40-140	4	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	4	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		106	40-140	5	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		100	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0296*		mg/kg wet	*0.02500*		*119*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0274*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0240*		mg/kg wet	*0.02500*		*96*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0375

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0375
Date Received: 6/10/2020
Project Due Date: 6/17/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	51743	Yes	N/A	Yes	4 oz. Jar	NP	
2	51744	Yes	N/A	Yes	4 oz. Jar	NP	
3	51745	Yes	N/A	Yes	4 oz. Jar	NP	
4	51746	Yes	N/A	Yes	4 oz. Jar	NP	
5	51747	Yes	N/A	Yes	4 oz. Jar	NP	
6	51748	Yes	N/A	Yes	4 oz. Jar	NP	
7	51749	Yes	N/A	Yes	4 oz. Jar	NP	
8	51750	Yes	N/A	Yes	4 oz. Jar	NP	
9	51751	Yes	N/A	Yes	4 oz. Jar	NP	
10	51752	Yes	N/A	Yes	4 oz. Jar	NP	
11	51753	Yes	N/A	Yes	4 oz. Jar	NP	
12	51754	Yes	N/A	Yes	4 oz. Jar	NP	
13	51755	Yes	N/A	Yes	4 oz. Jar	NP	
14	51756	Yes	N/A	Yes	4 oz. Jar	NP	
15	51757	Yes	N/A	Yes	4 oz. Jar	NP	
16	51758	Yes	N/A	Yes	4 oz. Jar	NP	
17	51759	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0375
Date Received: 6/10/2020

18	51760	Yes	N/A	Yes	4 oz. Jar	NP
19	51761	Yes	N/A	Yes	4 oz. Jar	NP
20	51762	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached/bubbles noted? Yes / No / NA

Completed By: Date & Time: 6/10/20 1915

Reviewed By: Date & Time: 6/10/20 1942

Delivered By: 6/10/20 1942

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0375 Page 1 of 8

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CON CONSULTANTS INC
Address: 6 HURON DRIVE
NATICK MA
Phone: 508 875 2675
Email Distribution List:
BMILLER@CONCONSULTANTS.COM

PROJECT INFORMATION

Project Name: LEWIS CHEMICAL
Project Location: HYDE PARK, MA
Project Number: 1363
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/09/20	1000	GRAB	SOIL	A1 (0-2)	X	
2		1002			A1 (2-4)		
3		1006			A1 (4-6)		
4		1008			A1 (6-8)		
5		1010			A1 (8-10)		
6		1030			B1 (0-2)		
7		1032			B1 (2-4)		
8		1036			B1 (4-6)		
9		1038			B1 (6-8)		
10		1040			B1 (8-10)		

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: MIKE O'BRIEN

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 3.0

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/10/20	10:24	[signature]	[signature]	6/10/20	15:43	[signature]
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0575 | Page 2 of 8

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CON CONSULTANTS INC
Address: 6 HURON DRIVE
NATICK MA
Phone:
Email Distribution List:

PROJECT INFORMATION

Project Name: LENIS CHEMICAL
Project Location: HYDE PARK MA
Project Number: 1363
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06/09/20	1050	GRAB	SOIL	A2 (0-2)	X	
12		1052			A2 (2-4)		
13		1056			A2 (4-6)		
14		1058			A2 (6-8)		
15		1100			A2 (8-10)		
16		1105			B2 (0-2)		
17		1107			B2 (2-4)		
18		1110			B2 (4-6)		
19		1112			B2 (6-8)		
20		1115			B2 (8-10)		
						4	
						9	
						1	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: MIKE O'BRIEN

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 3.0

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/10/20	10:24	[signature]	[signature]	6/10/20	15:43	[signature]
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0376

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, Jun 17, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

SAMPLE RECEIPT

The following samples were received on June 10, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0376-01	A7 0-2	Soil	8082A
20F0376-02	A7 2-4	Soil	8082A
20F0376-03	A7 4-6	Soil	8082A
20F0376-04	A7 6-8	Soil	8082A
20F0376-05	A7 8-10	Soil	8082A
20F0376-06	B7 0-2	Soil	8082A
20F0376-07	B7 2-4	Soil	8082A
20F0376-08	B7 4-6	Soil	8082A
20F0376-09	B7 6-8	Soil	8082A
20F0376-10	B7 8-10	Soil	8082A
20F0376-11	A8 0-2	Soil	8082A
20F0376-12	A8 2-4	Soil	8082A
20F0376-13	A8 4-6	Soil	8082A
20F0376-14	A8 6-8	Soil	8082A
20F0376-15	A8 8-10	Soil	8082A
20F0376-16	B8 0-2	Soil	8082A
20F0376-17	B8 2-4	Soil	8082A
20F0376-18	B8 4-6	Soil	8082A
20F0376-19	B8 6-8	Soil	8082A
20F0376-20	B8 8-10	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0376-01 through 20F0376-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (X) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: June 17, 2020
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A7 0-2
Date Sampled: 06/10/20 08:15
Percent Solids: 91
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1248	**0.3** (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1254 [2C]	**0.2** (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 22:55		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 22:55		DF01111

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A7 2-4
Date Sampled: 06/10/20 08:17
Percent Solids: 94
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1248	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 23:14		DF01111
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 23:14		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A7 4-6
Date Sampled: 06/10/20 08:20
Percent Solids: 92
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 23:33		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 23:33		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A7 6-8
Date Sampled: 06/10/20 08:22
Percent Solids: 80
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 23:52		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 23:52		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*99 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A7 8-10
Date Sampled: 06/10/20 08:25
Percent Solids: 59
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1221	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1232	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1242	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1248	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1254	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1260	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1262	ND (0.09)		8082A		1	06/13/20 0:11		DF01111
Aroclor 1268	ND (0.09)		8082A		1	06/13/20 0:11		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*107 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B7 0-2
Date Sampled: 06/10/20 08:30
Percent Solids: 92
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1248	**0.1** (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 0:30		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 0:30		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B7 2-4
Date Sampled: 06/10/20 08:32
Percent Solids: 93
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 0:49		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 0:49		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*106 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B7 4-6
Date Sampled: 06/10/20 08:35
Percent Solids: 85
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 1:08		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 1:08		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*74 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B7 6-8
Date Sampled: 06/10/20 08:37
Percent Solids: 79
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1221	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1232	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1242	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1248	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1254	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1260	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1262	ND (0.06)		8082A		1	06/13/20 1:27		DF01111
Aroclor 1268	ND (0.06)		8082A		1	06/13/20 1:27		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*111 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*101 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B7 8-10
Date Sampled: 06/10/20 08:40
Percent Solids: 40
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 12:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1221	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1232	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1242	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1248	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1254	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1260	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1262	ND (0.1)		8082A		1	06/13/20 1:46		DF01111
Aroclor 1268	ND (0.1)		8082A		1	06/13/20 1:46		DF01111

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*86 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A8 0-2
Date Sampled: 06/10/20 09:10
Percent Solids: 91
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1248	**0.3** (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 17:13		DF01112
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 17:13		DF01112

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A8 2-4
Date Sampled: 06/10/20 09:12
Percent Solids: 95
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1248	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 17:33		DF01112
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 17:33		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*101 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A8 4-6
Date Sampled: 06/10/20 09:15
Percent Solids: 85
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 17:53		DF01112
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 17:53		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A8 6-8
Date Sampled: 06/10/20 09:17
Percent Solids: 81
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 18:12		DF01112
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 18:12		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*64 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A8 8-10
Date Sampled: 06/10/20 09:20
Percent Solids: 69
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1221	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1232	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1242	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1248	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1254	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1260	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1262	ND (0.07)		8082A		1	06/12/20 18:32		DF01112
Aroclor 1268	ND (0.07)		8082A		1	06/12/20 18:32		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B8 0-2
Date Sampled: 06/10/20 09:25
Percent Solids: 97
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1221	ND (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1232	ND (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1242	ND (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1248	**0.7** (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1254	ND (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1260	ND (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1262	ND (0.05)		8082A		1	06/12/20 18:52		DF01112
Aroclor 1268	ND (0.05)		8082A		1	06/12/20 18:52		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B8 2-4
Date Sampled: 06/10/20 09:27
Percent Solids: 85
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1248	**0.4** (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 19:11		DF01112
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 19:11		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*101 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B8 4-6
Date Sampled: 06/10/20 09:30
Percent Solids: 85
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 19:31		DF01112
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 19:31		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B8 6-8
Date Sampled: 06/10/20 09:32
Percent Solids: 82
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1221	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1232	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1242	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1248	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1254	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1260	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1262	ND (0.06)		8082A		1	06/12/20 19:51		DF01112
Aroclor 1268	ND (0.06)		8082A		1	06/12/20 19:51		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B8 8-10
Date Sampled: 06/10/20 09:35
Percent Solids: 65
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0376
ESS Laboratory Sample ID: 20F0376-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/11/20 13:13

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1221	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1232	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1242	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1248	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1254	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1260	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1262	ND (0.08)		8082A		1	06/12/20 20:10		DF01112
Aroclor 1268	ND (0.08)		8082A		1	06/12/20 20:10		DF01112

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01111 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0278*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0255*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Surrogate: Decachlorobiphenyl	*0.0284*		mg/kg wet	*0.02500*		*113*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		102	40-140	4	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	4	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		106	40-140	5	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		100	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0296*		mg/kg wet	*0.02500*		*119*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0274*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0240*		mg/kg wet	*0.02500*		*96*	*30-150*			
Batch DF01112 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01112 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0205*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0219*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0235*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		94	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Surrogate: Decachlorobiphenyl	*0.0206*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0226*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		91	40-140	0.02	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140	0.03	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		93	40-140	1	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		90	40-140	0.8	30	
Surrogate: Decachlorobiphenyl	*0.0204*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

Notes and Definitions

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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0376

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0376
Date Received: 6/10/2020
Project Due Date: 6/17/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	51763	Yes	N/A	Yes	4 oz. Jar	NP	
2	51764	Yes	N/A	Yes	4 oz. Jar	NP	
3	51765	Yes	N/A	Yes	4 oz. Jar	NP	
4	51766	Yes	N/A	Yes	4 oz. Jar	NP	
5	51767	Yes	N/A	Yes	4 oz. Jar	NP	
6	51768	Yes	N/A	Yes	4 oz. Jar	NP	
7	51769	Yes	N/A	Yes	4 oz. Jar	NP	
8	51770	Yes	N/A	Yes	4 oz. Jar	NP	
9	51771	Yes	N/A	Yes	4 oz. Jar	NP	
10	51772	Yes	N/A	Yes	4 oz. Jar	NP	
11	51773	Yes	N/A	Yes	4 oz. Jar	NP	
12	51774	Yes	N/A	Yes	4 oz. Jar	NP	
13	51775	Yes	N/A	Yes	4 oz. Jar	NP	
14	51776	Yes	N/A	Yes	4 oz. Jar	NP	
15	51777	Yes	N/A	Yes	4 oz. Jar	NP	
16	51778	Yes	N/A	Yes	4 oz. Jar	NP	
17	51779	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0376
Date Received: 6/10/2020

18	51780	Yes	N/A	Yes	4 oz. Jar	NP
19	51781	Yes	N/A	Yes	4 oz. Jar	NP
20	51782	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials

Are barcode labels on correct containers?	Yes / No
Are all Flashpoint stickers attached/container ID # circled?	Yes / No / NA
Are all Hex Chrome stickers attached?	Yes / No / NA
Are all QC stickers attached?	Yes / No / NA
Are VOA stickers attached if bubbles noted?	Yes / No / NA

Completed By: Date & Time:

Reviewed By: Date & Time: 6/10/20 1944

Delivered By: 6/10/20 1944

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0376 | Page 7 of 8

Turn Time: [X] >5 [X] 3 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP [X] MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): [X] Limit Checker ☐ State Forms ☐ EQuIS; [X] Excel ☐ Hard Copy ☐ Enviro Data; ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/10/20	0815	Grab	Soil	A7 (0-2)	X	1
2		0817			A7 (2-4)	X	1
3		0820			A7 (4-6)	X	1
4		0822			A7 (6-8)	X	1
5		0825			A7 (8-10)	X	1
6		0830			B7 (0-2)	X	1
7		0832			B7 (2-4)	X	1
8		0835			B7 (4-6)	X	1
9		0837			B7 (6-8)	X	1
10		0840			B7 (8-10)	X	1
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					J	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					9	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					1	

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/10/20	10:24	[signature]	[signature]	6/10/20	15:43	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 3.0

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20E0376 | Page 8 of 8

Turn Time: ☒ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	6/10/20	0910	Grab	Soil	A8 (0-2)	X	1
12		0912			A8 (2-4)	X	1
13		0915			A8 (4-6)	X	1
14		0917			A8 (6-8)	X	1
15		0920			A8 (8-10)	X	1
16		0925			B8 (0-2)	X	1
17		0927			B8 (2-4)	X	1
18		0930			B8 (4-6)	X	1
19		0932			B8 (6-8)	X	1
20		0935			B8 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Mike C. O'Brien	6/10/2020	10:24	[signature]	[signature]	6/10/20	15:43	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

KC temp: 3.0

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0453

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 12:07 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0453

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0453-01	A9 0-2	Soil	8082A
20F0453-02	A9 2-4	Soil	8082A
20F0453-03	A9 4-6	Soil	8082A
20F0453-04	A9 6-8	Soil	8082A
20F0453-05	A9 8-10	Soil	8082A
20F0453-06	B9 0-2	Soil	8082A
20F0453-07	B9 2-4	Soil	8082A
20F0453-08	B9 4-6	Soil	8082A
20F0453-09	B9 6-8	Soil	8082A
20F0453-10	B9 8-10	Soil	8082A
20F0453-11	B10 0-2	Soil	8082A
20F0453-12	B10 2-4	Soil	8082A
20F0453-13	B10 4-6	Soil	8082A
20F0453-14	B10 6-8	Soil	8082A
20F0453-15	B10 8-10	Soil	8082A
20F0453-16	A10 0-2	Soil	8082A
20F0453-17	A10 2-4	Soil	8082A
20F0453-18	A10 4-6	Soil	8082A
20F0453-19	A10 6-8	Soil	8082A
20F0453-20	A10 8-10	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0453

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0453-06 **Surrogate recovery(ies) below lower control limit (S-).**
Tetrachloro-m-xylene (29% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0453

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0453

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0453-01 through 20F0453-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 18, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A9 0-2
Date Sampled: 06/10/20 09:40
Percent Solids: 94
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1248	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1260	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 15:08		DF01229
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 15:08		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*66 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A9 2-4
Date Sampled: 06/10/20 09:42
Percent Solids: 90
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 15:27		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 15:27		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A9 4-6
Date Sampled: 06/10/20 09:45
Percent Solids: 76
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1221	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1232	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1242	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1248	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1254	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1260	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1262	ND (0.07)		8082A		1	06/15/20 15:47		DF01229
Aroclor 1268	ND (0.07)		8082A		1	06/15/20 15:47		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A9 6-8
Date Sampled: 06/10/20 09:47
Percent Solids: 82
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 16:07		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 16:07		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A9 8-10
Date Sampled: 06/10/20 09:50
Percent Solids: 79
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 16:26		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 16:26		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B9 0-2
Date Sampled: 06/10/20 10:00
Percent Solids: 93
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1248	**0.7** (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1260	**0.6** (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 16:46		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 16:46		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*60 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*29 %*	*S-*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*32 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B9 2-4
Date Sampled: 06/10/20 10:02
Percent Solids: 90
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1248	**0.8** (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1260	**0.2** (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 17:05		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 17:05		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B9 4-6
Date Sampled: 06/10/20 10:05
Percent Solids: 84
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 17:25		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 17:25		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*92 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B9 6-8
Date Sampled: 06/10/20 10:07
Percent Solids: 83
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 17:44		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 17:44		DF01229

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B9 8-10
Date Sampled: 06/10/20 10:10
Percent Solids: 79
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 18:04		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 18:04		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B10 0-2
Date Sampled: 06/10/20 11:00
Percent Solids: 96
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1248 [2C]	**0.5** (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1260 [2C]	**0.1** (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 18:24		DF01229
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 18:24		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*129 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*130 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B10 2-4
Date Sampled: 06/10/20 11:02
Percent Solids: 92
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1248	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1260	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 18:43		DF01229
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 18:43		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B10 4-6
Date Sampled: 06/10/20 11:05
Percent Solids: 96
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1248 [2C]	**0.8** (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1260 [2C]	**0.1** (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 19:03		DF01229
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 19:03		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B10 6-8
Date Sampled: 06/10/20 11:07
Percent Solids: 85
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 19:23		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 19:23		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*57 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B10 8-10
Date Sampled: 06/10/20 11:10
Percent Solids: 70
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1221	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1232	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1242	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1248	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1254	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1260	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1262	ND (0.07)		8082A		1	06/15/20 19:42		DF01229
Aroclor 1268	ND (0.07)		8082A		1	06/15/20 19:42		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A10 0-2
Date Sampled: 06/10/20 11:15
Percent Solids: 96
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1248	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1260	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 22:40		DF01229
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 22:40		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A10 2-4
Date Sampled: 06/10/20 11:17
Percent Solids: 94
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1248	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1260	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 22:59		DF01229
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 22:59		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A10 4-6
Date Sampled: 06/10/20 11:20
Percent Solids: 92
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 23:19		DF01229
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 23:19		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A10 6-8
Date Sampled: 06/10/20 11:22
Percent Solids: 57
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1221	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1232	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1242	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1248	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1254	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1260	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1262	ND (0.09)		8082A		1	06/15/20 23:38		DF01229
Aroclor 1268	ND (0.09)		8082A		1	06/15/20 23:38		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A10 8-10
Date Sampled: 06/10/20 11:25
Percent Solids: 75
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0453
ESS Laboratory Sample ID: 20F0453-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1221	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1232	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1242	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1248	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1254	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1260	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1262	ND (0.07)		8082A		1	06/15/20 23:58		DF01229
Aroclor 1268	ND (0.07)		8082A		1	06/15/20 23:58		DF01229

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*107 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*104 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0453

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01229 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0276*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0276*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		100	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Surrogate: Decachlorobiphenyl	*0.0284*		mg/kg wet	*0.02500*		*113*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0282*		mg/kg wet	*0.02500*		*113*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0247*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		88	40-140	6	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	5	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0271*		mg/kg wet	*0.02500*		*109*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0453

Notes and Definitions

U	Analyte included in the analysis, but not detected
S-	Surrogate recovery(ies) below lower control limit (S-).
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0453

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0453
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 <u>short holds & rushes</u>?** 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	52786	Yes	N/A	Yes	4 oz. Jar	NP	
2	52787	Yes	N/A	Yes	4 oz. Jar	NP	
3	52788	Yes	N/A	Yes	4 oz. Jar	NP	
4	52789	Yes	N/A	Yes	4 oz. Jar	NP	
5	52790	Yes	N/A	Yes	4 oz. Jar	NP	
6	52791	Yes	N/A	Yes	4 oz. Jar	NP	
7	52792	Yes	N/A	Yes	4 oz. Jar	NP	
8	52793	Yes	N/A	Yes	4 oz. Jar	NP	
9	52794	Yes	N/A	Yes	4 oz. Jar	NP	
10	52795	Yes	N/A	Yes	4 oz. Jar	NP	
11	52796	Yes	N/A	Yes	4 oz. Jar	NP	
12	52797	Yes	N/A	Yes	4 oz. Jar	NP	
13	52798	Yes	N/A	Yes	4 oz. Jar	NP	
14	52799	Yes	N/A	Yes	4 oz. Jar	NP	
15	52800	Yes	N/A	Yes	4 oz. Jar	NP	
16	52801	Yes	N/A	Yes	4 oz. Jar	NP	
17	52802	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0453
Date Received: 6/11/2020

18	52803	Yes	N/A	Yes	4 oz. Jar	NP
19	52804	Yes	N/A	Yes	4 oz. Jar	NP
20	52805	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Initials

Were all containers scanned into storage/lab?	Yes / No
Are barcode labels on correct containers?	Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled?	Yes / No / NA
Are all Hex Chrome stickers attached?	Yes / No / NA
Are all QC stickers attached?	Yes / No / NA
Are VOA stickers attached if bubbles noted?	Yes / No / NA

Completed By: Date & Time: 6/11/20 2036

Reviewed By: Date & Time: 6/11/20 2058

Delivered By: 6/11/20 2058

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0453 | Page 1 of

Turn Time: ☒ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/10/20	0940	Grab	Soil	A9 (0-2)	X	1
2		0942			A9 (2-4)	X	1
3		0945			A9 (4-6)	X	1
4		0947			A9 (6-8)	X	1
5		0950			A9 (8-10)	X	1
6		1000			B9 (0-2)	X	1
7		1002			B9 (2-4)	X	1
8		1005			B9 (4-6)	X	1
9		1007			B9 (6-8)	X	1
10		1010			B9 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20U553 | Page 2 of

Turn Time: ☒ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 8 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06/10/20	1100	Grab	Soil	B10 (0-2)	X	1
12		1102	↓	↓	B10 (2-4)	X	1
13		1105			B10 (4-6)	X	1
14		1107			B10 (6-8)	X	1
15		1110			B10 (8-10)	X	1
16		1115			A10 (0-2)	X	1
17		1117			A10 (2-4)	X	1
18		1120			A10 (4-6)	X	1
19		1122			A10 (6-8)	X	1
20		1125			A10 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0454

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 12:12 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0454

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0454-01	A11 0-2	Soil	8082A
20F0454-02	A11 2-4	Soil	8082A
20F0454-03	A11 4-6	Soil	8082A
20F0454-04	A11 6-8	Soil	8082A
20F0454-05	A11 8-10	Soil	8082A
20F0454-06	B11 0-2	Soil	8082A
20F0454-07	B11 2-4	Soil	8082A
20F0454-08	B11 4-6	Soil	8082A
20F0454-09	B11 6-8	Soil	8082A
20F0454-10	B11 8-10	Soil	8082A
20F0454-11	A12 0-2	Soil	8082A
20F0454-12	A12 2-4	Soil	8082A
20F0454-13	A12 4-6	Soil	8082A
20F0454-14	A12 6-8	Soil	8082A
20F0454-15	A12 8-10	Soil	8082A
20F0454-16	B12 0-2	Soil	8082A
20F0454-17	B12 2-4	Soil	8082A
20F0454-18	B12 4-6	Soil	8082A
20F0454-19	B12 6-8	Soil	8082A
20F0454-20	B12 8-10	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0454

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0454

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0454

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0454-01 through 20F0454-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (X) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 18, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A11 0-2
Date Sampled: 06/10/20 11:35
Percent Solids: 92
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 1:17		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 1:17		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A11 2-4
Date Sampled: 06/10/20 11:37
Percent Solids: 94
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1248	**0.07** (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 1:36		DF01230
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 1:36		DF01230

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A11 4-6
Date Sampled: 06/10/20 11:40
Percent Solids: 73
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1221	ND (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1232	ND (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1242	**1.3** (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1248	ND (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1254	ND (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1260	ND (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1262	ND (0.07)		8082A		1	06/16/20 1:56		DF01230
Aroclor 1268	ND (0.07)		8082A		1	06/16/20 1:56		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*65 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A11 6-8
Date Sampled: 06/10/20 11:42
Percent Solids: 82
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1242	**0.2** (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 2:15		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 2:15		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*48 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*35 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*40 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*40 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A11 8-10
Date Sampled: 06/10/20 11:45
Percent Solids: 62
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1221	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1232	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1242	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1248	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1254	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1260	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1262	ND (0.08)		8082A		1	06/16/20 2:35		DF01230
Aroclor 1268	ND (0.08)		8082A		1	06/16/20 2:35		DF01230

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*66 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*53 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B11 0-2
Date Sampled: 06/10/20 11:50
Percent Solids: 89
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 4:52		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 4:52		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*44 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B11 2-4
Date Sampled: 06/10/20 11:52
Percent Solids: 93
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1248	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 5:12		DF01230
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 5:12		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B11 4-6
Date Sampled: 06/10/20 11:55
Percent Solids: 88
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1248 [2C]	**0.1** (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 5:32		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 5:32		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B11 6-8
Date Sampled: 06/10/20 11:57
Percent Solids: 86
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 5:51		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 5:51		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B11 8-10
Date Sampled: 06/10/20 12:00
Percent Solids: 58
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1221	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1232	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1242	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1248	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1254	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1260	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1262	ND (0.09)		8082A		1	06/16/20 6:11		DF01230
Aroclor 1268	ND (0.09)		8082A		1	06/16/20 6:11		DF01230

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*67 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*59 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A12 0-2
Date Sampled: 06/10/20 12:10
Percent Solids: 95
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1248 [2C]	**0.1** (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 6:31		DF01230
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 6:31		DF01230

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*74 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A12 2-4
Date Sampled: 06/10/20 12:12
Percent Solids: 90
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 6:50		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 6:50		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*67 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*51 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*65 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A12 4-6
Date Sampled: 06/10/20 12:15
Percent Solids: 87
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 7:13		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 7:13		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A12 6-8
Date Sampled: 06/10/20 12:17
Percent Solids: 83
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1242	**0.2** (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 7:33		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 7:33		DF01230

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A12 8-10
Date Sampled: 06/10/20 12:20
Percent Solids: 66
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1221	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1232	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1242	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1248	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1254	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1260	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1262	ND (0.08)		8082A		1	06/16/20 7:52		DF01230
Aroclor 1268	ND (0.08)		8082A		1	06/16/20 7:52		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B12 0-2
Date Sampled: 06/10/20 12:30
Percent Solids: 91
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1248 [2C]	**0.5** (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 8:12		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 8:12		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*51 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B12 2-4
Date Sampled: 06/10/20 12:32
Percent Solids: 91
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 8:32		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 8:32		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*99 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*105 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B12 4-6
Date Sampled: 06/10/20 12:35
Percent Solids: 82
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 8:52		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 8:52		DF01230

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*70 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B12 6-8
Date Sampled: 06/10/20 12:37
Percent Solids: 80
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1242	**0.2** (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 9:11		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 9:11		DF01230

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*105 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B12 8-10
Date Sampled: 06/10/20 12:40
Percent Solids: 79
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0454
ESS Laboratory Sample ID: 20F0454-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/12/20 12:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 9:31		DF01230
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 9:31		DF01230

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0454

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01230 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0277*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		95	40-140			
Surrogate: Decachlorobiphenyl	*0.0275*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0283*		mg/kg wet	*0.02500*		*113*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140	0.4	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	0.6	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		96	40-140	0.4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	0.7	30	
Surrogate: Decachlorobiphenyl	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0277*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0454

Notes and Definitions

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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0454

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0454
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 <u>short holds & rushes</u>?** 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	52806	Yes	N/A	Yes	4 oz. Jar	NP	
2	52807	Yes	N/A	Yes	4 oz. Jar	NP	
3	52808	Yes	N/A	Yes	4 oz. Jar	NP	
4	52809	Yes	N/A	Yes	4 oz. Jar	NP	
5	52810	Yes	N/A	Yes	4 oz. Jar	NP	
6	52811	Yes	N/A	Yes	4 oz. Jar	NP	
7	52812	Yes	N/A	Yes	4 oz. Jar	NP	
8	52813	Yes	N/A	Yes	4 oz. Jar	NP	
9	52814	Yes	N/A	Yes	4 oz. Jar	NP	
10	52815	Yes	N/A	Yes	4 oz. Jar	NP	
11	52816	Yes	N/A	Yes	4 oz. Jar	NP	
12	52817	Yes	N/A	Yes	4 oz. Jar	NP	
13	52818	Yes	N/A	Yes	4 oz. Jar	NP	
14	52819	Yes	N/A	Yes	4 oz. Jar	NP	
15	52820	Yes	N/A	Yes	4 oz. Jar	NP	
16	52821	Yes	N/A	Yes	4 oz. Jar	NP	
17	52822	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0454
Date Received: 6/11/2020

18	52823	Yes	N/A	Yes	4 oz. Jar	NP
19	52824	Yes	N/A	Yes	4 oz. Jar	NP
20	52825	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2033

Reviewed By: _____ Date & Time: 6/11/20 2059

Delivered By: _____ 6/11/20 2059

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0454 | Page 3 of

Turn Time: [X] >5 [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] Same Day

Regulatory State: Criteria:

Is this project for any of the following?: [ ] CT RCP [X] MA MCP [ ] RGP [ ] Permit [ ] 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): [X] Limit Checker [ ] State Forms [ ] EQuIS; [X] Excel [ ] Hard Copy [ ] Enviro Data; [ ] CLP-Like Package [ ] Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 876 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/10/20	1135	Grab	Soil	A11 (0-2)	X	1
2		1137			A11 (2-4)	X	1
3		1140			A11 (4-6)	X	1
4		1142			A11 (6-8)	X	1
5		1145			A11 (8-10)	X	1
6		1150			B11 (0-2)	X	1
7		1152			B11 (2-4)	X	1
8		1155			B11 (4-6)	X	1
9		1157			B11 (6-8)	X	1
10		1200			B11 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: [ ] Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

icetemp 12.5

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2F0454 | Page 4 of

Turn Time: [X] > 5 [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] Same Day

Regulatory State: Criteria:

Is this project for any of the following?:
[ ] CT RCP [X] MA MCP [ ] RGP [ ] Permit [ ] 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
[X] Limit Checker [ ] State Forms [ ] EQuIS
[X] Excel [ ] Hard Copy [ ] Enviro Data
[ ] CLP-Like Package [ ] Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06/10/20	1210	Grab	Soil	A12 (0-2)	X	1
12		1212			A12 (2-4)	X	1
13		1215			A12 (4-6)	X	1
14		1217			A12 (6-8)	X	1
15		1220			A12 (8-10)	X	1
16		1230			B12 (0-2)	X	1
17		1232			B12 (2-4)	X	1
18		1235			B12 (4-6)	X	1
19		1237			B12 (6-8)	X	1
20		1240			B12 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: [ ] Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

cooler temp: 2.5

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0455

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 6:11 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0455

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0455-01	B13 0-2	Soil	8082A
20F0455-02	B13 2-4	Soil	8082A
20F0455-03	B13 4-6	Soil	8082A
20F0455-04	B13 6-8	Soil	8082A
20F0455-05	B13 8-10	Soil	8082A
20F0455-06	A13 0-2	Soil	8082A
20F0455-07	A13 2-4	Soil	8082A
20F0455-08	A13 4-6	Soil	8082A
20F0455-09	A13 6-8	Soil	8082A
20F0455-10	A13 8-10	Soil	8082A
20F0455-11	B14 0-2	Soil	8082A
20F0455-12	B14 2-4	Soil	8082A
20F0455-13	B14 4-6	Soil	8082A
20F0455-14	B14 6-8	Soil	8082A
20F0455-15	B14 8-10	Soil	8082A
20F0455-16	A14 0-2	Soil	8082A
20F0455-17	A14 2-4	Soil	8082A
20F0455-18	A14 4-6	Soil	8082A
20F0455-19	A14 6-8	Soil	8082A
20F0455-20	A14 8-10	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0455

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0455-07 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Decachlorobiphenyl (157% @ 30-150%), Decachlorobiphenyl [2C] (188% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0455

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0455

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0455-01 through 20F0455-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	Data User Note: ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 18, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B13 0-2
Date Sampled: 06/10/20 12:50
Percent Solids: 92
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1248 [2C]	**0.4** (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1260	**0.08** (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 17:06		DF01301
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 17:06		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B13 2-4
Date Sampled: 06/10/20 12:52
Percent Solids: 90
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1248	**0.09** (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 17:26		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 17:26		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B13 4-6
Date Sampled: 06/10/20 12:55
Percent Solids: 90
Initial Volume: 21.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1248 [2C]	**0.5** (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1260	ND (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 17:45		DF01301
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 17:45		DF01301

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B13 6-8
Date Sampled: 06/10/20 12:57
Percent Solids: 85
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1248 [2C]	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 18:05		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 18:05		DF01301

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B13 8-10
Date Sampled: 06/10/20 13:00
Percent Solids: 64
Initial Volume: 21.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1221	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1232	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1242	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1248	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1254	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1260	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1262	ND (0.07)		8082A		1	06/15/20 18:25		DF01301
Aroclor 1268	ND (0.07)		8082A		1	06/15/20 18:25		DF01301

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A13 0-2
Date Sampled: 06/10/20 13:05
Percent Solids: 88
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1248	**0.6** (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1260 [2C]	**0.08** (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 18:45		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 18:45		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A13 2-4
Date Sampled: 06/10/20 13:07
Percent Solids: 87
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1248	**0.2** (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 19:04		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 19:04		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*157 %*	*SM*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*188 %*	*SM*	*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A13 4-6
Date Sampled: 06/10/20 13:10
Percent Solids: 92
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1248	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1260	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 19:24		DF01301
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 19:24		DF01301

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*66 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A13 6-8
Date Sampled: 06/10/20 13:12
Percent Solids: 83
Initial Volume: 21.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 19:44		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 19:44		DF01301

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*64 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A13 8-10
Date Sampled: 06/10/20 13:15
Percent Solids: 66
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1221	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1232	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1242	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1248	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1254	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1260	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1262	ND (0.08)		8082A		1	06/15/20 20:04		DF01301
Aroclor 1268	ND (0.08)		8082A		1	06/15/20 20:04		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B14 0-2
Date Sampled: 06/10/20 13:20
Percent Solids: 93
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 20:23		DF01301
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 20:23		DF01301
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 20:23		DF01301
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 20:23		DF01301
Aroclor 1248 [2C]	**3.8** (0.3)		8082A		5	06/17/20 21:29		DF01301
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 20:23		DF01301
Aroclor 1260 [2C]	**0.5** (0.05)		8082A		1	06/15/20 20:23		DF01301
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 20:23		DF01301
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 20:23		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B14 2-4
Date Sampled: 06/10/20 13:22
Percent Solids: 89
Initial Volume: 21.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1221	ND (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1232	ND (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1242	ND (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1248 [2C]	**0.7** (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1254	ND (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1260	**0.08** (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1262	ND (0.05)		8082A		1	06/15/20 20:43		DF01301
Aroclor 1268	ND (0.05)		8082A		1	06/15/20 20:43		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B14 4-6
Date Sampled: 06/10/20 13:25
Percent Solids: 85
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1248	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/15/20 23:41		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/15/20 23:41		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B14 6-8
Date Sampled: 06/10/20 13:27
Percent Solids: 61
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1221	ND (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1232	ND (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1242	ND (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1248 [2C]	**0.3** (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1254	ND (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1260	ND (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1262	ND (0.08)		8082A		1	06/16/20 0:01		DF01301
Aroclor 1268	ND (0.08)		8082A		1	06/16/20 0:01		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B14 8-10
Date Sampled: 06/10/20 13:30
Percent Solids: 70
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1221	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1232	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1242	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1248	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1254	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1260	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1262	ND (0.07)		8082A		1	06/16/20 0:21		DF01301
Aroclor 1268	ND (0.07)		8082A		1	06/16/20 0:21		DF01301

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*148 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A14 0-2
Date Sampled: 06/11/20 06:30
Percent Solids: 93
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 0:41		DF01301
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 0:41		DF01301
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 0:41		DF01301
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 0:41		DF01301
Aroclor 1248	**8.9** (0.5)		8082A		10	06/17/20 21:48		DF01301
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 0:41		DF01301
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 0:41		DF01301
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 0:41		DF01301
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 0:41		DF01301

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A14 2-4
Date Sampled: 06/11/20 06:32
Percent Solids: 87
Initial Volume: 21.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1248	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 1:00		DF01301
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 1:00		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*86 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A14 4-6
Date Sampled: 06/11/20 06:35
Percent Solids: 87
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1248 [2C]	**0.3** (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 1:20		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 1:20		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A14 6-8
Date Sampled: 06/11/20 06:37
Percent Solids: 84
Initial Volume: 21.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 1:40		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 1:40		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A14 8-10
Date Sampled: 06/11/20 06:40
Percent Solids: 76
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0455
ESS Laboratory Sample ID: 20F0455-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 1:59		DF01301
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 1:59		DF01301

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*108 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0455

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01301 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		83	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Surrogate: Decachlorobiphenyl	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0219*		mg/kg wet	*0.02500*		*88*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140	4	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		96	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0455

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0455

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0455
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	52826	Yes	N/A	Yes	4 oz. Jar	NP	
2	52827	Yes	N/A	Yes	4 oz. Jar	NP	
3	52828	Yes	N/A	Yes	4 oz. Jar	NP	
4	52829	Yes	N/A	Yes	4 oz. Jar	NP	
5	52830	Yes	N/A	Yes	4 oz. Jar	NP	
6	52831	Yes	N/A	Yes	4 oz. Jar	NP	
7	52832	Yes	N/A	Yes	4 oz. Jar	NP	
8	52833	Yes	N/A	Yes	4 oz. Jar	NP	
9	52834	Yes	N/A	Yes	4 oz. Jar	NP	
10	52835	Yes	N/A	Yes	4 oz. Jar	NP	
11	52836	Yes	N/A	Yes	4 oz. Jar	NP	
12	52837	Yes	N/A	Yes	4 oz. Jar	NP	
13	52838	Yes	N/A	Yes	4 oz. Jar	NP	
14	52839	Yes	N/A	Yes	4 oz. Jar	NP	
15	52840	Yes	N/A	Yes	4 oz. Jar	NP	
16	52841	Yes	N/A	Yes	4 oz. Jar	NP	
17	52842	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0455
Date Received: 6/11/2020

18	52843	Yes	N/A	Yes	4 oz. Jar	NP
19	52844	Yes	N/A	Yes	4 oz. Jar	NP
20	52845	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2029

Reviewed By: _____ Date & Time: 6/11/20 2100

Delivered By: _____ 6/11/20 2100

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2060455 | Page 5 of

Turn Time: ☒ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ OLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 876 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/10/20	[illegible]	Grab	Soil	B13 [illegible] (0-2)	X	1
2		12:52	↓	↓	B13 [illegible] (2-4)	X	1
3		1255			B13 [illegible] (4-6)	X	1
4		1257			B13 [illegible] (6-8)	X	1
5		1300			B13 [illegible] (8-10)	X	1
6		1305			A13 [illegible] (0-2)	X	1
7		1307			A13 [illegible] (2-4)	X	1
8		1310			A13 [illegible] (4-6)	X	1
9		1312			A13 [illegible] (6-8)	X	1
10		1315			A13 [illegible] (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp 1.2.5

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0455 | Page 6 of

Turn Time: >5 (5) 4 3 2 1 Same Day

Regulatory State: Criteria:

Is this project for any of the following?: CT RCP, MA MCP, RGP, Permit, 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): Limit Checker, Excel, CLP-Like Package, State Forms, Hard Copy, Other (Specify) →, EQuIS, Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 8 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06/10/20	1320	Grab	Soil	B14 (0-2)	X	1
12		1322			B14 (2-4)	X	1
13		1325			B14 (4-6)	X	1
14		1327			B14 (6-8)	X	1
15		1330			B14 (8-10)	X	1
16	06/11/20	0630			A14 (0-2)	X	1
17		0632			A14 (2-4)	X	1
18		0635			A14 (4-6)	X	1
19		0637			A14 (6-8)	X	1
20		0640			A14 (8-10)	X	1

Container Type: AC-Air Cassette, AG-Amber Glass, B-BOD Bottle, C-Cubitainer, J-Jar, O-Other, P-Poly, S-Sterile, V-Vial — J
Container Volume: 1-100 mL, 2-2.5 gal, 3-250 mL, 4-300 mL, 5-500 mL, 6-1L, 7-VOA, 8-2 oz, 9-4 oz, 10-8 oz, 11-Other* — 9
Preservation Code: 1-Non Preserved, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-Methanol, 7-Na2S2O3, 8-ZnAce, NaOH, 9-NH4Cl, 10-DI H2O, 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]

Atemp: 2.5

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0456

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 6:15 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0456

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0456-01	A15 0-2	Soil	8082A
20F0456-02	A15 2-4	Soil	8082A
20F0456-03	A15 4-6	Soil	8082A
20F0456-04	A15 6-8	Soil	8082A
20F0456-05	A15 8-10	Soil	8082A
20F0456-06	B15 0-2	Soil	8082A
20F0456-07	B15 2-4	Soil	8082A
20F0456-08	B15 4-6	Soil	8082A
20F0456-09	B15 6-8	Soil	8082A
20F0456-10	B15 8-10	Soil	8082A
20F0456-11	B15 10-12	Soil	8082A
20F0456-12	B15 12-14	Soil	8082A
20F0456-13	B15 14-16	Soil	8082A
20F0456-14	A15 10-12	Soil	8082A
20F0456-15	A15 12-14	Soil	8082A
20F0456-16	A15 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0456

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0456-04 **Lower value is used due to matrix interferences (LC).**
Aroclor 1248 [2C]

20F0456-04 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248 [2C]

20F0456-06 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0456

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0456

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0456-01 through 20F0456-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 18, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 0-2
Date Sampled: 06/11/20 06:50
Percent Solids: 92
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1248	**0.8** (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 3:18		DF01302
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 3:18		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*70 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 2-4
Date Sampled: 06/11/20 06:52
Percent Solids: 87
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1248 [2C]	**0.5** (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 3:38		DF01302
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 3:38		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 4-6
Date Sampled: 06/11/20 06:55
Percent Solids: 78
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1248	**0.6** (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 3:58		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 3:58		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*54 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 6-8
Date Sampled: 06/11/20 06:57
Percent Solids: 81
Initial Volume: 21.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1248 [2C]	**P, LC 0.2** (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 4:18		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 4:18		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*76 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 8-10
Date Sampled: 06/11/20 07:00
Percent Solids: 72
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1221	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1232	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1242	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1248	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1254	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1260	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1262	ND (0.07)		8082A		1	06/16/20 4:37		DF01302
Aroclor 1268	ND (0.07)		8082A		1	06/16/20 4:37		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*119 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 0-2
Date Sampled: 06/11/20 07:05
Percent Solids: 92
Initial Volume: 21.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1221	ND (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1232	ND (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1242	ND (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1248	**22.3** (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1254	ND (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1260	ND (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1262	ND (2.0)		8082A		40	06/18/20 11:12		DF01302
Aroclor 1268	ND (2.0)		8082A		40	06/18/20 11:12		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 2-4
Date Sampled: 06/11/20 07:07
Percent Solids: 84
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1248 [2C]	**0.7** (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 5:17		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 5:17		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*68 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 4-6
Date Sampled: 06/11/20 07:10
Percent Solids: 83
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 7:35		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 7:35		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 6-8
Date Sampled: 06/11/20 07:12
Percent Solids: 85
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1248 [2C]	**0.1** (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 7:55		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 7:55		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 8-10
Date Sampled: 06/11/20 07:15
Percent Solids: 77
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 8:15		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 8:15		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 10-12
Date Sampled: 06/11/20 08:30
Percent Solids: 88
Initial Volume: 21.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 8:34		DF01302
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 8:34		DF01302
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 8:34		DF01302
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 8:34		DF01302
Aroclor 1248 [2C]	**3.9** (0.3)		8082A		5	06/17/20 22:28		DF01302
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 8:34		DF01302
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 8:34		DF01302
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 8:34		DF01302
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 8:34		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*86 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 12-14
Date Sampled: 06/11/20 08:32
Percent Solids: 92
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1248 [2C]	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 8:54		DF01302
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 8:54		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B15 14-16
Date Sampled: 06/11/20 08:35
Percent Solids: 87
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1248 [2C]	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 9:14		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 9:14		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 10-12
Date Sampled: 06/11/20 08:40
Percent Solids: 91
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1248 [2C]	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 9:34		DF01302
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 9:34		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 12-14
Date Sampled: 06/11/20 08:42
Percent Solids: 91
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1248 [2C]	**0.07** (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 9:54		DF01302
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 9:54		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A15 14-16
Date Sampled: 06/11/20 08:45
Percent Solids: 92
Initial Volume: 21
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0456
ESS Laboratory Sample ID: 20F0456-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1248 [2C]	**0.08** (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 10:14		DF01302
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 10:14		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*92 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0456

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01302 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0221*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		98	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		83	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	5	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140	6	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0186*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0456

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0456

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0456
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	52846	Yes	N/A	Yes	4 oz. Jar	NP	
2	52847	Yes	N/A	Yes	4 oz. Jar	NP	
3	52848	Yes	N/A	Yes	4 oz. Jar	NP	
4	52849	Yes	N/A	Yes	4 oz. Jar	NP	
5	52850	Yes	N/A	Yes	4 oz. Jar	NP	
6	52851	Yes	N/A	Yes	4 oz. Jar	NP	
7	52852	Yes	N/A	Yes	4 oz. Jar	NP	
8	52853	Yes	N/A	Yes	4 oz. Jar	NP	
9	52854	Yes	N/A	Yes	4 oz. Jar	NP	
10	52855	Yes	N/A	Yes	4 oz. Jar	NP	
11	52856	Yes	N/A	Yes	4 oz. Jar	NP	
12	52857	Yes	N/A	Yes	4 oz. Jar	NP	
13	52858	Yes	N/A	Yes	4 oz. Jar	NP	
14	52859	Yes	N/A	Yes	4 oz. Jar	NP	
15	52860	Yes	N/A	Yes	4 oz. Jar	NP	
16	52861	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0456
Date Received: 6/11/2020

2nd Review

Initials

Were all containers scanned into storage/lab? Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 6/11/20 2055
Reviewed By: Date & Time: 6/11/20 2113
Delivered By: 6/11/20 2113

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0456 | Page 7 of

Turn Time: [X] >5 [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] Same Day

Regulatory State: Criteria:

Is this project for any of the following?:
[ ] CT RCP [X] MA MCP [ ] RGP [ ] Permit [ ] 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
[X] Limit Checker [ ] State Forms [ ] EQuIS
[X] Excel [ ] Hard Copy [ ] Enviro Data
[ ] CLP-Like Package [ ] Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 876 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/11/20	0650	Grab	Soil	A15 (0-2)	X	1
2		0652			A15 (2-4)	X	1
3		0655			A15 (4-6)	X	1
4		0657			A15 (6-8)	X	1
5		0700			A15 (8-10)	X	1
6		0705			B15 (0-2)	X	1
7		0707			B15 (2-4)	X	1
8		0710			B15 (4-6)	X	1
9		0712			B15 (6-8)	X	1
10		0715			B15 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: [ ] Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-11-20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0456 | Page 8 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CAW CONSULTANTS INC
Address: 6 HURON DRIVE
NATICK MA
Phone: 781 875 2657
Email Distribution List:
BMILLER@CAWCONSULTANTS.COM
SAMSEL@CAWCONSULTANTS.COM

PROJECT INFORMATION

Project Name: LOUIS CHEMICAL
Project Location: HYDE PARK, MA
Project Number: 1363 ~~20~~
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	6/11/20	0830	GRAB	SOIL	B15 (10-12)	X	
12		0832			B15 (12-14)		
13		0835			B15 (14-16)		
14		0840			A15 (10-12)		
15		0842			A15 (12-14)		
16		0845			A15 (14-16)		
					~~A16 (0-2)~~		
					~~A16 (2-4)~~		
					~~A16 (4-6)~~		
					~~A16 (6-8)~~		

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.5

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-11-20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0457

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 6:16 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0457-01	A16 0-2	Soil	8082A
20F0457-02	A16 2-4	Soil	8082A
20F0457-03	A16 4-6	Soil	8082A
20F0457-04	A16 6-8	Soil	8082A
20F0457-05	A16 8-10	Soil	8082A
20F0457-06	A16 10-12	Soil	8082A
20F0457-07	A16 12-14	Soil	8082A
20F0457-08	A16 14-16	Soil	8082A
20F0457-09	B16 0-2	Soil	8082A
20F0457-10	B16 2-4	Soil	8082A
20F0457-11	B16 4-6	Soil	8082A
20F0457-12	B16 6-8	Soil	8082A
20F0457-13	B16 8-10	Soil	8082A
20F0457-14	B16 10-12	Soil	8082A
20F0457-15	B16 12-14	Soil	8082A
20F0457-16	B16 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0457-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0457-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0457-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0457-05 **Lower value is used due to matrix interferences (LC).**
Aroclor 1242 [2C]

20F0457-05 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1242 [2C]

20F0457-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0457-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0457-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0457-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0457-01 through 20F0457-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 18, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 0-2
Date Sampled: 06/11/20 09:00
Percent Solids: 83
Initial Volume: 22.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1221	ND (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1232	ND (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1242	ND (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1248 [2C]	**4240** (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1254	ND (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1260	ND (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1262	ND (274)		8082A		5000	06/18/20 11:32		DF01302
Aroclor 1268	ND (274)		8082A		5000	06/18/20 11:32		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 2-4
Date Sampled: 06/11/20 09:02
Percent Solids: 81
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1221	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1232	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1242	**676** (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1248	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1254	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1260	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1262	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302
Aroclor 1268	ND (61.8)		8082A		1000	06/18/20 11:52		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 4-6
Date Sampled: 06/11/20 09:05
Percent Solids: 90
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1221	ND (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1232	ND (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1242	**227** (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1248	ND (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1254	ND (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1260	ND (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1262	ND (27.0)		8082A		500	06/18/20 12:12		DF01302
Aroclor 1268	ND (27.0)		8082A		500	06/18/20 12:12		DF01302

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 6-8
Date Sampled: 06/11/20 09:07
Percent Solids: 82
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 11:33		DF01302
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 11:33		DF01302
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 11:33		DF01302
Aroclor 1242	**5.2** (0.3)		8082A		5	06/17/20 23:47		DF01302
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 11:33		DF01302
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 11:33		DF01302
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 11:33		DF01302
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 11:33		DF01302
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 11:33		DF01302

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 8-10
Date Sampled: 06/11/20 09:10
Percent Solids: 71
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/16/20 17:35		DF01303
Aroclor 1221	ND (0.07)		8082A		1	06/16/20 17:35		DF01303
Aroclor 1232	ND (0.07)		8082A		1	06/16/20 17:35		DF01303
Aroclor 1242 [2C]	**P, LC 2.0** (0.3)		8082A		5	06/18/20 1:13		DF01303
Aroclor 1248	ND (0.07)		8082A		1	06/16/20 17:35		DF01303
Aroclor 1254	ND (0.07)		8082A		1	06/16/20 17:35		DF01303
Aroclor 1260	ND (0.07)		8082A		1	06/16/20 17:35		DF01303
Aroclor 1262	ND (0.07)		8082A		1	06/16/20 17:35		DF01303
Aroclor 1268	ND (0.07)		8082A		1	06/16/20 17:35		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*118 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 10-12
Date Sampled: 06/11/20 09:12
Percent Solids: 91
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1242	**0.7** (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1248	ND (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 17:54		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 17:54		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 12-14
Date Sampled: 06/11/20 09:15
Percent Solids: 92
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1248 [2C]	**0.7** (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 18:14		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 18:14		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A16 14-16
Date Sampled: 06/11/20 09:18
Percent Solids: 92
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 18:34		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 18:34		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 18:34		DF01303
Aroclor 1242	**4.7** (0.3)		8082A		5	06/18/20 1:33		DF01303
Aroclor 1248	ND (0.05)		8082A		1	06/16/20 18:34		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 18:34		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 18:34		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 18:34		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 18:34		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*106 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 0-2
Date Sampled: 06/11/20 09:30
Percent Solids: 82
Initial Volume: 21.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1221	ND (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1232	ND (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1242	ND (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1248	**15500** (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1254	ND (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1260	ND (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1262	ND (1130)		8082A		20000	06/18/20 15:26		DF01303
Aroclor 1268	ND (1130)		8082A		20000	06/18/20 15:26		DF01303

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 2-4
Date Sampled: 06/11/20 09:32
Percent Solids: 89
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1221	ND (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1232	ND (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1242 [2C]	**5220** (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1248	ND (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1254	ND (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1260	ND (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1262	ND (268)		8082A		5000	06/18/20 2:12		DF01303
Aroclor 1268	ND (268)		8082A		5000	06/18/20 2:12		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 4-6
Date Sampled: 06/11/20 09:35
Percent Solids: 85
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1221	ND (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1232	ND (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1242	**1140** (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1248	ND (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1254	ND (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1260	ND (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1262	ND (113)		8082A		2000	06/18/20 2:32		DF01303
Aroclor 1268	ND (113)		8082A		2000	06/18/20 2:32		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 6-8
Date Sampled: 06/11/20 09:37
Percent Solids: 81
Initial Volume: 21.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1221	ND (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1232	ND (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1242	**156** (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1248	ND (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1254	ND (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1260	ND (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1262	ND (11.2)		8082A		200	06/18/20 2:52		DF01303
Aroclor 1268	ND (11.2)		8082A		200	06/18/20 2:52		DF01303

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 8-10
Date Sampled: 06/11/20 09:40
Percent Solids: 72
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/16/20 20:12		DF01303
Aroclor 1221	ND (0.07)		8082A		1	06/16/20 20:12		DF01303
Aroclor 1232	ND (0.07)		8082A		1	06/16/20 20:12		DF01303
Aroclor 1242	**6.3** (0.3)		8082A		5	06/18/20 3:11		DF01303
Aroclor 1248	ND (0.07)		8082A		1	06/16/20 20:12		DF01303
Aroclor 1254	ND (0.07)		8082A		1	06/16/20 20:12		DF01303
Aroclor 1260	ND (0.07)		8082A		1	06/16/20 20:12		DF01303
Aroclor 1262	ND (0.07)		8082A		1	06/16/20 20:12		DF01303
Aroclor 1268	ND (0.07)		8082A		1	06/16/20 20:12		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*113 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 10-12
Date Sampled: 06/11/20 09:42
Percent Solids: 88
Initial Volume: 21.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 20:32		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 20:32		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 20:32		DF01303
Aroclor 1242	**4.2** (0.3)		8082A		5	06/18/20 3:31		DF01303
Aroclor 1248	ND (0.05)		8082A		1	06/16/20 20:32		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 20:32		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 20:32		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 20:32		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 20:32		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*138 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 12-14
Date Sampled: 06/11/20 09:45
Percent Solids: 91
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 20:51		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 20:51		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 20:51		DF01303
Aroclor 1242	**4.0** (0.3)		8082A		5	06/18/20 3:51		DF01303
Aroclor 1248	ND (0.05)		8082A		1	06/16/20 20:51		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 20:51		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 20:51		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 20:51		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 20:51		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B16 14-16
Date Sampled: 06/11/20 09:47
Percent Solids: 83
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0457
ESS Laboratory Sample ID: 20F0457-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 21:11		DF01303
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 21:11		DF01303
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 21:11		DF01303
Aroclor 1242 [2C]	**2.3** (0.3)		8082A		5	06/18/20 4:10		DF01303
Aroclor 1248	ND (0.06)		8082A		1	06/16/20 21:11		DF01303
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 21:11		DF01303
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 21:11		DF01303
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 21:11		DF01303
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 21:11		DF01303

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01302 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0221*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		98	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		83	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	5	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		93	40-140	6	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0186*		mg/kg wet	*0.02500*		*75*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Batch DF01303 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01303 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0255*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0249*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140	8	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	7	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	8	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.0258*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0268*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0219*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0457

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0457
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	52866	Yes	N/A	Yes	4 oz. Jar	NP	
2	52867	Yes	N/A	Yes	4 oz. Jar	NP	
3	52868	Yes	N/A	Yes	4 oz. Jar	NP	
4	52869	Yes	N/A	Yes	4 oz. Jar	NP	
5	52870	Yes	N/A	Yes	4 oz. Jar	NP	
6	52871	Yes	N/A	Yes	4 oz. Jar	NP	
7	52872	Yes	N/A	Yes	4 oz. Jar	NP	
8	52873	Yes	N/A	Yes	4 oz. Jar	NP	
9	52874	Yes	N/A	Yes	4 oz. Jar	NP	
10	52875	Yes	N/A	Yes	4 oz. Jar	NP	
11	52876	Yes	N/A	Yes	4 oz. Jar	NP	
12	52877	Yes	N/A	Yes	4 oz. Jar	NP	
13	52878	Yes	N/A	Yes	4 oz. Jar	NP	
14	52879	Yes	N/A	Yes	4 oz. Jar	NP	
15	52880	Yes	N/A	Yes	4 oz. Jar	NP	
16	52881	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0457
Date Received: 6/11/2020

2nd Review

Were all containers scanned into storage/lab?	Initials	Yes / No
Are barcode labels on correct containers?		Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled?		Yes / No / NA
Are all Hex Chrome stickers attached?		Yes / No / NA
Are all QC stickers attached?		Yes / No / NA
Are VOA stickers attached if bubbles noted?		Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2001

Reviewed By: _____ Date & Time: 6/11/20 2114

Delivered By: _____ 6/11/20 2114

ESS LABORATORY
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Cranston, RI 02921
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www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0457 | Page 9 of

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/4/20	0900	Grab	Soil	A16 (0-2)	X	1
2		0902			A16 (2-4)	X	1
3		0905			A16 (4-6)	X	1
4		0907			A16 (6-8)	X	1
5		0910			A16 (8-10)	X	1
6		0912			A16 (10-12)	X	1
7		0915			A16 (12-14)	X	1
8		0918 *			A16 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

* MKM 06/17/2020

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-11-20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0457 | Page 10 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

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ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

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Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

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ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	06/11/20	0930	Grab	Soil	B16 (0-2)	X	1
10		0932			B16 (2-4)	X	1
11		0935			B16 (4-6)	X	1
12		0937			B16 (6-8)	X	1
13		0940			B16 (8-10)	X	1
14		0942			B16 (10-12)	X	1
15		0945			B16 (12-14)	X	1
16		0947			B16 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

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Comments: * Please specify "Other" preservative and containers types in this space

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[signature]	6-11-2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

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CHAIN OF CUSTODY

ESS Lab # 20F0457 | Page 9 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

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CLIENT INFORMATION

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Address: 6 Huron Drive, Natick MA
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Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

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6		0912			A16 (10-12)	X	1
7		0915			A16 (12-14)	X	1
8					A16 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

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Dissolved Filtration: ☐ Lab Filter

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Mike O'Brien	6-11-20	14:31	[illegible]	[illegible]	6/11/20	17:00	[illegible]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

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CHAIN OF CUSTODY

ESS Lab # 20F0457 | Page 10 of

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

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13		0940			B16 (8-10)	X	1
14		0942			B16 (10-12)	X	1
15		0945			B16 (12-14)	X	1
16		0947			B16 (14-16)	X	1
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Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					J	
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Sampled by: Mike O'Brien

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[signature]	6-11-2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0458

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 6:17 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0458-01	A17 0-2	Soil	8082A
20F0458-02	A17 2-4	Soil	8082A
20F0458-03	A17 4-6	Soil	8082A
20F0458-04	A17 6-8	Soil	8082A
20F0458-05	A17 8-10	Soil	8082A
20F0458-06	A17 10-12	Soil	8082A
20F0458-07	A17 12-14	Soil	8082A
20F0458-08	A17 14-16	Soil	8082A
20F0458-09	B17 0-2	Soil	8082A
20F0458-10	B17 2-4	Soil	8082A
20F0458-11	B17 4-6	Soil	8082A
20F0458-12	B17 6-8	Soil	8082A
20F0458-13	B17 8-10	Soil	8082A
20F0458-14	B17 10-12	Soil	8082A
20F0458-15	B17 12-14	Soil	8082A
20F0458-16	B17 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0458-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0458-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0458-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0458-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0458-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0458-14 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0458-01 through 20F0458-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 18, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 0-2
Date Sampled: 06/11/20 10:00
Percent Solids: 79
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1221	ND (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1232	ND (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1242	**99.6** (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1248	ND (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1254	ND (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1260	ND (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1262	ND (6.3)		8082A		100	06/18/20 7:07		DF01303
Aroclor 1268	ND (6.3)		8082A		100	06/18/20 7:07		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 2-4
Date Sampled: 06/11/20 10:02
Percent Solids: 93
Initial Volume: 21.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1242	**0.8** (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 0:28		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 0:28		DF01303

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 4-6
Date Sampled: 06/11/20 10:05
Percent Solids: 92
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1221	ND (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1232	ND (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1242	**14.3** (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1248	ND (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1254	ND (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1260	ND (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1262	ND (1.0)		8082A		20	06/18/20 7:34		DF01303
Aroclor 1268	ND (1.0)		8082A		20	06/18/20 7:34		DF01303

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 6-8
Date Sampled: 06/11/20 10:07
Percent Solids: 83
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 1:07		DF01303
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 1:07		DF01303
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 1:07		DF01303
Aroclor 1242	**2.7** (0.3)		8082A		5	06/18/20 7:53		DF01303
Aroclor 1248	ND (0.06)		8082A		1	06/17/20 1:07		DF01303
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 1:07		DF01303
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 1:07		DF01303
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 1:07		DF01303
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 1:07		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 8-10
Date Sampled: 06/11/20 10:10
Percent Solids: 70
Initial Volume: 21.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1221	ND (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1232	ND (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1242	ND (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1248	**0.4** (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1254	ND (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1260	ND (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1262	ND (0.07)		8082A		1	06/17/20 1:27		DF01303
Aroclor 1268	ND (0.07)		8082A		1	06/17/20 1:27		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*110 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 10-12
Date Sampled: 06/11/20 10:12
Percent Solids: 91
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1242	ND (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1248 [2C]	**0.3** (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 1:46		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 1:46		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 12-14
Date Sampled: 06/11/20 10:15
Percent Solids: 90
Initial Volume: 22.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1242	ND (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1248	**0.2** (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 2:06		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 2:06		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*105 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A17 14-16
Date Sampled: 06/11/20 10:17
Percent Solids: 90
Initial Volume: 21.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 2:26		DF01303
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 2:26		DF01303
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 2:26		DF01303
Aroclor 1242	ND (0.05)		8082A		1	06/17/20 2:26		DF01303
Aroclor 1248	**1.3** (0.1)		8082A		2	06/18/20 8:13		DF01303
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 2:26		DF01303
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 2:26		DF01303
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 2:26		DF01303
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 2:26		DF01303

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*106 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 0-2
Date Sampled: 06/11/20 11:00
Percent Solids: 79
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1221	ND (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1232	ND (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1242	ND (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1248	**9610** (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1254	ND (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1260	ND (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1262	ND (1220)		8082A		20000	06/18/20 15:46		DF01304
Aroclor 1268	ND (1220)		8082A		20000	06/18/20 15:46		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 2-4
Date Sampled: 06/11/20 11:02
Percent Solids: 79
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1221	ND (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1232	ND (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1242 [2C]	**2340** (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1248	ND (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1254	ND (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1260	ND (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1262	ND (125)		8082A		2000	06/18/20 8:52		DF01304
Aroclor 1268	ND (125)		8082A		2000	06/18/20 8:52		DF01304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 4-6
Date Sampled: 06/11/20 11:05
Percent Solids: 83
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1221	ND (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1232	ND (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1242	**441** (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1248	ND (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1254	ND (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1260	ND (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1262	ND (28.9)		8082A		500	06/18/20 9:12		DF01304
Aroclor 1268	ND (28.9)		8082A		500	06/18/20 9:12		DF01304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 6-8
Date Sampled: 06/11/20 11:07
Percent Solids: 83
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 4:43		DF01304
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 4:43		DF01304
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 4:43		DF01304
Aroclor 1242	**10.0** (0.6)		8082A		10	06/18/20 9:32		DF01304
Aroclor 1248	ND (0.06)		8082A		1	06/17/20 4:43		DF01304
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 4:43		DF01304
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 4:43		DF01304
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 4:43		DF01304
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 4:43		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*127 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 8-10
Date Sampled: 06/11/20 11:10
Percent Solids: 73
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/17/20 5:02		DF01304
Aroclor 1221	ND (0.07)		8082A		1	06/17/20 5:02		DF01304
Aroclor 1232	ND (0.07)		8082A		1	06/17/20 5:02		DF01304
Aroclor 1242	**9.3** (0.7)		8082A		10	06/18/20 9:51		DF01304
Aroclor 1248	ND (0.07)		8082A		1	06/17/20 5:02		DF01304
Aroclor 1254	ND (0.07)		8082A		1	06/17/20 5:02		DF01304
Aroclor 1260	ND (0.07)		8082A		1	06/17/20 5:02		DF01304
Aroclor 1262	ND (0.07)		8082A		1	06/17/20 5:02		DF01304
Aroclor 1268	ND (0.07)		8082A		1	06/17/20 5:02		DF01304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*126 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 10-12
Date Sampled: 06/11/20 11:12
Percent Solids: 90
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1221	ND (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1232	ND (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1242 [2C]	**14.6** (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1248	ND (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1254	ND (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1260	ND (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1262	ND (1.1)		8082A		20	06/18/20 10:11		DF01304
Aroclor 1268	ND (1.1)		8082A		20	06/18/20 10:11		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 12-14
Date Sampled: 06/11/20 11:15
Percent Solids: 95
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1242	**0.5** (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 5:42		DF01304
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 5:42		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B17 14-16
Date Sampled: 06/11/20 11:17
Percent Solids: 91
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0458
ESS Laboratory Sample ID: 20F0458-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1242	**0.4** (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 6:01		DF01304
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 6:01		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*107 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*112 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*104 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01303 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0255*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0249*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140	8	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	7	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	8	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.0258*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0268*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0219*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Batch DF01304 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01304 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0247*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0256*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Surrogate: Decachlorobiphenyl	*0.0253*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		88	40-140	0.6	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	1	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0256*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0458

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0458
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	52882	Yes	N/A	Yes	4 oz. Jar	NP	
2	52883	Yes	N/A	Yes	4 oz. Jar	NP	
3	52884	Yes	N/A	Yes	4 oz. Jar	NP	
4	52885	Yes	N/A	Yes	4 oz. Jar	NP	
5	52886	Yes	N/A	Yes	4 oz. Jar	NP	
6	52887	Yes	N/A	Yes	4 oz. Jar	NP	
7	52888	Yes	N/A	Yes	4 oz. Jar	NP	
8	52889	Yes	N/A	Yes	4 oz. Jar	NP	
9	52890	Yes	N/A	Yes	4 oz. Jar	NP	
10	52891	Yes	N/A	Yes	4 oz. Jar	NP	
11	52892	Yes	N/A	Yes	4 oz. Jar	NP	
12	52893	Yes	N/A	Yes	4 oz. Jar	NP	
13	52894	Yes	N/A	Yes	4 oz. Jar	NP	
14	52895	Yes	N/A	Yes	4 oz. Jar	NP	
15	52896	Yes	N/A	Yes	4 oz. Jar	NP	
16	52897	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0458
Date Received: 6/11/2020

2nd Review

	Initials	
Were all containers scanned into storage/lab?		Yes / No
Are barcode labels on correct containers?		Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled?		Yes / No / NA
Are all Hex Chrome stickers attached?		Yes / No / NA
Are all QC stickers attached?		Yes / No / NA
Are VOA stickers attached if bubbles noted?		Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2058

Reviewed By: _____ Date & Time: 6/11/20 2115

Delivered By: _____ 6/11/20 2115

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2060458 | Page 11 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsell@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06/11/20	1000	Grab	Soil	A17 (0-2)	X	1
2		1002			A17 (2-4)	X	1
3		1005			A17 (4-6)	X	1
4		1007			A17 (6-8)	X	1
5		1010			A17 (8-10)	X	1
6		1012			A17 (10-12)	X	1
7		1015			A17 (12-14)	X	1
8		1017			A17 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	06/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0458 | Page 12 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	06/11/20	11:00	Grab	Soil	B17 (0-2)	X	1
10		11:02			B17 (2-4)	X	1
11		11:05			B17 (4-6)	X	1
12		11:07			B17 (6-8)	X	1
13		11:10			B17 (8-10)	X	1
14		11:12			B17 (10-12)	X	1
15		11:15			B17 (12-14)	X	1
16		11:17			B17 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ce temp: 2.5

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0459

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 6:18 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0459-01	A18 0-2	Soil	8082A
20F0459-02	A18 2-4	Soil	8082A
20F0459-03	A18 4-6	Soil	8082A
20F0459-04	A18 6-8	Soil	8082A
20F0459-05	A18 8-10	Soil	8082A
20F0459-06	A18 10-12	Soil	8082A
20F0459-07	A18 12-14	Soil	8082A
20F0459-08	A18 14-16	Soil	8082A
20F0459-09	B18 0-2	Soil	8082A
20F0459-10	B18 2-4	Soil	8082A
20F0459-11	B18 4-6	Soil	8082A
20F0459-12	B18 6-8	Soil	8082A
20F0459-13	B18 8-10	Soil	8082A
20F0459-14	B18 10-12	Soil	8082A
20F0459-15	B18 12-14	Soil	8082A
20F0459-16	B18 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0459-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0459-03 **Surrogate recovery(ies) above upper control limit (S+).**
Decachlorobiphenyl [2C] (185% @ 30-150%)

20F0459-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0459-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0459-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0459-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0459-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0459-01 through 20F0459-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: June 18, 2020
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 0-2
Date Sampled: 06/11/20 11:30
Percent Solids: 71
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1221	ND (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1232	ND (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1242	**18.6** (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1248	ND (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1254	ND (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1260	ND (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1262	ND (1.3)		8082A		20	06/18/20 10:31		DF01304
Aroclor 1268	ND (1.3)		8082A		20	06/18/20 10:31		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 2-4
Date Sampled: 06/11/20 11:32
Percent Solids: 95
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 8:39		DF01304
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 8:39		DF01304
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 8:39		DF01304
Aroclor 1242	**3.0** (0.3)		8082A		5	06/18/20 10:50		DF01304
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 8:39		DF01304
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 8:39		DF01304
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 8:39		DF01304
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 8:39		DF01304
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 8:39		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 4-6
Date Sampled: 06/11/20 11:35
Percent Solids: 84
Initial Volume: 21.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1221	ND (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1232	ND (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1242	**10.8** (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1248	ND (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1254	ND (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1260	ND (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1262	ND (1.1)		8082A		20	06/18/20 11:10		DF01304
Aroclor 1268	ND (1.1)		8082A		20	06/18/20 11:10		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*185 %*	*S+*	*30-150*
Surrogate: Tetrachloro-m-xylene	*122 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 6-8
Date Sampled: 06/11/20 11:37
Percent Solids: 77
Initial Volume: 21.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1221	ND (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1232	ND (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1242	**26.6** (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1248	ND (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1254	ND (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1260	ND (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1262	ND (2.4)		8082A		40	06/18/20 16:06		DF01304
Aroclor 1268	ND (2.4)		8082A		40	06/18/20 16:06		DF01304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 8-10
Date Sampled: 06/11/20 11:40
Percent Solids: 82
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1221	ND (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1232	ND (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1242	**12.9** (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1248	ND (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1254	ND (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1260	ND (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1262	ND (1.2)		8082A		20	06/18/20 11:50		DF01304
Aroclor 1268	ND (1.2)		8082A		20	06/18/20 11:50		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 10-12
Date Sampled: 06/11/20 11:42
Percent Solids: 91
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1242	**0.4** (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 9:57		DF01304
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 9:57		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 12-14
Date Sampled: 06/11/20 11:45
Percent Solids: 92
Initial Volume: 21.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 10:17		DF01304
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 10:17		DF01304
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 10:17		DF01304
Aroclor 1242	**2.7** (0.3)		8082A		5	06/18/20 12:09		DF01304
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 10:17		DF01304
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 10:17		DF01304
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 10:17		DF01304
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 10:17		DF01304
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 10:17		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*108 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A18 14-16
Date Sampled: 06/11/20 11:47
Percent Solids: 88
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1242	**0.3** (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1248	ND (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 10:37		DF01304
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 10:37		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 0-2
Date Sampled: 06/11/20 12:00
Percent Solids: 94
Initial Volume: 21.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1221	ND (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1232	ND (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1242	ND (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1248	**490** (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1254	ND (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1260	ND (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1262	ND (24.8)		8082A		500	06/18/20 12:29		DF01304
Aroclor 1268	ND (24.8)		8082A		500	06/18/20 12:29		DF01304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 2-4
Date Sampled: 06/11/20 12:02
Percent Solids: 87
Initial Volume: 21
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1221	ND (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1232	ND (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1242	**35.5** (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1248	ND (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1254	ND (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1260	ND (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1262	ND (2.2)		8082A		40	06/18/20 12:49		DF01304
Aroclor 1268	ND (2.2)		8082A		40	06/18/20 12:49		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 4-6
Date Sampled: 06/11/20 12:05
Percent Solids: 90
Initial Volume: 21.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1221	ND (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1232	ND (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1242	ND (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1248	**396** (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1254	ND (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1260	ND (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1262	ND (26.3)		8082A		500	06/18/20 13:09		DF01304
Aroclor 1268	ND (26.3)		8082A		500	06/18/20 13:09		DF01304

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 6-8
Date Sampled: 06/11/20 12:09
Percent Solids: 79
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/13/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 11:56		DF01304
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 11:56		DF01304
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 11:56		DF01304
Aroclor 1242	ND (0.06)		8082A		1	06/17/20 11:56		DF01304
Aroclor 1248 [2C]	**3.1** (0.3)		8082A		5	06/17/20 11:56		DF01304
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 11:56		DF01304
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 11:56		DF01304
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 11:56		DF01304
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 11:56		DF01304

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 8-10
Date Sampled: 06/11/20 12:10
Percent Solids: 71
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1221	ND (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1232	ND (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1242	ND (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1248 [2C]	**0.2** (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1254	ND (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1260	ND (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1262	ND (0.07)		8082A		1	06/16/20 18:41		DF01504
Aroclor 1268	ND (0.07)		8082A		1	06/16/20 18:41		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 10-12
Date Sampled: 06/11/20 12:12
Percent Solids: 94
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1248 [2C]	**0.2** (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 19:01		DF01504
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 19:01		DF01504

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 12-14
Date Sampled: 06/11/20 12:15
Percent Solids: 92
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1248 [2C]	**0.4** (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 19:20		DF01504
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 19:20		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B18 14-16
Date Sampled: 06/11/20 12:17
Percent Solids: 93
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0459
ESS Laboratory Sample ID: 20F0459-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1248 [2C]	**0.3** (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 19:40		DF01504
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 19:40		DF01504

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*99 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*104 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01304 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0247*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0256*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Surrogate: Decachlorobiphenyl	*0.0253*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		88	40-140	0.6	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140	2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	1	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0256*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Batch DF01504 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01504 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0291*		mg/kg wet	*0.02500*		*117*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		109	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Surrogate: Decachlorobiphenyl	*0.0275*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0301*		mg/kg wet	*0.02500*		*121*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0235*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	0.9	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		98	40-140	1	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		107	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0275*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0299*		mg/kg wet	*0.02500*		*119*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
S+	Surrogate recovery(ies) above upper control limit (S+).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0459

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0459
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:
Samples 9-16 Missing ID on COC

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? Shelby Amsel Date: 6/12/20 Time: 1300 By: ML

Sample ID's provided - entered on COC

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	52898	Yes	N/A	Yes	4 oz. Jar	NP	
2	52899	Yes	N/A	Yes	4 oz. Jar	NP	
3	52900	Yes	N/A	Yes	4 oz. Jar	NP	
4	52901	Yes	N/A	Yes	4 oz. Jar	NP	
5	52902	Yes	N/A	Yes	4 oz. Jar	NP	
6	52903	Yes	N/A	Yes	4 oz. Jar	NP	
7	52904	Yes	N/A	Yes	4 oz. Jar	NP	
8	52905	Yes	N/A	Yes	4 oz. Jar	NP	
9	52906	Yes	N/A	Yes	4 oz. Jar	NP	
10	52907	Yes	N/A	Yes	4 oz. Jar	NP	
11	52908	Yes	N/A	Yes	4 oz. Jar	NP	
12	52909	Yes	N/A	Yes	4 oz. Jar	NP	
13	52910	Yes	N/A	Yes	4 oz. Jar	NP	
14	52911	Yes	N/A	Yes	4 oz. Jar	NP	
15	52912	Yes	N/A	Yes	4 oz. Jar	NP	
16	52913	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0459
Date Received: 6/11/2020

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached / bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2026

Reviewed By: _____ Date & Time: 6/11/20 2101

Delivered By: _____ 6/11/20 2101

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0459
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:
Samples 9-16 Missing ID on COC

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)
1	52898	Yes	N/A	Yes	4 oz. Jar	NP	
2	52899	Yes	N/A	Yes	4 oz. Jar	NP	
3	52900	Yes	N/A	Yes	4 oz. Jar	NP	
4	52901	Yes	N/A	Yes	4 oz. Jar	NP	
5	52902	Yes	N/A	Yes	4 oz. Jar	NP	
6	52903	Yes	N/A	Yes	4 oz. Jar	NP	
7	52904	Yes	N/A	Yes	4 oz. Jar	NP	
8	52905	Yes	N/A	Yes	4 oz. Jar	NP	
9	52906	Yes	N/A	Yes	4 oz. Jar	NP	
10	52907	Yes	N/A	Yes	4 oz. Jar	NP	
11	52908	Yes	N/A	Yes	4 oz. Jar	NP	
12	52909	Yes	N/A	Yes	4 oz. Jar	NP	
13	52910	Yes	N/A	Yes	4 oz. Jar	NP	
14	52911	Yes	N/A	Yes	4 oz. Jar	NP	
15	52912	Yes	N/A	Yes	4 oz. Jar	NP	
16	52913	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0459
Date Received: 6/11/2020

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached / bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2026
Reviewed By: _____ Date & Time: 6/11/20 2101
Delivered By: _____ 6/11/20 2101

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0459 | Page 13 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6/11/20	1130	Grab	Soil	A18 (0-2)	X	1
2		1132			A18 (2-4)	X	1
3		1135			A18 (4-6)	X	1
4		1137			A18 (6-8)	X	1
5		1140			A18 (8-10)	X	1
6		1142			A18 (10-12)	X	1
7		1145			A18 (12-14)	X	1
8		1147			A18 (14-16)	X	1
					~~(16-18)~~	~~X~~	1
					~~(18-20)~~	~~X~~	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ceeterp: 2.5

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20E0459 | Page 14 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID		PCBs	Total Number of Bottles
9	06/11/20	12:00	Grab	Soil	B18	(0-2)	X	1
10		12:02	↓	↓	B18	(2-4)	X	1
11		12:05			B18	(4-6)	X	1
12		12:09			B18	(6-8)	X	1
13		12:10			B18	(8-10)	X	1
14		12:12			B18	(10-12)	X	1
15		12:15			B18	(12-14)	X	1
16		12:17	↓	↓	B18	(14-16)	X	1
					ML - 6/12/20	~~(16-18)~~	X	1
						~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial | J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* | 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* | 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

cctemp: 2.5

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0459 | Page 13 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6/11/20	1130	Grab	Soil	A18 (0-2)	X	1
2		1132			A18 (2-4)	X	1
3		1135			A18 (4-6)	X	1
4		1137			A18 (6-8)	X	1
5		1140			A18 (8-10)	X	1
6		1142			A18 (10-12)	X	1
7		1145			A18 (12-14)	X	1
8		1147			A18 (14-16)	X	1
					~~(16-18)~~	~~X~~	1
					~~(18-20)~~	~~X~~	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ceeterp: 2.5

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20E0459 | Page 14 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	06/11/20	12:00	Grab	Soil	(0-2)	X	1
10		12:02	↓	↓	(2-4)	X	1
11		12:05			(4-6)	X	1
12		12:09			(6-8)	X	1
13		12:10			(8-10)	X	1
14		12:12			(10-12)	X	1
15		12:15			(12-14)	X	1
16		12:17			(14-16)	X	1
					(16-18)	X	1
					(18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

cctemp: 2.5

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0460

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 6:20 pm, Jun 18, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0460

SAMPLE RECEIPT

The following samples were received on June 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0460-01	A19 0-2	Soil	8082A
20F0460-02	A19 2-4	Soil	8082A
20F0460-03	A19 4-6	Soil	8082A
20F0460-04	A19 6-8	Soil	8082A
20F0460-05	A19 8-10	Soil	8082A
20F0460-06	A19 10-12	Soil	8082A
20F0460-07	A19 12-14	Soil	8082A
20F0460-08	A19 14-16	Soil	8082A
20F0460-09	B19 0-2	Soil	8082A
20F0460-10	B19 2-4	Soil	8082A
20F0460-11	B19 4-6	Soil	8082A
20F0460-12	B19 6-8	Soil	8082A
20F0460-13	B19 8-10	Soil	8082A
20F0460-14	B19 10-12	Soil	8082A
20F0460-15	B19 12-14	Soil	8082A
20F0460-16	B19 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0460

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0460-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0460-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0460-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0460-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0460-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0460-14 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Decachlorobiphenyl (216% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0460

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0460

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0460-01 through 20F0460-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 18, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 0-2
Date Sampled: 06/11/20 13:00
Percent Solids: 94
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1242	ND (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1248	**0.3** (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 20:00		DF01504
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 20:00		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*109 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 2-4
Date Sampled: 06/11/20 13:02
Percent Solids: 92
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1221	ND (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1232	ND (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1242	ND (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1248	**0.7** (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1254	ND (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1260	ND (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1262	ND (0.06)		8082A		1	06/16/20 20:20		DF01504
Aroclor 1268	ND (0.06)		8082A		1	06/16/20 20:20		DF01504

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*61 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 4-6
Date Sampled: 06/11/20 13:05
Percent Solids: 94
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/16/20 20:39		DF01504
Aroclor 1221	ND (0.05)		8082A		1	06/16/20 20:39		DF01504
Aroclor 1232	ND (0.05)		8082A		1	06/16/20 20:39		DF01504
Aroclor 1242	**2.0** (0.1)		8082A		2	06/18/20 0:06		DF01504
Aroclor 1248	ND (0.05)		8082A		1	06/16/20 20:39		DF01504
Aroclor 1254	ND (0.05)		8082A		1	06/16/20 20:39		DF01504
Aroclor 1260	ND (0.05)		8082A		1	06/16/20 20:39		DF01504
Aroclor 1262	ND (0.05)		8082A		1	06/16/20 20:39		DF01504
Aroclor 1268	ND (0.05)		8082A		1	06/16/20 20:39		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 6-8
Date Sampled: 06/11/20 13:07
Percent Solids: 89
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 14:34		DF01504
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 14:34		DF01504
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 14:34		DF01504
Aroclor 1242	**1.7** (0.1)		8082A		2	06/18/20 0:26		DF01504
Aroclor 1248	ND (0.06)		8082A		1	06/17/20 14:34		DF01504
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 14:34		DF01504
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 14:34		DF01504
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 14:34		DF01504
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 14:34		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 8-10
Date Sampled: 06/11/20 13:10
Percent Solids: 79
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1221	ND (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1232	ND (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1242	**209** (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1248	ND (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1254	ND (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1260	ND (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1262	ND (13.0)		8082A		200	06/18/20 12:32		DF01504
Aroclor 1268	ND (13.0)		8082A		200	06/18/20 12:32		DF01504

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 10-12
Date Sampled: 06/11/20 13:12
Percent Solids: 90
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 15:13		DF01504
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 15:13		DF01504
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 15:13		DF01504
Aroclor 1242	**3.9** (0.3)		8082A		5	06/18/20 1:06		DF01504
Aroclor 1248	ND (0.06)		8082A		1	06/17/20 15:13		DF01504
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 15:13		DF01504
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 15:13		DF01504
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 15:13		DF01504
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 15:13		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 12-14
Date Sampled: 06/11/20 13:15
Percent Solids: 91
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1221	ND (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1232	ND (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1242	**56.5** (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1248	ND (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1254	ND (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1260	ND (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1262	ND (4.5)		8082A		80	06/18/20 12:51		DF01504
Aroclor 1268	ND (4.5)		8082A		80	06/18/20 12:51		DF01504

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A19 14-16
Date Sampled: 06/11/20 13:17
Percent Solids: 69
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1221	ND (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1232	ND (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1242	**1.5** (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1248	ND (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1254	ND (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1260	ND (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1262	ND (0.08)		8082A		1	06/17/20 15:53		DF01504
Aroclor 1268	ND (0.08)		8082A		1	06/17/20 15:53		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*47 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*46 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 0-2
Date Sampled: 06/11/20 12:20
Percent Solids: 89
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1221	ND (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1232	ND (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1242	ND (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1248	**220** (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1254	ND (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1260	ND (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1262	ND (11.5)		8082A		200	06/18/20 1:45		DF01504
Aroclor 1268	ND (11.5)		8082A		200	06/18/20 1:45		DF01504

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 2-4
Date Sampled: 06/11/20 12:22
Percent Solids: 85
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1221	ND (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1232	ND (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1242	**46.7** (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1248	ND (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1254	ND (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1260	ND (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1262	ND (2.5)		8082A		40	06/18/20 13:11		DF01504
Aroclor 1268	ND (2.5)		8082A		40	06/18/20 13:11		DF01504

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 4-6
Date Sampled: 06/11/20 12:25
Percent Solids: 83
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1221	ND (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1232	ND (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1242	**23.8** (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1248	ND (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1254	ND (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1260	ND (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1262	ND (1.2)		8082A		20	06/18/20 13:31		DF01504
Aroclor 1268	ND (1.2)		8082A		20	06/18/20 13:31		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 6-8
Date Sampled: 06/11/20 12:27
Percent Solids: 84
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 17:12		DF01504
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 17:12		DF01504
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 17:12		DF01504
Aroclor 1242	**3.9** (0.3)		8082A		5	06/18/20 13:51		DF01504
Aroclor 1248	ND (0.06)		8082A		1	06/17/20 17:12		DF01504
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 17:12		DF01504
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 17:12		DF01504
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 17:12		DF01504
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 17:12		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*111 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 8-10
Date Sampled: 06/11/20 12:30
Percent Solids: 79
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/17/20 17:31		DF01504
Aroclor 1221	ND (0.07)		8082A		1	06/17/20 17:31		DF01504
Aroclor 1232	ND (0.07)		8082A		1	06/17/20 17:31		DF01504
Aroclor 1242	**2.5** (0.3)		8082A		5	06/18/20 14:11		DF01504
Aroclor 1248	ND (0.07)		8082A		1	06/17/20 17:31		DF01504
Aroclor 1254	ND (0.07)		8082A		1	06/17/20 17:31		DF01504
Aroclor 1260	ND (0.07)		8082A		1	06/17/20 17:31		DF01504
Aroclor 1262	ND (0.07)		8082A		1	06/17/20 17:31		DF01504
Aroclor 1268	ND (0.07)		8082A		1	06/17/20 17:31		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*117 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 10-12
Date Sampled: 06/11/20 12:32
Percent Solids: 94
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 17:51		DF01504
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 17:51		DF01504
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 17:51		DF01504
Aroclor 1242	**6.6** (0.5)		8082A		10	06/18/20 14:30		DF01504
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 17:51		DF01504
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 17:51		DF01504
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 17:51		DF01504
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 17:51		DF01504
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 17:51		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*216 %*	*SM*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 12-14
Date Sampled: 06/11/20 12:35
Percent Solids: 93
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1221	ND (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1232	ND (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1242	**0.4** (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1248	ND (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1254	ND (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1260	ND (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1262	ND (0.05)		8082A		1	06/17/20 18:11		DF01504
Aroclor 1268	ND (0.05)		8082A		1	06/17/20 18:11		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B19 14-16
Date Sampled: 06/11/20 12:38
Percent Solids: 84
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0460
ESS Laboratory Sample ID: 20F0460-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 13:04

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1221	ND (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1232	ND (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1242	ND (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1248 [2C]	**0.3** (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1254	ND (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1260	ND (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1262	ND (0.06)		8082A		1	06/17/20 18:31		DF01504
Aroclor 1268	ND (0.06)		8082A		1	06/17/20 18:31		DF01504

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0460

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01504 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0291*		mg/kg wet	*0.02500*		*117*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		109	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Surrogate: Decachlorobiphenyl	*0.0275*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0301*		mg/kg wet	*0.02500*		*121*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0235*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	0.9	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		98	40-140	1	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		107	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0275*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0299*		mg/kg wet	*0.02500*		*119*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0460

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0460

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0460
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

Samples 7-8 caps and labels ≠ ; depths mixed up
Used label depths

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? Shelby Amsel Date: 6/12/20 Time: 1310 By: ML

use sample ID's on the labels

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	52914	Yes	N/A	Yes	4 oz. Jar	NP	
2	52915	Yes	N/A	Yes	4 oz. Jar	NP	
3	52916	Yes	N/A	Yes	4 oz. Jar	NP	
4	52917	Yes	N/A	Yes	4 oz. Jar	NP	
5	52918	Yes	N/A	Yes	4 oz. Jar	NP	
6	52919	Yes	N/A	Yes	4 oz. Jar	NP	
7	52920	Yes	N/A	Yes	4 oz. Jar	NP	
8	52921	Yes	N/A	Yes	4 oz. Jar	NP	
9	52922	Yes	N/A	Yes	4 oz. Jar	NP	
10	52923	Yes	N/A	Yes	4 oz. Jar	NP	
11	52924	Yes	N/A	Yes	4 oz. Jar	NP	
12	52925	Yes	N/A	Yes	4 oz. Jar	NP	
13	52926	Yes	N/A	Yes	4 oz. Jar	NP	
14	52927	Yes	N/A	Yes	4 oz. Jar	NP	
15	52928	Yes	N/A	Yes	4 oz. Jar	NP	
16	52929	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0460
Date Received: 6/11/2020

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2024
Reviewed By: _____ Date & Time: 6/11/20 2108
Delivered By: _____ 6/11/20 2108

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0460
Date Received: 6/11/2020
Project Due Date: 6/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

Samples 7-8 caps and labels ≠ ; depths mixed up
Used label depths

14. Was there a need to contact Project Manager? Yes / No 6/11/20
    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)
1	52914	Yes	N/A	Yes	4 oz. Jar	NP	
2	52915	Yes	N/A	Yes	4 oz. Jar	NP	
3	52916	Yes	N/A	Yes	4 oz. Jar	NP	
4	52917	Yes	N/A	Yes	4 oz. Jar	NP	
5	52918	Yes	N/A	Yes	4 oz. Jar	NP	
6	52919	Yes	N/A	Yes	4 oz. Jar	NP	
7	52920	Yes	N/A	Yes	4 oz. Jar	NP	
8	52921	Yes	N/A	Yes	4 oz. Jar	NP	
9	52922	Yes	N/A	Yes	4 oz. Jar	NP	
10	52923	Yes	N/A	Yes	4 oz. Jar	NP	
11	52924	Yes	N/A	Yes	4 oz. Jar	NP	
12	52925	Yes	N/A	Yes	4 oz. Jar	NP	
13	52926	Yes	N/A	Yes	4 oz. Jar	NP	
14	52927	Yes	N/A	Yes	4 oz. Jar	NP	
15	52928	Yes	N/A	Yes	4 oz. Jar	NP	
16	52929	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0460
Date Received: 6/11/2020

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/11/20 2024

Reviewed By: _____ Date & Time: 6/11/20 2108

Delivered By: _____ 6/11/20 2108

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

CHAIN OF CUSTODY

ESS Lab # 207060 | Page 16 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 876 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6/11/20	1300	Grab	Soil	A19 (0-2)	X	1
2		1302	↓	↓	A19 (2-4)	X	1
3		1305			A19 (4-6)	X	1
4		1307			A19 (6-8)	X	1
5		1310			A19 (8-10)	X	1
6		1312			A19 (10-12)	X	1
7		1315			A19 (12-14)	X	1
8		1317			A19 (14-16)	X	1
					(16-18)	X	1
					(18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ctemp: 2.5

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2010460 | Page 15 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	06/11/20	1220	Grab	Soil	B19 (0-2)	X	1
10		1222			B19 (2-4)	X	1
11		1225			B19 (4-6)	X	1
12		1227			B19 (6-8)	X	1
13		1230			B19 (8-10)	X	1
14		1232			B19 (10-12)	X	1
15		1235			B19 (12-14)	X	1
16		1238 *			B19 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

* MKM 06/17/2020

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

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CHAIN OF CUSTODY

ESS Lab # 2070460 | Page 16 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

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Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

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Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

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4		1307			A19 (6-8)	X	1
5		1310			A19 (8-10)	X	1
6		1312			A19 (10-12)	X	1
7		1315			A19 (12-14)	X	1
8		1317			A19 (14-16)	X	1
					(16-18)	X	1
					(18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
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Sampled by: Mike O'Brien

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Dissolved Filtration: ☐ Lab Filter

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[signature]	6/11/2020	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ctemp: 2.5

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CHAIN OF CUSTODY

ESS Lab # 2010460 | Page 15 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

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☒ Limit Checker ☐ State Forms ☐ EQuIS
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☐ CLP-Like Package ☐ Other (Specify) →

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Samsel@cdwconsultants.com

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Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
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11		1225			B19 (4-6)	X	1
12		1227			B19 (6-8)	X	1
13		1230			B19 (8-10)	X	1
14		1232			B19 (10-12)	X	1
15		1235			B19 (12-14)	X	1
16					B19 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
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Sampled by: Mike O'Brien

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Comments: * Please specify "Other" preservative and containers types in this space

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Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/11/20	14:31	[signature]	[signature]	6/11/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.5

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0540

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 5:12 pm, Jun 19, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

SAMPLE RECEIPT

The following samples were received on June 12, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0540-01	A20 0-2	Soil	8082A
20F0540-02	A20 2-4	Soil	8082A
20F0540-03	A20 4-6	Soil	8082A
20F0540-04	A20 6-8	Soil	8082A
20F0540-05	A20 8-10	Soil	8082A
20F0540-06	A20 10-12	Soil	8082A
20F0540-07	A20 12-14	Soil	8082A
20F0540-08	A20 14-16	Soil	8082A
20F0540-09	B20 0-2	Soil	8082A
20F0540-10	B20 2-4	Soil	8082A
20F0540-11	B20 4-6	Soil	8082A
20F0540-12	B20 6-8	Soil	8082A
20F0540-13	B20 8-10	Soil	8082A
20F0540-14	B20 10-12	Soil	8082A
20F0540-15	B20 12-14	Soil	8082A
20F0540-16	B20 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0540-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0540-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0540-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0540-13 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0540-14 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0540-01 through 20F0540-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 19, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 0-2
Date Sampled: 06/12/20 07:00
Percent Solids: 92
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1221	ND (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1232	ND (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1242	ND (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1248 [2C]	**20.7** (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1254	ND (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1260	ND (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1262	ND (1.1)		8082A		20	06/18/20 10:11		DF01507
Aroclor 1268	ND (1.1)		8082A		20	06/18/20 10:11		DF01507

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 2-4
Date Sampled: 06/12/20 07:02
Percent Solids: 93
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1242	**0.3** (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 3:30		DF01507
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 3:30		DF01507

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 4-6
Date Sampled: 06/12/20 07:05
Percent Solids: 76
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/18/20 3:48		DF01507
Aroclor 1221	ND (0.07)		8082A		1	06/18/20 3:48		DF01507
Aroclor 1232	ND (0.07)		8082A		1	06/18/20 3:48		DF01507
Aroclor 1242 [2C]	**4.5** (0.3)		8082A		5	06/18/20 10:30		DF01507
Aroclor 1248	ND (0.07)		8082A		1	06/18/20 3:48		DF01507
Aroclor 1254	ND (0.07)		8082A		1	06/18/20 3:48		DF01507
Aroclor 1260	ND (0.07)		8082A		1	06/18/20 3:48		DF01507
Aroclor 1262	ND (0.07)		8082A		1	06/18/20 3:48		DF01507
Aroclor 1268	ND (0.07)		8082A		1	06/18/20 3:48		DF01507

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 6-8
Date Sampled: 06/12/20 07:07
Percent Solids: 78
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 4:07		DF01507
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 4:07		DF01507
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 4:07		DF01507
Aroclor 1242 [2C]	**4.3** (0.3)		8082A		5	06/18/20 10:49		DF01507
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 4:07		DF01507
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 4:07		DF01507
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 4:07		DF01507
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 4:07		DF01507
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 4:07		DF01507

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*105 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*101 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 8-10
Date Sampled: 06/12/20 07:10
Percent Solids: 68
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/18/20 4:26		DF01507
Aroclor 1221	ND (0.07)		8082A		1	06/18/20 4:26		DF01507
Aroclor 1232	ND (0.07)		8082A		1	06/18/20 4:26		DF01507
Aroclor 1242 [2C]	**5.3** (0.4)		8082A		5	06/18/20 11:08		DF01507
Aroclor 1248	ND (0.07)		8082A		1	06/18/20 4:26		DF01507
Aroclor 1254	ND (0.07)		8082A		1	06/18/20 4:26		DF01507
Aroclor 1260	ND (0.07)		8082A		1	06/18/20 4:26		DF01507
Aroclor 1262	ND (0.07)		8082A		1	06/18/20 4:26		DF01507
Aroclor 1268	ND (0.07)		8082A		1	06/18/20 4:26		DF01507

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*103 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*108 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 10-12
Date Sampled: 06/12/20 07:12
Percent Solids: 89
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 4:45		DF01507
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 4:45		DF01507
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 4:45		DF01507
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 4:45		DF01507
Aroclor 1248	**1.8** (0.3)		8082A		5	06/18/20 11:27		DF01507
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 4:45		DF01507
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 4:45		DF01507
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 4:45		DF01507
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 4:45		DF01507

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 12-14
Date Sampled: 06/12/20 07:15
Percent Solids: 87
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 5:04		DF01507
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 5:04		DF01507
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 5:04		DF01507
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 5:04		DF01507
Aroclor 1248 [2C]	**4.2** (0.3)		8082A		5	06/18/20 11:46		DF01507
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 5:04		DF01507
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 5:04		DF01507
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 5:04		DF01507
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 5:04		DF01507

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A20 14-16
Date Sampled: 06/12/20 07:17
Percent Solids: 88
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/15/20 20:18

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 5:23		DF01507
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 5:23		DF01507
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 5:23		DF01507
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 5:23		DF01507
Aroclor 1248 [2C]	**4.6** (0.3)		8082A		5	06/18/20 12:05		DF01507
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 5:23		DF01507
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 5:23		DF01507
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 5:23		DF01507
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 5:23		DF01507

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*108 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 0-2
Date Sampled: 06/12/20 07:25
Percent Solids: 86
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 1:37		DF01605
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 1:37		DF01605
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 1:37		DF01605
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 1:37		DF01605
Aroclor 1248 [2C]	**5.6** (0.3)		8082A		5	06/19/20 11:17		DF01605
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 1:37		DF01605
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 1:37		DF01605
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 1:37		DF01605
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 1:37		DF01605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*118 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 2-4
Date Sampled: 06/12/20 07:27
Percent Solids: 79
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 1:57		DF01605
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 1:57		DF01605
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 1:57		DF01605
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 1:57		DF01605
Aroclor 1248 [2C]	**2.6** (0.3)		8082A		5	06/19/20 11:36		DF01605
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 1:57		DF01605
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 1:57		DF01605
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 1:57		DF01605
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 1:57		DF01605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*130 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 4-6
Date Sampled: 06/12/20 07:30
Percent Solids: 89
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1221	ND (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1232	ND (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1242	**28.5** (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1248	ND (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1254	ND (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1260	ND (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1262	ND (2.3)		8082A		40	06/19/20 11:56		DF01605
Aroclor 1268	ND (2.3)		8082A		40	06/19/20 11:56		DF01605

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 6-8
Date Sampled: 06/12/20 07:32
Percent Solids: 74
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1221	ND (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1232	ND (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1242	**57.6** (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1248	ND (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1254	ND (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1260	ND (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1262	ND (3.5)		8082A		50	06/19/20 12:16		DF01605
Aroclor 1268	ND (3.5)		8082A		50	06/19/20 12:16		DF01605

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 8-10
Date Sampled: 06/12/20 07:35
Percent Solids: 78
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1221	ND (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1232	ND (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1242	**30.1** (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1248	ND (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1254	ND (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1260	ND (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1262	ND (2.6)		8082A		40	06/19/20 12:35		DF01605
Aroclor 1268	ND (2.6)		8082A		40	06/19/20 12:35		DF01605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 10-12
Date Sampled: 06/12/20 07:37
Percent Solids: 92
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1221	ND (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1232	ND (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1242 [2C]	**11.1** (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1248	ND (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1254	ND (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1260	ND (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1262	ND (1.1)		8082A		20	06/19/20 12:55		DF01605
Aroclor 1268	ND (1.1)		8082A		20	06/19/20 12:55		DF01605

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 12-14
Date Sampled: 06/12/20 07:40
Percent Solids: 91
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 3:35		DF01605
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 3:35		DF01605
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 3:35		DF01605
Aroclor 1242	**3.7** (0.3)		8082A		5	06/19/20 13:14		DF01605
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 3:35		DF01605
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 3:35		DF01605
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 3:35		DF01605
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 3:35		DF01605
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 3:35		DF01605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*103 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B20 14-16
Date Sampled: 06/12/20 07:42
Percent Solids: 88
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0540
ESS Laboratory Sample ID: 20F0540-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 3:55		DF01605
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 3:55		DF01605
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 3:55		DF01605
Aroclor 1242	**6.4** (0.6)		8082A		10	06/19/20 13:34		DF01605
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 3:55		DF01605
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 3:55		DF01605
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 3:55		DF01605
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 3:55		DF01605
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 3:55		DF01605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*120 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01507 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0244*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		96	40-140			
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	*0.0266*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		104	40-140	8	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		97	40-140	8	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		97	40-140	7	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		92	40-140	7	30	
Surrogate: Decachlorobiphenyl	*0.0282*		mg/kg wet	*0.02500*		*113*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Batch DF01605 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01605 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0226*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0231*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		92	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		92	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		96	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0219*		mg/kg wet	*0.02500*		*88*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		95	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		94	40-140	3	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		100	40-140	3	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		96	40-140	6	30	
Surrogate: Decachlorobiphenyl	*0.0253*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0261*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0540

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0540
Date Received: 6/12/2020
Project Due Date: 6/19/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	53783	Yes	N/A	Yes	4 oz. Jar	NP	
2	53784	Yes	N/A	Yes	4 oz. Jar	NP	
3	53785	Yes	N/A	Yes	4 oz. Jar	NP	
4	53786	Yes	N/A	Yes	4 oz. Jar	NP	
5	53787	Yes	N/A	Yes	4 oz. Jar	NP	
6	53788	Yes	N/A	Yes	4 oz. Jar	NP	
7	53789	Yes	N/A	Yes	4 oz. Jar	NP	
8	53790	Yes	N/A	Yes	4 oz. Jar	NP	
9	53791	Yes	N/A	Yes	4 oz. Jar	NP	
10	53792	Yes	N/A	Yes	4 oz. Jar	NP	
11	53793	Yes	N/A	Yes	4 oz. Jar	NP	
12	53794	Yes	N/A	Yes	4 oz. Jar	NP	
13	53795	Yes	N/A	Yes	4 oz. Jar	NP	
14	53796	Yes	N/A	Yes	4 oz. Jar	NP	
15	53797	Yes	N/A	Yes	4 oz. Jar	NP	
16	53798	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0540
Date Received: 6/12/2020

2nd Review

Initials

Were all containers scanned into storage/lab? Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached/if bubbles noted? Yes / No / NA

Completed By: Date & Time: 6/12/20 1947

Reviewed By: Date & Time: 6/12/20 1959

Delivered By: 6/12/20 1959

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20E0540 | Page 1 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6-12-20	0700	Grab	Soil	A20 (0-2)	X	1
2		0702			A20 (2-4)	X	1
3		0705			A20 (4-6)	X	1
4		0707			A20 (6-8)	X	1
5		0710			A20 (8-10)	X	1
6		0712			A20 (10-12)	X	1
7		0715			A20 (12-14)	X	1
8		0717			A20 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-12-20	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

Cooler temp: 3.8

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 256540 | Page 2 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	06-12-20	0725	Grab	Soil	B20 (0-2)	X	1
10		0727			B20 (2-4)	X	1
11		0730			B20 (4-6)	X	1
12		0732			B20 (6-8)	X	1
13		0735			B20 (8-10)	X	1
14		0737			B20 (10-12)	X	1
15		0740			B20 (12-14)	X	1
16		0742			B20 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-500 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-12-2020	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ccTemp: 3.8

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0541

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 5:16 pm, Jun 19, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

SAMPLE RECEIPT

The following samples were received on June 12, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0541-01	A21 0-2	Soil	8082A
20F0541-02	A21 2-4	Soil	8082A
20F0541-03	A21 4-6	Soil	8082A
20F0541-04	A21 6-8	Soil	8082A
20F0541-05	A21 8-10	Soil	8082A
20F0541-06	A21 10-12	Soil	8082A
20F0541-07	A21 12-14	Soil	8082A
20F0541-08	A21 14-16	Soil	8082A
20F0541-09	B21 0-2	Soil	8082A
20F0541-10	B21 2-4	Soil	8082A
20F0541-11	B21 4-6	Soil	8082A
20F0541-12	B21 6-8	Soil	8082A
20F0541-13	B21 8-10	Soil	8082A
20F0541-14	B21 10-12	Soil	8082A
20F0541-15	B21 12-14	Soil	8082A
20F0541-16	B21 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0541-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0541-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0541-01 through 20F0541-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 19, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 0-2
Date Sampled: 06/12/20 08:15
Percent Solids: 92
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1221	ND (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1232	ND (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1242	ND (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1248 [2C]	**13.5** (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1254	ND (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1260	ND (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1262	ND (1.1)		8082A		20	06/19/20 11:10		DF01604
Aroclor 1268	ND (1.1)		8082A		20	06/19/20 11:10		DF01604

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 2-4
Date Sampled: 06/12/20 08:17
Percent Solids: 94
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1221	ND (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1232	ND (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1242	**171** (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1248	ND (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1254	ND (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1260	ND (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1262	ND (27.4)		8082A		500	06/19/20 11:29		DF01604
Aroclor 1268	ND (27.4)		8082A		500	06/19/20 11:29		DF01604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 4-6
Date Sampled: 06/12/20 08:20
Percent Solids: 95
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/19/20 0:25		DF01604
Aroclor 1221	ND (0.05)		8082A		1	06/19/20 0:25		DF01604
Aroclor 1232	ND (0.05)		8082A		1	06/19/20 0:25		DF01604
Aroclor 1242	**3.4** (0.3)		8082A		5	06/19/20 11:48		DF01604
Aroclor 1248	ND (0.05)		8082A		1	06/19/20 0:25		DF01604
Aroclor 1254	ND (0.05)		8082A		1	06/19/20 0:25		DF01604
Aroclor 1260	ND (0.05)		8082A		1	06/19/20 0:25		DF01604
Aroclor 1262	ND (0.05)		8082A		1	06/19/20 0:25		DF01604
Aroclor 1268	ND (0.05)		8082A		1	06/19/20 0:25		DF01604

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 6-8
Date Sampled: 06/12/20 08:22
Percent Solids: 91
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1242	**0.2** (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 0:44		DF01604
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 0:44		DF01604

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*106 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*117 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 8-10
Date Sampled: 06/12/20 08:25
Percent Solids: 80
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 1:03		DF01604
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 1:03		DF01604
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 1:03		DF01604
Aroclor 1242 [2C]	**12.2** (0.7)		8082A		10	06/19/20 12:32		DF01604
Aroclor 1248	ND (0.07)		8082A		1	06/19/20 1:03		DF01604
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 1:03		DF01604
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 1:03		DF01604
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 1:03		DF01604
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 1:03		DF01604

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*99 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 10-12
Date Sampled: 06/12/20 08:27
Percent Solids: 75
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/18/20 18:08		DF01606
Aroclor 1221	ND (0.07)		8082A		1	06/18/20 18:08		DF01606
Aroclor 1232	ND (0.07)		8082A		1	06/18/20 18:08		DF01606
Aroclor 1242	**5.8** (0.4)		8082A		5	06/19/20 11:16		DF01606
Aroclor 1248	ND (0.07)		8082A		1	06/18/20 18:08		DF01606
Aroclor 1254	ND (0.07)		8082A		1	06/18/20 18:08		DF01606
Aroclor 1260	ND (0.07)		8082A		1	06/18/20 18:08		DF01606
Aroclor 1262	ND (0.07)		8082A		1	06/18/20 18:08		DF01606
Aroclor 1268	ND (0.07)		8082A		1	06/18/20 18:08		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 12-14
Date Sampled: 06/12/20 08:30
Percent Solids: 72
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/18/20 18:28		DF01606
Aroclor 1221	ND (0.07)		8082A		1	06/18/20 18:28		DF01606
Aroclor 1232	ND (0.07)		8082A		1	06/18/20 18:28		DF01606
Aroclor 1242	**2.0** (0.1)		8082A		2	06/19/20 11:36		DF01606
Aroclor 1248	ND (0.07)		8082A		1	06/18/20 18:28		DF01606
Aroclor 1254	ND (0.07)		8082A		1	06/18/20 18:28		DF01606
Aroclor 1260	ND (0.07)		8082A		1	06/18/20 18:28		DF01606
Aroclor 1262	ND (0.07)		8082A		1	06/18/20 18:28		DF01606
Aroclor 1268	ND (0.07)		8082A		1	06/18/20 18:28		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*105 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A21 14-16
Date Sampled: 06/12/20 08:32
Percent Solids: 90
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1242	**0.5** (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 18:47		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 18:47		DF01606

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*106 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 0-2
Date Sampled: 06/12/20 08:40
Percent Solids: 92
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 19:07		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 19:07		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 19:07		DF01606
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 19:07		DF01606
Aroclor 1248	**1.7** (0.1)		8082A		2	06/19/20 11:56		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 19:07		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 19:07		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 19:07		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 19:07		DF01606

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 2-4
Date Sampled: 06/12/20 08:42
Percent Solids: 90
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/18/20 19:27		DF01606
Aroclor 1221	ND (0.05)		8082A		1	06/18/20 19:27		DF01606
Aroclor 1232	ND (0.05)		8082A		1	06/18/20 19:27		DF01606
Aroclor 1242	**9.1** (0.5)		8082A		10	06/19/20 12:16		DF01606
Aroclor 1248	ND (0.05)		8082A		1	06/18/20 19:27		DF01606
Aroclor 1254	ND (0.05)		8082A		1	06/18/20 19:27		DF01606
Aroclor 1260	ND (0.05)		8082A		1	06/18/20 19:27		DF01606
Aroclor 1262	ND (0.05)		8082A		1	06/18/20 19:27		DF01606
Aroclor 1268	ND (0.05)		8082A		1	06/18/20 19:27		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 4-6
Date Sampled: 06/12/20 08:45
Percent Solids: 95
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/18/20 19:47		DF01606
Aroclor 1221	ND (0.05)		8082A		1	06/18/20 19:47		DF01606
Aroclor 1232	ND (0.05)		8082A		1	06/18/20 19:47		DF01606
Aroclor 1242	**1.4** (0.1)		8082A		2	06/19/20 12:35		DF01606
Aroclor 1248	ND (0.05)		8082A		1	06/18/20 19:47		DF01606
Aroclor 1254	ND (0.05)		8082A		1	06/18/20 19:47		DF01606
Aroclor 1260	ND (0.05)		8082A		1	06/18/20 19:47		DF01606
Aroclor 1262	ND (0.05)		8082A		1	06/18/20 19:47		DF01606
Aroclor 1268	ND (0.05)		8082A		1	06/18/20 19:47		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 6-8
Date Sampled: 06/12/20 08:47
Percent Solids: 83
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1242 [2C]	**0.4** (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 20:06		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 20:06		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 8-10
Date Sampled: 06/12/20 08:58
Percent Solids: 83
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1242 [2C]	**0.8** (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 20:26		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 20:26		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*135 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 10-12
Date Sampled: 06/12/20 08:50
Percent Solids: 84
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1242 [2C]	**1.1** (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 20:46		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 20:46		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*124 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 12-14
Date Sampled: 06/12/20 08:55
Percent Solids: 83
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1248 [2C]	**0.08** (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 21:06		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 21:06		DF01606

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B21 14-16
Date Sampled: 06/12/20 08:57
Percent Solids: 91
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0541
ESS Laboratory Sample ID: 20F0541-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1248 [2C]	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 21:25		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 21:25		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01604 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0253*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0235*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0240*		mg/kg wet	*0.02500*		*96*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		105	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		103	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		101	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		103	40-140			
Surrogate: Decachlorobiphenyl	*0.0284*		mg/kg wet	*0.02500*		*113*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		101	40-140	4	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		99	40-140	5	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		97	40-140	5	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		97	40-140	6	30	
Surrogate: Decachlorobiphenyl	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0245*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0251*		mg/kg wet	*0.02500*		*100*	*30-150*			
Batch DF01606 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01606 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		108	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		106	40-140			
Surrogate: Decachlorobiphenyl	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0269*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		96	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140	0.9	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		108	40-140	0.2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		107	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0541

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0541
Date Received: 6/12/2020
Project Due Date: 6/19/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	53799	Yes	N/A	Yes	4 oz. Jar	NP	
2	53800	Yes	N/A	Yes	4 oz. Jar	NP	
3	53801	Yes	N/A	Yes	4 oz. Jar	NP	
4	53802	Yes	N/A	Yes	4 oz. Jar	NP	
5	53803	Yes	N/A	Yes	4 oz. Jar	NP	
6	53804	Yes	N/A	Yes	4 oz. Jar	NP	
7	53805	Yes	N/A	Yes	4 oz. Jar	NP	
8	53806	Yes	N/A	Yes	4 oz. Jar	NP	
9	53807	Yes	N/A	Yes	4 oz. Jar	NP	
10	53808	Yes	N/A	Yes	4 oz. Jar	NP	
11	53809	Yes	N/A	Yes	4 oz. Jar	NP	
12	53810	Yes	N/A	Yes	4 oz. Jar	NP	
13	53811	Yes	N/A	Yes	4 oz. Jar	NP	
14	53812	Yes	N/A	Yes	4 oz. Jar	NP	
15	53813	Yes	N/A	Yes	4 oz. Jar	NP	
16	53814	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0541
Date Received: 6/12/2020

2nd Review

Initials

Were all containers scanned into storage/lab? Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 6/12/20 1944
Reviewed By: Date & Time: 6/12/20 2001
Delivered By: 6/12/20 2001

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 2070541 | Page 3 of

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06-12-20	0815	Grab	Soil	A21 (0-2)	X	1
2		0817	↓	↓	A21 (2-4)	X	1
3		0820			A21 (4-6)	X	1
4		0822			A21 (6-8)	X	1
5		0825			A21 (8-10)	X	1
6		0827			A21 (10-12)	X	1
7		0830			A21 (12-14)	X	1
8		0832	↓	↓	A21 (14-16)	X	1
					~~(18-18)~~	X	1
					~~(18-20)~~	X	
						J	
						9	
						1	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by: Mike O'Brien

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-12-2020	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

ESS Lab # 20F0541 | Page 4 of

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2657
Email Distribution List: Bmiller@cdwconsultants.com, Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	6/12/20	0840	Grab	Soil	B21 (0-2)	X	1
10		0842			B21 (2-4)	X	1
11		0845			B21 (4-6)	X	1
12		0847			B21 (6-8)	X	1
13		0850			B21 (8-10)	X	1
14		0852			B21 (10-12)	X	1
15		0855			B21 (12-14)	X	1
16		0857			B21 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1
						J	
						9	
						1	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by: Mike O'Brien

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-12-20	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0542

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 4:09 pm, Jun 22, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

SAMPLE RECEIPT

The following samples were received on June 12, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0542-01	A22 0-2	Soil	8082A
20F0542-02	A22 2-4	Soil	8082A
20F0542-03	A22 4-6	Soil	8082A
20F0542-04	A22 6-8	Soil	8082A
20F0542-05	A22 8-10	Soil	8082A
20F0542-06	A22 10-12	Soil	8082A
20F0542-07	A22 12-14	Soil	8082A
20F0542-08	A22 14-16	Soil	8082A
20F0542-09	A22 16-18	Soil	8082A
20F0542-10	B22 0-2	Soil	8082A
20F0542-11	B22 2-4	Soil	8082A
20F0542-12	B22 4-6	Soil	8082A
20F0542-13	B22 6-8	Soil	8082A
20F0542-14	B22 8-10	Soil	8082A
20F0542-15	B22 10-12	Soil	8082A
20F0542-16	B22 12-14	Soil	8082A
20F0542-17	B22 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0542-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0542-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0542-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0542-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0542-01 through 20F0542-17**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 22, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 0-2
Date Sampled: 06/12/20 09:40
Percent Solids: 87
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1221	ND (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1232	ND (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1242 [2C]	**664** (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1248	ND (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1254	ND (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1260	ND (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1262	ND (291)		8082A		5000	06/22/20 9:11		DF01606
Aroclor 1268	ND (291)		8082A		5000	06/22/20 9:11		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 2-4
Date Sampled: 06/12/20 09:42
Percent Solids: 89
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1221	ND (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1232	ND (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1242 [2C]	**25.9** (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1248	ND (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1254	ND (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1260	ND (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1262	ND (2.2)		8082A		40	06/22/20 9:45		DF01606
Aroclor 1268	ND (2.2)		8082A		40	06/22/20 9:45		DF01606

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 4-6
Date Sampled: 06/12/20 09:45
Percent Solids: 90
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1221	ND (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1232	ND (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1242	**44.6** (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1248	ND (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1254	ND (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1260	ND (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1262	ND (2.3)		8082A		40	06/19/20 15:34		DF01606
Aroclor 1268	ND (2.3)		8082A		40	06/19/20 15:34		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 6-8
Date Sampled: 06/12/20 09:47
Percent Solids: 91
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 0:43		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 0:43		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 0:43		DF01606
Aroclor 1242 [2C]	**3.0** (0.3)		8082A		5	06/19/20 15:53		DF01606
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 0:43		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 0:43		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 0:43		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 0:43		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 0:43		DF01606

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 8-10
Date Sampled: 06/12/20 09:50
Percent Solids: 91
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1242	**0.2** (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 1:03		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 1:03		DF01606

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 10-12
Date Sampled: 06/12/20 09:52
Percent Solids: 91
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1221	ND (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1232	ND (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1242	**0.3** (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1248	ND (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1254	ND (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1260	ND (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1262	ND (0.05)		8082A		1	06/19/20 1:23		DF01606
Aroclor 1268	ND (0.05)		8082A		1	06/19/20 1:23		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*99 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*103 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 12-14
Date Sampled: 06/12/20 09:55
Percent Solids: 89
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1242	**0.08** (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 1:42		DF01606
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 1:42		DF01606

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 14-16
Date Sampled: 06/12/20 09:57
Percent Solids: 94
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1221	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1232	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1242	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1248	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1254	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1260	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1262	ND (0.05)		8082A		1	06/19/20 2:02		DF01606
Aroclor 1268	ND (0.05)		8082A		1	06/19/20 2:02		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*105 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A22 16-18
Date Sampled: 06/12/20 10:00
Percent Solids: 93
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1221	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1232	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1242 [2C]	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1248	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1254	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1260	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1262	ND (0.05)		8082A		1	06/19/20 2:22		DF01606
Aroclor 1268	ND (0.05)		8082A		1	06/19/20 2:22		DF01606

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 0-2
Date Sampled: 06/12/20 09:05
Percent Solids: 86
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1221	ND (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1232	ND (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1242	ND (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1248 [2C]	**34.7** (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1254	ND (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1260	ND (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1262	ND (2.4)		8082A		40	06/19/20 16:13		DF01607
Aroclor 1268	ND (2.4)		8082A		40	06/19/20 16:13		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 2-4
Date Sampled: 06/12/20 09:07
Percent Solids: 84
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 4:01		DF01607
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 4:01		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 4-6
Date Sampled: 06/12/20 09:10
Percent Solids: 65
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1221	ND (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1232	ND (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1242	**0.6** (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1248	ND (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1254	ND (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1260	ND (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1262	ND (0.08)		8082A		1	06/19/20 4:20		DF01607
Aroclor 1268	ND (0.08)		8082A		1	06/19/20 4:20		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*68 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 6-8
Date Sampled: 06/12/20 09:12
Percent Solids: 79
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 4:40		DF01607
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 4:40		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 8-10
Date Sampled: 06/12/20 09:15
Percent Solids: 70
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1242	ND (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1248 [2C]	**0.1** (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 5:00		DF01607
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 5:00		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*103 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*101 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 10-12
Date Sampled: 06/12/20 09:17
Percent Solids: 89
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 5:20		DF01607
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 5:20		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*105 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 12-14
Date Sampled: 06/12/20 09:20
Percent Solids: 81
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1248 [2C]	**0.2** (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 5:39		DF01607
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 5:39		DF01607

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*103 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*103 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B22 14-16
Date Sampled: 06/12/20 09:22
Percent Solids: 86
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0542
ESS Laboratory Sample ID: 20F0542-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1248	**0.1** (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 5:59		DF01607
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 5:59		DF01607

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*96 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01606 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		108	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		106	40-140			
Surrogate: Decachlorobiphenyl	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0269*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		96	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140	0.9	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		108	40-140	0.2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		107	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Batch DF01607 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01607 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0204*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		100	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		110	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		107	40-140			
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140	1	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140	2	30	
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		112	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		109	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0273*		mg/kg wet	*0.02500*		*109*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0542

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0542
Date Received: 6/12/2020
Project Due Date: 6/19/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	53815	Yes	N/A	Yes	4 oz. Jar	NP	
2	53816	Yes	N/A	Yes	4 oz. Jar	NP	
3	53817	Yes	N/A	Yes	4 oz. Jar	NP	
4	53818	Yes	N/A	Yes	4 oz. Jar	NP	
5	53819	Yes	N/A	Yes	4 oz. Jar	NP	
6	53820	Yes	N/A	Yes	4 oz. Jar	NP	
7	53821	Yes	N/A	Yes	4 oz. Jar	NP	
8	53822	Yes	N/A	Yes	4 oz. Jar	NP	
9	53823	Yes	N/A	Yes	4 oz. Jar	NP	
10	53824	Yes	N/A	Yes	4 oz. Jar	NP	
11	53825	Yes	N/A	Yes	4 oz. Jar	NP	
12	53826	Yes	N/A	Yes	4 oz. Jar	NP	
13	53827	Yes	N/A	Yes	4 oz. Jar	NP	
14	53828	Yes	N/A	Yes	4 oz. Jar	NP	
15	53829	Yes	N/A	Yes	4 oz. Jar	NP	
16	53830	Yes	N/A	Yes	4 oz. Jar	NP	
17	54059	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0542
Date Received: 6/12/2020

2nd Review

Were all containers scanned into storage/lab?	Initials	Yes / No
Are barcode labels on correct containers?		Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled?		Yes / No / NA
Are all Hex Chrome stickers attached?		Yes / No / NA
Are all QC stickers attached?		Yes / No / NA
Are VOA stickers attached/K bubbles noted?		Yes / No / NA

Completed By: _____ Date & Time: 6/12/20 1941

Reviewed By: _____ Date & Time: 6/12/20 2004

Delivered By: _____ 6/12/20 2004

CHAIN OF CUSTODY

ESS Laboratory
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0542 | Page 5 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6-12-20	0940	Grab	Soil	A22 (0-2)	X	1
2		0942			A22 (2-4)	X	1
3		0945			A22 (4-6)	X	1
4		0947			A22 (6-8)	X	1
5		0950			A22 (8-10)	X	1
6		0952			A22 (10-12)	X	1
7		0955			A22 (12-14)	X	1
8		0957			A22 (14-16)	X	1
9		1000			A22 (16-18)	X	1
					(18-20)	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

J
9
1

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by: Mike O'Brien

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-2020	14:41	[signature]	[signature]	JAP 6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CHAIN OF CUSTODY

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essilaboratory.com

ESS Lab # 20F0540 | Page 5 of

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
10	06-12-20	0905	Grab	Soil	B22 (0-2)	X	1
11		0907			B22 (2-4)	X	1
12		0910			B22 (4-6)	X	1
13		0912			B22 (6-8)	X	1
14		0915			B22 (8-10)	X	1
15		0917			B22 (10-12)	X	1
16		0920			B22 (12-14)	X	1
17		0922			B22 (14-16)	X	1
					(16-18)	X	1
					(18-20)	X	1
Container Type:			AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial			J	
Container Volume:			1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*			9	
Preservation Code:			1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*			1	

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-12-2020	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 3.8

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0542 | Page 5 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2657
Email Distribution List: Bmiller@cdwconsultants.com, Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1		0940	Grab	Soil	A22 (0-2)	X	1
2		0942	↓	↓	A22 (2-4)	X	1
3		0945			A22 (4-6)	X	1
4		0947			A22 (6-8)	X	1
5		0950			A22 (8-10)	X	1
6		0952			A22 (10-12)	X	1
7		0955			A22 (12-14)	X	1
8		0957			A22 (14-16)	X	1
9		1000			A22 (16-18)	X	1
					(NB-20)	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

	J	9	1
Total			

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by: Mike O'Brien

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-2020	14:41	[signature]	[signature]	JAP 6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0543

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 2:23 pm, Jun 23, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

SAMPLE RECEIPT

The following samples were received on June 12, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0543-01	A23 0-2	Soil	8082A
20F0543-02	A23 2-4	Soil	8082A
20F0543-03	A23 4-6	Soil	8082A
20F0543-04	A23 6-8	Soil	8082A
20F0543-05	A23 8-10	Soil	8082A
20F0543-06	A23 10-12	Soil	8082A
20F0543-07	A23 12-14	Soil	8082A
20F0543-08	A23 14-16	Soil	8082A
20F0543-09	B23 0-2	Soil	8082A
20F0543-10	B23 2-4	Soil	8082A
20F0543-11	B23 4-6	Soil	8082A
20F0543-12	B23 6-8	Soil	8082A
20F0543-13	B23 8-10	Soil	8082A
20F0543-14	B23 10-12	Soil	8082A
20F0543-15	B23 12-14	Soil	8082A
20F0543-16	B23 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0543-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0543-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0543-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0543-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0543-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0543-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0543-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0543-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0543-01 through 20F0543-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 23, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 0-2
Date Sampled: 06/12/20 11:00
Percent Solids: 91
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 18:25

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1221	ND (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1232	ND (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1242	ND (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1248 [2C]	**114** (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1254	ND (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1260	ND (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1262	ND (28.4)		8082A		500	06/22/20 10:04		DF01607
Aroclor 1268	ND (28.4)		8082A		500	06/22/20 10:04		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 2-4
Date Sampled: 06/12/20 11:02
Percent Solids: 90
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 18:25

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1221	ND (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1232	ND (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1242	**148** (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1248	ND (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1254	ND (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1260	ND (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1262	ND (11.5)		8082A		200	06/22/20 11:43		DF01607
Aroclor 1268	ND (11.5)		8082A		200	06/22/20 11:43		DF01607

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 4-6
Date Sampled: 06/12/20 11:05
Percent Solids: 91
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 18:25

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1221	ND (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1232	ND (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1242	**251** (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1248	ND (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1254	ND (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1260	ND (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1262	ND (22.1)		8082A		400	06/22/20 12:03		DF01607
Aroclor 1268	ND (22.1)		8082A		400	06/22/20 12:03		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 6-8
Date Sampled: 06/12/20 11:07
Percent Solids: 90
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 18:25

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1221	ND (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1232	ND (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1242	**13.5** (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1248	ND (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1254	ND (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1260	ND (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1262	ND (1.1)		8082A		20	06/22/20 12:23		DF01607
Aroclor 1268	ND (1.1)		8082A		20	06/22/20 12:23		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 8-10
Date Sampled: 06/12/20 11:10
Percent Solids: 79
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/16/20 18:25

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1242 [2C]	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1248	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 17:52		DF01607
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 17:52		DF01607

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*85 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 10-12
Date Sampled: 06/12/20 11:12
Percent Solids: 74
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1221	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1232	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1242	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1248	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1254	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1260	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1262	ND (0.07)		8082A		1	06/18/20 18:18		DF01707
Aroclor 1268	ND (0.07)		8082A		1	06/18/20 18:18		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 12-14
Date Sampled: 06/12/20 11:15
Percent Solids: 91
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 18:38		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 18:38		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A23 14-16
Date Sampled: 06/12/20 11:17
Percent Solids: 89
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1248 [2C]	**0.1** (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 18:57		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 18:57		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*68 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 0-2
Date Sampled: 06/12/20 10:15
Percent Solids: 89
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1221	ND (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1232	ND (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1242	ND (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1248	**197** (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1254	ND (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1260	ND (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1262	ND (11.8)		8082A		200	06/21/20 19:53		DF01707
Aroclor 1268	ND (11.8)		8082A		200	06/21/20 19:53		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 2-4
Date Sampled: 06/12/20 10:17
Percent Solids: 81
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1221	ND (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1232	ND (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1242	**316** (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1248	ND (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1254	ND (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1260	ND (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1262	ND (23.6)		8082A		400	06/23/20 3:20		DF01707
Aroclor 1268	ND (23.6)		8082A		400	06/23/20 3:20		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 4-6
Date Sampled: 06/12/20 10:20
Percent Solids: 90
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1221	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1232	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1242	**951** (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1248	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1254	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1260	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1262	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707
Aroclor 1268	ND (56.4)		8082A		1000	06/23/20 3:39		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 6-8
Date Sampled: 06/12/20 10:22
Percent Solids: 87
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1221	ND (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1232	ND (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1242	**49.4** (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1248	ND (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1254	ND (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1260	ND (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1262	ND (2.8)		8082A		50	06/21/20 20:52		DF01707
Aroclor 1268	ND (2.8)		8082A		50	06/21/20 20:52		DF01707

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 8-10
Date Sampled: 06/12/20 10:25
Percent Solids: 86
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 20:36		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 20:36		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 20:36		DF01707
Aroclor 1242	**6.8** (0.6)		8082A		10	06/21/20 21:12		DF01707
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 20:36		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 20:36		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 20:36		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 20:36		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 20:36		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 10-12
Date Sampled: 06/12/20 10:27
Percent Solids: 78
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1242 [2C]	**1.1** (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 20:56		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 20:56		DF01707

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 12-14
Date Sampled: 06/12/20 10:30
Percent Solids: 76
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1221	ND (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1232	ND (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1242	**0.2** (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1248	ND (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1254	ND (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1260	ND (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1262	ND (0.07)		8082A		1	06/18/20 21:16		DF01707
Aroclor 1268	ND (0.07)		8082A		1	06/18/20 21:16		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B23 14-16
Date Sampled: 06/12/20 10:32
Percent Solids: 84
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0543
ESS Laboratory Sample ID: 20F0543-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1248	**0.2** (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 21:36		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 21:36		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01607 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0204*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		100	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		110	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		107	40-140			
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140	1	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140	2	30	
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		112	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		109	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0273*		mg/kg wet	*0.02500*		*109*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
Batch DF01707 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01707 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0129*		mg/kg wet	*0.02500*		*52*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0129*		mg/kg wet	*0.02500*		*52*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0106*		mg/kg wet	*0.02500*		*42*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0112*		mg/kg wet	*0.02500*		*45*	*30-150*			
LCS										
Aroclor 1016	0.6	0.05	mg/kg wet	0.5000		110	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		106	40-140			
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		113	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		109	40-140			
Surrogate: Decachlorobiphenyl	*0.0296*		mg/kg wet	*0.02500*		*118*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0294*		mg/kg wet	*0.02500*		*118*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0277*		mg/kg wet	*0.02500*		*111*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		107	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140	2	30	
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		110	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		106	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0286*		mg/kg wet	*0.02500*		*114*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0284*		mg/kg wet	*0.02500*		*114*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0258*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0270*		mg/kg wet	*0.02500*		*108*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0543

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0543
Date Received: 6/12/2020
Project Due Date: 6/19/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:
Did not receive B-23 (16-18)

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? Shelby Amsel Date: 6/15/20 Time: 1210 By: ML
    Will cancel sample analyses

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	53831	Yes	N/A	Yes	4 oz. Jar	NP	
2	53832	Yes	N/A	Yes	4 oz. Jar	NP	
3	53833	Yes	N/A	Yes	4 oz. Jar	NP	
4	53834	Yes	N/A	Yes	4 oz. Jar	NP	
5	53835	Yes	N/A	Yes	4 oz. Jar	NP	
6	53836	Yes	N/A	Yes	4 oz. Jar	NP	
7	53837	Yes	N/A	Yes	4 oz. Jar	NP	
8	53838	Yes	N/A	Yes	4 oz. Jar	NP	
9	53839	Yes	N/A	Yes	4 oz. Jar	NP	
10	53840	Yes	N/A	Yes	4 oz. Jar	NP	
11	53841	Yes	N/A	Yes	4 oz. Jar	NP	
12	53842	Yes	N/A	Yes	4 oz. Jar	NP	
13	53843	Yes	N/A	Yes	4 oz. Jar	NP	
14	53844	Yes	N/A	Yes	4 oz. Jar	NP	
15	53845	Yes	N/A	Yes	4 oz. Jar	NP	
16	53846	Yes	N/A	Yes	4 oz. Jar	NP	
17	~~53847~~	~~Yes~~	~~N/A~~	~~Yes~~	~~4 oz. Jar~~	~~NP~~	6/12/20

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0543
Date Received: 6/12/2020

~~18~~	~~53848~~	~~Yes~~	~~N/A~~	~~Yes~~	~~4 oz. Jar~~	~~NP~~	6/12/20
~~19~~	~~53849~~	~~Yes~~	~~N/A~~	~~Yes~~	~~4 oz. Jar~~	~~NP~~	

2nd Review

Were all containers scanned into storage/lab? Initials

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/12/20 1934

Reviewed By: _____ Date & Time: 6/12/20 2006

Delivered By: _____ 6/12/20 2006

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0543
Date Received: 6/12/2020
Project Due Date: 6/19/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:
Did not receive B-23 (16-18)

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)
1	53831	Yes	N/A	Yes	4 oz. Jar	NP	
2	53832	Yes	N/A	Yes	4 oz. Jar	NP	
3	53833	Yes	N/A	Yes	4 oz. Jar	NP	
4	53834	Yes	N/A	Yes	4 oz. Jar	NP	
5	53835	Yes	N/A	Yes	4 oz. Jar	NP	
6	53836	Yes	N/A	Yes	4 oz. Jar	NP	
7	53837	Yes	N/A	Yes	4 oz. Jar	NP	
8	53838	Yes	N/A	Yes	4 oz. Jar	NP	
9	53839	Yes	N/A	Yes	4 oz. Jar	NP	
10	53840	Yes	N/A	Yes	4 oz. Jar	NP	
11	53841	Yes	N/A	Yes	4 oz. Jar	NP	
12	53842	Yes	N/A	Yes	4 oz. Jar	NP	
13	53843	Yes	N/A	Yes	4 oz. Jar	NP	
14	53844	Yes	N/A	Yes	4 oz. Jar	NP	
15	53845	Yes	N/A	Yes	4 oz. Jar	NP	
16	53846	Yes	N/A	Yes	4 oz. Jar	NP	
17	~~53847~~	~~Yes~~	~~N/A~~	~~Yes~~	~~4 oz. Jar~~	~~NP~~	6/12/20

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0543
Date Received: 6/12/2020

~~18~~	~~53848~~	~~Yes~~	~~N/A~~	~~Yes~~	~~4 oz. Jar~~	~~NP~~
~~19~~	~~53849~~	~~Yes~~	~~N/A~~	~~Yes~~	~~4 oz. Jar~~	~~NP~~

6/12/20

2nd Review

Were all containers scanned into storage/lab? Initials

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 6/12/20 1934

Reviewed By: Date & Time: 6/12/20 2006

Delivered By: 6/12/20 2006

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

ESS Lab # 20F0543 | Page 8 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6-12-20	1100	Grab	Soil	A23 (0-2)	X	1
2		1102			A23 (2-4)	X	1
3		1105			A23 (4-6)	X	1
4		1107			A23 (6-8)	X	1
5		1110			A23 (8-10)	X	1
6		1112			A23 (10-12)	X	1
7		1115			A23 (12-14)	X	1
8		1117			A23 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-20	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ICR temp. 3.8

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0543 | Page 6 of 7

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports Are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	6-12-20	1015	Grab	Soil	B23 (0-2)	X	1
10		1017			B23 (2-4)	X	1
11		1020			B23 (4-6)	X	1
12		1022			B23 (6-8)	X	1
13		1025			B23 (8-10)	X	1
14		1027			B23 (10-12)	X	1
15		1030			B23 (12-14)	X	1
16		1032			B23 (14-16)	X	1
~~17~~		~~1035~~			~~B23 (16-18)~~	X	1
					[redacted]	X	1

Did not receive sample -ML 6/15/20

Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial	J
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*	9
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*	1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-2020	14:41	[signature]	[signature]	6/12/20	16:24	[signature] 6/12/20

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 3.8

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

ESS Lab # 20F0543 | Page 8 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6-12-20	1100	Grab	Soil	A23 (0-2)	X	1
2		1102			A23 (2-4)	X	1
3		1105			A23 (4-6)	X	1
4		1107			A23 (6-8)	X	1
5		1110			A23 (8-10)	X	1
6		1112			A23 (10-12)	X	1
7		1115			A23 (12-14)	X	1
8		1117			A23 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-20	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ICR temp. 3.8

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0543 | Page 6 of 7

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports Are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
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Phone: 781 875 2667
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Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	6-12-20	1015	Grab	Soil	B23 (0-2)	X	1
10		1017			B23 (2-4)	X	1
11		1020			B23 (4-6)	X	1
12		1022			B23 (6-8)	X	1
13		1025			B23 (8-10)	X	1
14		1027			B23 (10-12)	X	1
15		1030			B23 (12-14)	X	1
16		1032			B23 (14-16)	X	1
17		1035			B23 (16-18)	X	1
					[redacted]	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-2020	14:41	[signature]	[signature]	6/12/20	16:24	[signature] 6/12/20

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 3.8

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0544

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 2:27 pm, Jun 23, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

SAMPLE RECEIPT

The following samples were received on June 12, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0544-01	A24 0-2	Soil	8082A
20F0544-02	A24 2-4	Soil	8082A
20F0544-03	A24 4-6	Soil	8082A
20F0544-04	A24 6-8	Soil	8082A
20F0544-05	A24 8-10	Soil	8082A
20F0544-06	A24 10-12	Soil	8082A
20F0544-07	A24 12-14	Soil	8082A
20F0544-08	A24 14-16	Soil	8082A
20F0544-09	B24 0-2	Soil	8082A
20F0544-10	B24 2-4	Soil	8082A
20F0544-11	B24 4-6	Soil	8082A
20F0544-12	B24 6-8	Soil	8082A
20F0544-13	B24 8-10	Soil	8082A
20F0544-14	B24 10-12	Soil	8082A
20F0544-15	B24 12-14	Soil	8082A
20F0544-16	B24 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0544-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0544-14 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0544-01 through 20F0544-16**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 23, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 0-2
Date Sampled: 06/12/20 11:30
Percent Solids: 89
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1221	ND (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1232	ND (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1242	ND (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1248	**82.9** (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1254	ND (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1260	ND (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1262	ND (5.4)		8082A		100	06/21/20 21:32		DF01707
Aroclor 1268	ND (5.4)		8082A		100	06/21/20 21:32		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 2-4
Date Sampled: 06/12/20 11:32
Percent Solids: 92
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1221	ND (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1232	ND (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1242	ND (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1248	**265** (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1254	ND (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1260	ND (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1262	ND (21.0)		8082A		400	06/23/20 3:59		DF01707
Aroclor 1268	ND (21.0)		8082A		400	06/23/20 3:59		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 4-6
Date Sampled: 06/12/20 11:35
Percent Solids: 92
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1221	ND (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1232	ND (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1242	**147** (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1248	ND (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1254	ND (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1260	ND (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1262	ND (11.4)		8082A		200	06/21/20 22:11		DF01707
Aroclor 1268	ND (11.4)		8082A		200	06/21/20 22:11		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 6-8
Date Sampled: 06/12/20 11:37
Percent Solids: 81
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1242 [2C]	**0.6** (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 22:55		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 22:55		DF01707

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 8-10
Date Sampled: 06/12/20 11:40
Percent Solids: 92
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1221	ND (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1232	ND (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1242	**155** (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1248	ND (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1254	ND (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1260	ND (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1262	ND (11.3)		8082A		200	06/21/20 22:31		DF01707
Aroclor 1268	ND (11.3)		8082A		200	06/21/20 22:31		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 10-12
Date Sampled: 06/12/20 11:42
Percent Solids: 83
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 23:35		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 23:35		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 23:35		DF01707
Aroclor 1242	ND (0.06)		8082A		1	06/18/20 23:35		DF01707
Aroclor 1248	**1.4** (0.1)		8082A		2	06/21/20 22:51		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 23:35		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 23:35		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 23:35		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 23:35		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 12-14
Date Sampled: 06/12/20 11:45
Percent Solids: 91
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/18/20 23:54		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/18/20 23:54		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/18/20 23:54		DF01707
Aroclor 1242	**4.1** (0.3)		8082A		5	06/21/20 23:11		DF01707
Aroclor 1248	ND (0.06)		8082A		1	06/18/20 23:54		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/18/20 23:54		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/18/20 23:54		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/18/20 23:54		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/18/20 23:54		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A24 14-16
Date Sampled: 06/12/20 11:47
Percent Solids: 86
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1242	**0.7** (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 0:14		DF01707
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 0:14		DF01707

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 0-2
Date Sampled: 06/12/20 12:10
Percent Solids: 87
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1221	ND (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1232	ND (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1242	**78.0** (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1248	ND (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1254	ND (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1260	ND (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1262	ND (6.0)		8082A		100	06/21/20 23:31		DF01707
Aroclor 1268	ND (6.0)		8082A		100	06/21/20 23:31		DF01707

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 2-4
Date Sampled: 06/12/20 12:12
Percent Solids: 86
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1221	ND (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1232	ND (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1242	**337** (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1248	ND (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1254	ND (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1260	ND (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1262	ND (24.4)		8082A		400	06/23/20 4:19		DF01708
Aroclor 1268	ND (24.4)		8082A		400	06/23/20 4:19		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 4-6
Date Sampled: 06/12/20 12:15
Percent Solids: 92
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1221	ND (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1232	ND (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1242	**10.0** (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1248	ND (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1254	ND (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1260	ND (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1262	ND (1.1)		8082A		20	06/22/20 0:10		DF01708
Aroclor 1268	ND (1.1)		8082A		20	06/22/20 0:10		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 6-8
Date Sampled: 06/12/20 12:17
Percent Solids: 87
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1221	ND (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1232	ND (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1242	**88.6** (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1248	ND (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1254	ND (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1260	ND (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1262	ND (6.1)		8082A		100	06/22/20 0:30		DF01708
Aroclor 1268	ND (6.1)		8082A		100	06/22/20 0:30		DF01708

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 8-10
Date Sampled: 06/12/20 12:20
Percent Solids: 80
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1242	**0.3** (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 0:50		DF01708
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 0:50		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 10-12
Date Sampled: 06/12/20 12:22
Percent Solids: 89
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1221	ND (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1232	ND (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1242	**147** (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1248	ND (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1254	ND (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1260	ND (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1262	ND (10.9)		8082A		200	06/23/20 4:39		DF01708
Aroclor 1268	ND (10.9)		8082A		200	06/23/20 4:39		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 12-14
Date Sampled: 06/12/20 12:25
Percent Solids: 91
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1242	**0.2** (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 1:30		DF01708
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 1:30		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*92 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B24 14-16
Date Sampled: 06/12/20 12:27
Percent Solids: 93
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0544
ESS Laboratory Sample ID: 20F0544-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 1:50		DF01708
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 1:50		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*107 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01707 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0129*		mg/kg wet	*0.02500*		*52*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0129*		mg/kg wet	*0.02500*		*52*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0106*		mg/kg wet	*0.02500*		*42*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0112*		mg/kg wet	*0.02500*		*45*	*30-150*			
LCS										
Aroclor 1016	0.6	0.05	mg/kg wet	0.5000		110	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		106	40-140			
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		113	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		109	40-140			
Surrogate: Decachlorobiphenyl	*0.0296*		mg/kg wet	*0.02500*		*118*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0294*		mg/kg wet	*0.02500*		*118*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0277*		mg/kg wet	*0.02500*		*111*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		107	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140	2	30	
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		110	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		106	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0286*		mg/kg wet	*0.02500*		*114*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0284*		mg/kg wet	*0.02500*		*114*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0258*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0270*		mg/kg wet	*0.02500*		*108*	*30-150*			
Batch DF01708 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01708 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0244*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Surrogate: Decachlorobiphenyl	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	1	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	0.5	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140	0.2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	0.03	30	
Surrogate: Decachlorobiphenyl	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0240*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0544

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0544
Date Received: 6/12/2020
Project Due Date: 6/19/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	53850	Yes	N/A	Yes	4 oz. Jar	NP	
2	53851	Yes	N/A	Yes	4 oz. Jar	NP	
3	53852	Yes	N/A	Yes	4 oz. Jar	NP	
4	53853	Yes	N/A	Yes	4 oz. Jar	NP	
5	53854	Yes	N/A	Yes	4 oz. Jar	NP	
6	53855	Yes	N/A	Yes	4 oz. Jar	NP	
7	53856	Yes	N/A	Yes	4 oz. Jar	NP	
8	53857	Yes	N/A	Yes	4 oz. Jar	NP	
9	53858	Yes	N/A	Yes	4 oz. Jar	NP	
10	53859	Yes	N/A	Yes	4 oz. Jar	NP	
11	53860	Yes	N/A	Yes	4 oz. Jar	NP	
12	53861	Yes	N/A	Yes	4 oz. Jar	NP	
13	53862	Yes	N/A	Yes	4 oz. Jar	NP	
14	53863	Yes	N/A	Yes	4 oz. Jar	NP	
15	53864	Yes	N/A	Yes	4 oz. Jar	NP	
16	53865	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0544
Date Received: 6/12/2020

2nd Review

Were all containers scanned into storage/lab? Initials _____ Yes / No

Are barcode labels on correct containers? Yes / No / NA

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/12/20 AM

Reviewed By: _____ Date & Time: 6/12/20 2009

Delivered By: _____ 6/12/20 2009

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

ESS Lab # 20F0544 | Page 9 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6-12-20	1130	Grab	Soil	A24 ~~B24~~ (0-2)	X	1
2		1132			A24 ~~B24~~ (2-4)	X	1
3		1135			A24 ~~B24~~ (4-6)	X	1
4		1137			A24 ~~B24~~ (6-8)	X	1
5		1140			A24 ~~B24~~ (8-10)	X	1
6		1142			A24 ~~B24~~ (10-12)	X	1
7		1145			A24 ~~B24~~ (12-14)	X	1
8		1147			A24 ~~B24~~ (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial | J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* | 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* | 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-2020	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

items 3-8

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2010544 | Page 10 of

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
G	06-12-20	1210	Grab	Soil	B24 (0-2)	X	1
10		1212	↓	↓	B24 (2-4)	X	1
11		1215			B24 (4-6)	X	1
12		1217			B24 (6-8)	X	1
13		1220			B24 (8-10)	X	1
14		1222			B24 (10-12)	X	1
15		1225			B24 (12-14)	X	1
16		1227	↓	↓	B24 (14-16)	X	1
					(16-18)	X	1
					(18-20)	X	1
Container Type:	AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial					J	
Container Volume:	1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*					9	
Preservation Code:	1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*					1	

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-12-20	14:41	[signature]	[signature]	6/12/20	16:24	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0578

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 2:17 pm, Jun 23, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

SAMPLE RECEIPT

The following samples were received on June 15, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0578-01	A27 0-2	Soil	8082A
20F0578-02	A27 2-4	Soil	8082A
20F0578-03	A27 4-6	Soil	8082A
20F0578-04	A27 6-8	Soil	8082A
20F0578-05	A27 8-10	Soil	8082A
20F0578-06	A27 10-12	Soil	8082A
20F0578-07	A27 12-14	Soil	8082A
20F0578-08	A27 14-16	Soil	8082A
20F0578-09	A27 16-18	Soil	8082A
20F0578-10	A27 18-20	Soil	8082A
20F0578-11	B27 0-2	Soil	8082A
20F0578-12	B27 6-8	Soil	8082A
20F0578-13	B27 8-10	Soil	8082A
20F0578-14	B27 10-12	Soil	8082A
20F0578-15	B27 12-14	Soil	8082A
20F0578-16	B27 14-16	Soil	8082A
20F0578-17	B27 16-18	Soil	8082A
20F0578-18	B27 18-20	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0578-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0578-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0578-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0578-01 through 20F0578-18**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: June 23, 2020
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 0-2
Date Sampled: 06/15/20 11:20
Percent Solids: 88
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1221	ND (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1232	ND (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1242	ND (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1248	**42.3** (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1254	ND (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1260	ND (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1262	ND (2.9)		8082A		50	06/23/20 4:59		DF01708
Aroclor 1268	ND (2.9)		8082A		50	06/23/20 4:59		DF01708

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 2-4
Date Sampled: 06/15/20 11:25
Percent Solids: 88
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1221	ND (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1232	ND (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1242	ND (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1248	**30.8** (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1254	ND (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1260	ND (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1262	ND (2.9)		8082A		50	06/23/20 5:19		DF01708
Aroclor 1268	ND (2.9)		8082A		50	06/23/20 5:19		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 4-6
Date Sampled: 06/15/20 11:30
Percent Solids: 83
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 5:28		DF01708
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 5:28		DF01708
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 5:28		DF01708
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 5:28		DF01708
Aroclor 1248 [2C]	**12.4** (0.6)		8082A		10	06/23/20 5:39		DF01708
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 5:28		DF01708
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 5:28		DF01708
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 5:28		DF01708
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 5:28		DF01708

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 6-8
Date Sampled: 06/15/20 11:35
Percent Solids: 92
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 5:48		DF01708
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 5:48		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 8-10
Date Sampled: 06/15/20 11:40
Percent Solids: 69
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1221	ND (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1232	ND (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1242	**0.5** (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1248	ND (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1254	ND (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1260	ND (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1262	ND (0.07)		8082A		1	06/22/20 6:08		DF01708
Aroclor 1268	ND (0.07)		8082A		1	06/22/20 6:08		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 10-12
Date Sampled: 06/15/20 11:45
Percent Solids: 75
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1221	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1232	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1242	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1248	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1254	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1260	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1262	ND (0.07)		8082A		1	06/22/20 6:28		DF01708
Aroclor 1268	ND (0.07)		8082A		1	06/22/20 6:28		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*99 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 12-14
Date Sampled: 06/15/20 11:50
Percent Solids: 82
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 6:48		DF01708
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 6:48		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 14-16
Date Sampled: 06/15/20 11:55
Percent Solids: 94
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 7:08		DF01708
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 7:08		DF01708

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 16-18
Date Sampled: 06/15/20 12:00
Percent Solids: 81
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1248	**0.4** (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 7:27		DF01708
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 7:27		DF01708

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A27 18-20
Date Sampled: 06/15/20 12:05
Percent Solids: 95
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 8:47		DF01709
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 8:47		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 0-2
Date Sampled: 06/15/20 10:20
Percent Solids: 87
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1221	ND (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1232	ND (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1242	ND (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1248 [2C]	**17.6** (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1254	ND (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1260	ND (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1262	ND (1.1)		8082A		20	06/23/20 5:58		DF01709
Aroclor 1268	ND (1.1)		8082A		20	06/23/20 5:58		DF01709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 6-8
Date Sampled: 06/15/20 10:30
Percent Solids: 80
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1248 [2C]	**0.2** (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 9:27		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 9:27		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 8-10
Date Sampled: 06/15/20 10:35
Percent Solids: 83
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1248 [2C]	**0.9** (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 9:47		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 9:47		DF01709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 10-12
Date Sampled: 06/15/20 10:40
Percent Solids: 76
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1248 [2C]	**1.0** (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 10:07		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 10:07		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 12-14
Date Sampled: 06/15/20 10:45
Percent Solids: 88
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1248	**0.1** (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 10:26		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 10:26		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 14-16
Date Sampled: 06/15/20 10:50
Percent Solids: 86
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 15:46		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 15:46		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*68 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 16-18
Date Sampled: 06/15/20 10:55
Percent Solids: 85
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1248 [2C]	**0.2** (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 16:06		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 16:06		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B27 18-20
Date Sampled: 06/15/20 11:00
Percent Solids: 87
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0578
ESS Laboratory Sample ID: 20F0578-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 16:26		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 16:26		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01708 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0244*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Surrogate: Decachlorobiphenyl	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		98	40-140	1	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		91	40-140	0.5	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		103	40-140	0.2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	0.03	30	
Surrogate: Decachlorobiphenyl	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0240*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Batch DF01709 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01709 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0254*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	*0.0249*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		93	40-140	4	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	4	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		100	40-140	5	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0578

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0578
Date Received: 6/15/2020
Project Due Date: 6/22/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.4 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	54193	Yes	N/A	Yes	4 oz. Jar	NP	
2	54194	Yes	N/A	Yes	4 oz. Jar	NP	
3	54195	Yes	N/A	Yes	4 oz. Jar	NP	
4	54196	Yes	N/A	Yes	4 oz. Jar	NP	
5	54197	Yes	N/A	Yes	4 oz. Jar	NP	
6	54198	Yes	N/A	Yes	4 oz. Jar	NP	
7	54199	Yes	N/A	Yes	4 oz. Jar	NP	
8	54200	Yes	N/A	Yes	4 oz. Jar	NP	
9	54201	Yes	N/A	Yes	4 oz. Jar	NP	
10	54202	Yes	N/A	Yes	4 oz. Jar	NP	
11	54203	Yes	N/A	Yes	4 oz. Jar	NP	
12	54204	Yes	N/A	Yes	4 oz. Jar	NP	
13	54205	Yes	N/A	Yes	4 oz. Jar	NP	
14	54206	Yes	N/A	Yes	4 oz. Jar	NP	
15	54207	Yes	N/A	Yes	4 oz. Jar	NP	
16	54208	Yes	N/A	Yes	4 oz. Jar	NP	
17	54209	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0578
Date Received: 6/15/2020

18	54210	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Initials

Were all containers scanned into storage/lab?	Yes / No
Are barcode labels on correct containers?	Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled?	Yes / No / NA
Are all Hex Chrome stickers attached?	Yes / No / NA
Are all QC stickers attached?	Yes / No / NA
Are VOA stickers attached if bubbles noted?	Yes / No / NA

Completed By: Date & Time: 6/15/20 1633

Reviewed By: Date & Time: 6/15/20 1637

Delivered By: 6/15/20 1637

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0578

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06-15-20	1120	Grab	Soil	A27 (0-2)	X	1
2		1125			A27 (2-4)	X	1
3		1130			A27 (4-6)	X	1
4		1135			A27 (6-8)	X	1
5		1140			A27 (8-10)	X	1
6		1145			A27 (10-12)	X	1
7		1150			A27 (12-14)	X	1
8		1155			A27 (14-16)	X	1
9		1200			A27 (16-18)	X	1
10		1205			A27 (18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-15-2020	13:41			6/15/20	15:00	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ice temp: 2.6

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0578 | Page 5 of 7

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick, MA
Phone: 781 875 2667
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06-15-20	1020	Grab	Soil	B27 (0-2)	X	1
					~~(2-4)~~	X	1
					~~(4-6)~~	X	1
12		1030			B27 (6-8)	X	1
13		1035			B27 (8-10)	X	1
14		1040			B27 (10-12)	X	1
15		1045			B27 (12-14)	X	1
16		1050			B27 (14-16)	X	1
17		1055			B27 (16-18)	X	1
18		1100			B27 (18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-15-20	13:41	[signature]	[signature]	6/15/20	15:00	[signature]

ice temp: 2.6

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0579

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 5:30 pm, Jun 23, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

SAMPLE RECEIPT

The following samples were received on June 15, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0579-01	A25 0-2	Soil	8082A
20F0579-02	A25 2-4	Soil	8082A
20F0579-03	A25 4-6	Soil	8082A
20F0579-04	A25 6-8	Soil	8082A
20F0579-05	A25 8-10	Soil	8082A
20F0579-06	A25 10-12	Soil	8082A
20F0579-07	A25 12-14	Soil	8082A
20F0579-08	A25 14-16	Soil	8082A
20F0579-09	B25 0-2	Soil	8082A
20F0579-10	B25 2-4	Soil	8082A
20F0579-11	B25 4-6	Soil	8082A
20F0579-12	B25 6-8	Soil	8082A
20F0579-13	B25 8-10	Soil	8082A
20F0579-14	B25 10-12	Soil	8082A
20F0579-15	B25 12-14	Soil	8082A
20F0579-16	B25 14-16	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0579-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0579-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0579-01 through 20F0579-16**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: June 23, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 0-2
Date Sampled: 06/15/20 07:00
Percent Solids: 88
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1221	ND (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1232	ND (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1242	**318** (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1248	ND (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1254	ND (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1260	ND (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1262	ND (23.6)		8082A		400	06/23/20 12:53		DF01709
Aroclor 1268	ND (23.6)		8082A		400	06/23/20 12:53		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 2-4
Date Sampled: 06/15/20 07:02
Percent Solids: 93
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1242	**0.2** (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 17:05		DF01709
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 17:05		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*94 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 4-6
Date Sampled: 06/15/20 07:05
Percent Solids: 89
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 17:25		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 17:25		DF01709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 6-8
Date Sampled: 06/15/20 07:07
Percent Solids: 85
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1242	**0.1** (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 17:45		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 17:45		DF01709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*109 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 8-10
Date Sampled: 06/15/20 07:10
Percent Solids: 81
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 18:05		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 18:05		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 10-12
Date Sampled: 06/15/20 07:12
Percent Solids: 83
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 18:25		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 18:25		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*109 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 12-14
Date Sampled: 06/15/20 07:15
Percent Solids: 93
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 18:44		DF01709
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 18:44		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*92 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A25 14-16
Date Sampled: 06/15/20 07:17
Percent Solids: 83
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1248	**0.2** (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 19:04		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 19:04		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 0-2
Date Sampled: 06/15/20 07:20
Percent Solids: 91
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1221	ND (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1232	ND (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1242	**173** (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1248	ND (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1254	ND (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1260	ND (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1262	ND (11.3)		8082A		200	06/23/20 13:12		DF01709
Aroclor 1268	ND (11.3)		8082A		200	06/23/20 13:12		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 2-4
Date Sampled: 06/15/20 07:22
Percent Solids: 80
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 19:44		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 19:44		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 19:44		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 19:44		DF01709
Aroclor 1248 [2C]	**2.0** (0.3)		8082A		5	06/23/20 13:32		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 19:44		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 19:44		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 19:44		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 19:44		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*100 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 4-6
Date Sampled: 06/15/20 07:25
Percent Solids: 87
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 20:04		DF01709
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 20:04		DF01709
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 20:04		DF01709
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 20:04		DF01709
Aroclor 1248 [2C]	**1.3** (0.1)		8082A		2	06/23/20 13:52		DF01709
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 20:04		DF01709
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 20:04		DF01709
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 20:04		DF01709
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 20:04		DF01709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 6-8
Date Sampled: 06/15/20 07:27
Percent Solids: 74
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1242	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1248	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 1:22		DF01710
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 1:22		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 8-10
Date Sampled: 06/15/20 07:30
Percent Solids: 72
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1242	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1248	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 1:41		DF01710
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 1:41		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 10-12
Date Sampled: 06/15/20 07:32
Percent Solids: 89
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 2:00		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 2:00		DF01710

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*105 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 12-14
Date Sampled: 06/15/20 07:35
Percent Solids: 92
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 2:19		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 2:19		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*106 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*101 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B25 14-16
Date Sampled: 06/15/20 07:37
Percent Solids: 91
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0579
ESS Laboratory Sample ID: 20F0579-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1248	**0.07** (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 2:38		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 2:38		DF01710

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*112 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*102 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01709 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0254*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Surrogate: Decachlorobiphenyl	*0.0249*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		93	40-140	4	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	4	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		100	40-140	5	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0259*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Batch DF01710 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01710 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0245*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		98	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Surrogate: Decachlorobiphenyl	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0249*		mg/kg wet	*0.02500*		*100*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		101	40-140	0.8	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140	0.2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140	0.8	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140	0.8	30	
Surrogate: Decachlorobiphenyl	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0248*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0248*		mg/kg wet	*0.02500*		*99*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0579

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0579
Date Received: 6/15/2020
Project Due Date: 6/22/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.4 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	54211	Yes	N/A	Yes	4 oz. Jar	NP	
2	54212	Yes	N/A	Yes	4 oz. Jar	NP	
3	54213	Yes	N/A	Yes	4 oz. Jar	NP	
4	54214	Yes	N/A	Yes	4 oz. Jar	NP	
5	54215	Yes	N/A	Yes	4 oz. Jar	NP	
6	54216	Yes	N/A	Yes	4 oz. Jar	NP	
7	54217	Yes	N/A	Yes	4 oz. Jar	NP	
8	54218	Yes	N/A	Yes	4 oz. Jar	NP	
9	54219	Yes	N/A	Yes	4 oz. Jar	NP	
10	54220	Yes	N/A	Yes	4 oz. Jar	NP	
11	54221	Yes	N/A	Yes	4 oz. Jar	NP	
12	54222	Yes	N/A	Yes	4 oz. Jar	NP	
13	54223	Yes	N/A	Yes	4 oz. Jar	NP	
14	54224	Yes	N/A	Yes	4 oz. Jar	NP	
15	54225	Yes	N/A	Yes	4 oz. Jar	NP	
16	54226	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0579
Date Received: 6/15/2020

2nd Review

Initials

Were all containers scanned into storage/lab?	Yes / No
Are barcode labels on correct containers?	Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled?	Yes / No / NA
Are all Hex Chrome stickers attached?	Yes / No / NA
Are all QC stickers attached?	Yes / No / NA
Are VOA stickers attached if bubbles noted?	Yes / No / NA

Completed By: Date & Time: 6/15/20 1625

Reviewed By: Date & Time: ~~6/15/20~~ ~~1629~~ 6/15/20 1642

Delivered By: 6/15/20 1642

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0579 | Page 1 of 7

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2657
Email Distribution List: Bmiller@cdwconsultants.com, Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06-16-20	0700	Grab	Soil	A25 (0-2)	X	1
2		0702			A25 (2-4)	X	1
3		0705			A25 (4-6)	X	1
4		0707			A25 (6-8)	X	1
5		0710			A25 (8-10)	X	1
6		0712			A25 (10-12)	X	1
7		0715			A25 (12-14)	X	1
8		0717			A25 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 8
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	06-15-20	13:41	[signature]	[signature]	6/15/20	15:00	[signature]

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0579

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 876 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
9	06-15-20	0720	Grab	Soil	B25 (0-2)	X	1
10		0722			B25 (2-4)	X	1
11		0725			B25 (4-6)	X	1
12		0727			B25 (6-8)	X	1
13		0730			B25 (8-10)	X	1
14		0732			B25 (10-12)	X	1
15		0735			B25 (12-14)	X	1
16		0737			B25 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-15-20	13:41	[signature]	[signature]	6/15/20	15:00	[signature]

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0580

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 3:57 pm, Jun 22, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

SAMPLE RECEIPT

The following samples were received on June 15, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0580-01	A26 0-2	Soil	8082A
20F0580-02	A26 2-4	Soil	8082A
20F0580-03	A26 4-6	Soil	8082A
20F0580-04	A26 6-8	Soil	8082A
20F0580-05	A26 8-10	Soil	8082A
20F0580-06	A26 10-12	Soil	8082A
20F0580-07	A26 12-14	Soil	8082A
20F0580-08	A26 14-16	Soil	8082A
20F0580-09	B26 4-6	Soil	8082A
20F0580-10	B26 6-8	Soil	8082A
20F0580-11	B26 8-10	Soil	8082A
20F0580-12	B26 10-12	Soil	8082A
20F0580-13	B26 12-14	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0580-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0580-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0580-01 through 20F0580-13**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)?	Yes (X) No ( )*
	Data User Note: ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 22, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 0-2
Date Sampled: 06/15/20 07:45
Percent Solids: 91
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1221	ND (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1232	ND (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1242	ND (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1248	**199** (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1254	ND (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1260	ND (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1262	ND (28.7)		8082A		500	06/19/20 13:47		DF01710
Aroclor 1268	ND (28.7)		8082A		500	06/19/20 13:47		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 2-4
Date Sampled: 06/15/20 07:47
Percent Solids: 87
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1248	**0.7** (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 3:15		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 3:15		DF01710

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 4-6
Date Sampled: 06/15/20 07:50
Percent Solids: 88
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 3:34		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 3:34		DF01710

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 6-8
Date Sampled: 06/15/20 07:52
Percent Solids: 83
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 3:53		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 3:53		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 3:53		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 3:53		DF01710
Aroclor 1248	**3.8** (0.3)		8082A		5	06/19/20 13:09		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 3:53		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 3:53		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 3:53		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 3:53		DF01710

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 8-10
Date Sampled: 06/15/20 07:55
Percent Solids: 92
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1248	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 4:12		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 4:12		DF01710

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*104 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*103 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 10-12
Date Sampled: 06/15/20 08:00
Percent Solids: 67
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1221	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1232	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1242	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1248	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1254	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1260	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1262	ND (0.08)		8082A		1	06/19/20 4:31		DF01710
Aroclor 1268	ND (0.08)		8082A		1	06/19/20 4:31		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 12-14
Date Sampled: 06/15/20 08:05
Percent Solids: 68
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1242	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1248	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 4:50		DF01710
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 4:50		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*109 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*107 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A26 14-16
Date Sampled: 06/15/20 08:15
Percent Solids: 81
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1221	ND (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1232	ND (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1242	ND (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1248	**0.6** (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1254	ND (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1260	ND (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1262	ND (0.06)		8082A		1	06/19/20 5:09		DF01710
Aroclor 1268	ND (0.06)		8082A		1	06/19/20 5:09		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*111 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*109 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B26 4-6
Date Sampled: 06/15/20 10:05
Percent Solids: 89
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1221	ND (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1232	ND (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1242	ND (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1248	**13.8** (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1254	ND (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1260	ND (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1262	ND (1.1)		8082A		20	06/19/20 13:28		DF01710
Aroclor 1268	ND (1.1)		8082A		20	06/19/20 13:28		DF01710

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B26 6-8
Date Sampled: 06/15/20 10:07
Percent Solids: 73
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 13:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1242	ND (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1248	**0.1** (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 8:19		DF01710
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 8:19		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B26 8-10
Date Sampled: 06/15/20 10:10
Percent Solids: 74
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/17/20 19:23

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1221	ND (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1232	ND (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1242	ND (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1248	**0.1** (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1254	ND (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1260	ND (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1262	ND (0.07)		8082A		1	06/19/20 8:38		DF01710
Aroclor 1268	ND (0.07)		8082A		1	06/19/20 8:38		DF01710

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*102 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*101 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B26 10-12
Date Sampled: 06/15/20 10:12
Percent Solids: 70
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:01

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1221	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1232	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1242	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1248	**0.9** (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1254	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1260	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1262	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909
Aroclor 1268	ND (0.07)		8082A		1	06/22/20 8:13	D0F0406	DF01909

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B26 12-14
Date Sampled: 06/15/20 10:15
Percent Solids: 69
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0580
ESS Laboratory Sample ID: 20F0580-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:01

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1221	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1232	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1242	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1248	**0.3** (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1254	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1260	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1262	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909
Aroclor 1268	ND (0.08)		8082A		1	06/22/20 8:33	D0F0406	DF01909

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*81 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01710 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0263*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0245*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		98	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		97	40-140			
Surrogate: Decachlorobiphenyl	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0249*		mg/kg wet	*0.02500*		*100*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		101	40-140	0.8	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		99	40-140	0.2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		97	40-140	0.8	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140	0.8	30	
Surrogate: Decachlorobiphenyl	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0248*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0248*		mg/kg wet	*0.02500*		*99*	*30-150*			
Batch DF01909 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01909 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0226*		mg/kg wet	*0.02500*		*91*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		86	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		90	40-140			
Surrogate: Decachlorobiphenyl	*0.0251*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		84	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		84	40-140	2	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		88	40-140	2	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		87	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0244*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0259*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0580

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0580
Date Received: 6/15/2020
Project Due Date: 6/22/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.4 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	54229	Yes	N/A	Yes	4 oz. Jar	NP	
2	54230	Yes	N/A	Yes	4 oz. Jar	NP	
3	54231	Yes	N/A	Yes	4 oz. Jar	NP	
4	54232	Yes	N/A	Yes	4 oz. Jar	NP	
5	54233	Yes	N/A	Yes	4 oz. Jar	NP	
6	54234	Yes	N/A	Yes	4 oz. Jar	NP	
7	54235	Yes	N/A	Yes	4 oz. Jar	NP	
8	54236	Yes	N/A	Yes	4 oz. Jar	NP	
9	54237	Yes	N/A	Yes	4 oz. Jar	NP	
10	54238	Yes	N/A	Yes	4 oz. Jar	NP	
11	54239	Yes	N/A	Yes	4 oz. Jar	NP	
12	54240	Yes	N/A	Yes	4 oz. Jar	NP	
13	54241	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials Yes / No
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0580
Date Received: 6/15/2020

Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: _____ Date & Time: 6/16/20 1620

Reviewed By: _____ Date & Time: 6/15/20 1640

Delivered By: _____ 6/15/20 1640

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

ESS Lab # 20F0580 | Page 3 of 7

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?:
☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)
☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	06-15-20	0745	Grab	Soil	A26 (0-2)	X	1
2		0747	↓	↓	A26 (2-4)	X	1
3		0750			A26 (4-6)	X	1
4		0752			A26 (6-8)	X	1
5		0755			A26 (8-10)	X	1
6		0800			A26 (10-12)	X	1
7		0805			A26 (12-14)	X	1
8		0815	↓	↓	A26 (14-16)	X	1
					~~(16-18)~~	X	1
					~~(18-20)~~	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-15-20	13:41	[signature]	[signature]	6/15/20	15:00	[signature]

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

Attmp. 2.4

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0580 | Page 4 of 7

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2857
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
	06-15-20		Grab	Soil	~~(0-2)~~	X	1
					~~(2-4)~~	X	1
9		1005			B26 (4-6)	X	1
10		1007			B26 (6-8)	X	1
11		1010			B26 (8-10)	X	1
12		1012			B26 (10-12)	X	1
13		1015			B26 (12-14)	X	1
					~~B27 (0-2 (14-16)~~	X	1
					~~(16-18)~~	X	1
					(18-20)	X	1
						J	
						9	
						1	

Container Type: AG-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-15-20	13:41	[signature]	[signature]	6/15/20	15:40	[signature]

version: 2.4

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0581

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 5:08 pm, Jun 23, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

SAMPLE RECEIPT

The following samples were received on June 15, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0581-01	A28 4-6	Soil	8082A
20F0581-02	A28 6-8	Soil	8082A
20F0581-03	A28 8-10	Soil	8082A
20F0581-04	A28 10-12	Soil	8082A
20F0581-05	A28 12-14	Soil	8082A
20F0581-06	A28 14-16	Soil	8082A
20F0581-07	A28 16-18	Soil	8082A
20F0581-08	A28 18-20	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0581-01 through 20F0581-08**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for '"Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (x) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 23, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 4-6
Date Sampled: 06/15/20 12:20
Percent Solids: 95
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/21/20 21:50		DF01910
Aroclor 1221	ND (0.05)		8082A		1	06/21/20 21:50		DF01910
Aroclor 1232	ND (0.05)		8082A		1	06/21/20 21:50		DF01910
Aroclor 1242	ND (0.05)		8082A		1	06/21/20 21:50		DF01910
Aroclor 1248	**2.5** (0.3)		8082A		5	06/22/20 15:02		DF01910
Aroclor 1254	ND (0.05)		8082A		1	06/21/20 21:50		DF01910
Aroclor 1260	ND (0.05)		8082A		1	06/21/20 21:50		DF01910
Aroclor 1262	ND (0.05)		8082A		1	06/21/20 21:50		DF01910
Aroclor 1268	ND (0.05)		8082A		1	06/21/20 21:50		DF01910

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*36 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*45 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*40 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*45 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 6-8
Date Sampled: 06/15/20 13:30
Percent Solids: 79
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1221	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1232	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1242	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1248	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1254	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1260	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1262	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910
Aroclor 1268	ND (0.06)		8082A		1	06/21/20 22:10	D0F0407	DF01910

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*55 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*66 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 8-10
Date Sampled: 06/15/20 13:00
Percent Solids: 74
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1221	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1232	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1242	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1248	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1254	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1260	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1262	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910
Aroclor 1268	ND (0.07)		8082A		1	06/21/20 22:29	D0F0407	DF01910

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 10-12
Date Sampled: 06/15/20 13:05
Percent Solids: 84
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/21/20 22:49		DF01910
Aroclor 1221	ND (0.06)		8082A		1	06/21/20 22:49		DF01910
Aroclor 1232	ND (0.06)		8082A		1	06/21/20 22:49		DF01910
Aroclor 1242	ND (0.06)		8082A		1	06/21/20 22:49		DF01910
Aroclor 1248 [2C]	**2.0** (0.3)		8082A		5	06/22/20 15:21		DF01910
Aroclor 1254	ND (0.06)		8082A		1	06/21/20 22:49		DF01910
Aroclor 1260	ND (0.06)		8082A		1	06/21/20 22:49		DF01910
Aroclor 1262	ND (0.06)		8082A		1	06/21/20 22:49		DF01910
Aroclor 1268	ND (0.06)		8082A		1	06/21/20 22:49		DF01910

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*33 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*46 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*36 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*36 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 12-14
Date Sampled: 06/15/20 13:10
Percent Solids: 81
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1221	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1232	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1242	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1248	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1254	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1260	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1262	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910
Aroclor 1268	ND (0.06)		8082A		1	06/21/20 23:09	D0F0407	DF01910

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 14-16
Date Sampled: 06/15/20 13:15
Percent Solids: 78
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:14

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1221	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1232	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1242	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1248	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1254	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1260	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1262	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910
Aroclor 1268	ND (0.07)		8082A		1	06/21/20 23:29	D0F0407	DF01910

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 16-18
Date Sampled: 06/15/20 13:20
Percent Solids: 74
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:26

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1221	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1232	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1242	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1248	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1254	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1260	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1262	ND (0.07)		8082A		1	06/22/20 15:51		DF01911
Aroclor 1268	ND (0.07)		8082A		1	06/22/20 15:51		DF01911

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A28 18-20
Date Sampled: 06/15/20 13:25
Percent Solids: 86
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0581
ESS Laboratory Sample ID: 20F0581-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/19/20 13:26

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 16:10		DF01911
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 16:10		DF01911

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*97 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01910 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0278*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0249*		mg/kg wet	*0.02500*		*100*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		93	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		103	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		103	40-140			
Surrogate: Decachlorobiphenyl	*0.0258*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0277*		mg/kg wet	*0.02500*		*111*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0248*		mg/kg wet	*0.02500*		*99*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		90	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		96	40-140	3	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		99	40-140	4	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		101	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0253*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0273*		mg/kg wet	*0.02500*		*109*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0216*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0244*		mg/kg wet	*0.02500*		*97*	*30-150*			
Batch DF01911 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01911 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0267*		mg/kg wet	*0.02500*		*107*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0245*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0226*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0246*		mg/kg wet	*0.02500*		*99*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Surrogate: Decachlorobiphenyl	*0.0271*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0248*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		99	40-140	5	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		93	40-140	5	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		95	40-140	5	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0281*		mg/kg wet	*0.02500*		*112*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0258*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0237*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0249*		mg/kg wet	*0.02500*		*99*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0581

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0581
Date Received: 6/15/2020
Project Due Date: 6/22/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.4 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	54245	Yes	N/A	Yes	4 oz. Jar	NP	
2	54246	Yes	N/A	Yes	4 oz. Jar	NP	
3	54247	Yes	N/A	Yes	4 oz. Jar	NP	
4	54248	Yes	N/A	Yes	4 oz. Jar	NP	
5	54249	Yes	N/A	Yes	4 oz. Jar	NP	
6	54250	Yes	N/A	Yes	4 oz. Jar	NP	
7	54251	Yes	N/A	Yes	4 oz. Jar	NP	
8	54252	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials Yes / No
Are barcode labels on correct containers? Yes / No / NA
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0581

Date Received: 6/15/2020

By: Date & Time: 6/15/20 1629

Reviewed By: Date & Time: 6/15/20 1635

Delivered By: 6/15/20 1635

CHAIN OF CUSTODY

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

ESS Lab # 20F0581 Page 7 of 7

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
	06-15-20		Grab	Soil	~~A28 (0-2)~~	X	1
					~~(2-4)~~	X	1
1		1220			A28 (4-6)	X	1
2		1230			A28 (6-8)	X	1
3		1300			A28 (8-10)	X	1
4		1305			A28 (10-12)	X	1
5		1310			A28 (12-14)	X	1
6		1315			A28 (14-16)	X	1
7		1320			A28 (16-18)	X	1
8		1325			A28 (18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6/15/20	13:41			6/15/20	15:00	

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0616

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 4:29 pm, Jun 24, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

SAMPLE RECEIPT

The following samples were received on June 16, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0616-01	C29 0-2	Soil	8082A
20F0616-02	C29 2-4	Soil	8082A
20F0616-03	C29 4-6	Soil	8082A
20F0616-04	C29 6-8	Soil	8082A
20F0616-05	C29 8-10	Soil	8082A
20F0616-06	C29 10-12	Soil	8082A
20F0616-07	C29 12-14	Soil	8082A
20F0616-08	C29 14-16	Soil	8082A
20F0616-09	C29 16-18	Soil	8082A
20F0616-10	C29 18-20	Soil	8082A
20F0616-11	C30 0-2	Soil	8082A
20F0616-12	C30 2-4	Soil	8082A
20F0616-13	C30 4-6	Soil	8082A
20F0616-14	C30 6-8	Soil	8082A
20F0616-15	C30 8-10	Soil	8082A
20F0616-16	C30 10-12	Soil	8082A
20F0616-17	C30 12-14	Soil	8082A
20F0616-18	C30 14-16	Soil	8082A
20F0616-19	C30 16-18	Soil	8082A
20F0616-20	C30 18-20	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0616-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0616-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0616-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0616-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0616-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0616-13 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20F0616-16 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0616-01 through 20F0616-20**

Matrices: ( ) Ground Water/Surface Water (X) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(X) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (X) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (X) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (X) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (X) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (X) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (X)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (X) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 24, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 0-2
Date Sampled: 06/16/20 10:30
Percent Solids: 95
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1221	ND (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1232	ND (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1242	ND (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1248	**65.4** (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1254	ND (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1260	ND (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1262	ND (5.2)		8082A		100	06/23/20 11:28		DF01955
Aroclor 1268	ND (5.2)		8082A		100	06/23/20 11:28		DF01955

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 2-4
Date Sampled: 06/16/20 10:35
Percent Solids: 91
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1221	ND (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1232	ND (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1242	ND (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1248	**169** (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1254	ND (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1260	ND (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1262	ND (10.8)		8082A		200	06/23/20 10:28		DF01955
Aroclor 1268	ND (10.8)		8082A		200	06/23/20 10:28		DF01955

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 4-6
Date Sampled: 06/16/20 10:40
Percent Solids: 62
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1221	ND (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1232	ND (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1242	ND (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1248	**23.7** (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1254	ND (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1260	ND (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1262	ND (1.6)		8082A		20	06/23/20 10:48		DF01955
Aroclor 1268	ND (1.6)		8082A		20	06/23/20 10:48		DF01955

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 6-8
Date Sampled: 06/16/20 10:45
Percent Solids: 87
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1221	ND (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1232	ND (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1242	**0.2** (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1248	ND (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1254	ND (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1260	ND (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1262	ND (0.05)		8082A		1	06/23/20 4:02		DF01955
Aroclor 1268	ND (0.05)		8082A		1	06/23/20 4:02		DF01955

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 8-10
Date Sampled: 06/16/20 10:50
Percent Solids: 96
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1221	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1232	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1242	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1248	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1254	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1260	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1262	ND (0.05)		8082A		1	06/23/20 4:21		DF01955
Aroclor 1268	ND (0.05)		8082A		1	06/23/20 4:21		DF01955

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*82 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 10-12
Date Sampled: 06/16/20 10:55
Percent Solids: 90
Initial Volume: 21.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1221	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1232	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1242	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1248 [2C]	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1254	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1260	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1262	ND (0.05)		8082A		1	06/23/20 4:41		DF01955
Aroclor 1268	ND (0.05)		8082A		1	06/23/20 4:41		DF01955

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*66 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 12-14
Date Sampled: 06/16/20 11:00
Percent Solids: 93
Initial Volume: 21.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1221	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1232	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1242	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1248	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1254	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1260	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1262	ND (0.05)		8082A		1	06/23/20 5:01		DF01955
Aroclor 1268	ND (0.05)		8082A		1	06/23/20 5:01		DF01955

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 14-16
Date Sampled: 06/16/20 11:15
Percent Solids: 60
Initial Volume: 21.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1221	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1232	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1242	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1248	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1254	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1260	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1262	ND (0.08)		8082A		1	06/23/20 5:21		DF01955
Aroclor 1268	ND (0.08)		8082A		1	06/23/20 5:21		DF01955

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 16-18
Date Sampled: 06/16/20 11:10
Percent Solids: 86
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 5:40		DF01955
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 5:40		DF01955
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 5:40		DF01955
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 5:40		DF01955
Aroclor 1248	**6.7** (0.6)		8082A		10	06/23/20 11:08		DF01955
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 5:40		DF01955
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 5:40		DF01955
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 5:40		DF01955
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 5:40		DF01955

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*67 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C29 18-20
Date Sampled: 06/16/20 11:30
Percent Solids: 93
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 20:36		DF01956
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 20:36		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*103 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*98 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 0-2
Date Sampled: 06/15/20 11:45
Percent Solids: 93
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1221	ND (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1232	ND (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1242	ND (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1248	**241** (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1254	ND (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1260	ND (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1262	ND (26.6)		8082A		500	06/24/20 11:37		DF01956
Aroclor 1268	ND (26.6)		8082A		500	06/24/20 11:37		DF01956

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 2-4
Date Sampled: 06/15/20 11:50
Percent Solids: 94
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1221	ND (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1232	ND (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1242	ND (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1248	**173** (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1254	ND (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1260	ND (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1262	ND (26.7)		8082A		500	06/24/20 11:56		DF01956
Aroclor 1268	ND (26.7)		8082A		500	06/24/20 11:56		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 4-6
Date Sampled: 06/15/20 12:00
Percent Solids: 96
Initial Volume: 22.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1221	ND (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1232	ND (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1242	ND (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1248	**185** (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1254	ND (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1260	ND (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1262	ND (23.6)		8082A		500	06/24/20 12:15		DF01956
Aroclor 1268	ND (23.6)		8082A		500	06/24/20 12:15		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 6-8
Date Sampled: 06/15/20 12:05
Percent Solids: 86
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1248	**0.2** (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 23:45		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 23:45		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*80 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 8-10
Date Sampled: 06/15/20 12:10
Percent Solids: 96
Initial Volume: 21.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1221	ND (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1232	ND (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1242	**0.2** (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1248	ND (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1254	ND (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1260	ND (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1262	ND (0.05)		8082A		1	06/23/20 0:04		DF01956
Aroclor 1268	ND (0.05)		8082A		1	06/23/20 0:04		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 10-12
Date Sampled: 06/15/20 12:15
Percent Solids: 87
Initial Volume: 20.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1221	ND (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1232	ND (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1242	**69.8** (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1248	ND (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1254	ND (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1260	ND (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1262	ND (5.5)		8082A		100	06/23/20 23:57		DF01956
Aroclor 1268	ND (5.5)		8082A		100	06/23/20 23:57		DF01956

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 12-14
Date Sampled: 06/15/20 12:20
Percent Solids: 78
Initial Volume: 21.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1248	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 0:42		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 0:42		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*86 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*74 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 14-16
Date Sampled: 06/15/20 12:25
Percent Solids: 69
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1221	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1232	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1242	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1248	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1254	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1260	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1262	ND (0.07)		8082A		1	06/23/20 1:01		DF01956
Aroclor 1268	ND (0.07)		8082A		1	06/23/20 1:01		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*74 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 16-18
Date Sampled: 06/15/20 12:30
Percent Solids: 93
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1221	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1232	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1242	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1248	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1254	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1260	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1262	ND (0.05)		8082A		1	06/23/20 1:20		DF01956
Aroclor 1268	ND (0.05)		8082A		1	06/23/20 1:20		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*99 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C30 18-20
Date Sampled: 06/15/20 12:35
Percent Solids: 91
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0616
ESS Laboratory Sample ID: 20F0616-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1221	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1232	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1242	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1248	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1254	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1260	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1262	ND (0.05)		8082A		1	06/23/20 1:39		DF01956
Aroclor 1268	ND (0.05)		8082A		1	06/23/20 1:39		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*107 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*105 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01955 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0256*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Surrogate: Decachlorobiphenyl	*0.0260*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0273*		mg/kg wet	*0.02500*		*109*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0225*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140	3	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		89	40-140	3	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		94	40-140	2	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	2	30	
Surrogate: Decachlorobiphenyl	*0.0260*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0274*		mg/kg wet	*0.02500*		*110*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0231*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Batch DF01956 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01956 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		75	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		81	40-140			
Aroclor 1260 [2C]	0.3	0.05	mg/kg wet	0.5000		62	40-140			
Surrogate: Decachlorobiphenyl	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140	1	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		77	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		82	40-140	2	30	
Aroclor 1260 [2C]	0.3	0.05	mg/kg wet	0.5000		63	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0197*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0616

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0616
Date Received: 6/16/2020
Project Due Date: 6/23/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.1 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	54854	Yes	N/A	Yes	4 oz. Jar	NP	
2	54855	Yes	N/A	Yes	4 oz. Jar	NP	
3	54856	Yes	N/A	Yes	4 oz. Jar	NP	
4	54857	Yes	N/A	Yes	4 oz. Jar	NP	
5	54858	Yes	N/A	Yes	4 oz. Jar	NP	
6	54859	Yes	N/A	Yes	4 oz. Jar	NP	
7	54860	Yes	N/A	Yes	4 oz. Jar	NP	
8	54861	Yes	N/A	Yes	4 oz. Jar	NP	
9	54862	Yes	N/A	Yes	4 oz. Jar	NP	
10	54863	Yes	N/A	Yes	4 oz. Jar	NP	
11	54864	Yes	N/A	Yes	4 oz. Jar	NP	
12	54865	Yes	N/A	Yes	4 oz. Jar	NP	
13	54866	Yes	N/A	Yes	4 oz. Jar	NP	
14	54867	Yes	N/A	Yes	4 oz. Jar	NP	
15	54868	Yes	N/A	Yes	4 oz. Jar	NP	
16	54869	Yes	N/A	Yes	4 oz. Jar	NP	
17	54870	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0616
Date Received: 6/16/2020

18	54871	Yes	N/A	Yes	4 oz. Jar	NP
19	54872	Yes	N/A	Yes	4 oz. Jar	NP
20	54873	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 6/16/20 1556

Reviewed By: Date & Time: 6/16/20 1606

Delivered By: 6/16/20 1606

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essliaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0616

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
1	6-16-20	1030	Grab	Soil	C29 (0-2)	X	1
2		1035	↓	↓	C29 (2-4)	X	1
3		1040			C29 (4-6)	X	1
4		1045			C29 (6-8)	X	1
5		1050			C29 (8-10)	X	1
6		1055			C29 (10-12)	X	1
7		1100			C29 (12-14)	X	1
8		1115			C29 (14-16)	X	1
9		1110			C29 (16-18)	X	1
10		1130	↓	↓	C29 (18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-15-20	13:17	[signature]	[signature]	6/16/20	14:29	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ccsemp: 2.1

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essiaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0616 | Page 4 of 4

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
11	06-15-20	1145	Grab	Soil	C30 (0-2)	X	1
12		1150			C30 (2-4)	X	1
13		1200			C30 (4-6)	X	1
14		1205			C30 (6-8)	X	1
15		1210			C30 (8-10)	X	1
16		1215			C30 (10-12)	X	1
17		1220			C30 (12-14)	X	1
18		1225			C30 (14-16)	X	1
19		1230			C30 (16-18)	X	1
20		1235			C30 (18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-15-2020	13:17			6/16/20	14:29	
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ccl+emp: 21

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20F0617

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 1:55 pm, Jun 24, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

SAMPLE RECEIPT

The following samples were received on June 16, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0617-01	B28 6-8	Soil	8082A
20F0617-02	B28 8-10	Soil	8082A
20F0617-03	B28 10-12	Soil	8082A
20F0617-04	B28 12-14	Soil	8082A
20F0617-05	B28 14-16	Soil	8082A
20F0617-06	B28 16-18	Soil	8082A
20F0617-07	B28 18-20	Soil	8082A
20F0617-08	A29 4-6	Soil	8082A
20F0617-09	A29 6-8	Soil	8082A
20F0617-10	A29 8-10	Soil	8082A
20F0617-11	A29 10-12	Soil	8082A
20F0617-12	A29 12-14	Soil	8082A
20F0617-13	A29 14-16	Soil	8082A
20F0617-14	A29 16-18	Soil	8082A
20F0617-15	A29 18-20	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20F0617-08 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0617-01 through 20F0617-15**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 24, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B28 6-8
Date Sampled: 06/15/20 07:05
Percent Solids: 85
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1248	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 1:58		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 1:58		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*90 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B28 8-10
Date Sampled: 06/15/20 07:10
Percent Solids: 84
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1248	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 2:17		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 2:17		DF01956

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*100 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*84 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B28 10-12
Date Sampled: 06/15/20 07:15
Percent Solids: 74
Initial Volume: 21.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1248	**0.1** (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 2:36		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 2:36		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B28 12-14
Date Sampled: 06/15/20 07:20
Percent Solids: 80
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1248	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 2:55		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 2:55		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*106 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*107 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B28 14-16
Date Sampled: 06/15/20 07:25
Percent Solids: 81
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1248	**0.1** (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 3:14		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 3:14		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B28 16-18
Date Sampled: 06/15/20 07:30
Percent Solids: 72
Initial Volume: 21.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 3:33		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 3:33		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 3:33		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 3:33		DF01956
Aroclor 1248	**2.3** (0.3)		8082A		5	06/24/20 0:16		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 3:33		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 3:33		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 3:33		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 3:33		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*101 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*78 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B28 18-20
Date Sampled: 06/15/20 07:35
Percent Solids: 73
Initial Volume: 21
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1221	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1232	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1242	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1248	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1254	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1260	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1262	ND (0.07)		8082A		1	06/23/20 3:51		DF01956
Aroclor 1268	ND (0.07)		8082A		1	06/23/20 3:51		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 4-6
Date Sampled: 06/15/20 08:10
Percent Solids: 88
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1221	ND (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1232	ND (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1242	ND (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1248	**13.5** (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1254	ND (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1260	ND (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1262	ND (1.1)		8082A		20	06/24/20 0:35		DF01956
Aroclor 1268	ND (1.1)		8082A		20	06/24/20 0:35		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 6-8
Date Sampled: 06/15/20 08:15
Percent Solids: 81
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 10:45

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1221	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1232	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1242	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1248	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1254	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1260	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1262	ND (0.06)		8082A		1	06/23/20 4:29		DF01956
Aroclor 1268	ND (0.06)		8082A		1	06/23/20 4:29		DF01956

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*76 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 8-10
Date Sampled: 06/15/20 08:20
Percent Solids: 85
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 16:45		DF01957
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 16:45		DF01957

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 10-12
Date Sampled: 06/15/20 08:25
Percent Solids: 69
Initial Volume: 21.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1221	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1232	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1242	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1248	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1254	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1260	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1262	ND (0.07)		8082A		1	06/22/20 17:04		DF01957
Aroclor 1268	ND (0.07)		8082A		1	06/22/20 17:04		DF01957

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*75 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 12-14
Date Sampled: 06/15/20 08:30
Percent Solids: 78
Initial Volume: 21.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 17:24		DF01957
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 17:24		DF01957

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 14-16
Date Sampled: 06/15/20 08:35
Percent Solids: 81
Initial Volume: 21.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1221	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1232	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1242	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1248	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1254	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1260	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1262	ND (0.06)		8082A		1	06/22/20 17:44		DF01957
Aroclor 1268	ND (0.06)		8082A		1	06/22/20 17:44		DF01957

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*98 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*105 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*104 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 16-18
Date Sampled: 06/15/20 08:40
Percent Solids: 89
Initial Volume: 21
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 18:04		DF01957
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 18:04		DF01957

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*97 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A29 18-20
Date Sampled: 06/15/20 08:45
Percent Solids: 89
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20F0617
ESS Laboratory Sample ID: 20F0617-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DMC
Prepared: 6/20/20 11:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1221	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1232	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1242	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1248	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1254	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1260	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1262	ND (0.05)		8082A		1	06/22/20 18:24		DF01957
Aroclor 1268	ND (0.05)		8082A		1	06/22/20 18:24		DF01957

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01956 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		75	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		81	40-140			
Aroclor 1260 [2C]	0.3	0.05	mg/kg wet	0.5000		62	40-140			
Surrogate: Decachlorobiphenyl	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140	1	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		77	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		82	40-140	2	30	
Aroclor 1260 [2C]	0.3	0.05	mg/kg wet	0.5000		63	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0243*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0197*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Batch DF01957 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01957 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0190*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		95	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		99	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Surrogate: Decachlorobiphenyl	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0262*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0211*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		95	40-140	5	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	1	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		98	40-140	0.1	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		97	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0246*		mg/kg wet	*0.02500*		*98*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0266*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0234*		mg/kg wet	*0.02500*		*93*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0617

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0617
Date Received: 6/16/2020
Project Due Date: 6/23/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.1 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? ~~Yes~~/No
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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

Samples 3,4,5,6,7 not received, Received samples at depths 10-12,12-14,14-16,16-18,18-20 no times on jars JC

Rec'd following not on COC: B28 10-12, 12-14, 14-16, 16-18, 18-20

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? Shelby Amsel Date: 6/17/20 Time: 1255 By: ML

Labels on the jars are correct

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
1	54874	Yes	N/A	Yes	4 oz. Jar	NP	
2	54875	Yes	N/A	Yes	4 oz. Jar	NP	
3	54876	Yes	N/A	Yes	4 oz. Jar	NP	
4	54877	Yes	N/A	Yes	4 oz. Jar	NP	
5	54878	Yes	N/A	Yes	4 oz. Jar	NP	
6	54879	Yes	N/A	Yes	4 oz. Jar	NP	
7	54880	Yes	N/A	Yes	4 oz. Jar	NP	
8	54881	Yes	N/A	Yes	4 oz. Jar	NP	
9	54882	Yes	N/A	Yes	4 oz. Jar	NP	
10	54883	Yes	N/A	Yes	4 oz. Jar	NP	
11	54884	Yes	N/A	Yes	4 oz. Jar	NP	
12	54885	Yes	N/A	Yes	4 oz. Jar	NP	
13	54886	Yes	N/A	Yes	4 oz. Jar	NP	
14	54887	Yes	N/A	Yes	4 oz. Jar	NP	
15	54888	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0617
Date Received: 6/16/2020

Were all containers scanned into storage/lab?	Initials	Yes / No
Are barcode labels on correct containers?		Yes / No
Are all Flashpoint stickers attached/container ID # circled?		Yes / No / NA
Are all Hex Chrome stickers attached?		Yes / No / NA
Are all QC stickers attached?		Yes / No / NA
Are VOA stickers attached if bubbles noted?		Yes / No / NA

Completed By:		Date & Time:	6/16/20 1603
Reviewed By:		Date & Time:	6/16/20 1608
Delivered By:			6/16/20 1608

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0617
Date Received: 6/16/2020
Project Due Date: 6/23/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.1 Iced with: Ice
5. Was COC signed and dated by client? Yes
6. Does COC match bottles? ~~Yes~~/No
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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

Samples 3,4,5,6,7 not received, Received samples at depths 10-12,12-14,14-16,16-18,18-20 no times on jars JC

Rec'd following not on COC: B28 10-12, 12-14, 14-16, 16-18, 18-20

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)
1	54874	Yes	N/A	Yes	4 oz. Jar	NP	
2	54875	Yes	N/A	Yes	4 oz. Jar	NP	
3	54876	Yes	N/A	Yes	4 oz. Jar	NP	
4	54877	Yes	N/A	Yes	4 oz. Jar	NP	
5	54878	Yes	N/A	Yes	4 oz. Jar	NP	
6	54879	Yes	N/A	Yes	4 oz. Jar	NP	
7	54880	Yes	N/A	Yes	4 oz. Jar	NP	
8	54881	Yes	N/A	Yes	4 oz. Jar	NP	
9	54882	Yes	N/A	Yes	4 oz. Jar	NP	
10	54883	Yes	N/A	Yes	4 oz. Jar	NP	
11	54884	Yes	N/A	Yes	4 oz. Jar	NP	
12	54885	Yes	N/A	Yes	4 oz. Jar	NP	
13	54886	Yes	N/A	Yes	4 oz. Jar	NP	
14	54887	Yes	N/A	Yes	4 oz. Jar	NP	
15	54888	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0617
Date Received: 6/16/2020

Were all containers scanned into storage/lab?	Initials	
Are barcode labels on correct containers?		Yes / No
Are all Flashpoint stickers attached/container ID # circled?		Yes / No / NA
Are all Hex Chrome stickers attached?		Yes / No / NA
Are all QC stickers attached?		Yes / No / NA
Are VOA stickers attached if bubbles noted?		Yes / No / NA

Completed By:		Date & Time:	6/16/20 1603
Reviewed By:		Date & Time:	6/16/20 1608
Delivered By:			6/16/20 1608

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essfaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0617 | Page 1 of 4

Turn Time: [X] >5 [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] Same Day

Regulatory State: Criteria:

Is this project for any of the following?: [ ] CT RCP [X] MA MCP [ ] RGP [ ] Permit [ ] 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): [X] Limit Checker [ ] State Forms [ ] EQuIS; [X] Excel [ ] Hard Copy [ ] Enviro Data; [ ] CLP-Like Package [ ] Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
	06-15-20		Grab	Soil	~~(0-2)~~	X	1
					~~(2-4)~~	X	1
					~~(4-6)~~	X	1
1		0705			B28 (6-8)	X	1
2		0710			B28 (8-10)	X	1
3		0715			B28 ~~(0-2)~~ 10-12	X	1
4		0720			B28 ~~(2-4)~~ 12-14	X	1
5		0725			ML 6/27/20 B28 ~~(4-6)~~ 14-16	X	1
6		0730			B28 ~~(6-8)~~ 16-18	X	1
7		0735			B28 ~~(8-10)~~ 18-20	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: [ ] Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-15-2020	13:17	[signature]	[signature]	6/16/20	14:29	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ICE temp: 2.1

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0617 | Page 2 of 4

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
	6-15-20		Grab	Soil	~~(0-2)~~	X	1
					~~(2-4)~~	X	1
8		0810			A29 (4-6)	X	1
9		0815			A29 (6-8)	X	1
10		0820			A29 (8-10)	X	1
11		0825			A29 (10-12)	X	1
12		0830			A29 (12-14)	X	1
13		0835			A29 (14-16)	X	1
14		0840			A29 (16-18)	X	1
15		0845			A29 (18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-16-2020	13:17	[signature]	[signature]	6/16/20	14:29	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

18 temp: 2.1

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20F0617 | Page 1 of 4

Turn Time: [X] > 5 [ ] 5 [ ] 4 [ ] 3 [ ] 2 [ ] 1 [ ] Same Day

Regulatory State: Criteria:

Is this project for any of the following?: [ ] CT RCP [X] MA MCP [ ] RGP [ ] Permit [ ] 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): [X] Limit Checker [ ] State Forms [ ] EQuIS; [X] Excel [ ] Hard Copy [ ] Enviro Data; [ ] CLP-Like Package [ ] Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive, Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
	06-15-20		Grab	Soil	~~(0-2)~~	X	1
					~~(2-4)~~	X	1
					~~(4-6)~~	X	1
1		0705			B28 (6-8)	X	1
2		0710			B28 (8-10)	X	1
3		0715			B28 (0-2)	X	1
4		0720			B28 (2-4)	X	1
5		0725			B28 (4-6)	X	1
6		0730			B28 (6-8)	X	1
7		0735			B28 (8-10)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: [ ] Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6-15-2020	13:17	[signature]	[signature]	6/16/20	14:29	[signature]

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ICE temp: 2.1

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.essLaboratory.com

ESS Lab # 20F0617 | Page 2 of 4

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants Inc
Address: 6 Huron Drive
Natick MA
Phone: 781 875 2657
Email Distribution List:
Bmiller@cdwconsultants.com
Samsel@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs	Total Number of Bottles
	6-15-20		Grab	Soil	~~(0-2)~~	X	1
					~~(2-4)~~	X	1
8		0810	↓	↓	A29 (4-6)	X	1
9		0815			A29 (6-8)	X	1
10		0820			A29 (8-10)	X	1
11		0825			A29 (10-12)	X	1
12		0830			A29 (12-14)	X	1
13		0835			A29 (14-16)	X	1
14		0840			A29 (16-18)	X	1
15		0845			A29 (18-20)	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — J
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 9
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by: Mike O'Brien

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
Michael C. O'Brien	6-16-2020	13:17	[signature]	[signature]	6/16/20	14:29	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

18 temp: 2.1

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363.30)
ESS Laboratory Work Order Number: 20F0648

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 2:02 pm, Jun 24, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0648

SAMPLE RECEIPT

The following samples were received on June 17, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20F0648-01	ESM-5	Ground Water	8082A
20F0648-02	ESM-6	Ground Water	8082A
20F0648-03	CDW-3	Ground Water	8082A
20F0648-04	ESM-3	Ground Water	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0648

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0648

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0648

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20F0648-01 through 20F0648-04**

Matrices: (x) Ground Water/Surface Water ( ) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (x) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard Date: June 24, 2020

Printed Name: Laurel Stoddard Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: ESM-5
Date Sampled: 06/16/20 07:50
Percent Solids: N/A
Initial Volume: 1030
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 20F0648
ESS Laboratory Sample ID: 20F0648-01
Sample Matrix: Ground Water
Units: ug/L
Analyst: DMC
Prepared: 6/18/20 17:33

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.10)		8082A		1	06/22/20 15:13		DF01804
Aroclor 1221	ND (0.10)		8082A		1	06/22/20 15:13		DF01804
Aroclor 1232	ND (0.10)		8082A		1	06/22/20 15:13		DF01804
Aroclor 1242	ND (0.10)		8082A		1	06/22/20 15:13		DF01804
Aroclor 1248 [2C]	**3.32** (0.49)		8082A		5	06/23/20 9:18		DF01804
Aroclor 1254	ND (0.10)		8082A		1	06/22/20 15:13		DF01804
Aroclor 1260	ND (0.10)		8082A		1	06/22/20 15:13		DF01804
Aroclor 1262	ND (0.10)		8082A		1	06/22/20 15:13		DF01804
Aroclor 1268	ND (0.10)		8082A		1	06/22/20 15:13		DF01804

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*66 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*61 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: ESM-6
Date Sampled: 06/16/20 09:50
Percent Solids: N/A
Initial Volume: 1010
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 20F0648
ESS Laboratory Sample ID: 20F0648-02
Sample Matrix: Ground Water
Units: ug/L
Analyst: DMC
Prepared: 6/18/20 17:33

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1221	ND (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1232	ND (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1242	**0.53** (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1248	ND (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1254	ND (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1260	ND (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1262	ND (0.10)		8082A		1	06/22/20 15:33		DF01804
Aroclor 1268	ND (0.10)		8082A		1	06/22/20 15:33		DF01804

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*68 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: CDW-3
Date Sampled: 06/16/20 12:00
Percent Solids: N/A
Initial Volume: 1030
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 20F0648
ESS Laboratory Sample ID: 20F0648-03
Sample Matrix: Ground Water
Units: ug/L
Analyst: DMC
Prepared: 6/18/20 17:33

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1221	ND (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1232	ND (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1242	**1.36** (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1248	ND (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1254	ND (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1260	ND (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1262	ND (0.10)		8082A		1	06/22/20 15:53		DF01804
Aroclor 1268	ND (0.10)		8082A		1	06/22/20 15:53		DF01804

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: ESM-3
Date Sampled: 06/16/20 13:30
Percent Solids: N/A
Initial Volume: 830
Final Volume: 1
Extraction Method: 3510C

ESS Laboratory Work Order: 20F0648
ESS Laboratory Sample ID: 20F0648-04
Sample Matrix: Ground Water
Units: ug/L
Analyst: DMC
Prepared: 6/18/20 17:33

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1221	ND (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1232	ND (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1242	ND (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1248	**1.38** (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1254	ND (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1260	ND (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1262	ND (0.12)		8082A		1	06/22/20 16:13		DF01804
Aroclor 1268	ND (0.12)		8082A		1	06/22/20 16:13		DF01804

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*56 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*59 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*54 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0648

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DF01804 - 3510C										
Blank										
Aroclor 1016	ND	0.05	ug/L							
Aroclor 1016 [2C]	ND	0.05	ug/L							
Aroclor 1221	ND	0.05	ug/L							
Aroclor 1221 [2C]	ND	0.05	ug/L							
Aroclor 1232	ND	0.05	ug/L							
Aroclor 1232 [2C]	ND	0.05	ug/L							
Aroclor 1242	ND	0.05	ug/L							
Aroclor 1242 [2C]	ND	0.05	ug/L							
Aroclor 1248	ND	0.05	ug/L							
Aroclor 1248 [2C]	ND	0.05	ug/L							
Aroclor 1254	ND	0.05	ug/L							
Aroclor 1254 [2C]	ND	0.05	ug/L							
Aroclor 1260	ND	0.05	ug/L							
Aroclor 1260 [2C]	ND	0.05	ug/L							
Aroclor 1262	ND	0.05	ug/L							
Aroclor 1262 [2C]	ND	0.05	ug/L							
Aroclor 1268	ND	0.05	ug/L							
Aroclor 1268 [2C]	ND	0.05	ug/L							
Surrogate: Decachlorobiphenyl	*0.0391*		ug/L	*0.05000*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0438*		ug/L	*0.05000*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0254*		ug/L	*0.05000*		*51*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0274*		ug/L	*0.05000*		*55*	*30-150*			
LCS										
Aroclor 1016	0.71	0.05	ug/L	1.000		71	40-140			
Aroclor 1016 [2C]	0.70	0.05	ug/L	1.000		70	40-140			
Aroclor 1260	0.81	0.05	ug/L	1.000		81	40-140			
Aroclor 1260 [2C]	0.81	0.05	ug/L	1.000		81	40-140			
Surrogate: Decachlorobiphenyl	*0.0449*		ug/L	*0.05000*		*90*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0469*		ug/L	*0.05000*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0301*		ug/L	*0.05000*		*60*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0306*		ug/L	*0.05000*		*61*	*30-150*			
LCS Dup										
Aroclor 1016	0.68	0.05	ug/L	1.000		68	40-140	4	20	
Aroclor 1016 [2C]	0.69	0.05	ug/L	1.000		69	40-140	1	20	
Aroclor 1260	0.83	0.05	ug/L	1.000		83	40-140	2	20	
Aroclor 1260 [2C]	0.83	0.05	ug/L	1.000		83	40-140	3	20	
Surrogate: Decachlorobiphenyl	*0.0454*		ug/L	*0.05000*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0477*		ug/L	*0.05000*		*95*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0281*		ug/L	*0.05000*		*56*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0284*		ug/L	*0.05000*		*57*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0648

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20F0648

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20F0648
Date Received: 6/17/2020
Project Due Date: 6/24/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 3.2 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	55306	Yes	N/A	Yes	1L Amber	NP	
1	55307	Yes	N/A	Yes	1L Amber	NP	
2	55308	Yes	N/A	Yes	1L Amber	NP	
2	55309	Yes	N/A	Yes	1L Amber	NP	
3	55310	Yes	N/A	Yes	1L Amber	NP	
3	55311	Yes	N/A	Yes	1L Amber	NP	
4	55312	Yes	N/A	Yes	1L Amber	NP	
4	55313	Yes	N/A	Yes	1L Amber	NP	

2nd Review
Were all containers scanned into storage/lab? Initials AG
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20F0648

Date Received: 6/17/2020

By: Amber Garcia

Date & Time: 6/17/20 17:47

Reviewed By:

Date & Time: 6/17/20 1802

Delivered By:

6/17/20 1802

CHAIN OF CUSTODY

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20F0648 | Page 1 of 1

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CON CONSULTANTS INC
Address: 6 HURON DRIVE
NATICK MA
Phone: 781 875 2657
Email Distribution List:
BMILLER@CONCONSULTANTS.COM
SAMSEL@CONCONSULTANTS.COM

PROJECT INFORMATION

Project Name: LEWIS CHEMICAL
Project Location: HYDE PARK MA
Project Number: 1363.30
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB's	Total Number of Bottles
1	06/16/20	750	GRAB	GW	CSM-5	X	
2	"	950	"	"	CSM-6	X	
3	"	1200	"	"	CSW-3	X	
4	"	1330	"	"	CSM-3	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Chain needs to be filled out neatly and completely for on time delivery.

Sampled by :

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Laboratory Use Only
Cooler Temperature (°C): 3-2

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	6/17/20	8:00	[signature] 11:16	[signature]	6/17/20	16:40	Amber Garcia 6/17/20 17:44
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363.9)
ESS Laboratory Work Order Number: 20L0449

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.

REVIEWED
By ESS Laboratory at 2:08 pm, Dec 21, 2020

Laurel Stoddard
Laboratory Director

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0449

SAMPLE RECEIPT

The following samples were received on December 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20L0449-01	HB-1 0-2	Soil	8082A
20L0449-02	HB-2 0-2	Soil	8082A
20L0449-03	HB-3 0-2	Soil	8082A
20L0449-04	HB-4 0-2	Soil	8082A
20L0449-05	HB-5 0-2	Soil	8082A
20L0449-06	HB-6 0-2	Soil	8082A
20L0449-07	HB-7 0-2	Soil	8082A
20L0449-08	HB-8 0-2	Soil	8082A
20L0449-09	HB-9 0-2	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0449

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20L0449-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0449-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0449-06 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0449-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0449-08 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0449-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0449

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0449

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0449-01 through 20L0449-09**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***<u>Data User Note:</u> Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest u[illegible]erjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-1 0-2
Date Sampled: 12/08/20 07:30
Percent Solids: 90
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1221	ND (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1232	ND (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1242	ND (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1248	**0.6** (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1254	ND (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1260	**0.1** (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1262	ND (0.06)		8082A		1	12/15/20 1:07		DL01103
Aroclor 1268	ND (0.06)		8082A		1	12/15/20 1:07		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-2 0-2
Date Sampled: 12/08/20 08:10
Percent Solids: 87
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/15/20 1:26		DL01103
Aroclor 1221	ND (0.06)		8082A		1	12/15/20 1:26		DL01103
Aroclor 1232	ND (0.06)		8082A		1	12/15/20 1:26		DL01103
Aroclor 1242	ND (0.06)		8082A		1	12/15/20 1:26		DL01103
Aroclor 1248	**1.7** (0.1)		8082A		2	12/16/20 16:33		DL01103
Aroclor 1254	ND (0.06)		8082A		1	12/15/20 1:26		DL01103
Aroclor 1260	**0.2** (0.06)		8082A		1	12/15/20 1:26		DL01103
Aroclor 1262	ND (0.06)		8082A		1	12/15/20 1:26		DL01103
Aroclor 1268	ND (0.06)		8082A		1	12/15/20 1:26		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*91 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-3 0-2
Date Sampled: 12/08/20 08:50
Percent Solids: 84
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/15/20 1:45		DL01103
Aroclor 1221	ND (0.06)		8082A		1	12/15/20 1:45		DL01103
Aroclor 1232	ND (0.06)		8082A		1	12/15/20 1:45		DL01103
Aroclor 1242	ND (0.06)		8082A		1	12/15/20 1:45		DL01103
Aroclor 1248 [2C]	**4.2** (0.3)		8082A		5	12/16/20 16:52		DL01103
Aroclor 1254	ND (0.06)		8082A		1	12/15/20 1:45		DL01103
Aroclor 1260	ND (0.06)		8082A		1	12/15/20 1:45		DL01103
Aroclor 1262	ND (0.06)		8082A		1	12/15/20 1:45		DL01103
Aroclor 1268	ND (0.06)		8082A		1	12/15/20 1:45		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*81 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-4 0-2
Date Sampled: 12/08/20 09:30
Percent Solids: 91
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1221	ND (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1232	ND (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1242	ND (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1248	**55.0** (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1254	ND (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1260	ND (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1262	ND (5.6)		8082A		100	12/16/20 17:11		DL01103
Aroclor 1268	ND (5.6)		8082A		100	12/16/20 17:11		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-5 0-2
Date Sampled: 12/08/20 10:10
Percent Solids: 78
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1221	ND (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1232	ND (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1242	ND (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1248	**53.1** (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1254	ND (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1260	ND (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1262	ND (3.2)		8082A		50	12/16/20 17:31		DL01103
Aroclor 1268	ND (3.2)		8082A		50	12/16/20 17:31		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-6 0-2
Date Sampled: 12/08/20 10:50
Percent Solids: 85
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1221	ND (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1232	ND (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1242	ND (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1248 [2C]	**356** (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1254	ND (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1260	ND (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1262	ND (29.4)		8082A		500	12/16/20 17:50		DL01103
Aroclor 1268	ND (29.4)		8082A		500	12/16/20 17:50		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-7 0-2
Date Sampled: 12/08/20 11:30
Percent Solids: 80
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1221	ND (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1232	ND (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1242	ND (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1248 [2C]	**7930** (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1254	ND (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1260	ND (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1262	ND (632)		8082A		10000	12/18/20 9:44		DL01103
Aroclor 1268	ND (632)		8082A		10000	12/18/20 9:44		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-8 0-2
Date Sampled: 12/08/20 12:10
Percent Solids: 87
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1221	ND (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1232	ND (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1242	ND (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1248	**1910** (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1254	ND (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1260	ND (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1262	ND (112)		8082A		2000	12/16/20 18:29		DL01103
Aroclor 1268	ND (112)		8082A		2000	12/16/20 18:29		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-9 0-2
Date Sampled: 12/08/20 12:50
Percent Solids: 92
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0449
ESS Laboratory Sample ID: 20L0449-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1221	ND (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1232	ND (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1242	ND (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1248	**447** (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1254	ND (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1260	ND (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1262	ND (27.2)		8082A		500	12/16/20 18:48		DL01103
Aroclor 1268	ND (27.2)		8082A		500	12/16/20 18:48		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0449

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL01103 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0185*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		79	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		80	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		85	40-140	0.9	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
ESS Laboratory Work Order: 20L0449

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0449

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0449
Date Received: 12/11/2020
Project Due Date: 12/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 4.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	118794	Yes	N/A	Yes	4 oz. Jar	NP	
2	118795	Yes	N/A	Yes	4 oz. Jar	NP	
3	118796	Yes	N/A	Yes	4 oz. Jar	NP	
4	118797	Yes	N/A	Yes	4 oz. Jar	NP	
5	118798	Yes	N/A	Yes	4 oz. Jar	NP	
6	118799	Yes	N/A	Yes	4 oz. Jar	NP	
7	118800	Yes	N/A	Yes	4 oz. Jar	NP	
8	118801	Yes	N/A	Yes	4 oz. Jar	NP	
9	118802	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client:	CDW Consultants, Inc. - AAK	ESS Project ID:	20L0449
		Date Received:	12/11/2020
Completed By:	Taylor Davis	Date & Time:	17:41 12/11/20
Reviewed By:	Amber Garcia	Date & Time:	12/11/20 18:16
Delivered By:	Amber Garcia		12/11/20 18:16

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2060449

Turn Time: 5 day Rush:
Regulatory State:
Is this project for any of the following?: ☐ MA-MCP ☐ CT-RCP ☐ RGP ☐ Remediation

Reporting Limits
Electonic Deliverables: ☒ Limit Checker ☒ Excel ☐ Other (Please Specifiy) →

Company Name	Project #	Project Name
CDW Consultants INC	1363.4	Lewis Chemical

Contact Person	Address
Brian Miller	6 huron drive

City	State	Zip Code	PO #
Natick	MA		

Telephone Number	FAX Number	Email Address
508-825-2657		Bmiller@cdwconsultants.com

Analysis: PCBs (Sox/Wet)

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCBs (Sox/Wet)
1	12/8/20	07:30	hand Bory	Soil	HB-1 (0-2)	X
2		08:10			HB-2 (0-2)	X
3		08:50			HB-3 (0-2)	X
4		09:30			HB-4 (0-2)	X
5		10:10			HB-5 (0-2)	X
6		10:50			HB-6 (0-2)	X
7		11:30			HB-7 (0-2)	X
8		12:10			HB-8 (0-2)	X
9		12:50			HB-9 (0-2)	X

Container Type: AG-Amber Glass B-BOD Bottle G-Glass P-Poly S-Sterile V-Vial O-Other — ag ag

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Number of Containers:

Laboratory Use Only

Cooler Present: _____
Seals Intact: _____
Cooler Temperature: 4.8 °C

Sampled by : Max Bochnott, Mike O'Brian, ~~Sam Hess~~

Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
12/11/20	Abraham Ramos 12/11 11:07	Abraham Ramos 12/11 14:10	Taylor Davis 1830 12/11/20
Relinquished by: (Signature, Date & Time)	**Received By: (Signature, Date & Time)**	**Relinquished By: (Signature, Date & Time)**	**Received By: (Signature, Date & Time)**

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363.4)
ESS Laboratory Work Order Number: 20L0450

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 2:12 pm, Dec 21, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

SAMPLE RECEIPT

The following samples were received on December 11, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20L0450-01	HB-10 0-2	Soil	8082A
20L0450-02	HB-11 0-2	Soil	8082A
20L0450-03	HB-11 2-3	Soil	8082A
20L0450-04	HB-12 0-2	Soil	8082A
20L0450-05	HB-13 0-2	Soil	8082A
20L0450-06	HB-13 2-3	Soil	8082A
20L0450-07	HB-14 0-2	Soil	8082A
20L0450-08	HB-14 2-3	Soil	8082A
20L0450-09	HB-15 0-2	Soil	8082A
20L0450-10	HB-15 2-3	Soil	8082A
20L0450-11	HB-16 0-2	Soil	8082A
20L0450-12	HB-17 0-2	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20L0450-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-06 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-08 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0450-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0450-01 through 20L0450-12**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: December 21, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-10 0-2
Date Sampled: 12/09/20 08:45
Percent Solids: 91
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1221	ND (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1232	ND (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1242	ND (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1248 [2C]	**149** (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1254	ND (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1260	ND (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1262	ND (11.0)		8082A		200	12/16/20 19:07		DL01103
Aroclor 1268	ND (11.0)		8082A		200	12/16/20 19:07		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-11 0-2
Date Sampled: 12/09/20 08:15
Percent Solids: 88
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1221	ND (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1232	ND (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1242	ND (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1248	**67.3** (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1254	ND (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1260	ND (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1262	ND (5.6)		8082A		100	12/16/20 19:27		DL01103
Aroclor 1268	ND (5.6)		8082A		100	12/16/20 19:27		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-11 2-3
Date Sampled: 12/09/20 09:15
Percent Solids: 92
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1221	ND (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1232	ND (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1242	ND (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1248 [2C]	**71.8** (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1254	ND (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1260	ND (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1262	ND (5.4)		8082A		100	12/16/20 19:46		DL01103
Aroclor 1268	ND (5.4)		8082A		100	12/16/20 19:46		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-12 0-2
Date Sampled: 12/09/20 10:00
Percent Solids: 89
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1221	ND (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1232	ND (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1242	ND (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1248 [2C]	**43.0** (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1254	ND (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1260	ND (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1262	ND (2.8)		8082A		50	12/16/20 20:05		DL01103
Aroclor 1268	ND (2.8)		8082A		50	12/16/20 20:05		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-13 0-2
Date Sampled: 12/09/20 10:30
Percent Solids: 91
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1221	ND (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1232	ND (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1242	ND (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1248 [2C]	**16.3** (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1254	ND (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1260	ND (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1262	ND (1.1)		8082A		20	12/16/20 20:25		DL01103
Aroclor 1268	ND (1.1)		8082A		20	12/16/20 20:25		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-13 2-3
Date Sampled: 12/09/20 10:30
Percent Solids: 89
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1221	ND (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1232	ND (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1242	ND (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1248 [2C]	**13.7** (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1254	ND (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1260	ND (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1262	ND (1.1)		8082A		20	12/16/20 20:44		DL01103
Aroclor 1268	ND (1.1)		8082A		20	12/16/20 20:44		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-14 0-2
Date Sampled: 12/09/20 11:30
Percent Solids: 90
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1221	ND (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1232	ND (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1242	ND (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1248 [2C]	**41.0** (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1254	ND (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1260	ND (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1262	ND (2.8)		8082A		50	12/16/20 21:03		DL01103
Aroclor 1268	ND (2.8)		8082A		50	12/16/20 21:03		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-14 2-3
Date Sampled: 12/09/20 11:30
Percent Solids: 89
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1221	ND (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1232	ND (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1242	ND (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1248 [2C]	**38.1** (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1254	ND (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1260	ND (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1262	ND (2.3)		8082A		40	12/16/20 21:22		DL01103
Aroclor 1268	ND (2.3)		8082A		40	12/16/20 21:22		DL01103

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-15 0-2
Date Sampled: 12/09/20 12:00
Percent Solids: 90
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1221	ND (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1232	ND (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1242	ND (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1248 [2C]	**79.6** (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1254	ND (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1260	ND (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1262	ND (5.5)		8082A		100	12/16/20 21:42		DL01103
Aroclor 1268	ND (5.5)		8082A		100	12/16/20 21:42		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-15 2-3
Date Sampled: 12/09/20 12:00
Percent Solids: 92
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1221	ND (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1232	ND (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1242	ND (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1248 [2C]	**90.7** (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1254	ND (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1260	ND (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1262	ND (5.6)		8082A		100	12/16/20 22:01		DL01103
Aroclor 1268	ND (5.6)		8082A		100	12/16/20 22:01		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-16 0-2
Date Sampled: 12/09/20 12:30
Percent Solids: 88
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/11/20 18:30

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1221	ND (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1232	ND (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1242	ND (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1248 [2C]	**39.0** (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1254	ND (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1260	ND (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1262	ND (2.3)		8082A		40	12/16/20 22:20		DL01103
Aroclor 1268	ND (2.3)		8082A		40	12/16/20 22:20		DL01103

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-17 0-2
Date Sampled: 12/09/20 13:00
Percent Solids: 92
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0450
ESS Laboratory Sample ID: 20L0450-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/14/20 14:15

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1221	ND (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1232	ND (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1242	ND (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1248	**10.7** (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1254	ND (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1260	ND (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1262	ND (1.1)		8082A		20	12/16/20 22:40		DL01413
Aroclor 1268	ND (1.1)		8082A		20	12/16/20 22:40		DL01413

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL01103 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0185*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		79	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140			
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		80	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		85	40-140	0.9	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		82	40-140	0.3	30	
Surrogate: Decachlorobiphenyl	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0208*		mg/kg wet	*0.02500*		*83*	*30-150*			
Batch DL01413 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL01413 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0186*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0181*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		94	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Surrogate: Decachlorobiphenyl	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		85	40-140	1	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140	0.2	30	
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		94	40-140	0.4	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140	0.07	30	
Surrogate: Decachlorobiphenyl	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0191*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0450

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0450
Date Received: 12/11/2020
Project Due Date: 12/18/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 4.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	118803	Yes	N/A	Yes	4 oz. Jar	NP	
2	118804	Yes	N/A	Yes	4 oz. Jar	NP	
3	118805	Yes	N/A	Yes	4 oz. Jar	NP	
4	118806	Yes	N/A	Yes	4 oz. Jar	NP	
5	118807	Yes	N/A	Yes	4 oz. Jar	NP	
6	118808	Yes	N/A	Yes	4 oz. Jar	NP	
7	118809	Yes	N/A	Yes	4 oz. Jar	NP	
8	118810	Yes	N/A	Yes	4 oz. Jar	NP	
9	118811	Yes	N/A	Yes	4 oz. Jar	NP	
10	118812	Yes	N/A	Yes	4 oz. Jar	NP	
11	118813	Yes	N/A	Yes	4 oz. Jar	NP	
12	118814	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20L0450
Date Received: 12/11/2020

Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Taylor Davis Date & Time: 17:42 12/11/20
Reviewed By: Amber Harris Date & Time: 12/11/20 18:19
Delivered By: Amber Harris 12/11/20 18:19

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2010450

Turn Time: 5 day Rush:
Regulatory State:
Is this project for any of the following?: ☐ MA-MCP ☐ CT-RCP ☐ RGP ☐ Remediation

Reporting Limits

Electonic Deliverables: ☒ Limit Checker ☒ Excel ☐ Other (Please Specifiy) →

Company Name	Project #	Project Name
CDW Consultants INC	1363.4	Lewis Chemical

Contact Person	Address
Brian Miller	6 Huron drive

City	State	Zip Code	PO #
Natick	MA		

Telephone Number	FAX Number	Email Address
508-825-2657		Bmiller@cdwconsultants.com

Analysis: PCB (Soxhlet)

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB (Soxhlet)
1	12/9/2020	08:45	hand Boring	Soil	HB-10 (0-2)	X
2		09:15			HB-11 (0-2)	X
3		09:15			HB-11 (2-3)	X
4		10:00			HB-12 (0-2)	X
5		10:30			HB-13 (0-2)	X
6		10:30			HB-13 (2-3)	X
7		11:30			HB-14 (0-2)	X
8		11:30			HB-14 (2-3)	X
9		12:00			HB-15 (0-2)	X
10		12:00			HB-15 (2-3)	X

Container Type: AG-Amber Glass B-BOD Bottle G-Glass P-Poly S-Sterile V-Vial O-Other

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Number of Containers:	ag	ag

Laboratory Use Only

Cooler Present: _____
Seals Intact: _____
Cooler Temperature: 4.4 °C

Sampled by: Max Bachmert, [redacted], Sam Hess

Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
12/11/2020	Abraham Ramos 12/11/20 11:07	Abraham Ramos 12/11 19:10	Taylor Davis 12/11/20 18:10
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 20L0450

Turn Time: 5 day Rush:
Regulatory State:
Is this project for any of the following?: ☐ MA-MCP ☐ CT-RCP ☐ RGP ☐ Remediation

Reporting Limits

Electonic Deliverables: ☒ Limit Checker ☒ Excel ☐ Other (Please Specifiy) →

Company/Name: CDW Consultants INC
Contact Person: Brian Miller
City: Norfolk
State: MA
Telephone Number: 508-825-2557
FAX Number:
Project #: 1363.4
Project Name: Lewis Chemical
Address: 6 huron drive
Zip Code:
PO #:
Email Address: Bmiller@cdwconsultants.com

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis: RCS (Soxhlet)														
11	12/8/2020	12:30	Hand Boring	Soil	HB-16 (0-2)	X														
12	↓	13:00	↓	Soil	HB-17 (0-2)	X														

Container Type: (AG-Amber Glass) B-BOD Bottle G-Glass P-Poly S-Sterile V-Vial O-Other — ag ag

Preservation Code: (1-Non-Preserved) 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Number of Containers:

Laboratory Use Only

Cooler Present:
Seals Intact:
Cooler Temperature: 4.8 °C

Sampled by: Max Bochnak, Rich Hess

Comments: Please specify "Other" preservative and containers types in this space

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
12/11/2020	Abraham Ramos 12/11 11:07	Abraham Ramos 12/11 18:10	Taylor Davis 18:10 12/11/20
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20L0769

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 2:40 pm, Dec 31, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

SAMPLE RECEIPT

The following samples were received on December 23, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20L0769-01	A 21-22-A 0-2ft	Soil	8082A
20L0769-02	A 21-22-A 2-4ft	Soil	8082A
20L0769-03	A 21-22-A 4-6ft	Soil	8082A
20L0769-04	A 21-22-B 0-2ft	Soil	8082A
20L0769-05	A 21-22-B 2-4ft	Soil	8082A
20L0769-06	A 21-22-B 4-6ft	Soil	8082A
20L0769-07	A 22-23-A 0-2ft	Soil	8082A
20L0769-08	A 22-23-A 2-4ft	Soil	8082A
20L0769-09	A 22-23-A 4-6ft	Soil	8082A
20L0769-10	A 22-23-B 0-2ft	Soil	8082A
20L0769-11	A 22-23-B 2-4ft	Soil	8082A
20L0769-12	A 22-23-B 4-6ft	Soil	8082A
20L0769-13	A 22-23-B 6-8ft	Soil	8082A
20L0769-14	B 22-23 0-2ft	Soil	8082A
20L0769-15	B 22-23 2-4ft	Soil	8082A
20L0769-16	B 22-23 4-6ft	Soil	8082A
20L0769-17	B 22-23 6-8ft	Soil	8082A
20L0769-18	A 23-24 0-2ft	Soil	8082A
20L0769-19	A 23-24 2-4ft	Soil	8082A
20L0769-20	A 23-24 4-6ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20L0769-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-08 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-13 **Lower value is used due to matrix interferences (LC).**
Aroclor 1248

20L0769-13 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

20L0769-14 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-15 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-16 **Lower value is used due to matrix interferences (LC).**
Aroclor 1248

20L0769-16 **Percent difference between primary and confirmation results exceeds 40% (P).**
Aroclor 1248

20L0769-18 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0769-19 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0769-01 through 20L0769-20**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: December 31, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 21-22-A 0-2ft
Date Sampled: 12/22/20 07:00
Percent Solids: 90
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1221	ND (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1232	ND (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1242 [2C]	**113** (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1248	ND (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1254	ND (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1260	ND (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1262	ND (5.7)		8082A		100	12/29/20 16:35		DL02305
Aroclor 1268	ND (5.7)		8082A		100	12/29/20 16:35		DL02305

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 21-22-A 2-4ft
Date Sampled: 12/22/20 07:05
Percent Solids: 89
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1221	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1232	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1242	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1248	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1254	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1260	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1262	ND (0.06)		8082A		1	12/24/20 18:53		DL02305
Aroclor 1268	ND (0.06)		8082A		1	12/24/20 18:53		DL02305

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 21-22-A 4-6ft
Date Sampled: 12/22/20 07:10
Percent Solids: 76
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/24/20 19:13		DL02305
Aroclor 1221	ND (0.06)		8082A		1	12/24/20 19:13		DL02305
Aroclor 1232	ND (0.06)		8082A		1	12/24/20 19:13		DL02305
Aroclor 1242	ND (0.06)		8082A		1	12/24/20 19:13		DL02305
Aroclor 1248 [2C]	**4.8** (0.3)		8082A		5	12/29/20 16:54		DL02305
Aroclor 1254	ND (0.06)		8082A		1	12/24/20 19:13		DL02305
Aroclor 1260	ND (0.06)		8082A		1	12/24/20 19:13		DL02305
Aroclor 1262	ND (0.06)		8082A		1	12/24/20 19:13		DL02305
Aroclor 1268	ND (0.06)		8082A		1	12/24/20 19:13		DL02305

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 21-22-B 0-2ft
Date Sampled: 12/22/20 07:30
Percent Solids: 88
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/24/20 19:32		DL02305
Aroclor 1221	ND (0.06)		8082A		1	12/24/20 19:32		DL02305
Aroclor 1232	ND (0.06)		8082A		1	12/24/20 19:32		DL02305
Aroclor 1242	ND (0.06)		8082A		1	12/24/20 19:32		DL02305
Aroclor 1248 [2C]	**7.6** (0.6)		8082A		10	12/29/20 17:14		DL02305
Aroclor 1254	ND (0.06)		8082A		1	12/24/20 19:32		DL02305
Aroclor 1260	ND (0.06)		8082A		1	12/24/20 19:32		DL02305
Aroclor 1262	ND (0.06)		8082A		1	12/24/20 19:32		DL02305
Aroclor 1268	ND (0.06)		8082A		1	12/24/20 19:32		DL02305

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 21-22-B 2-4ft
Date Sampled: 12/22/20 07:35
Percent Solids: 88
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1221	ND (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1232	ND (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1242	ND (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1248 [2C]	**0.2** (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1254	ND (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1260	ND (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1262	ND (0.06)		8082A		1	12/24/20 19:51		DL02305
Aroclor 1268	ND (0.06)		8082A		1	12/24/20 19:51		DL02305

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*89 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*82 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 21-22-B 4-6ft
Date Sampled: 12/22/20 07:40
Percent Solids: 82
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/24/20 20:11		DL02305
Aroclor 1221	ND (0.06)		8082A		1	12/24/20 20:11		DL02305
Aroclor 1232	ND (0.06)		8082A		1	12/24/20 20:11		DL02305
Aroclor 1242	ND (0.06)		8082A		1	12/24/20 20:11		DL02305
Aroclor 1248 [2C]	**4.9** (0.3)		8082A		5	12/29/20 17:33		DL02305
Aroclor 1254	ND (0.06)		8082A		1	12/24/20 20:11		DL02305
Aroclor 1260	ND (0.06)		8082A		1	12/24/20 20:11		DL02305
Aroclor 1262	ND (0.06)		8082A		1	12/24/20 20:11		DL02305
Aroclor 1268	ND (0.06)		8082A		1	12/24/20 20:11		DL02305

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*72 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23-A 0-2ft
Date Sampled: 12/22/20 08:00
Percent Solids: 87
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1221	ND (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1232	ND (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1242	ND (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1248	**396** (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1254	ND (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1260	ND (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1262	ND (28.1)		8082A		500	12/29/20 17:52		DL02305
Aroclor 1268	ND (28.1)		8082A		500	12/29/20 17:52		DL02305

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23-A 2-4ft
Date Sampled: 12/22/20 08:05
Percent Solids: 86
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1221	ND (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1232	ND (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1242	ND (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1248 [2C]	**52.9** (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1254	ND (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1260	ND (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1262	ND (3.0)		8082A		50	12/29/20 18:11		DL02305
Aroclor 1268	ND (3.0)		8082A		50	12/29/20 18:11		DL02305

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23-A 4-6ft
Date Sampled: 12/22/20 08:10
Percent Solids: 92
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1221	ND (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1232	ND (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1242 [2C]	**166** (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1248	ND (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1254	ND (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1260	ND (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1262	ND (27.4)		8082A		500	12/30/20 15:54		DL02305
Aroclor 1268	ND (27.4)		8082A		500	12/30/20 15:54		DL02305

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23-B 0-2ft
Date Sampled: 12/22/20 08:40
Percent Solids: 95
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 20:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	12/25/20 0:03		DL02305
Aroclor 1221	ND (0.05)		8082A		1	12/25/20 0:03		DL02305
Aroclor 1232	ND (0.05)		8082A		1	12/25/20 0:03		DL02305
Aroclor 1242	ND (0.05)		8082A		1	12/25/20 0:03		DL02305
Aroclor 1248 [2C]	**5.0** (0.5)		8082A		10	12/29/20 18:50		DL02305
Aroclor 1254	ND (0.05)		8082A		1	12/25/20 0:03		DL02305
Aroclor 1260	ND (0.05)		8082A		1	12/25/20 0:03		DL02305
Aroclor 1262	ND (0.05)		8082A		1	12/25/20 0:03		DL02305
Aroclor 1268	ND (0.05)		8082A		1	12/25/20 0:03		DL02305

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*68 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*71 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23-B 2-4ft
Date Sampled: 12/22/20 08:45
Percent Solids: 86
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1221	ND (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1232	ND (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1242	ND (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1248 [2C]	**38.9** (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1254	ND (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1260	ND (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1262	ND (2.4)		8082A		40	12/29/20 19:09		DL02306
Aroclor 1268	ND (2.4)		8082A		40	12/29/20 19:09		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23-B 4-6ft
Date Sampled: 12/22/20 08:50
Percent Solids: 81
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1221	ND (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1232	ND (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1242 [2C]	**16.9** (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1248	ND (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1254	ND (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1260	ND (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1262	ND (1.3)		8082A		20	12/29/20 19:29		DL02306
Aroclor 1268	ND (1.3)		8082A		20	12/29/20 19:29		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23-B 6-8ft
Date Sampled: 12/22/20 09:00
Percent Solids: 83
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1248	**P, LC 0.2** (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 18:15		DL02306
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 18:15		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*86 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 22-23 0-2ft
Date Sampled: 12/22/20 09:30
Percent Solids: 90
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1221	ND (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1232	ND (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1242	ND (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1248 [2C]	**32.1** (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1254	ND (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1260	ND (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1262	ND (2.3)		8082A		40	12/29/20 19:48		DL02306
Aroclor 1268	ND (2.3)		8082A		40	12/29/20 19:48		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 22-23 2-4ft
Date Sampled: 12/22/20 09:35
Percent Solids: 94
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1221	ND (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1232	ND (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1242 [2C]	**17.3** (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1248	ND (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1254	ND (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1260	ND (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1262	ND (1.1)		8082A		20	12/29/20 20:07		DL02306
Aroclor 1268	ND (1.1)		8082A		20	12/29/20 20:07		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 22-23 4-6ft
Date Sampled: 12/22/20 09:40
Percent Solids: 83
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1248	**P, LC 0.3** (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 19:13		DL02306
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 19:13		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*88 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 22-23 6-8ft
Date Sampled: 12/22/20 09:45
Percent Solids: 82
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 19:33		DL02306
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 19:33		DL02306
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 19:33		DL02306
Aroclor 1242 [2C]	**3.0** (0.3)		8082A		5	12/29/20 20:27		DL02306
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 19:33		DL02306
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 19:33		DL02306
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 19:33		DL02306
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 19:33		DL02306
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 19:33		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*109 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 23-24 0-2ft
Date Sampled: 12/22/20 10:15
Percent Solids: 86
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1221	ND (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1232	ND (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1242	ND (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1248 [2C]	**211** (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1254	ND (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1260	ND (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1262	ND (12.0)		8082A		200	12/29/20 20:46		DL02306
Aroclor 1268	ND (12.0)		8082A		200	12/29/20 20:46		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 23-24 2-4ft
Date Sampled: 12/22/20 10:20
Percent Solids: 91
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1221	ND (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1232	ND (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1242 [2C]	**1520** (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1248	ND (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1254	ND (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1260	ND (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1262	ND (281)		8082A		5000	12/30/20 16:13		DL02306
Aroclor 1268	ND (281)		8082A		5000	12/30/20 16:13		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 23-24 4-6ft
Date Sampled: 12/22/20 10:25
Percent Solids: 92
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0769
ESS Laboratory Sample ID: 20L0769-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 20:31		DL02306
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 20:31		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*95 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL02305 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0254*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0230*		mg/kg wet	*0.02500*		*92*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		104	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		105	40-140			
Surrogate: Decachlorobiphenyl	*0.0261*		mg/kg wet	*0.02500*		*104*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0199*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		91	40-140	0.9	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		100	40-140	0.5	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		105	40-140	1	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		104	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0256*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Batch DL02306 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL02306 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		95	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		110	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		102	40-140			
Surrogate: Decachlorobiphenyl	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0214*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		95	40-140	0.4	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		100	40-140	0.3	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		110	40-140	0.3	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		102	40-140	0.4	30	
Surrogate: Decachlorobiphenyl	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
ESS Laboratory Work Order: 20L0769

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
P	Percent difference between primary and confirmation results exceeds 40% (P).
LC	Lower value is used due to matrix interferences (LC).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0769

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0769
Date Received: 12/23/2020
Project Due Date: 12/31/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	122629	Yes	N/A	Yes	4 oz. Jar	NP	
2	122630	Yes	N/A	Yes	4 oz. Jar	NP	
3	122631	Yes	N/A	Yes	4 oz. Jar	NP	
4	122632	Yes	N/A	Yes	4 oz. Jar	NP	
5	122633	Yes	N/A	Yes	4 oz. Jar	NP	
6	122634	Yes	N/A	Yes	4 oz. Jar	NP	
7	122635	Yes	N/A	Yes	4 oz. Jar	NP	
8	122636	Yes	N/A	Yes	4 oz. Jar	NP	
9	122637	Yes	N/A	Yes	4 oz. Jar	NP	
10	122638	Yes	N/A	Yes	4 oz. Jar	NP	
11	122639	Yes	N/A	Yes	4 oz. Jar	NP	
12	122640	Yes	N/A	Yes	4 oz. Jar	NP	
13	122641	Yes	N/A	Yes	4 oz. Jar	NP	
14	122642	Yes	N/A	Yes	4 oz. Jar	NP	
15	122643	Yes	N/A	Yes	4 oz. Jar	NP	
16	122644	Yes	N/A	Yes	4 oz. Jar	NP	
17	122645	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20L0769
Date Received: 12/23/2020

18	122646	Yes	N/A	Yes	4 oz. Jar	NP
19	122647	Yes	N/A	Yes	4 oz. Jar	NP
20	122648	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials [illegible]

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [illegible] Date & Time: 12/23/20 1939

Reviewed By: [illegible] Date & Time: 12/27/20 2017

Delivered By: [illegible] 12/23/20 2030

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2010769 | Page 1 of 5

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDM Consultants
Address: 6 Huron Dr
Natick
Phone: 508-875-2657
Email Distribution List: BMillar@cdm
Consultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Millar
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	1363 Sex Hlet	Total Number of Bottles
1	12/22/20	7:00	Grab	Soil	A 21/22 (A) (0-2')	X	
2		7:05			A 21/22 (A) (2-4')	X	
3		7:10			A 21/22 (A) (4-6')	X	
4		7:30			A 21/22 (B) (0-2')	X	
5		7:35			A 21/22 (B) 2-4')	X	
6		7:40			A 21/22 (B) (4-6')	X	
7		8:00			A 22/23 (A) (0-2')	X	
8		8:05			A 22/23 (A) (2-4')	X	
9		8:10			A 22/23 (A) (4-6')	X	
10		8:40			A 22/23 (B) (0-2')	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	12/23/20	7:00	12-23-20 10:59		12/23/20	17:00	
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 2040769 | Page 2 of 5

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDM Consultants
Address: 6 Huron Dr
Natick MA
Phone: 508-655-2657
Email Distribution List: Bmillie@cdmconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hook Park, MA
Project Number: 1363
Project Manager: Brian Millie
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
11	12/22/20	8 45	Grab	Soil	A 22/23 (B) (2-4')	X	
12		850			A 22/23 (B) (4-6')	X	
13		900			A 22/23 (B) (6-8')	X	
14		930			B 22/23 (0-2')	X	
15		935			B 22/23 (2-4')	X	
16		940			B 22/23 (4-6')	X	
17		945			B 22/23 (6-8')	X	
18		1015			A 23/24 (0-2')	X	
19		1020			A 23/24 (2-4')	X	
20		1025			A 23/24 (4-6')	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	12/23/20	7 00	[signature] 12-23-20 10:39	[signature]	12/23/20	17:00	[signature]
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20L0770

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 3:41 pm, Dec 31, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

SAMPLE RECEIPT

The following samples were received on December 23, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20L0770-01	A 24-25 0-2ft	Soil	8082A
20L0770-02	A 24-25 2--4ft	Soil	8082A
20L0770-03	A 24-25 4-6ft	Soil	8082A
20L0770-04	B 24-25 0-2ft	Soil	8082A
20L0770-05	B 25-25 2-4ft	Soil	8082A
20L0770-06	A 25-26 A 0-2ft	Soil	8082A
20L0770-07	A 25-26 B 0-2ft	Soil	8082A
20L0770-08	B 25-26 0-2ft	Soil	8082A
20L0770-09	A 26-27 A 0-2ft	Soil	8082A
20L0770-10	A 26-27 A 2-4ft	Soil	8082A
20L0770-11	A 26-27 B 0-2ft	Soil	8082A
20L0770-12	A 26-27 B 2-4ft	Soil	8082A
20L0770-13	A 27-28 A 0-2ft	Soil	8082A
20L0770-14	A 27-28 A 2-4ft	Soil	8082A
20L0770-15	C 29 A 0-2ft	Soil	8082A
20L0770-16	C 29 A 2-4ft	Soil	8082A
20L0770-17	C 29-30 0-2ft	Soil	8082A
20L0770-18	C 29-30 2-4ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20L0770-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-06 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-13 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-15 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-16 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-17 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0770-18 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0770-01 through 20L0770-18**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: December 31, 2020
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 24-25 0-2ft
Date Sampled: 12/23/20 10:45
Percent Solids: 65
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1221	ND (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1232	ND (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1242 [2C]	**1240** (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1248	ND (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1254	ND (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1260	ND (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1262	ND (151)		8082A		2000	12/29/20 21:24		DL02306
Aroclor 1268	ND (151)		8082A		2000	12/29/20 21:24		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 24-25 2--4ft
Date Sampled: 12/23/20 10:50
Percent Solids: 80
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1221	ND (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1232	ND (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1242	ND (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1248 [2C]	**0.3** (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1254	ND (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1260	ND (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1262	ND (0.07)		8082A		1	12/28/20 21:09		DL02306
Aroclor 1268	ND (0.07)		8082A		1	12/28/20 21:09		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 24-25 4-6ft
Date Sampled: 12/23/20 10:55
Percent Solids: 93
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1221	ND (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1232	ND (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1242	ND (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1248 [2C]	**0.3** (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1254	ND (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1260	ND (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1262	ND (0.05)		8082A		1	12/28/20 21:29		DL02306
Aroclor 1268	ND (0.05)		8082A		1	12/28/20 21:29		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 24-25 0-2ft
Date Sampled: 12/23/20 11:15
Percent Solids: 91
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 21:48		DL02306
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 21:48		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*93 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*89 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 25-25 2-4ft
Date Sampled: 12/23/20 11:20
Percent Solids: 70
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1221	ND (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1232	ND (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1242	ND (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1248 [2C]	**134** (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1254	ND (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1260	ND (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1262	ND (6.9)		8082A		100	12/29/20 21:44		DL02306
Aroclor 1268	ND (6.9)		8082A		100	12/29/20 21:44		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 25-26 A 0-2ft
Date Sampled: 12/23/20 11:40
Percent Solids: 84
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1221	ND (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1232	ND (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1242 [2C]	**186** (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1248	ND (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1254	ND (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1260	ND (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1262	ND (12.3)		8082A		200	12/29/20 22:03		DL02306
Aroclor 1268	ND (12.3)		8082A		200	12/29/20 22:03		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 25-26 B 0-2ft
Date Sampled: 12/23/20 11:50
Percent Solids: 66
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1221	ND (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1232	ND (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1242	ND (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1248 [2C]	**146** (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1254	ND (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1260	ND (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1262	ND (7.8)		8082A		100	12/29/20 22:22		DL02306
Aroclor 1268	ND (7.8)		8082A		100	12/29/20 22:22		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 25-26 0-2ft
Date Sampled: 12/23/20 12:30
Percent Solids: 46
Initial Volume: 1.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1221	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1232	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1242	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1248	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1254	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1260	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1262	ND (0.6)		8082A		1	12/29/20 1:40		DL02306
Aroclor 1268	ND (0.6)		8082A		1	12/29/20 1:40		DL02306

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*73 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 26-27 A 0-2ft
Date Sampled: 12/23/20 12:40
Percent Solids: 79
Initial Volume: 1.89
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.3)		8082A		1	12/29/20 1:59		DL02306
Aroclor 1221	ND (0.3)		8082A		1	12/29/20 1:59		DL02306
Aroclor 1232	ND (0.3)		8082A		1	12/29/20 1:59		DL02306
Aroclor 1242	ND (0.3)		8082A		1	12/29/20 1:59		DL02306
Aroclor 1248	**17.9** (1.7)		8082A		5	12/29/20 22:42		DL02306
Aroclor 1254	ND (0.3)		8082A		1	12/29/20 1:59		DL02306
Aroclor 1260	ND (0.3)		8082A		1	12/29/20 1:59		DL02306
Aroclor 1262	ND (0.3)		8082A		1	12/29/20 1:59		DL02306
Aroclor 1268	ND (0.3)		8082A		1	12/29/20 1:59		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*70 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*77 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 26-27 A 2-4ft
Date Sampled: 12/23/20 12:45
Percent Solids: 68
Initial Volume: 1.78
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/23/20 21:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1221	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1232	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1242	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1248	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1254	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1260	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1262	ND (0.4)		8082A		1	12/29/20 2:19		DL02306
Aroclor 1268	ND (0.4)		8082A		1	12/29/20 2:19		DL02306

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*60 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*55 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*58 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*65 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 26-27 B 0-2ft
Date Sampled: 12/22/20 13:12
Percent Solids: 86
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1221	ND (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1232	ND (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1242	ND (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1248	**16.2** (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1254	ND (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1260	ND (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1262	ND (1.2)		8082A		20	12/29/20 16:59		DL02402
Aroclor 1268	ND (1.2)		8082A		20	12/29/20 16:59		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 26-27 B 2-4ft
Date Sampled: 12/22/20 13:15
Percent Solids: 60
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1221	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1232	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1242	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1248	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1254	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1260	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1262	ND (0.2)		8082A		2	12/31/20 8:38		DL02402
Aroclor 1268	ND (0.2)		8082A		2	12/31/20 8:38		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*44 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*41 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*93 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*60 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 27-28 A 0-2ft
Date Sampled: 12/22/20 14:00
Percent Solids: 92
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1221	ND (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1232	ND (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1242	ND (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1248	**102** (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1254	ND (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1260	ND (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1262	ND (5.6)		8082A		100	12/29/20 17:18		DL02402
Aroclor 1268	ND (5.6)		8082A		100	12/29/20 17:18		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 27-28 A 2-4ft
Date Sampled: 12/22/20 14:05
Percent Solids: 66
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1221	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1232	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1242	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1248	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1254	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1260	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1262	ND (0.08)		8082A		2	12/31/20 8:58		DL02402
Aroclor 1268	ND (0.08)		8082A		2	12/31/20 8:58		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*51 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*48 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*55 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29 A 0-2ft
Date Sampled: 12/22/20 14:30
Percent Solids: 86
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1221	ND (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1232	ND (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1242	ND (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1248	**17.2** (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1254	ND (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1260	ND (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1262	ND (1.1)		8082A		20	12/29/20 17:38		DL02402
Aroclor 1268	ND (1.1)		8082A		20	12/29/20 17:38		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29 A 2-4ft
Date Sampled: 12/22/20 14:35
Percent Solids: 95
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1221	ND (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1232	ND (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1242	ND (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1248	**37.8** (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1254	ND (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1260	ND (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1262	ND (2.2)		8082A		40	12/29/20 17:58		DL02402
Aroclor 1268	ND (2.2)		8082A		40	12/29/20 17:58		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29-30 0-2ft
Date Sampled: 12/22/20 14:50
Percent Solids: 77
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1221	ND (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1232	ND (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1242	ND (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1248	**47.1** (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1254	ND (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1260	ND (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1262	ND (6.7)		8082A		100	12/30/20 15:31		DL02402
Aroclor 1268	ND (6.7)		8082A		100	12/30/20 15:31		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29-30 2-4ft
Date Sampled: 12/22/20 14:55
Percent Solids: 76
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0770
ESS Laboratory Sample ID: 20L0770-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1221	ND (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1232	ND (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1242	ND (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1248	**38.0** (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1254	ND (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1260	ND (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1262	ND (2.7)		8082A		40	12/29/20 18:38		DL02402
Aroclor 1268	ND (2.7)		8082A		40	12/29/20 18:38		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL02306 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0257*		mg/kg wet	*0.02500*		*103*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		95	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		99	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		110	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		102	40-140			
Surrogate: Decachlorobiphenyl	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0239*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0214*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		95	40-140	0.4	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		100	40-140	0.3	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		110	40-140	0.3	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		102	40-140	0.4	30	
Surrogate: Decachlorobiphenyl	*0.0265*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0241*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Batch DL02402 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL02402 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0226*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0180*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0191*		mg/kg wet	*0.02500*		*77*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		96	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Surrogate: Decachlorobiphenyl	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		86	40-140	10	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		95	40-140	7	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		83	40-140	9	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		84	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.0191*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0164*		mg/kg wet	*0.02500*		*66*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0770

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0770
Date Received: 12/23/2020
Project Due Date: 12/31/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	122649	Yes	N/A	Yes	4 oz. Jar	NP	
2	122650	Yes	N/A	Yes	4 oz. Jar	NP	
3	122651	Yes	N/A	Yes	4 oz. Jar	NP	
4	122652	Yes	N/A	Yes	4 oz. Jar	NP	
5	122653	Yes	N/A	Yes	4 oz. Jar	NP	
6	122654	Yes	N/A	Yes	4 oz. Jar	NP	
7	122655	Yes	N/A	Yes	4 oz. Jar	NP	
8	122656	Yes	N/A	Yes	4 oz. Jar	NP	
9	122657	Yes	N/A	Yes	4 oz. Jar	NP	
10	122658	Yes	N/A	Yes	4 oz. Jar	NP	
11	122659	Yes	N/A	Yes	4 oz. Jar	NP	
12	122660	Yes	N/A	Yes	4 oz. Jar	NP	
13	122661	Yes	N/A	Yes	4 oz. Jar	NP	
14	122662	Yes	N/A	Yes	4 oz. Jar	NP	
15	122663	Yes	N/A	Yes	4 oz. Jar	NP	
16	122664	Yes	N/A	Yes	4 oz. Jar	NP	
17	122665	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20L0770
Date Received: 12/23/2020

18	122666	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials ____

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: ____ Date & Time: 12/23/20 1943

Reviewed By: ____ Date & Time: 12/23/20 20:32

Delivered By: ____ 12/23/20 2032

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 2020770 | Page 3 of 5

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants
Address: 6 Huron Dr.
Natick, MA
Phone: 508-655-2657
Email Distribution List: BMiller@CDWconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxlet	Total Number of Bottles
1	12/23/20	10 45	Grab	Soil	A24/25 (0-2')	X	
2		10 50			A24/25 (2-4')	X	
3		10 55			A24/25 (4-6')	X	
4		11 15			B24/25 (0-2')	X	
5		11 22			B25/25 (2-4')	X	
6		11 40			A25/26 (A) (0-2')	X	
7		11 50			A25/26 (B) (0-2')	X	
8		12 30			B25/26 (0-2')	X	
9		12 40			A26/27 (A) (0-2)	X	
10		12 45			A26/27 (A) (2-4)	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	12/23/21	7	12-23-20 10:39		12/23/20	17:02	

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2060770 | Page 4 of 5

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDM Consultants
Address: 6 Huron Dr
Natick, MA
Phone: 508-651-2657
Email Distribution List: bmillen@cdmconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Millen
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
11	12/22/20	1310	Grab	Soil	A 26/27 (B) (0-2)	X	
12	"	1315	"	"	A 26/27 (B) (2-4)	X	
13	"	1400	"	"	A 27/28 (A) (0-2)	X	
14	"	1405	"	"	A 27/28 (A) (2-4)	X	
~~15~~					~~[illegible]~~		
~~16~~					~~[illegible]~~		
15 17	12/22/20	1430	Grab	Soil	C29 (A) (0-2)	X	
16 18	"	1435	"	"	C29 (A) (2-4)	X	
17 19	"	1450	"	"	C29/30 (0-2)	X	
18 20	"	1455	"	"	C29/30 (2-4)	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	12/23/20	7	12-23-20 10:40 [signature]	[signature]	12/23/20	17:02	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20L0771

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 2:14 pm, Feb 11, 2021

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0771

SAMPLE RECEIPT

The following samples were received on December 23, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Revision 1 February 11, 2021: This report has been revised to include updated sample IDs on -03, -04, -05, and -06.

Lab Number	Sample Name	Matrix	Analysis
20L0771-01	C 29-30 4-6ft	Soil	8082A
20L0771-02	C 29-30 6-8ft	Soil	8082A
20L0771-03	C 30A 0-2ft	Soil	8082A
20L0771-04	C 30A 2-4ft	Soil	8082A
20L0771-05	C 30A 4-6ft	Soil	8082A
20L0771-06	C 30A 6-8ft	Soil	8082A
20L0771-07	C 29 B 0-2ft	Soil	8082A
20L0771-08	C 29 B 2-4ft	Soil	8082A
20L0771-09	A 27-28 B 0-2ft	Soil	8082A
20L0771-10	A 27-28 B 2-4ft	Soil	8082A
20L0771-11	B 23-24 0-2ft	Soil	8082A
20L0771-12	B 23-24 2-4ft	Soil	8082A
20L0771-13	B 23-24 4-6ft	Soil	8082A
20L0771-14	B 23-24 6-8ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0771

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20L0771-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0771-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0771-09 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0771-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0771

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0771

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0771-01 through 20L0771-14**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: December 31, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29-30 4-6ft
Date Sampled: 12/22/20 15:00
Percent Solids: 54
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	12/29/20 3:36		DL02403
Aroclor 1221	ND (0.09)		8082A		1	12/29/20 3:36		DL02403
Aroclor 1232	ND (0.09)		8082A		1	12/29/20 3:36		DL02403
Aroclor 1242	ND (0.09)		8082A		1	12/29/20 3:36		DL02403
Aroclor 1248 [2C]	**16.3** (0.9)		8082A		10	12/30/20 0:57		DL02403
Aroclor 1254	ND (0.09)		8082A		1	12/29/20 3:36		DL02403
Aroclor 1260	ND (0.09)		8082A		1	12/29/20 3:36		DL02403
Aroclor 1262	ND (0.09)		8082A		1	12/29/20 3:36		DL02403
Aroclor 1268	ND (0.09)		8082A		1	12/29/20 3:36		DL02403

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*54 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*67 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29-30 6-8ft
Date Sampled: 12/22/20 15:05
Percent Solids: 54
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1221	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1232	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1242	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1248	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1254	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1260	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1262	ND (0.1)		8082A		1	12/29/20 3:55		DL02403
Aroclor 1268	ND (0.1)		8082A		1	12/29/20 3:55		DL02403

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*61 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*65 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 30A 0-2ft
Date Sampled: 12/22/20 15:15
Percent Solids: 87
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1221	ND (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1232	ND (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1242 [2C]	**175** (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1248	ND (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1254	ND (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1260	ND (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1262	ND (12.1)		8082A		200	12/30/20 1:16		DL02403
Aroclor 1268	ND (12.1)		8082A		200	12/30/20 1:16		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 30A 2-4ft
Date Sampled: 12/22/20 15:20
Percent Solids: 67
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1221	ND (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1232	ND (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1242	ND (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1248 [2C]	**0.5** (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1254	ND (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1260	ND (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1262	ND (0.08)		8082A		1	12/29/20 4:34		DL02403
Aroclor 1268	ND (0.08)		8082A		1	12/29/20 4:34		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*62 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*69 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 30A 4-6ft
Date Sampled: 12/22/20 15:25
Percent Solids: 56
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1221	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1232	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1242	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1248	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1254	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1260	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1262	ND (0.08)		8082A		1	12/29/20 4:53		DL02403
Aroclor 1268	ND (0.08)		8082A		1	12/29/20 4:53		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*62 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*57 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 30A 6-8ft
Date Sampled: 12/22/20 15:30
Percent Solids: 50
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1221	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1232	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1242	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1248	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1254	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1260	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1262	ND (0.1)		8082A		1	12/29/20 5:13		DL02403
Aroclor 1268	ND (0.1)		8082A		1	12/29/20 5:13		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*57 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*52 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*130 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*56 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29 B 0-2ft
Date Sampled: 12/22/20 15:45
Percent Solids: 83
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1221	ND (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1232	ND (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1242 [2C]	**191** (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1248	ND (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1254	ND (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1260	ND (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1262	ND (11.6)		8082A		200	12/30/20 1:35		DL02403
Aroclor 1268	ND (11.6)		8082A		200	12/30/20 1:35		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: C 29 B 2-4ft
Date Sampled: 12/22/20 15:50
Percent Solids: 61
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.08)		8082A		1	12/29/20 5:51		DL02403
Aroclor 1221	ND (0.08)		8082A		1	12/29/20 5:51		DL02403
Aroclor 1232	ND (0.08)		8082A		1	12/29/20 5:51		DL02403
Aroclor 1242	ND (0.08)		8082A		1	12/29/20 5:51		DL02403
Aroclor 1248 [2C]	**2.6** (0.4)		8082A		5	12/30/20 1:55		DL02403
Aroclor 1254	ND (0.08)		8082A		1	12/29/20 5:51		DL02403
Aroclor 1260	ND (0.08)		8082A		1	12/29/20 5:51		DL02403
Aroclor 1262	ND (0.08)		8082A		1	12/29/20 5:51		DL02403
Aroclor 1268	ND (0.08)		8082A		1	12/29/20 5:51		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*54 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*34 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 27-28 B 0-2ft
Date Sampled: 12/22/20 15:55
Percent Solids: 89
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1221	ND (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1232	ND (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1242	ND (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1248 [2C]	**69.3** (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1254	ND (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1260	ND (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1262	ND (5.8)		8082A		100	12/30/20 2:14		DL02403
Aroclor 1268	ND (5.8)		8082A		100	12/30/20 2:14		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 27-28 B 2-4ft
Date Sampled: 12/22/20 16:00
Percent Solids: 70
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1221	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1232	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1242	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1248	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1254	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1260	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1262	ND (0.07)		8082A		1	12/29/20 6:30		DL02403
Aroclor 1268	ND (0.07)		8082A		1	12/29/20 6:30		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*43 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*30 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*42 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*48 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 23-24 0-2ft
Date Sampled: 12/22/20 16:05
Percent Solids: 86
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1221	ND (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1232	ND (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1242	ND (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1248	**45.6** (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1254	ND (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1260	ND (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1262	ND (2.3)		8082A		40	12/30/20 2:33		DL02403
Aroclor 1268	ND (2.3)		8082A		40	12/30/20 2:33		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 23-24 2-4ft
Date Sampled: 12/22/20 16:20
Percent Solids: 58
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1221	ND (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1232	ND (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1242	ND (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1248	**0.5** (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1254	ND (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1260	ND (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1262	ND (0.09)		8082A		1	12/29/20 7:09		DL02403
Aroclor 1268	ND (0.09)		8082A		1	12/29/20 7:09		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*59 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 23-24 4-6ft
Date Sampled: 12/22/20 16:25
Percent Solids: 83
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1221	ND (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1232	ND (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1242	ND (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1248 [2C]	**0.2** (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1254	ND (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1260	ND (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1262	ND (0.06)		8082A		1	12/29/20 7:28		DL02403
Aroclor 1268	ND (0.06)		8082A		1	12/29/20 7:28		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*74 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 23-24 6-8ft
Date Sampled: 12/22/20 16:30
Percent Solids: 93
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0771
ESS Laboratory Sample ID: 20L0771-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1221	ND (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1232	ND (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1242	ND (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1248 [2C]	**0.1** (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1254	ND (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1260	ND (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1262	ND (0.05)		8082A		1	12/29/20 7:47		DL02403
Aroclor 1268	ND (0.05)		8082A		1	12/29/20 7:47		DL02403

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*87 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*79 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0771

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL02403 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		98	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		102	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		95	40-140			
Surrogate: Decachlorobiphenyl	*0.0250*		mg/kg wet	*0.02500*		*100*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0233*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS Dup										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		97	40-140	7	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140	6	30	
Aroclor 1260	0.6	0.05	mg/kg wet	0.5000		110	40-140	7	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.0266*		mg/kg wet	*0.02500*		*106*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0246*		mg/kg wet	*0.02500*		*99*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0224*		mg/kg wet	*0.02500*		*89*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
ESS Laboratory Work Order: 20L0771

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0771

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0771
Date Received: 12/23/2020
Project Due Date: 12/31/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	122667	Yes	N/A	Yes	4 oz. Jar	NP	
2	122668	Yes	N/A	Yes	4 oz. Jar	NP	
3	122669	Yes	N/A	Yes	4 oz. Jar	NP	
4	122670	Yes	N/A	Yes	4 oz. Jar	NP	
5	122671	Yes	N/A	Yes	4 oz. Jar	NP	
6	122672	Yes	N/A	Yes	4 oz. Jar	NP	
7	122673	Yes	N/A	Yes	4 oz. Jar	NP	
8	122674	Yes	N/A	Yes	4 oz. Jar	NP	
9	122675	Yes	N/A	Yes	4 oz. Jar	NP	
10	122676	Yes	N/A	Yes	4 oz. Jar	NP	
11	122677	Yes	N/A	Yes	4 oz. Jar	NP	
12	122678	Yes	N/A	Yes	4 oz. Jar	NP	
13	122679	Yes	N/A	Yes	4 oz. Jar	NP	
14	122680	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20L0771
Date Received: 12/23/2020

Are barcode labels on correct containers?	Yes / No
Are all Flashpoint stickers attached/container ID # circled?	Yes / No / NA
Are all Hex Chrome stickers attached?	Yes / No / NA
Are all QC stickers attached?	Yes / No / NA
Are VOA stickers attached if bubbles noted?	Yes / No / NA

Completed By:	[illegible]	Date & Time:	12/23/20 1949
Reviewed By:	[illegible]	Date & Time:	12/23/20 2037
Delivered By:	[illegible]		12/23/20 2037

185 Frances Avenue
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www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2020771 | Page 5 of 6

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☐ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants
Address: 6 Huron Dr
Natick MA
Phone:
Email Distribution List: BMillu@CDWconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Millu
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soil Lab	Total Number of Bottles
1	12/22/20	15:00	Grab	Soil	C29/30 (4-6)	X	
2		15:05			C29/30 (6-8')	X	
3		15:15			~~C30 (0-2')~~ C30A 0-2'	X	
4		15:20			~~C30 (2-4')~~ C30A 2-4'	X	
5		15:25			~~C30 (4-6')~~ C30A 4-6'	X	
6		15:30			~~C30 (6-8')~~ C30A 6-8'	X	
7		15:45			C29 (B) (0-2)	X	
8		15:50			C29 (B) (2-4)	X	
9		15:55			A27/28 (B) (0-2)	X	
10		16:00			A27/28 (B) (2-4)	X	

JA 2-10-21

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	12/23/20	7:00	[signature] 12-23-20 10:40	[signature]	12/23/20	17:02	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CHAIN OF CUSTODY

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ESS Lab # 2010771 | Page 6 of 6

Turn Time: ☐ > 5 ☑ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☑ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDM Consultants
Address: 6 Tarbox Rd
Natick, MA
Phone: 508-875-2657
Email Distribution List: Bmilm@cdm consultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Milm
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOC 8260 List	Total Number of Bottles
—	12/23/20	1605	CRDB	Soil	~~1323/25 (0-2')~~	X	
11	"	1620			1323/24 (0-2')	X	
12	"	1625			1323/24 (2-4')	X	
13	"	1630			1323/24 (4-6')	X	
14					1323/24 (6-8')	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	12/23/20	7 pm	12-23-20 10:40		12/23/20	17:02	

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

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CHAIN OF CUSTODY

ESS Lab # 2020771 | Page 5 of 6

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☐ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants
Address: 6 Huron Dr
Natick MA
Phone:
Email Distribution List: BMillu@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Millu
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCM Sub Lab	Total Number of Bottles
1	12/22/20	15:00	Grab	Soil	C29/30 (4-6)	X	
2		15:05			C29/30 (6-8')	X	
3		15:15			C30 (0-2')	X	
4		15:20			C30 (2-4')	X	
5		15:25			C30 (4-6')	X	
6		15:30			C30 (6-8')	X	
7		15:45			C29 (B) (0-2)	X	
8		15:50			C29 (B) (2-4)	X	
9		15:55			A27/28 (B) (0-2)	X	
10		16:00			A27/28 (B) (2-4)	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	12/23/20	7:00	12-23-20 10:40		12/23/20	17:02	
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CHAIN OF CUSTODY

ESS LABORATORY
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Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 2010771 | Page 6 of 6

Turn Time: ☐ > 5 ☑ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☑ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☑ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDM Consultants
Address: 6 Tarbox Rd
Natick, MA
Phone: 508-875-2657
Email Distribution List: Bmilm@cdmconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Milm
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOC 8260															Total Number of Bottles
—	12/23/20	1605	CRDB	Soil	~~1323/25 (0-2)~~	X															
11	"	1620			1323/24 (0-2')	X															
12	"	1625			1323/24 (2-4')	X															
13	"	1630			1323/24 (4-6')	X															
14					1323/24 (6-8')	X															

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration
☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	12/23/20	7 pm	12-23-20 10:40		12/23/20	17:02	

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20L0772

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 3:48 pm, Dec 31, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0772

SAMPLE RECEIPT

The following samples were received on December 23, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20L0772-01	A 18-19 B 0-2ft	Soil	8082A
20L0772-02	A 18-19 B 2-4ft	Soil	8082A
20L0772-03	A 18-19 B 4-6ft	Soil	8082A
20L0772-04	A 19-20 0-2ft	Soil	8082A
20L0772-05	A 19-20 2-4ft	Soil	8082A
20L0772-06	B 19-20 0-2ft	Soil	8082A
20L0772-07	B 19-20 2-4ft	Soil	8082A
20L0772-08	A 20-21 A 0-2ft	Soil	8082A
20L0772-09	A 20-21 A 2-4ft	Soil	8082A
20L0772-10	A 20-21 B 0-2ft	Soil	8082A
20L0772-11	A 20-21 B 2-4ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0772

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20L0772-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0772-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0772-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0772-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0772-06 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0772-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0772-08 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0772-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0772

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0772

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0772-01 through 20L0772-11**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard

Date: December 31, 2020

Printed Name: Laurel Stoddard

Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 18-19 B 0-2ft
Date Sampled: 12/21/20 13:00
Percent Solids: 94
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1221	ND (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1232	ND (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1242	ND (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1248	**3340** (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1254	ND (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1260	ND (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1262	ND (280)		8082A		5000	12/29/20 18:57		DL02402
Aroclor 1268	ND (280)		8082A		5000	12/29/20 18:57		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 18-19 B 2-4ft
Date Sampled: 12/21/20 13:05
Percent Solids: 90
Initial Volume: 20.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1221	ND (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1232	ND (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1242	ND (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1248	**33.4** (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1254	ND (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1260	ND (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1262	ND (5.4)		8082A		100	12/30/20 15:51		DL02402
Aroclor 1268	ND (5.4)		8082A		100	12/30/20 15:51		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 18-19 B 4-6ft
Date Sampled: 12/21/20 13:10
Percent Solids: 78
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1248	**0.6** (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 18:17		DL02402
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 18:17		DL02402

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*75 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*74 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 19-20 0-2ft
Date Sampled: 12/21/20 13:40
Percent Solids: 93
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1221	ND (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1232	ND (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1242	ND (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1248	**60.4** (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1254	ND (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1260	ND (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1262	ND (10.9)		8082A		200	12/30/20 16:11		DL02402
Aroclor 1268	ND (10.9)		8082A		200	12/30/20 16:11		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 19-20 2-4ft
Date Sampled: 12/21/20 13:45
Percent Solids: 86
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1221	ND (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1232	ND (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1242	**17.0** (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1248	ND (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1254	ND (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1260	ND (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1262	ND (1.2)		8082A		20	12/29/20 19:57		DL02402
Aroclor 1268	ND (1.2)		8082A		20	12/29/20 19:57		DL02402

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 19-20 0-2ft
Date Sampled: 12/21/20 14:00
Percent Solids: 95
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1221	ND (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1232	ND (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1242	ND (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1248	**35.1** (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1254	ND (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1260	ND (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1262	ND (2.1)		8082A		40	12/29/20 20:17		DL02402
Aroclor 1268	ND (2.1)		8082A		40	12/29/20 20:17		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 19-20 2-4ft
Date Sampled: 12/21/20 14:05
Percent Solids: 92
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1221	ND (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1232	ND (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1242	ND (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1248	**98.0** (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1254	ND (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1260	ND (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1262	ND (13.5)		8082A		250	12/30/20 16:31		DL02402
Aroclor 1268	ND (13.5)		8082A		250	12/30/20 16:31		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 20-21 A 0-2ft
Date Sampled: 12/21/20 14:30
Percent Solids: 87
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1221	ND (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1232	ND (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1242	**46.6** (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1248	ND (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1254	ND (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1260	ND (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1262	ND (2.3)		8082A		40	12/29/20 20:56		DL02402
Aroclor 1268	ND (2.3)		8082A		40	12/29/20 20:56		DL02402

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 20-21 A 2-4ft
Date Sampled: 12/21/20 14:35
Percent Solids: 92
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 20:15		DL02402
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 20:15		DL02402
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 20:15		DL02402
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 20:15		DL02402
Aroclor 1248	**2.4** (0.3)		8082A		5	12/29/20 21:16		DL02402
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 20:15		DL02402
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 20:15		DL02402
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 20:15		DL02402
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 20:15		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 20-21 B 0-2ft
Date Sampled: 12/21/20 14:50
Percent Solids: 83
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1221	ND (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1232	ND (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1242	**48.0** (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1248	ND (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1254	ND (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1260	ND (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1262	ND (2.4)		8082A		40	12/29/20 21:36		DL02402
Aroclor 1268	ND (2.4)		8082A		40	12/29/20 21:36		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 20-21 B 2-4ft
Date Sampled: 12/21/20 15:00
Percent Solids: 87
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0772
ESS Laboratory Sample ID: 20L0772-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 23:33		DL02402
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 23:33		DL02402
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 23:33		DL02402
Aroclor 1242	**11.6** (0.6)		8082A		10	12/29/20 21:56		DL02402
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 23:33		DL02402
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 23:33		DL02402
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 23:33		DL02402
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 23:33		DL02402
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 23:33		DL02402

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*63 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*62 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0772

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL02402 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0226*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0180*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0191*		mg/kg wet	*0.02500*		*77*	*30-150*			
LCS										
Aroclor 1016	0.5	0.02	mg/kg wet	0.5000		96	40-140			
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		101	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140			
Surrogate: Decachlorobiphenyl	*0.0216*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		86	40-140	10	30	
Aroclor 1016 [2C]	0.5	0.02	mg/kg wet	0.5000		95	40-140	7	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		83	40-140	9	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		84	40-140	8	30	
Surrogate: Decachlorobiphenyl	*0.0191*		mg/kg wet	*0.02500*		*76*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0192*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0164*		mg/kg wet	*0.02500*		*66*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
ESS Laboratory Work Order: 20L0772

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0772

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0772
Date Received: 12/23/2020
Project Due Date: 12/31/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	122681	Yes	N/A	Yes	4 oz. Jar	NP	
2	122682	Yes	N/A	Yes	4 oz. Jar	NP	
3	122683	Yes	N/A	Yes	4 oz. Jar	NP	
4	122684	Yes	N/A	Yes	4 oz. Jar	NP	
5	122685	Yes	N/A	Yes	4 oz. Jar	NP	
6	122686	Yes	N/A	Yes	4 oz. Jar	NP	
7	122687	Yes	N/A	Yes	4 oz. Jar	NP	
8	122688	Yes	N/A	Yes	4 oz. Jar	NP	
9	122689	Yes	N/A	Yes	4 oz. Jar	NP	
10	122690	Yes	N/A	Yes	4 oz. Jar	NP	
11	122691	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20L0772

Date Received: 12/23/2020

Are VOA stickers attached if bubbles noted? Yes / No (NA)

Completed By:		Date & Time:	12/23/20 1952
Reviewed By:		Date & Time:	12/23/20 2039
Delivered By:			12/23/20 2039

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2060772 | Page 3 of 4

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☐ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: EJW Consultants
Address: 6 Huron DR
Natick, MA
Phone: 508-875-2057
Email Distribution List: BMiller@
CJWconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
1	12/21/20	1300	Grab	Soil	A 18/19 (B) (0-2')	X	
2		1305			A 18/19 (B) (2-4')	X	
3		1310			A 18/19 (B) (4-6')	X	
4		1320			A 19/20 (0-2')	X	
5		1325			A 19/20 (2-4')	X	
6		1400			B 19/20 (0-2')	X	
7		1405			B 19/20 (2-4')	X	
8		1430			A 20/21 (A) (0-2')	X	
9		1435			A 20/21 (A) (2-4')	X	
10		1450			A 20/21 (B) (0-2')	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	12/23/20	7 [illegible]	12-23-20 10:39 [signature]	[signature]	12/23/20	17:00	[signature]
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2060772 | Page 4 of 4

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants
Address: 6 Huron Dr, Natick, MA
Phone: 508-653-2657
Email Distribution List:

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	SC3 Soil Bulk	Total Number of Bottles
11	12/21/20	1500	Grab	Soil	A 20/21(B)(2-4')	X	
	12/[illegible]						

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	12/23/20	7:00	[signature] 12-23-20 10:59	[signature]	12/23/20	17:00	[signature]
Relinquished by (Signature)	**Date**	**Time**	**Received by (Signature)**	**Relinquished by (Signature)**	**Date**	**Time**	**Received by (Signature)**

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 20L0773

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 3:52 pm, Dec 31, 2020

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0773

SAMPLE RECEIPT

The following samples were received on December 23, 2020 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
20L0773-01	B1 A 0-2ft	Soil	8082A
20L0773-02	B1 B 0-2ft	Soil	8082A
20L0773-03	B1 C 0-2ft	Soil	8082A
20L0773-04	B1 D 0-2ft	Soil	8082A
20L0773-05	A 14-15 0-2ft	Soil	8082A
20L0773-06	B 14-15 0-2ft	Soil	8082A
20L0773-07	A 15-16 0-2ft	Soil	8082A
20L0773-08	A 15-16 2-4ft	Soil	8082A
20L0773-09	A 15-16 4-6ft	Soil	8082A
20L0773-10	A 15-16 6-8ft	Soil	8082A
20L0773-11	A 16-17 0-2ft	Soil	8082A
20L0773-12	A 16-17 2-4ft	Soil	8082A
20L0773-13	A 16-17 4-6ft	Soil	8082A
20L0773-14	A 16-17 6-8ft	Soil	8082A
20L0773-15	A 17-18 0-2ft	Soil	8082A
20L0773-16	A 17-18 2-4ft	Soil	8082A
20L0773-17	A 17-18 4-6ft	Soil	8082A
20L0773-18	A 18-19 A 0-2ft	Soil	8082A
20L0773-19	A 18-19 A 2-4ft	Soil	8082A
20L0773-20	A 18-19 A 4-6ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0773

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

20L0773-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0773-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0773-15 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0773-16 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

20L0773-17 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0773

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0773

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **20L0773-01 through 20L0773-20**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for '"Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: December 31, 2020
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 A 0-2ft
Date Sampled: 12/21/20 08:45
Percent Solids: 93
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1248 [2C]	**0.1** (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 15:06		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 15:06		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*80 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*109 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*105 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 B 0-2ft
Date Sampled: 12/21/20 08:50
Percent Solids: 93
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1221	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1232	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1242	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1248	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1254	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1260	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1262	ND (0.05)		8082A		1	12/28/20 15:26		DL02404
Aroclor 1268	ND (0.05)		8082A		1	12/28/20 15:26		DL02404

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*103 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*66 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 C 0-2ft
Date Sampled: 12/21/20 08:55
Percent Solids: 65
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1221	ND (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1232	ND (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1242 [2C]	**214** (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1248	ND (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1254	ND (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1260	ND (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1262	ND (38.5)		8082A		500	12/30/20 19:06		DL02404
Aroclor 1268	ND (38.5)		8082A		500	12/30/20 19:06		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B1 D 0-2ft
Date Sampled: 12/21/20 09:00
Percent Solids: 92
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1248 [2C]	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 16:05		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 16:05		DL02404

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*65 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*68 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 14-15 0-2ft
Date Sampled: 12/21/20 09:30
Percent Solids: 92
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 16:25		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 16:25		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 16:25		DL02404
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 16:25		DL02404
Aroclor 1248 [2C]	**2.8** (0.3)		8082A		5	12/29/20 16:34		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 16:25		DL02404
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 16:25		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 16:25		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 16:25		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*106 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*62 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*95 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 14-15 0-2ft
Date Sampled: 12/21/20 09:35
Percent Solids: 88
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 16:45		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 16:45		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 16:45		DL02404
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 16:45		DL02404
Aroclor 1248 [2C]	**3.6** (0.3)		8082A		5	12/29/20 16:54		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 16:45		DL02404
Aroclor 1260 [2C]	**0.3** (0.06)		8082A		1	12/28/20 16:45		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 16:45		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 16:45		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*107 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*69 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 15-16 0-2ft
Date Sampled: 12/21/20 09:50
Percent Solids: 90
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 17:04		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 17:04		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 17:04		DL02404
Aroclor 1242	ND (0.06)		8082A		1	12/28/20 17:04		DL02404
Aroclor 1248 [2C]	**2.4** (0.3)		8082A		5	12/29/20 17:13		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 17:04		DL02404
Aroclor 1260 [2C]	**0.2** (0.06)		8082A		1	12/28/20 17:04		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 17:04		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 17:04		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*73 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 15-16 2-4ft
Date Sampled: 12/21/20 09:55
Percent Solids: 87
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1242 [2C]	**0.6** (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 17:24		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 17:24		DL02404

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*77 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*110 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*94 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 15-16 4-6ft
Date Sampled: 12/21/20 10:00
Percent Solids: 77
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 17:44		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 17:44		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 17:44		DL02404
Aroclor 1242	**4.1** (0.3)		8082A		5	12/29/20 17:33		DL02404
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 17:44		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 17:44		DL02404
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 17:44		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 17:44		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 17:44		DL02404

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*68 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*63 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*63 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 15-16 6-8ft
Date Sampled: 12/21/20 10:25
Percent Solids: 83
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1242 [2C]	**0.9** (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 18:04		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 18:04		DL02404

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*106 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*104 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 16-17 0-2ft
Date Sampled: 12/21/20 10:30
Percent Solids: 86
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1221	ND (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1232	ND (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1242 [2C]	**35.1** (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1248	ND (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1254	ND (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1260	ND (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1262	ND (2.3)		8082A		40	12/29/20 17:53		DL02404
Aroclor 1268	ND (2.3)		8082A		40	12/29/20 17:53		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 16-17 2-4ft
Date Sampled: 12/21/20 10:35
Percent Solids: 88
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1221	ND (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1232	ND (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1242 [2C]	**0.4** (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1248	ND (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1254	ND (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1260	ND (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1262	ND (0.05)		8082A		1	12/28/20 18:44		DL02404
Aroclor 1268	ND (0.05)		8082A		1	12/28/20 18:44		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*42 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*53 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*36 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*48 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 16-17 4-6ft
Date Sampled: 12/21/20 10:40
Percent Solids: 75
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	12/28/20 19:03		DL02404
Aroclor 1221	ND (0.07)		8082A		1	12/28/20 19:03		DL02404
Aroclor 1232	ND (0.07)		8082A		1	12/28/20 19:03		DL02404
Aroclor 1242	**5.1** (0.3)		8082A		5	12/29/20 18:13		DL02404
Aroclor 1248	ND (0.07)		8082A		1	12/28/20 19:03		DL02404
Aroclor 1254	ND (0.07)		8082A		1	12/28/20 19:03		DL02404
Aroclor 1260	ND (0.07)		8082A		1	12/28/20 19:03		DL02404
Aroclor 1262	ND (0.07)		8082A		1	12/28/20 19:03		DL02404
Aroclor 1268	ND (0.07)		8082A		1	12/28/20 19:03		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*101 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 16-17 6-8ft
Date Sampled: 12/21/20 10:45
Percent Solids: 85
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1221	ND (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1232	ND (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1242 [2C]	**0.6** (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1248	ND (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1254	ND (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1260	ND (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1262	ND (0.06)		8082A		1	12/28/20 19:23		DL02404
Aroclor 1268	ND (0.06)		8082A		1	12/28/20 19:23		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 17-18 0-2ft
Date Sampled: 12/21/20 11:30
Percent Solids: 91
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1221	ND (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1232	ND (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1242	ND (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1248 [2C]	**134** (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1254	ND (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1260	ND (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1262	ND (11.2)		8082A		200	12/29/20 18:33		DL02404
Aroclor 1268	ND (11.2)		8082A		200	12/29/20 18:33		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 17-18 2-4ft
Date Sampled: 12/21/20 11:35
Percent Solids: 86
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1221	ND (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1232	ND (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1242	ND (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1248 [2C]	**25.9** (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1254	ND (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1260	ND (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1262	ND (2.4)		8082A		40	12/29/20 18:53		DL02404
Aroclor 1268	ND (2.4)		8082A		40	12/29/20 18:53		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 17-18 4-6ft
Date Sampled: 12/21/20 11:40
Percent Solids: 63
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1221	ND (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1232	ND (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1242 [2C]	**119** (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1248	ND (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1254	ND (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1260	ND (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1262	ND (20.7)		8082A		250	12/30/20 19:26		DL02404
Aroclor 1268	ND (20.7)		8082A		250	12/30/20 19:26		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 18-19 A 0-2ft
Date Sampled: 12/21/20 12:10
Percent Solids: 93
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1221	ND (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1232	ND (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1242	ND (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1248 [2C]	**0.3** (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1254	ND (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1260	ND (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1262	ND (0.05)		8082A		1	12/28/20 23:21		DL02404
Aroclor 1268	ND (0.05)		8082A		1	12/28/20 23:21		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*99 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*67 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 18-19 A 2-4ft
Date Sampled: 12/21/20 12:15
Percent Solids: 91
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1221	ND (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1232	ND (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1242	ND (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1248 [2C]	**0.1** (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1254	ND (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1260	ND (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1262	ND (0.05)		8082A		1	12/28/20 23:40		DL02404
Aroclor 1268	ND (0.05)		8082A		1	12/28/20 23:40		DL02404

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*78 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*98 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*65 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*85 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 18-19 A 4-6ft
Date Sampled: 12/21/20 12:20
Percent Solids: 78
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 20L0773
ESS Laboratory Sample ID: 20L0773-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 12/24/20 14:05

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1221	ND (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1232	ND (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1242 [2C]	**0.7** (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1248	ND (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1254	ND (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1260	ND (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1262	ND (0.07)		8082A		1	12/29/20 0:00		DL02404
Aroclor 1268	ND (0.07)		8082A		1	12/29/20 0:00		DL02404

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*102 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0773

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DL02404 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0205*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0254*		mg/kg wet	*0.02500*		*102*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0159*		mg/kg wet	*0.02500*		*64*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
LCS										
Aroclor 1016	0.5	0.05	mg/kg wet	0.5000		90	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		104	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		91	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		107	40-140			
Surrogate: Decachlorobiphenyl	*0.0217*		mg/kg wet	*0.02500*		*87*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0269*		mg/kg wet	*0.02500*		*108*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0176*		mg/kg wet	*0.02500*		*71*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140	3	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		102	40-140	1	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		88	40-140	3	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		105	40-140	1	30	
Surrogate: Decachlorobiphenyl	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0264*		mg/kg wet	*0.02500*		*105*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0169*		mg/kg wet	*0.02500*		*67*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0773

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 20L0773

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 20L0773
Date Received: 12/23/2020
Project Due Date: 12/31/2020
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.8 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	122692	Yes	N/A	Yes	4 oz. Jar	NP	
2	122693	Yes	N/A	Yes	4 oz. Jar	NP	
3	122694	Yes	N/A	Yes	4 oz. Jar	NP	
4	122695	Yes	N/A	Yes	4 oz. Jar	NP	
5	122696	Yes	N/A	Yes	4 oz. Jar	NP	
6	122697	Yes	N/A	Yes	4 oz. Jar	NP	
7	122698	Yes	N/A	Yes	4 oz. Jar	NP	
8	122699	Yes	N/A	Yes	4 oz. Jar	NP	
9	122700	Yes	N/A	Yes	4 oz. Jar	NP	
10	122701	Yes	N/A	Yes	4 oz. Jar	NP	
11	122702	Yes	N/A	Yes	4 oz. Jar	NP	
12	122308	Yes	N/A	Yes	4 oz. Jar	NP	
13	122309	Yes	N/A	Yes	4 oz. Jar	NP	
14	122310	Yes	N/A	Yes	4 oz. Jar	NP	
15	122311	Yes	N/A	Yes	4 oz. Jar	NP	
16	122312	Yes	N/A	Yes	4 oz. Jar	NP	
17	122313	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 20L0773
Date Received: 12/23/2020

18	122314	Yes	N/A	Yes	4 oz. Jar	NP
19	122315	Yes	N/A	Yes	4 oz. Jar	NP
20	122316	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials [illegible]

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [illegible] Date & Time: 12/23/20 1959

Reviewed By: [illegible] Date & Time: 12/23/20 2042

Delivered By: [illegible] 12/23/20 2042

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 2060773 | Page 1 of 4

Turn Time: ☐ >5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☒ Limit Checker ☐ State Forms ☐ EQuIS
☒ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDM CONSULTANTS
Address: 6 HURON DR.
NATICK, MA
Phone: 508-875-2657
Email Distribution List: BMILLER@CDMCONSULTANTS.COM

PROJECT INFORMATION

Project Name: LEWIS CHEMICAL
Project Location: HYDE PARK, MA
Project Number: 1363
Project Manager: BRIAN MILLER
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
1	12/21/20	845	GRAB	SOIL	B1 (A) (0-2)	X	
2		850			B1 (B) (0-2')	X	
3		855			B1 (C) (0-2')	X	
4		900			B1 (D) (0-2')	X	
5		930			A 14/15 (0-2')	X	
6		935			B 14/15 (0-2')	X	
7		950			A 15/16 (0-2')	X	
8		955			A 15/16 (2-4')	X	
9		1000			A 15/16 (4-6')	X	
10		1005			A 15/16 (6-8')	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	12/23/20	700	[signature] 12/23/20 10:39	[signature]	12/23/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CHAIN OF CUSTODY

ESS LABORATORY
185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

ESS Lab # 20L0773 | Page 2 of 4

Turn Time: ☐ >5 ☒ 6 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: ~~[illegible]~~ CDW Consultant
Address: 6 Huron Dr, Natick MA
Phone: 508-875-2651
Email Distribution List:

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
11	12/21/20	10:30	Grab	Soil	A 16/17 (0-2')	X	
12		10:35			A 16/17 (2-4')	X	
13		10:40			A 16/17 (4-6')	X	
14		10:45			A 16/17 (6-8')	X	
15		11:30			A 17/18 (0-2')	X	
16		11:35			A 17/18 (2-4')	X	
17		11:40			A 17/18 (4-6')	X	
18		12:10			A 18/19(A) (0-2')	X	
19		12:15			A 18/19(A) (2-4')	X	
20		12:20			A 18/19(A) (4-6')	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Laboratory Use Only
Cooler Temperature (°C): 2.8

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	12/23/20	[illegible]	[signature] 12-23-20 10:39	[signature]	12/23/20	17:00	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 21A0155

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 4:36 pm, Jan 26, 2021

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0155

SAMPLE RECEIPT

The following samples were received on January 07, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Revision 1 January 26, 2021: This report has been revised to include updated sample ID for 21A0155-02.

Lab Number	Sample Name	Matrix	Analysis
21A0155-01	A 17-18 6-8ft	Soil	8082A
21A0155-02	A 19-20 4-6ft	Soil	8082A
21A0155-03	A 22-23 A 6-8ft	Soil	8082A
21A0155-04	A 24-25 4-6ft	Soil	8082A
21A0155-05	A 25-26 A 2-4ft	Soil	8082A
21A0155-06	A 25-26 B 2-4ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0155

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0155

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0155

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **21A0155-01 through 21A0155-06**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (x) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: January 11, 2021
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 17-18 6-8ft
Date Sampled: 12/21/20 11:45
Percent Solids: 81
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0155
ESS Laboratory Sample ID: 21A0155-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/7/21 21:10

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1221	ND (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1232	ND (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1242 [2C]	**0.7** (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1248	ND (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1254	ND (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1260	ND (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1262	ND (0.06)		8082A		1	01/08/21 21:20		DA10735
Aroclor 1268	ND (0.06)		8082A		1	01/08/21 21:20		DA10735

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 19-20 4-6ft
Date Sampled: 12/21/20 14:10
Percent Solids: 86
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0155
ESS Laboratory Sample ID: 21A0155-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/7/21 21:10

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1221	ND (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1232	ND (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1242	ND (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1248	**0.7** (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1254	ND (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1260	ND (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1262	ND (0.06)		8082A		1	01/08/21 21:39		DA10735
Aroclor 1268	ND (0.06)		8082A		1	01/08/21 21:39		DA10735

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 22-23 A 6-8ft
Date Sampled: 12/22/20 08:15
Percent Solids: 90
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0155
ESS Laboratory Sample ID: 21A0155-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/7/21 21:10

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1221	ND (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1232	ND (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1242 [2C]	**0.07** (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1248	ND (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1254	ND (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1260	ND (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1262	ND (0.06)		8082A		1	01/08/21 21:58		DA10735
Aroclor 1268	ND (0.06)		8082A		1	01/08/21 21:58		DA10735

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*92 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*83 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*89 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 24-25 4-6ft
Date Sampled: 12/22/20 11:00
Percent Solids: 76
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0155
ESS Laboratory Sample ID: 21A0155-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/7/21 21:10

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1221	ND (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1232	ND (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1242	ND (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1248 [2C]	**0.8** (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1254	ND (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1260	ND (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1262	ND (0.07)		8082A		1	01/08/21 22:18		DA10735
Aroclor 1268	ND (0.07)		8082A		1	01/08/21 22:18		DA10735

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*86 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*92 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 25-26 A 2-4ft
Date Sampled: 12/22/20 11:55
Percent Solids: 84
Initial Volume: 1.23
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0155
ESS Laboratory Sample ID: 21A0155-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/7/21 21:10

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1221	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1232	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1242	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1248	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1254	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1260	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1262	ND (1.0)		8082A		1	01/08/21 22:37		DA10735
Aroclor 1268	ND (1.0)		8082A		1	01/08/21 22:37		DA10735

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*61 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*60 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*71 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: A 25-26 B 2-4ft
Date Sampled: 12/22/20 12:35
Percent Solids: 80
Initial Volume: 1.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0155
ESS Laboratory Sample ID: 21A0155-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/7/21 21:10

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1221	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1232	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1242	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1248	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1254	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1260	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1262	ND (1.0)		8082A		1	01/08/21 22:56		DA10735
Aroclor 1268	ND (1.0)		8082A		1	01/08/21 22:56		DA10735

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*68 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*64 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*81 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0155

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DA10735 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0215*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0162*		mg/kg wet	*0.02500*		*65*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0179*		mg/kg wet	*0.02500*		*72*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		81	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1260	0.5	0.05	mg/kg wet	0.5000		92	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Surrogate: Decachlorobiphenyl	*0.0252*		mg/kg wet	*0.02500*		*101*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0228*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0197*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		77	40-140	5	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	4	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	6	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140	5	30	
Surrogate: Decachlorobiphenyl	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0214*		mg/kg wet	*0.02500*		*86*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0185*		mg/kg wet	*0.02500*		*74*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0188*		mg/kg wet	*0.02500*		*75*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0155

Notes and Definitions

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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0155

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 21A0155
Date Received: 1/7/2021
Project Due Date: 1/14/2021
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 2.5 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	124822	Yes	N/A	Yes	4 oz. Jar	NP	
2	124823	Yes	N/A	Yes	4 oz. Jar	NP	
3	124824	Yes	N/A	Yes	4 oz. Jar	NP	
4	124825	Yes	N/A	Yes	4 oz. Jar	NP	
5	124826	Yes	N/A	Yes	4 oz. Jar	NP	
6	124827	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review
Were all containers scanned into storage/lab? Initials AG
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Amber Garcia Date & Time: 1/7/21 20:03
Reviewed By: Date & Time: 1/7/21 2033

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 21A0155

Date Received: 1/7/2021

Delivered By: 1/7/21 2033

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 21A0155 | Page 1 of 1

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☑ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants
Address: 6 Huron drive, Natick, MA
Phone: 508-875-2657
Email Distribution List: bmiller@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Fairmount Court, Hyde Park, MA
Project Number: #1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
1	12/22/20	11 45	Grab	Soil	A 17/18 (6-8')	X	1
2	"	14:0	"	"	A 19/20 (4-6')	X	1
3	12/22/20	8:5	"	"	A 22/23 (A) (6-8')	X	1
4	"	11:0	"	"	A 24/25 (4-6')	X	1
5	"	1155	"	"	A 25/26 (A) (2-4')	X	1
6	"	1235	"	"	A 25/26 (B) (2-4')	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: A. Sundquist

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

2.5c

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	1/7/21	16:00	[signature]	[signature]	1/7/21	17:25	[signature]

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 21A0378

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 4:54 pm, Jan 22, 2021

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0378

SAMPLE RECEIPT

The following samples were received on January 15, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
21A0378-01	B 24-25 4-6ft	Soil	8082A
21A0378-02	B 19-20 4-6ft	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0378

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0378

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0378

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **21A0378-01 through 21A0378-02**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes (x) No ( )*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: January 19, 2021
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 24-25 4-6ft
Date Sampled: 12/22/20 11:30
Percent Solids: 93
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0378
ESS Laboratory Sample ID: 21A0378-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/15/21 15:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1221	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1232	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1242	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1248	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1254	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1260	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1262	ND (0.05)		8082A		1	01/18/21 17:17		DA11501
Aroclor 1268	ND (0.05)		8082A		1	01/18/21 17:17		DA11501

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*94 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: B 19-20 4-6ft
Date Sampled: 12/21/20 14:10
Percent Solids: 92
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21A0378
ESS Laboratory Sample ID: 21A0378-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 1/15/21 15:50

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1221	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1232	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1242	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1248	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1254	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1260	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1262	ND (0.06)		8082A		1	01/18/21 17:36		DA11501
Aroclor 1268	ND (0.06)		8082A		1	01/18/21 17:36		DA11501

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*96 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*80 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*87 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0378

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DA11501 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0240*		mg/kg wet	*0.02500*		*96*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0221*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0207*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0216*		mg/kg wet	*0.02500*		*87*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		85	40-140			
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		89	40-140			
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		94	40-140			
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		92	40-140			
Surrogate: Decachlorobiphenyl	*0.0236*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0231*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0206*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0203*		mg/kg wet	*0.02500*		*81*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		84	40-140	0.2	30	
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		88	40-140	1	30	
Aroclor 1260	0.5	0.02	mg/kg wet	0.5000		94	40-140	0.7	30	
Aroclor 1260 [2C]	0.5	0.02	mg/kg wet	0.5000		91	40-140	0.7	30	
Surrogate: Decachlorobiphenyl	*0.0238*		mg/kg wet	*0.02500*		*95*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0221*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0204*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0378

Notes and Definitions

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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21A0378

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 21A0378
Date Received: 1/15/2021
Project Due Date: 1/22/2021
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 5.6 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	127141	Yes	N/A	Yes	4 oz. Jar	NP	
2	127142	Yes	N/A	Yes	4 oz. Jar	NP	

2nd Review

Were all containers scanned into storage/lab? Initials
Are barcode labels on correct containers? Yes / No
Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA
Are all Hex Chrome stickers attached? Yes / No / NA
Are all QC stickers attached? Yes / No / NA
Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: Date & Time: 1/15/21 15:04
Reviewed By: Amber Hamer Date & Time: 1/15/21 15:12

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 21A0378 | Page 1 of 1

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants, Inc
Address: 6 Huron Dr, Natick, MA
Phone: 508-875-2657
Email Distribution List: bmiller@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park, Boston, MA
Project Number: 1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
1	12/22/20	11:30	GRAB	SOIL	B 24/25 (4-6')	X	1
2	12/21/20	14:10	"	"	B 19/20 (4-6')	X	1

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by: A. Sundquist

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
	1/15/21	10:31			1/15/21	14:51	

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363.4)
ESS Laboratory Work Order Number: 21C0555

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 6:08 pm, Mar 24, 2021

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

SAMPLE RECEIPT

The following samples were received on March 16, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
21C0555-01	HB-18 0-2ft	Soil	8082A
21C0555-02	HB-19 0-2ft	Soil	8082A
21C0555-03	HB-19 2-4ft	Soil	8082A
21C0555-04	HB-20 0-2ft	Soil	8082A
21C0555-05	HB-20 2-4ft	Soil	8082A
21C0555-06	HB-21 0-2ft	Soil	8082A
21C0555-07	HB-21 2-4ft	Soil	8082A
21C0555-08	HB-22 0-2ft	Soil	8082A
21C0555-09	HB-23 0-2ft	Soil	8082A
21C0555-10	HB-23 2-4ft	Soil	8082A
21C0555-11	HB-24 0-2ft	Soil	8082A
21C0555-12	HB-24 2-4ft	Soil	8082A
21C0555-13	RS-6	Soil	8082A
21C0555-14	RS-7	Soil	8082A
21C0555-15	RS-8	Soil	8082A
21C0555-16	RS-9	Soil	8082A
21C0555-17	RS-10	Soil	8082A
21C0555-18	R-11	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

21C0555-01 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-02 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-06 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-08 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-12 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-14 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-15 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-16 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-17 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0555-18 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

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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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **21C0555-01 through 21C0555-18**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: March 23, 2021
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-18 0-2ft
Date Sampled: 03/11/21 09:00
Percent Solids: 84
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/16/21 20:15

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1221	ND (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1232	ND (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1242	ND (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1248	**10300** (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1254	ND (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1260	ND (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1262	ND (584)		8082A		10000	03/18/21 16:30		DC11605
Aroclor 1268	ND (584)		8082A		10000	03/18/21 16:30		DC11605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-19 0-2ft
Date Sampled: 03/11/21 09:30
Percent Solids: 79
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/16/21 20:15

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1221	ND (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1232	ND (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1242	ND (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1248 [2C]	**1840** (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1254	ND (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1260	ND (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1262	ND (331)		8082A		5000	03/18/21 16:50		DC11605
Aroclor 1268	ND (331)		8082A		5000	03/18/21 16:50		DC11605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-19 2-4ft
Date Sampled: 03/11/21 09:45
Percent Solids: 86
Initial Volume: 20.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/16/21 20:15

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1221	ND (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1232	ND (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1242	ND (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1248	**33.5** (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1254	ND (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1260	ND (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1262	ND (2.3)		8082A		40	03/18/21 17:10		DC11605
Aroclor 1268	ND (2.3)		8082A		40	03/18/21 17:10		DC11605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-20 0-2ft
Date Sampled: 03/11/21 10:30
Percent Solids: 87
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/16/21 20:15

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1221	ND (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1232	ND (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1242	ND (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1248	**47.3** (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1254	ND (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1260	ND (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1262	ND (3.0)		8082A		50	03/18/21 17:30		DC11605
Aroclor 1268	ND (3.0)		8082A		50	03/18/21 17:30		DC11605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-20 2-4ft
Date Sampled: 03/11/21 10:45
Percent Solids: 92
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/16/21 20:15

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/18/21 7:41		DC11605
Aroclor 1221	ND (0.06)		8082A		1	03/18/21 7:41		DC11605
Aroclor 1232	ND (0.06)		8082A		1	03/18/21 7:41		DC11605
Aroclor 1242	ND (0.06)		8082A		1	03/18/21 7:41		DC11605
Aroclor 1248	**2.8** (0.3)		8082A		5	03/18/21 17:50		DC11605
Aroclor 1254	ND (0.06)		8082A		1	03/18/21 7:41		DC11605
Aroclor 1260	ND (0.06)		8082A		1	03/18/21 7:41		DC11605
Aroclor 1262	ND (0.06)		8082A		1	03/18/21 7:41		DC11605
Aroclor 1268	ND (0.06)		8082A		1	03/18/21 7:41		DC11605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*57 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*61 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*104 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-21 0-2ft
Date Sampled: 03/11/21 11:30
Percent Solids: 59
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/16/21 20:15

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1221	ND (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1232	ND (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1242	ND (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1248	**4130** (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1254	ND (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1260	ND (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1262	ND (865)		8082A		10000	03/18/21 18:09		DC11605
Aroclor 1268	ND (865)		8082A		10000	03/18/21 18:09		DC11605

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-21 2-4ft
Date Sampled: 03/11/21 11:45
Percent Solids: 94
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1221	ND (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1232	ND (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1242	ND (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1248 [2C]	**33.7** (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1254	ND (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1260	ND (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1262	ND (2.2)		8082A		40	03/23/21 1:47		DC11709
Aroclor 1268	ND (2.2)		8082A		40	03/23/21 1:47		DC11709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-22 0-2ft
Date Sampled: 03/11/21 12:15
Percent Solids: 73
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1221	ND (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1232	ND (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1242	ND (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1248 [2C]	**90.6** (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1254	ND (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1260	ND (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1262	ND (7.1)		8082A		100	03/23/21 2:06		DC11709
Aroclor 1268	ND (7.1)		8082A		100	03/23/21 2:06		DC11709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-23 0-2ft
Date Sampled: 03/11/21 13:00
Percent Solids: 81
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/18/21 20:33		DC11709
Aroclor 1221	ND (0.06)		8082A		1	03/18/21 20:33		DC11709
Aroclor 1232	ND (0.06)		8082A		1	03/18/21 20:33		DC11709
Aroclor 1242	ND (0.06)		8082A		1	03/18/21 20:33		DC11709
Aroclor 1248	**1.6** (0.3)		8082A		5	03/23/21 2:26		DC11709
Aroclor 1254	ND (0.06)		8082A		1	03/18/21 20:33		DC11709
Aroclor 1260	ND (0.06)		8082A		1	03/18/21 20:33		DC11709
Aroclor 1262	ND (0.06)		8082A		1	03/18/21 20:33		DC11709
Aroclor 1268	ND (0.06)		8082A		1	03/18/21 20:33		DC11709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-23 2-4ft
Date Sampled: 03/11/21 13:45
Percent Solids: 94
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.05)		8082A		1	03/18/21 20:53		DC11709
Aroclor 1221	ND (0.05)		8082A		1	03/18/21 20:53		DC11709
Aroclor 1232	ND (0.05)		8082A		1	03/18/21 20:53		DC11709
Aroclor 1242	ND (0.05)		8082A		1	03/18/21 20:53		DC11709
Aroclor 1248	**7.2** (0.5)		8082A		10	03/23/21 2:45		DC11709
Aroclor 1254	ND (0.05)		8082A		1	03/18/21 20:53		DC11709
Aroclor 1260	ND (0.05)		8082A		1	03/18/21 20:53		DC11709
Aroclor 1262	ND (0.05)		8082A		1	03/18/21 20:53		DC11709
Aroclor 1268	ND (0.05)		8082A		1	03/18/21 20:53		DC11709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*77 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*86 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-24 0-2ft
Date Sampled: 03/11/21 14:30
Percent Solids: 85
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/18/21 21:12		DC11709
Aroclor 1221	ND (0.06)		8082A		1	03/18/21 21:12		DC11709
Aroclor 1232	ND (0.06)		8082A		1	03/18/21 21:12		DC11709
Aroclor 1242	ND (0.06)		8082A		1	03/18/21 21:12		DC11709
Aroclor 1248	**2.5** (0.3)		8082A		5	03/23/21 3:04		DC11709
Aroclor 1254	ND (0.06)		8082A		1	03/18/21 21:12		DC11709
Aroclor 1260	ND (0.06)		8082A		1	03/18/21 21:12		DC11709
Aroclor 1262	ND (0.06)		8082A		1	03/18/21 21:12		DC11709
Aroclor 1268	ND (0.06)		8082A		1	03/18/21 21:12		DC11709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*88 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: HB-24 2-4ft
Date Sampled: 03/11/21 14:45
Percent Solids: 80
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1221	ND (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1232	ND (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1242	ND (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1248	**24.4** (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1254	ND (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1260	ND (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1262	ND (1.3)		8082A		20	03/23/21 3:24		DC11709
Aroclor 1268	ND (1.3)		8082A		20	03/23/21 3:24		DC11709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: RS-6
Date Sampled: 03/11/21 11:00
Percent Solids: 58
Initial Volume: 19
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	03/18/21 21:51		DC11709
Aroclor 1221	ND (0.09)		8082A		1	03/18/21 21:51		DC11709
Aroclor 1232	ND (0.09)		8082A		1	03/18/21 21:51		DC11709
Aroclor 1242	ND (0.09)		8082A		1	03/18/21 21:51		DC11709
Aroclor 1248	**17.2** (0.9)		8082A		10	03/23/21 3:43		DC11709
Aroclor 1254	ND (0.09)		8082A		1	03/18/21 21:51		DC11709
Aroclor 1260	ND (0.09)		8082A		1	03/18/21 21:51		DC11709
Aroclor 1262	ND (0.09)		8082A		1	03/18/21 21:51		DC11709
Aroclor 1268	ND (0.09)		8082A		1	03/18/21 21:51		DC11709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*92 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*93 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: RS-7
Date Sampled: 03/11/21 11:20
Percent Solids: 72
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1221	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1232	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1242	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1248	**679** (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1254	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1260	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1262	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709
Aroclor 1268	ND (71.2)		8082A		1000	03/23/21 9:37		DC11709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: RS-8
Date Sampled: 03/11/21 12:00
Percent Solids: 67
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1221	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1232	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1242	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1248	**581** (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1254	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1260	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1262	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709
Aroclor 1268	ND (75.5)		8082A		1000	03/23/21 9:57		DC11709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: RS-9
Date Sampled: 03/11/21 12:10
Percent Solids: 72
Initial Volume: 20.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1221	ND (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1232	ND (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1242	ND (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1248 [2C]	**19.6** (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1254	ND (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1260	ND (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1262	ND (1.3)		8082A		20	03/23/21 4:41		DC11709
Aroclor 1268	ND (1.3)		8082A		20	03/23/21 4:41		DC11709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: RS-10
Date Sampled: 03/11/21 12:45
Percent Solids: 75
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1221	ND (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1232	ND (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1242	ND (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1248 [2C]	**5860** (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1254	ND (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1260	ND (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1262	ND (666)		8082A		10000	03/23/21 5:00		DC11709
Aroclor 1268	ND (666)		8082A		10000	03/23/21 5:00		DC11709

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: R-11
Date Sampled: 03/11/21 13:15
Percent Solids: 64
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0555
ESS Laboratory Sample ID: 21C0555-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/17/21 14:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1221	ND (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1232	ND (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1242	ND (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1248	**21.3** (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1254	ND (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1260	ND (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1262	ND (1.6)		8082A		20	03/23/21 5:19		DC11709
Aroclor 1268	ND (1.6)		8082A		20	03/23/21 5:19		DC11709

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC11605 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0195*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0201*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0193*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0224*		mg/kg wet	*0.02500*		*90*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		76	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		80	40-140			
Aroclor 1260	0.3	0.05	mg/kg wet	0.5000		67	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		73	40-140			
Surrogate: Decachlorobiphenyl	*0.0179*		mg/kg wet	*0.02500*		*72*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0196*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0200*		mg/kg wet	*0.02500*		*80*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0218*		mg/kg wet	*0.02500*		*87*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		78	40-140	2	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		83	40-140	3	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		72	40-140	7	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		76	40-140	4	30	
Surrogate: Decachlorobiphenyl	*0.0194*		mg/kg wet	*0.02500*		*78*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0202*		mg/kg wet	*0.02500*		*81*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0198*		mg/kg wet	*0.02500*		*79*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Batch DC11709 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC11709 - 3540C										
Blank										
Aroclor 1016	ND	0.02	mg/kg wet							
Aroclor 1016 [2C]	ND	0.02	mg/kg wet							
Aroclor 1221	ND	0.02	mg/kg wet							
Aroclor 1221 [2C]	ND	0.02	mg/kg wet							
Aroclor 1232	ND	0.02	mg/kg wet							
Aroclor 1232 [2C]	ND	0.02	mg/kg wet							
Aroclor 1242	ND	0.02	mg/kg wet							
Aroclor 1242 [2C]	ND	0.02	mg/kg wet							
Aroclor 1248	ND	0.02	mg/kg wet							
Aroclor 1248 [2C]	ND	0.02	mg/kg wet							
Aroclor 1254	ND	0.02	mg/kg wet							
Aroclor 1254 [2C]	ND	0.02	mg/kg wet							
Aroclor 1260	ND	0.02	mg/kg wet							
Aroclor 1260 [2C]	ND	0.02	mg/kg wet							
Aroclor 1262	ND	0.02	mg/kg wet							
Aroclor 1262 [2C]	ND	0.02	mg/kg wet							
Aroclor 1268	ND	0.02	mg/kg wet							
Aroclor 1268 [2C]	ND	0.02	mg/kg wet							
Surrogate: Decachlorobiphenyl	*ND*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*ND*		mg/kg wet	*0.02500*		*90*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*ND*		mg/kg wet	*0.02500*		*77*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*ND*		mg/kg wet	*0.02500*		*86*	*30-150*			
LCS										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		85	40-140			
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		87	40-140			
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		89	40-140			
Surrogate: Decachlorobiphenyl	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0229*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0205*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0213*		mg/kg wet	*0.02500*		*85*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.02	mg/kg wet	0.5000		76	40-140	11	30	
Aroclor 1016 [2C]	0.4	0.02	mg/kg wet	0.5000		78	40-140	11	30	
Aroclor 1260	0.4	0.02	mg/kg wet	0.5000		80	40-140	11	30	
Aroclor 1260 [2C]	0.4	0.02	mg/kg wet	0.5000		80	40-140	10	30	
Surrogate: Decachlorobiphenyl	*0.0206*		mg/kg wet	*0.02500*		*83*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0176*		mg/kg wet	*0.02500*		*70*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0184*		mg/kg wet	*0.02500*		*74*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0555

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 21C0555
Date Received: 3/16/2021
Project Due Date: 3/23/2021
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 1.9 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	144201	Yes	N/A	Yes	4 oz. Jar	NP	
2	144202	Yes	N/A	Yes	4 oz. Jar	NP	
3	144203	Yes	N/A	Yes	4 oz. Jar	NP	
4	144204	Yes	N/A	Yes	4 oz. Jar	NP	
5	144205	Yes	N/A	Yes	4 oz. Jar	NP	
6	144206	Yes	N/A	Yes	4 oz. Jar	NP	
7	144207	Yes	N/A	Yes	4 oz. Jar	NP	
8	144208	Yes	N/A	Yes	4 oz. Jar	NP	
9	144209	Yes	N/A	Yes	4 oz. Jar	NP	
10	144210	Yes	N/A	Yes	4 oz. Jar	NP	
11	144211	Yes	N/A	Yes	4 oz. Jar	NP	
12	144212	Yes	N/A	Yes	4 oz. Jar	NP	
13	144213	Yes	N/A	Yes	4 oz. Jar	NP	
14	144214	Yes	N/A	Yes	4 oz. Jar	NP	
15	144215	Yes	N/A	Yes	4 oz. Jar	NP	
16	144216	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 21C0555
Date Received: 3/16/2021

17	144217	Yes	N/A	Yes	4 oz. Jar	NP
18	144218	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials AG

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [signature] Date & Time: 3/16/21 16:45

Reviewed By: [signature] Date & Time: 3/16/21 1747

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2100555 | Page 1 of 2

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☒ Excel ☐ CLP-Like Package ☐ State Forms ☐ Hard Copy ☐ Other (Specify) → ☐ EQuIS ☐ Enviro Data

CLIENT INFORMATION

Client: CDW Consultants, Inc.
Address: 6 Huron Drive, Natick, MA
Phone: 508-875-2657
Email Distribution List: bmiller@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park Boston, MA
Project Number: #1363.4
Project Manager: B. Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB's	Total Number of Bottles
1	3/11/21	9[illegible]	G	Soil	HB-18 (0-2')	X	1
2		930			HB-19 (0-2')	X	
3		945			HB-19 (2-4')	X	
4		1030			HB-20 (0-2')	X	
5		1045			HB-20 (2-4')	X	
6		1130			HB-21 (0-2')	X	
7		1145			HB-21 (2-4')	X	
8		1215			HB-22 (0-2')	X	
9		130[illegible]			HB-23 (0-2')	X	
10		1345			HB-23 (2-4')	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — AG
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 1
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

1.9 Soxhlet

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	3/16/21	10[illegible]	[signature]	[signature]	3/16/21	16:07	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 21C0555 | Page 2 of 2

Turn Time: ☐ > 5 ☒ 5 ☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐ CT RCP ☒ MA MCP ☐ RGP ☐ Permit ☐ 401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF): ☒ Limit Checker ☐ State Forms ☐ EQuIS ☒ Excel ☐ Hard Copy ☐ Enviro Data ☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants, Inc.
Address: 6 Huron Drive, Natick, MA
Phone: 508-875-2657
Email Distribution List: bmiller@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Hyde Park Boston, MA
Project Number: #1363.4
Project Manager: B. Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB's	Total Number of Bottles
11	3/11/20	1430	G	Soil	H3-24 (0-2)	X	1
12		1455			H3-24 (2-4)	X	
13		11[illegible]			125-6	X	
14		11[illegible]			125-7	X	
15		12[illegible]			125-8	X	
16		121[illegible]			125-9	X	
17		1245			125-10	X	
18		1315			12-11	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial — AG
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* — 1
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other* — 1

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

1.9 Soxhlet

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	3/16/21	10[illegible]	[signature]	[signature]	3/16/21	16:07	

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

CERTIFICATE OF ANALYSIS

Brian Miller
CDW Consultants, Inc.
6 Huron Drive
Natick, MA 01760

RE: Lewis Chemical (1363)
ESS Laboratory Work Order Number: 21C0999

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 3:34 pm, Apr 05, 2021

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 TNI and relative state standards, 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0999

SAMPLE RECEIPT

The following samples were received on March 29, 2021 for the analyses specified on the enclosed Chain of Custody Record.

To achieve CAM compliance for MCP data, ESS Laboratory has reviewed all QA/QC Requirements and Performance Standards listed in each method. Holding times and preservation have also been reviewed. All CAM requirements have been performed and achieved unless noted in the project narrative.

Each method has been set-up in the laboratory to reach required MCP standards. The methods for aqueous VOA and Soil Methanol VOA have known limitations for certain analytes. The regulatory standards may not be achieved due to these limitations. In addition, for all methods, matrix interferences, dilutions, and %Solids may elevate method reporting limits above regulatory standards. ESS Laboratory can provide, upon request, a Limit Checker (regulatory standard comparison spreadsheet) electronic deliverable which will highlight these exceedances.

Lab Number	Sample Name	Matrix	Analysis
21C0999-01	SS-1	Soil	8082A
21C0999-02	SS-2	Soil	8082A
21C0999-03	SS-3	Soil	8082A
21C0999-04	SS-4	Soil	8082A
21C0999-05	SS-5	Soil	8082A
21C0999-06	SS-6	Soil	8082A
21C0999-07	SS-7	Soil	8082A
21C0999-08	SS-8	Soil	8082A
21C0999-09	SS-9	Soil	8082A
21C0999-10	SS-10	Soil	8082A
21C0999-11	SS-11	Soil	8082A
21C0999-12	SS-12	Soil	8082A
21C0999-13	SS-13	Soil	8082A
21C0999-14	SS-14	Soil	8082A
21C0999-15	SS-15	Soil	8082A
21C0999-16	SS-16	Soil	8082A
21C0999-17	SS-17	Soil	8082A
21C0999-18	SS-18	Soil	8082A
21C0999-19	SS-19	Soil	8082A
21C0999-20	SS-20	Soil	8082A

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0999

PROJECT NARRATIVE

8082A Polychlorinated Biphenyls (PCB)

21C0999-03 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-04 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-05 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-06 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-07 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-08 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-10 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-11 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-13 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

21C0999-14 **Reported above the quantitation limit; Estimated value (E).**
Tetrachloro-m-xylene

21C0999-14 **Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).**
Tetrachloro-m-xylene (178% @ 30-150%)

21C0999-17 **Surrogate recovery(ies) diluted below the MRL (SD).**
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
ESS Laboratory Work Order: 21C0999

DATA USABILITY LINKS

To ensure you are viewing the most current version of the documents below, please clear your internet cookies for www.ESSLaboratory.com. Consult your IT Support personnel for information on how to clear your internet cookies.

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

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
8015C - 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
MADEP 18-2.1 - 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
5035A - 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: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0999

MassDEP Analytical Protocol Certification Form

MADEP RTN: _____

This form provides certification for the following data set: **21C0999-01 through 21C0999-20**

Matrices: ( ) Ground Water/Surface Water (x) Soil/Sediment ( ) Drinking Water ( ) Air ( ) Other:_____

CAM Protocol (check all that apply below):

( ) 8260 VOC CAM II A	( ) 7470/7471 Hg CAM III B	( ) MassDEP VPH (GC/PID/FID) CAM IV A	(x) 8082 PCB CAM V A	( ) 9014 Total Cyanide/PAC CAM VI A	( ) 6860 Perchlorate CAM VIII B
( ) 8270 SVOC CAM II B	( ) 7010 Metals CAM III C	( ) MassDEP VPH (GC/MS) CAM IV C	( ) 8081 Pesticides CAM V B	( ) 7196 Hex Cr CAM VI B	( ) MassDEP APH CAM IX A
( ) 6010 Metals CAM III A	( ) 6020 Metals CAM III D	( ) MassDEP EPH CAM IV B	( ) 8151 Herbicides CAM V C	( ) Explosives CAM VIII A	( ) TO-15 VOC CAM IX B

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes (x) No ( )
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes (x) No ( )
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes (x) No ( )
D	Does the laboratory report comply with all the reporting requirements specified in the CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (x) No ( )
E	VPH, EPH, APH and TO-15 only: a. Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	Yes ( ) No ( )
	b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes ( ) No ( )
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes (x) No ( )

Responses to Questions G, H and I below are required for "'Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocols(s)? ***Data User Note:*** ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.***	Yes (x) No ( )*
H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	Yes ( ) No (x)*
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes (x) No ( )*

****All negative responses must be addressed in an attached laboratory narrative.***

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Laurel Stoddard
Date: April 05, 2021
Printed Name: Laurel Stoddard
Position: Laboratory Director

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-1
Date Sampled: 03/11/21 08:30
Percent Solids: 73
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1221	ND (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1232	ND (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1242	ND (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1248	**0.09** (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1254	ND (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1260	ND (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1262	ND (0.07)		8082A		1	03/30/21 18:01		DC12902
Aroclor 1268	ND (0.07)		8082A		1	03/30/21 18:01		DC12902

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*72 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*85 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*84 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-2
Date Sampled: 03/11/21 08:40
Percent Solids: 70
Initial Volume: 19.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1221	ND (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1232	ND (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1242	ND (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1248 [2C]	**0.1** (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1254	ND (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1260	ND (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1262	ND (0.07)		8082A		1	03/30/21 18:21		DC12902
Aroclor 1268	ND (0.07)		8082A		1	03/30/21 18:21		DC12902

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*87 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*106 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-3
Date Sampled: 03/11/21 08:50
Percent Solids: 78
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1221	ND (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1232	ND (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1242	ND (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1248 [2C]	**19.6** (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1254	ND (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1260	ND (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1262	ND (1.3)		8082A		20	03/31/21 19:12		DC12902
Aroclor 1268	ND (1.3)		8082A		20	03/31/21 19:12		DC12902

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-4
Date Sampled: 03/11/21 09:10
Percent Solids: 74
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1221	ND (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1232	ND (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1242	ND (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1248 [2C]	**67.2** (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1254	ND (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1260	ND (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1262	ND (3.5)		8082A		50	03/31/21 19:32		DC12902
Aroclor 1268	ND (3.5)		8082A		50	03/31/21 19:32		DC12902

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*%*	*SD*	*30-150*
Surrogate: Decachlorobiphenyl [2C]	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene	*%*	*SD*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*%*	*SD*	*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-5
Date Sampled: 03/11/21 09:15
Percent Solids: 83
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1221	ND (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1232	ND (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1242	ND (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1248 [2C]	**185** (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1254	ND (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1260	ND (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1262	ND (12.5)		8082A		200	03/31/21 19:52		DC12902
Aroclor 1268	ND (12.5)		8082A		200	03/31/21 19:52		DC12902

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-6
Date Sampled: 03/11/21 09:20
Percent Solids: 74
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1221	ND (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1232	ND (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1242	ND (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1248 [2C]	**3890** (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1254	ND (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1260	ND (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1262	ND (348)		8082A		5000	03/31/21 20:12		DC12902
Aroclor 1268	ND (348)		8082A		5000	03/31/21 20:12		DC12902

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-7
Date Sampled: 03/11/21 09:30
Percent Solids: 60
Initial Volume: 19.3
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1221	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1232	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1242	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1248	**1320** (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1254	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1260	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1262	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902
Aroclor 1268	ND (87.0)		8082A		1000	03/31/21 20:32		DC12902

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-8
Date Sampled: 03/11/21 09:40
Percent Solids: 67
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1221	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1232	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1242	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1248 [2C]	**921** (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1254	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1260	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1262	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902
Aroclor 1268	ND (74.0)		8082A		1000	04/01/21 14:31		DC12902

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-9
Date Sampled: 03/11/21 09:50
Percent Solids: 72
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	03/30/21 20:40		DC12902
Aroclor 1221	ND (0.07)		8082A		1	03/30/21 20:40		DC12902
Aroclor 1232	ND (0.07)		8082A		1	03/30/21 20:40		DC12902
Aroclor 1242	ND (0.07)		8082A		1	03/30/21 20:40		DC12902
Aroclor 1248 [2C]	**4.8** (0.4)		8082A		5	03/31/21 21:12		DC12902
Aroclor 1254	ND (0.07)		8082A		1	03/30/21 20:40		DC12902
Aroclor 1260	ND (0.07)		8082A		1	03/30/21 20:40		DC12902
Aroclor 1262	ND (0.07)		8082A		1	03/30/21 20:40		DC12902
Aroclor 1268	ND (0.07)		8082A		1	03/30/21 20:40		DC12902

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*69 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*95 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*91 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*90 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-10
Date Sampled: 03/11/21 10:10
Percent Solids: 71
Initial Volume: 20.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1221	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1232	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1242	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1248 [2C]	**797** (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1254	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1260	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1262	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902
Aroclor 1268	ND (70.0)		8082A		1000	04/01/21 14:51		DC12902

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-11
Date Sampled: 03/11/21 10:30
Percent Solids: 73
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1221	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1232	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1242	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1248	**624** (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1254	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1260	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1262	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903
Aroclor 1268	ND (68.9)		8082A		1000	04/01/21 23:50		DC12903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-12
Date Sampled: 03/11/21 10:45
Percent Solids: 58
Initial Volume: 19.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.09)		8082A		1	03/30/21 15:32		DC12903
Aroclor 1221	ND (0.09)		8082A		1	03/30/21 15:32		DC12903
Aroclor 1232	ND (0.09)		8082A		1	03/30/21 15:32		DC12903
Aroclor 1242	ND (0.09)		8082A		1	03/30/21 15:32		DC12903
Aroclor 1248	**14.6** (0.9)		8082A		10	03/31/21 18:05		DC12903
Aroclor 1254	ND (0.09)		8082A		1	03/30/21 15:32		DC12903
Aroclor 1260	ND (0.09)		8082A		1	03/30/21 15:32		DC12903
Aroclor 1262	ND (0.09)		8082A		1	03/30/21 15:32		DC12903
Aroclor 1268	ND (0.09)		8082A		1	03/30/21 15:32		DC12903

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*75 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*78 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*83 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-13
Date Sampled: 03/11/21 11:00
Percent Solids: 52
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1221	ND (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1232	ND (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1242	**30.1** (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1248	ND (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1254	ND (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1260	ND (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1262	ND (1.9)		8082A		20	03/31/21 18:25		DC12903
Aroclor 1268	ND (1.9)		8082A		20	03/31/21 18:25		DC12903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-14
Date Sampled: 03/11/21 11:30
Percent Solids: 81
Initial Volume: 19.5
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/30/21 16:11		DC12903
Aroclor 1221	ND (0.06)		8082A		1	03/30/21 16:11		DC12903
Aroclor 1232	ND (0.06)		8082A		1	03/30/21 16:11		DC12903
Aroclor 1242	**7.7** (0.6)		8082A		10	03/31/21 18:44		DC12903
Aroclor 1248	ND (0.06)		8082A		1	03/30/21 16:11		DC12903
Aroclor 1254	ND (0.06)		8082A		1	03/30/21 16:11		DC12903
Aroclor 1260	ND (0.06)		8082A		1	03/30/21 16:11		DC12903
Aroclor 1262	ND (0.06)		8082A		1	03/30/21 16:11		DC12903
Aroclor 1268	ND (0.06)		8082A		1	03/30/21 16:11		DC12903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*83 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*96 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*178 %*	*SM, E*	*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*99 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-15
Date Sampled: 03/11/21 12:00
Percent Solids: 78
Initial Volume: 20.2
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/30/21 16:30		DC12903
Aroclor 1221	ND (0.06)		8082A		1	03/30/21 16:30		DC12903
Aroclor 1232	ND (0.06)		8082A		1	03/30/21 16:30		DC12903
Aroclor 1242	ND (0.06)		8082A		1	03/30/21 16:30		DC12903
Aroclor 1248	**10.4** (0.6)		8082A		10	03/31/21 19:03		DC12903
Aroclor 1254	ND (0.06)		8082A		1	03/30/21 16:30		DC12903
Aroclor 1260	ND (0.06)		8082A		1	03/30/21 16:30		DC12903
Aroclor 1262	ND (0.06)		8082A		1	03/30/21 16:30		DC12903
Aroclor 1268	ND (0.06)		8082A		1	03/30/21 16:30		DC12903

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*84 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*90 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*76 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*79 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-16
Date Sampled: 03/11/21 12:10
Percent Solids: 83
Initial Volume: 20.4
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.06)		8082A		1	03/30/21 16:49		DC12903
Aroclor 1221	ND (0.06)		8082A		1	03/30/21 16:49		DC12903
Aroclor 1232	ND (0.06)		8082A		1	03/30/21 16:49		DC12903
Aroclor 1242	ND (0.06)		8082A		1	03/30/21 16:49		DC12903
Aroclor 1248	**8.6** (0.6)		8082A		10	03/31/21 19:23		DC12903
Aroclor 1254	ND (0.06)		8082A		1	03/30/21 16:49		DC12903
Aroclor 1260	ND (0.06)		8082A		1	03/30/21 16:49		DC12903
Aroclor 1262	ND (0.06)		8082A		1	03/30/21 16:49		DC12903
Aroclor 1268	ND (0.06)		8082A		1	03/30/21 16:49		DC12903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*79 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*73 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*86 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*97 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-17
Date Sampled: 03/11/21 12:30
Percent Solids: 69
Initial Volume: 19.1
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-17
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1221	ND (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1232	ND (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1242	ND (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1248	**20.8** (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1254	ND (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1260	ND (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1262	ND (1.5)		8082A		20	04/02/21 0:09		DC12903
Aroclor 1268	ND (1.5)		8082A		20	04/02/21 0:09		DC12903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-18
Date Sampled: 03/11/21 12:50
Percent Solids: 69
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1221	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1232	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1242	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1248	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1254	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1260	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1262	ND (0.07)		8082A		1	03/30/21 17:28		DC12903
Aroclor 1268	ND (0.07)		8082A		1	03/30/21 17:28		DC12903

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-19
Date Sampled: 03/11/21 13:00
Percent Solids: 72
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-19
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1221	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1232	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1242	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1248	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1254	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1260	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1262	ND (0.07)		8082A		1	03/30/21 17:47		DC12903
Aroclor 1268	ND (0.07)		8082A		1	03/30/21 17:47		DC12903

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	*74 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*72 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*88 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*100 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
Client Sample ID: SS-20
Date Sampled: 03/11/21 13:20
Percent Solids: 71
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540C

ESS Laboratory Work Order: 21C0999
ESS Laboratory Sample ID: 21C0999-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MJV
Prepared: 3/29/21 18:00

8082A Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	MDL	Method	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1221	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1232	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1242	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1248	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1254	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1260	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1262	ND (0.07)		8082A		1	03/30/21 18:07		DC12903
Aroclor 1268	ND (0.07)		8082A		1	03/30/21 18:07		DC12903

	%Recovery	*Qualifier*	*Limits*
Surrogate: Decachlorobiphenyl	*71 %*		*30-150*
Surrogate: Decachlorobiphenyl [2C]	*70 %*		*30-150*
Surrogate: Tetrachloro-m-xylene	*82 %*		*30-150*
Surrogate: Tetrachloro-m-xylene [2C]	*91 %*		*30-150*

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0999

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC12902 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0205*		mg/kg wet	*0.02500*		*82*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0220*		mg/kg wet	*0.02500*		*88*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0212*		mg/kg wet	*0.02500*		*85*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0261*		mg/kg wet	*0.02500*		*105*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		96	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		89	40-140			
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		93	40-140			
Surrogate: Decachlorobiphenyl	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0234*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0232*		mg/kg wet	*0.02500*		*93*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0264*		mg/kg wet	*0.02500*		*106*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		87	40-140	2	30	
Aroclor 1016 [2C]	0.5	0.05	mg/kg wet	0.5000		94	40-140	2	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		87	40-140	3	30	
Aroclor 1260 [2C]	0.5	0.05	mg/kg wet	0.5000		90	40-140	3	30	
Surrogate: Decachlorobiphenyl	*0.0211*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0224*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0224*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0253*		mg/kg wet	*0.02500*		*101*	*30-150*			
Batch DC12903 - 3540C										

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0999

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082A Polychlorinated Biphenyls (PCB)										
Batch DC12903 - 3540C										
Blank										
Aroclor 1016	ND	0.05	mg/kg wet							
Aroclor 1016 [2C]	ND	0.05	mg/kg wet							
Aroclor 1221	ND	0.05	mg/kg wet							
Aroclor 1221 [2C]	ND	0.05	mg/kg wet							
Aroclor 1232	ND	0.05	mg/kg wet							
Aroclor 1232 [2C]	ND	0.05	mg/kg wet							
Aroclor 1242	ND	0.05	mg/kg wet							
Aroclor 1242 [2C]	ND	0.05	mg/kg wet							
Aroclor 1248	ND	0.05	mg/kg wet							
Aroclor 1248 [2C]	ND	0.05	mg/kg wet							
Aroclor 1254	ND	0.05	mg/kg wet							
Aroclor 1254 [2C]	ND	0.05	mg/kg wet							
Aroclor 1260	ND	0.05	mg/kg wet							
Aroclor 1260 [2C]	ND	0.05	mg/kg wet							
Aroclor 1262	ND	0.05	mg/kg wet							
Aroclor 1262 [2C]	ND	0.05	mg/kg wet							
Aroclor 1268	ND	0.05	mg/kg wet							
Aroclor 1268 [2C]	ND	0.05	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0210*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0222*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0209*		mg/kg wet	*0.02500*		*84*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0242*		mg/kg wet	*0.02500*		*97*	*30-150*			
LCS										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140			
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140			
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		85	40-140			
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		84	40-140			
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0234*		mg/kg wet	*0.02500*		*94*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0227*		mg/kg wet	*0.02500*		*91*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0247*		mg/kg wet	*0.02500*		*99*	*30-150*			
LCS Dup										
Aroclor 1016	0.4	0.05	mg/kg wet	0.5000		86	40-140	0.1	30	
Aroclor 1016 [2C]	0.4	0.05	mg/kg wet	0.5000		88	40-140	0.7	30	
Aroclor 1260	0.4	0.05	mg/kg wet	0.5000		86	40-140	1	30	
Aroclor 1260 [2C]	0.4	0.05	mg/kg wet	0.5000		85	40-140	0.9	30	
Surrogate: Decachlorobiphenyl	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Decachlorobiphenyl [2C]	*0.0229*		mg/kg wet	*0.02500*		*92*	*30-150*			
Surrogate: Tetrachloro-m-xylene	*0.0223*		mg/kg wet	*0.02500*		*89*	*30-150*			
Surrogate: Tetrachloro-m-xylene [2C]	*0.0241*		mg/kg wet	*0.02500*		*97*	*30-150*			

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical
ESS Laboratory Work Order: 21C0999

Notes and Definitions

U	Analyte included in the analysis, but not detected
SM	Surrogate recovery(ies) outside of criteria due to matrix (UCM/coelution/matrix is present) (SM).
SD	Surrogate recovery(ies) diluted below the MRL (SD).
E	Reported above the quantitation limit; Estimated value (E).
D	Diluted.
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
RL	Reporting Limit
EDL	Estimated Detection Limit
MF	Membrane Filtration
MPN	Most Probably Number
TNTC	Too numerous to Count
CFU	Colony Forming Units

CERTIFICATE OF ANALYSIS

Client Name: CDW Consultants, Inc.
Client Project ID: Lewis Chemical

ESS Laboratory Work Order: 21C0999

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

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002
http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/partners/labCert.shtml

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

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752
http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

Shipped/Delivered Via: ESS Courier

ESS Project ID: 21C0999
Date Received: 3/29/2021
Project Due Date: 4/5/2021
Days for Project: 5 Day

1. Air bill manifest present? No
   Air No.: NA
2. Were custody seals present? No
3. Is radiation count <100 CPM? Yes
4. Is a Cooler Present? Yes
   Temp: 0.9 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 VOA vials frozen: Date: Time: By:

Sample Receiving Notes:

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)
1	147792	Yes	N/A	Yes	4 oz. Jar	NP	
2	147793	Yes	N/A	Yes	4 oz. Jar	NP	
3	147794	Yes	N/A	Yes	4 oz. Jar	NP	
4	147795	Yes	N/A	Yes	4 oz. Jar	NP	
5	147796	Yes	N/A	Yes	4 oz. Jar	NP	
6	147797	Yes	N/A	Yes	4 oz. Jar	NP	
7	147798	Yes	N/A	Yes	4 oz. Jar	NP	
8	147799	Yes	N/A	Yes	4 oz. Jar	NP	
9	147800	Yes	N/A	Yes	4 oz. Jar	NP	
10	147801	Yes	N/A	Yes	4 oz. Jar	NP	
11	147802	Yes	N/A	Yes	4 oz. Jar	NP	
12	147803	Yes	N/A	Yes	4 oz. Jar	NP	
13	147804	Yes	N/A	Yes	4 oz. Jar	NP	
14	147805	Yes	N/A	Yes	4 oz. Jar	NP	
15	147806	Yes	N/A	Yes	4 oz. Jar	NP	
16	147807	Yes	N/A	Yes	4 oz. Jar	NP	

ESS Laboratory Sample and Cooler Receipt Checklist

Client: CDW Consultants, Inc. - AAK

ESS Project ID: 21C0999
Date Received: 3/29/2021

17	147808	Yes	N/A	Yes	4 oz. Jar	NP
18	147809	Yes	N/A	Yes	4 oz. Jar	NP
19	147810	Yes	N/A	Yes	4 oz. Jar	NP
20	147811	Yes	N/A	Yes	4 oz. Jar	NP

2nd Review

Were all containers scanned into storage/lab? Initials AG

Are barcode labels on correct containers? Yes / No

Are all Flashpoint stickers attached/container ID # circled? Yes / No / NA

Are all Hex Chrome stickers attached? Yes / No / NA

Are all QC stickers attached? Yes / No / NA

Are VOA stickers attached if bubbles noted? Yes / No / NA

Completed By: [signature] Date & Time: 3/29/21 15:28

Reviewed By: [signature] Date & Time: 3/29/21 1550

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 2100999 | Page 1 of 2

Turn Time: ☐>5 ☒5 ☐4 ☐3 ☐2 ☐1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐CT RCP ☒MA MCP ☐RGP ☐Permit ☐401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☑ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants
Address: 6 Huron drive
Natick, MA
Phone: 508-875-2657
Email Distribution List:
bmiller@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Fairmount Court, Hyde Park, MA
Project Number: #1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
1	3/29/21	830	Grab	Soil	SS-1	X	
2		840			SS-2	X	
3		850			SS-3	X	
4		910			SS-4	X	
5		915			SS-5	X	
6		920			SS-6	X	
7		930			SS-7	X	
8		940			SS-8	X	
9		950			SS-9	X	
10		1010			SS-10	X	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial
Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*
Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

0.9
ice

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	3/29/21	11:22	[signature]	[signature]	3/29/21	1B5:11	[signature]
Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

185 Frances Avenue
Cranston, RI 02921
Phone: 401-461-7181
Fax: 401-461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 21C0999

Turn Time: ☐>5 ☒5 ☐4 ☐3 ☐2 ☐1 ☐ Same Day

Regulatory State: Criteria:

Is this project for any of the following?: ☐CT RCP ☐MA MCP ☐RGP ☐Permit ☐401 WQ

ELECTRONIC DELIVERABLES (Final Reports are PDF)

☑ Limit Checker ☐ State Forms ☐ EQuIS
☑ Excel ☐ Hard Copy ☐ Enviro Data
☐ CLP-Like Package ☐ Other (Specify) →

CLIENT INFORMATION

Client: CDW Consultants
Address: 6 Huron drive
Natick, MA
Phone: 508-875-2657
Email Distribution List:
bmiller@cdwconsultants.com

PROJECT INFORMATION

Project Name: Lewis Chemical
Project Location: Fairmount Court, Hyde Park, MA
Project Number: #1363
Project Manager: Brian Miller
Bill to:
PO#:
Quote#:

Client acknowledges that sampling is compliant with all EPA / State regulatory programs

REQUESTED ANALYSES

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	PCB Soxhlet	Total Number of Bottles
11	3/11/21	1030	Grab	Soil	SS-11	Y	
12		1045			SS-12	Y	
13		1100			SS-13	Y	
14		1130			SS-14	Y	
15		1200			SS-15	Y	
16		1210			SS-16	Y	
17		1230			SS-17	Y	
18		1250			SS-18	Y	
19		1300			SS-19	Y	
20		1320			SS-20	Y	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other*

Sampled by :

Chain needs to be filled out neatly and completely for on time delivery.

Comments: * Please specify "Other" preservative and containers types in this space

0.9 ice

All samples submitted are subject to ESS Laboratory's payment terms and conditions.

Dissolved Filtration: ☐ Lab Filter

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)
[signature]	3/29/21	11:22	[signature]	[signature]	3/29/21	15:11	[signature]

Relinquished by (Signature)	Date	Time	Received by (Signature)	Relinquished by (Signature)	Date	Time	Received by (Signature)

APPENDIX B

SOIL BORING LOGS & MONITORING WELL CONSTRUCTION DIAGRAMS

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**CDW-1/B**
Total Depth:	23'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	3/11/2015	Completed:	3/11/2015	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	
Remarks:	4¼" Hollow Stem Auger				

Depth (Feet)	Sample				PID Hdspace (ppmv)	Sample Description	Well Diagram
	Type & Num.	Blows per 6 Inches	Depth Range	Recovery			
0							
-1	S-1	8-11-12-9	0-2'	20"	0.5	Several layers of shingle/rubber in spoon	
-2							
-3							
-4	S-2	18-12-30-9	3-5'	16"	2	Several layers of shingle/rubber in spoon, 4 inches of black FINE-MEDIUM SAND, some gravel at tip	
-5							
-6							
-7							
-8							
-9	S-3	4-3-2-2	8-10'	15"	1.9	Wet, gray SILT	
-10							
-11							
-12							
-13							
-14	S-4	7-9-9-7	13-15'	10"	0.6	Wet, gray, FINE-COARSE SAND, little gravel	
-15							
-16							
-17							
-18							
-19	S-5	12-20-22-15	18-20'	10"	0.6	Wet, gray FINE-COARSE SAND, little silt and gravel over orange FINE-COARSE SAND, some gravel and silt	
-20							
-21							
-22							
-23	S-6	50/<1"	23'	<1"	0.4	Wet, tan FINE-COARSE SAND and GRAVEL	
-24						**Refusal on Bedrock at 23'**	
-25							
-26							
-27							
-28							
-29							
-30							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, SILT
				Rock:	NA
				Well Depth:	NA
				Boring:	23'

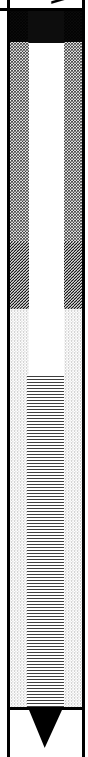
TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**CDW-2**
Total Depth:	21'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	3/11/2015	Completed:	3/11/2015	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	
Remarks:	4¼" Hollow Stem Auger				

Depth (Feet)	Sample Type & Num.	Sample Blows per 6 Inches	Sample Depth Range	Sample Recovery	PID Hdspace (ppmv)	Sample Description
0						
-1	S-1	7-6-6-8	0-2'	12"	0.2	Moist, brown FINE-MEDIUM SAND, some gravel
-2						
-3						
-4	S-2	19-21-20-18	3-5'	20"	2.2	Moist, brown FINE-MEDIUM SAND, over gray silty SAND, some gravel
-5						
-6						
-7						
-8						
-9	S-3	4-3-11-17	8-10'	0"	NA	No Recovery
-10						
-11						
-12						
-13						
-14	S-4	6-11-14-10	13-15'	12"	0.4	Wet, gray, FINE-COARSE SAND over tan FINE-COARSE SAND and GRAVEL
-15						
-16						
-17						
-18						
-19	S-5	16-23-47-50	18-20'	20"	0.7	Wet, gray FINE-COARSE SAND, some cobbles over tan/gray FINE-MEDIUM SAND, some silt, gravel and cobbles
-20						
-21	S-6	28-49-120/4"	20-21'	6"	0.1	Wet, tan FINE-MEDIUM SAND, some gravel
-22						**Refusal on Bedrock at 21'**
-23						**2" Monitoring Well installed to 21'**
-24						
-25						
-26						
-27						
-28						
-29						
-30						

Well Diagram



Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, SILT
3/19/2015		7.43'		Rock:	NA
				Well Depth:	21'
				Boring:	21'

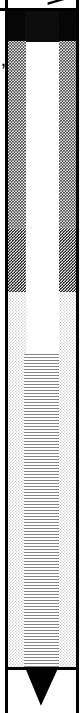
TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**CDW-3**
Total Depth:	21'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	3/11/2015	Completed:	3/11/2015	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	
Remarks:	4¼" Hollow Stem Auger				

Depth (Feet)	Sample Type & Num.	Blows per 6 Inches	Depth Range	Recovery	PID Hdspace (ppmv)	Sample Description
0						
-1	S-1	5-6-7-6	0-2'	12"	0.4	Moist Brown organic topsoil over tan FINE-MEDIUM SAND, some cobbles, brick at 2'
-2						
-3						
-4						
-5						
-6	S-2	8-4-3-2	5-7'	3"	23.2	Wet, brown FINE-COARSE SAND, some gravel
-7						
-8						
-9						
-10						
-11	S-3	6-9-10-9	10-12'	8"	645	Wet, brown FINE-COARSE SAND, some gravel over dark gray FINE-COARSE SAND (strong odor)
-12						
-13						
-14						
-15						
-16	S-4	4-7-9-10	15-17'	12"	23.6	Wet, tan/gray, FINE-COARSE SAND, some gravel
-17						
-18						
-19						
-20						
-21	S-5	36-125/0	20-21'	15"	7.1	Wet, tan/orange FINE-COARSE SAND, some gravel
-22						**Refusal on Bedrock at 21'**
-23						**2" Monitoring Well installed to 21'**
-24						
-25						
-26						
-27						
-28						
-29						
-30						

Well Diagram



Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SAND, SILT
3/19/2015		6.85'		Rock:	NA
				Well Depth:	21'
				Boring:	21'

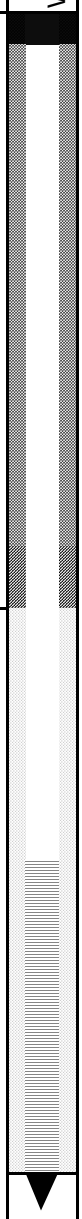
TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**CDW-4B**
Total Depth:	38'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	3/12/2015	Completed:	3/12/2015	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	
Remarks:	4¼ Hollow Stem Auger (bedrock well)				

Depth (Feet)	Sample Type & Num.	Sample Blows per 6 Inches	Sample Depth Range	Sample Recovery	PID Hdspace (ppmv)	Sample Description
0						
-1	S-1	4-4-4-4	0-2'	6"	1	Moist, brown organic FINE-MEDIUM SAND
-2						
-3						
-4						
-5						
-6	S-2	2-2-1-2	5-7'		4.8	Wet, brown SILT, some fine sand
-7						
-8						
-9						
-10						
-11	S-3	2-1-1-3	10-12'		58	Wet, brown FINE SAND, SILT, some peat
-12						
-13						
-14						
-15						
-16	S-4	120/5"	15-17'		5.5	Wet FINE-MEDIUM SAND, some gravel and cobbles (till) over weathered rock/cobbles. Boulder at 15.5'
-17						
-18						
-19						Bedrock at 19'
-20						
-21						
-22						
-23						
-24						
-25						
-26						
-27						
-28						
-29						Cored bedrock from 19' to 38'
-30						
-31						
-32						
-33						
-34						
-35						
-36						
-37						
-38						
-39						**End of Boring at 38'**
-40						**2" diameter well installed at 38'**

Well Diagram



TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**CDW-4B**
Total Depth:	38'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	3/12/2015	Completed:	3/12/2015	Contractor:	TDS
Casing ID:		Ground El.		Sheet #:	
Remarks:	4¼ Hollow Stem Auger (bedrock well)				

Depth (Feet)	Sample				PID Hdspace (ppmv)	Sample Description	Well Diagram
	Type & Num.	Blows per 6 Inches	Depth Range	Recovery			
-41							
-42							
-43							
-44							
-45							
-46							
-47							
-48							
-49							
-50							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	SILTY CLAY
3/19/2015		6.1'		Rock:	NA
				Well Depth:	38'
				Boring:	38'

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**PZ-09S**
Total Depth:	2.35'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	4/6/2015	Completed:	4/6/2015	Contractor:	CDW
Casing ID:		Ground El.		Sheet #:	
Remarks:	Hand Driven Using Hammerdrill				

Depth (Feet)	Sample: Type & Num.	Sample: Blows per 6 Inches	Sample: Depth Range	Sample: Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
-3							
-2							
-1							
0						Ground Surface	
1							
2							
3							
4							
5							
6							
7							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	
4/6/2015		1.35'		Rock:	
4/29/2015		2.41'		Well Depth:	2.35'
				Boring:	2.35'
				Well Diameter:	0.75

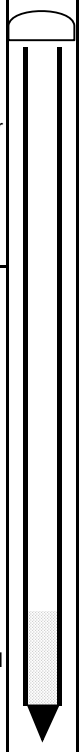
TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**PZ-09D**
Total Depth:	7.58'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	4/6/2015	Completed:	4/6/2015	Contractor:	CDW
Casing ID:		Ground El.		Sheet #:	
Remarks:	Hand Driven Using Hammerdrill				

Depth (Feet)	Sample: Type & Num.	Sample: Blows per 6 Inches	Sample: Depth Range	Sample: Recovery	PID Hdspace (ppmv)	Sample Description
-6						
-5						
-4						
-3						riser height 3.38'
-2						solid riser
-1						
0						Ground Surface
1						
2						
3						
4						
5						
6						
7						screened interval
8						**Final Depth 7.58' BGS**
9						

Well Diagram



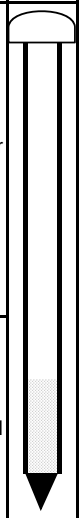
Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	
4/6/2015		2.35'		Rock:	
4/29/2015		3.08'		Well Depth:	7.58'
				Boring:	7.58'
				Well Diameter:	0.75

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**PZ-08S**
Total Depth:	2.09'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	4/6/2015	Completed:	4/6/2015	Contractor:	CDW
Casing ID:		Ground El.		Sheet #:	
Remarks:	Hand Driven Using Hammerdrill				

Depth (Feet)	Sample: Type & Num.	Sample: Blows per 6 Inches	Sample: Depth Range	Sample: Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
-3						riser height 2.81'	
-2						solid riser	
-1							
0						Ground Surface	
1						screened interval	
2						**Final Depth 2.09' BGS**	
3							
4							
5							
6							
7							



Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	
4/6/2015		2.89'		Rock:	
4/29/2015		3.09'		Well Depth:	2.09'
				Boring:	2.09'
				Well Diameter:	0.75

TEST BORING LOG

CDW Consultants, Inc.

Project No.:	1363.20	Client:	DCR	BORING ID:	**PZ-08D**
Total Depth:	5.75'	Location:	Hyde Park, MA	Logged By:	M. Gagne
Date Started:	4/6/2015	Completed:	4/6/2015	Contractor:	CDW
Casing ID:		Ground El.		Sheet #:	
Remarks:	Hand Driven Using Hammerdrill				

Depth (Feet)	Sample: Type & Num.	Sample: Blows per 6 Inches	Sample: Depth Range	Sample: Recovery	PID Hdspace (ppmv)	Sample Description	Well Diagram
						riser height 3.24'	
-3							
-2						solid riser	
-1							
0						Ground Surface	
1							
2							
3							
4							
5						screened interval	
						Final Depth 5.75' BGS	
6							
7							

Groundwater Measurements				Summary	
Date	Time	Depth to Groundwater	Measuring Point	Overburden:	
4/6/2015		7.17'		Rock:	
4/29/2015		3.31'		Well Depth:	5.75'
				Boring:	5.75'
				Well Diameter:	0.75

Project No: 2001-166

Project: SARSS/Lewis Chemical

Client: MADEP

Site Location: 12-24 Fairmount Street, Boston, MA

Well ID: ESM-03

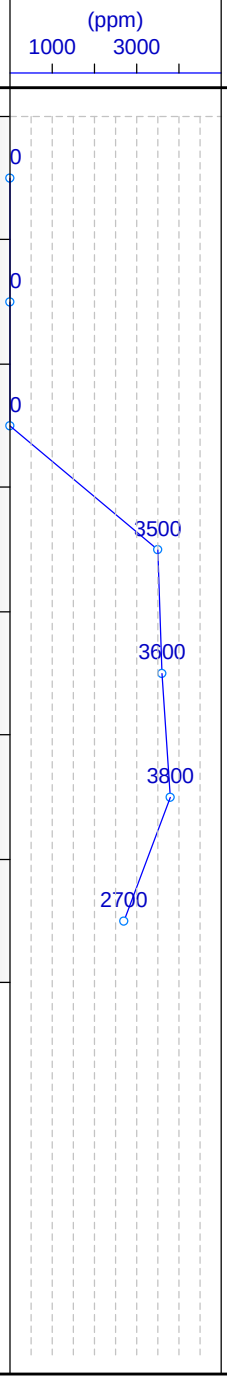
Field Geologist: J. Callahan

Environmental Strategies & Management, Inc.
184 West Main Street
Norton, MA 02766
508-285-9700

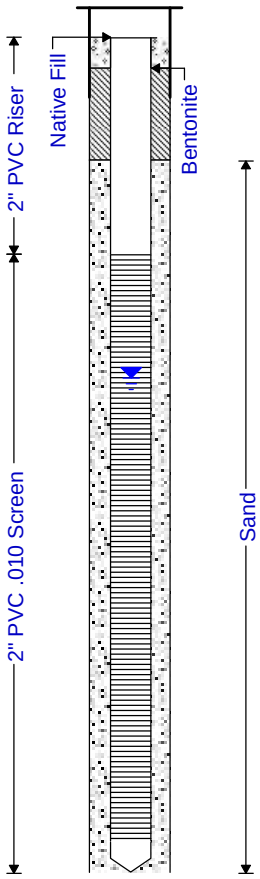
SUBSURFACE PROFILE / SAMPLE

Depth	Description	Depth/Elev.	Number	Type	Blows/6 in.	Recovery
	Ground Surface					
0	brown, damp, medium to fine SAND, trace fine gravel	0	SS-1	SS	19 24 30 31	
1	FILL (black asphal)t	1				
2	light brown, damp, denser, medium to fine SAND, little coarse to fine gravel	2	SS-2	SS	21 30 21 27	
3	brown/dark brown, damp, coarse to fine SAND, trace coarse to fine gravel, trace black ash (moerately dense)	3				
4	brown to light brown, moist, denser, coarse to fine SAND, trace fine gravel	4	SS-3	SS	27 27 25 7	
6	light brown, wet, SILT, trace fine sand	6	SS-4	SS	10 11 20 19	
7	gray, wet, clayey SILT(odor, slight sheen)	7				
8	dark gray, dense, clayey SILT (odor, slight sheen)	8	SS-5	SS	7 4 3 3	
9	chocolate brown, organic SILT, trace roots (odor)	9				
10	chocolate brown, wet, organic SILT	10	SS-6	SSL	4 18 47 40	
11	gray, wet, coarse to fine SAND, little coarse to fine gravel, trace silt (sheen)	11				
12	dark gray, wet, coarse to fine SAND and GRAVEL, trace cobble (sheen) (auger refusal at 14)'	12	SS-7	SS	100=5"	
14	End of Borehole	14				

PID Results



Well Details



Drilled By: AM Drilling Services, Inc.
Drill Method: Hollow Stem Auger
Drill Date: 6/13/02

Hole Size: 4.25-inch
Well Diameter: 2-inch
Sheet: 1 of 1

Project No: 2006-056

Well ID: ESM-03B

Project: Former Lewis Chemical

Drill Date: 3/21-4/3/06

Client: DND Boston

Field Geologist: AF

Location: 12-24 Fairmount Ct, Hyde Park, MA

Environmental Strategies & Management
184 West Main Street
Norton, MA 02766
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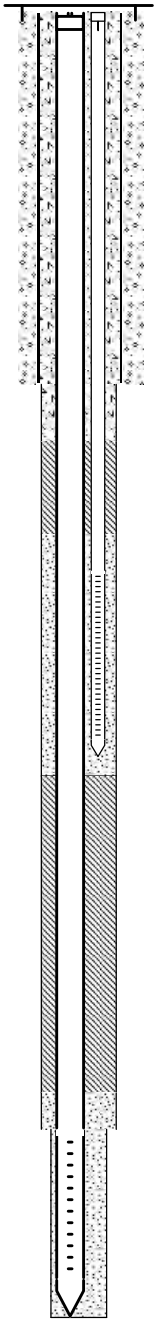
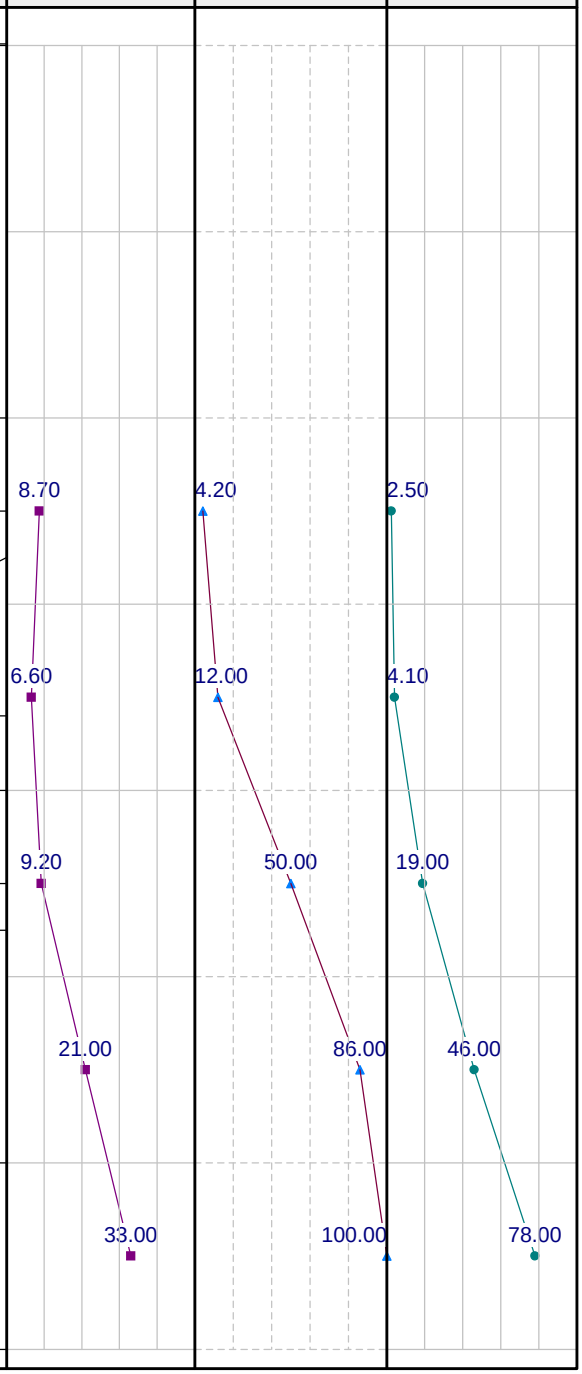
Depth	Well Completion Details	Elevation	Minutes Per Foot	RQD %	Description
0		0			Ground Surface
				Auger	Hollow Stem Auger to Bedrock
		-20	4.25, 5.16, 6.08, 5.58, 5.67	45 %	schist, multiple diagonal fractures, mostly water bearing
		-25	6, 5.75, 5	67.5%	conglomerate, diagonal and horizontal fractures
		-28	6.08, 5.75, 8, 6.67, 7.50, 6, 8.75	76.7%	argillaceous shale, diagonal water bearing fractures
		-36	8, 8.75, 10.16, 7.58, 9.45	20 %	argillaceous shale, vertical and horizontal water bearing fractures
		-40	13, 14.08, 18, 15.33, 14.45	75 %	argillaceous shale, few diagonal fractures
		-45	12.80, 24.75, 40		hard granite, few fractures
			1.50, 1.67, 1.83, 2.33, 2.67, 2.83, 2.33, 2.33, 2.33, 2.67	Air Rotary	
		-60	1.50, 1.83, 2.67, 3.50, 4, 3.92, 4.50, 4.50, 4.50, 4.67	78 % / 65 %	argillaceous rock, porous looking, many diagonal fractures, some mineral filled
		-70			



Drill Method: HSA / HQ Core

Drilling Contractor: GeoSearch

Bedrock Core Diameter: 4", 3" (60-70')

Sheet: 1 of 1

Project No: 2001-166

Project: Lewis Chemical

Client: SARSS/MADEP

Site Location: 12-24 Fairmount Ct., Boston, MA

Well ID: ESM-05

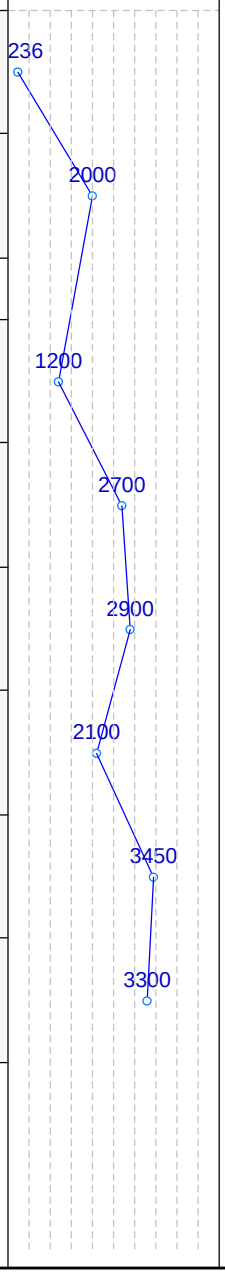
Field Geologist: J. Callahan

Environmental Strategies & Management, Inc.
184 West Main Street
Norton, MA 02766
508-285-9700

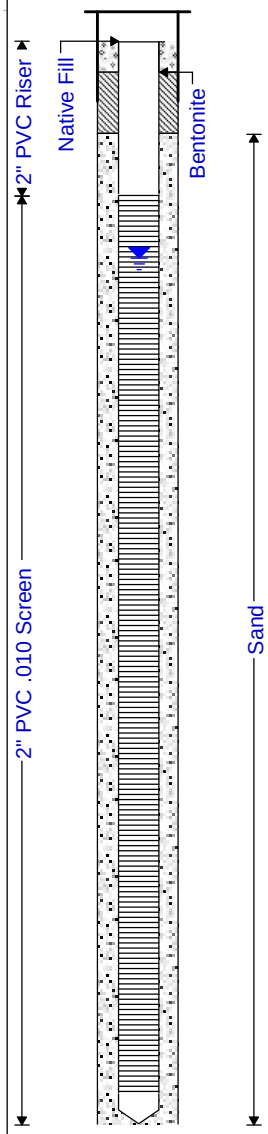
SUBSURFACE PROFILE / SAMPLE

Depth	Description	Depth/Elev.	Number	Type	Blows/6 in.	Recovery
	Ground Surface					
0	dark brown, damp, medium to fine SAND	0	SS-1	SS	8 12 13 10	
1	darker brown, moist, medium to fine SAND, trace fine gravel	1				
2	dark brown, wet medium to fine SAND, trace fine gravel	2	SS-2	SS	11	
3						
4	boulder	4				
5	grey, wet, dense, SILT, trace clay	5	SS-3	SS	1 7 17 23	
6						
7	grey, wet, dense, CLAYEY SILT (sheen, odor)	7	SS-4	SS	16 14 6 4	
8						
9	grey-brown, wet, SILT and GRAVEL, trace coarse sand (strong odor)	9	SS-5	SS	12 12 26 26	
10						
11	grey-brown, wet, coarse to medium SAND, little fine gravel, trace silt (strong odor)	11	SS-6	SS	41 52 56 59	
12						
13	dark grey, wet, coarse to fine SAND	13	SS-7	SS	39 43 57 59	
14						
15	dark grey, wet, coarse to fine SAND	15	SS-8	SS	45 50 100=3"	
16	light brown, wet, dense TILL (4 inches)	16				
17						
18	(auger refusal at 18.8')					
19	End of Borehole	19				
20						

PID Results



Well Details



Drilled By: AM Drilling Services, Inc.
Drill Method: Hollow Stem Auger
Drill Date: 6/12/02

Hole Size: 4.25-inch
Well Diameter: 2-inch
Sheet: 1 of 1

Project No: 2006-056

Well ID: ESM-05B

Project: Former Lewis Chemical

Drill Date: 3/27-4/3/06

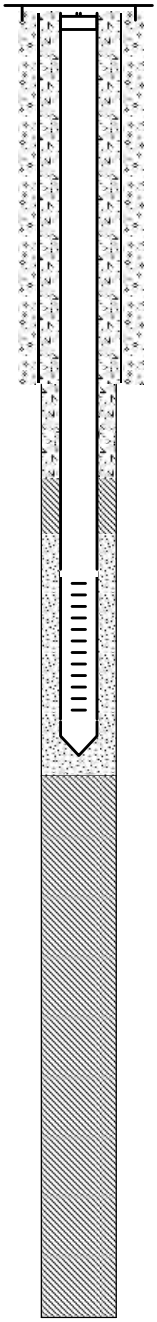
Client: DND Boston

Field Geologist: AF

Location: 12-24 Fairmount Ct, Hyde Park, MA

Environmental Strategies & Management

184 West Main Street
Norton, MA 02766
(508)285-9700

Depth	Well Completion Details	Elevation	Minutes Per Foot	RQD %	Description	PCE Concentration (ppm) 10 20 30 40	TCE Concentration (ppm) 20 40 60 80	111-TCA Concentration (ppm) 20 40 60 80
0		0			Ground Surface			
					Hollow Stem Auger to Bedrock			
5								
10				Auger				
15								
20		-20	3.75 5 3 3.83 3.50	31.7%	argillaceous rock, multiple diagonal fractures, few water bearing, few vertical fractures	23.00	54.00	38.00
25			3.50 3.67 3.83 3.67 3.62	83 %				
30			2.5 5.83 4.10 3 3	46 %				
		-34				12.00	31.00	29.00
35			3 3 3 3 3	75 %	conglomerate, diagonal and horizontal fractures			
40			2 2.75 2.16 2.33 2.50 2.16 3.50 3.83 3.75 3.58	86.7%				
		-42			argillaceous shale, diagonal water bearing fractures, some mineral filled, porous looking	3.20	14.00	9.00
45				83 %				
50			4 4 3.50 2.16 2.42	80 %				
		-55				5.20	11.00	9.20
55		-57	4.50 2.83 2.67 2.67 2.50	96.7%	conglomerate argillaceous shale, few diagonal fractures			
60			5.75 6.75 5.83 4.45 4.32	90 %				
65			6.50 8.50 5.67 5.50 6.50			3.10	7.10	6.80
		-68		93 %				
		-70			conglomerate			
70								

Drill Method: HSA / HQ Core

Bedrock Core Diameter: 4"

Drilling Contractor: GeoSearch

Sheet: 1 of 1

Project No: 2001-166

Project: SARSS/Lewis Chemical

Client: MADEP

Site Location: 12-24 Fairmount Ct., Boston, MA

Well ID: ESM-08

Field Geologist: J. Callahan

Environmental Strategies & Management, Inc.
184 West Main Street
Norton, MA 02766
508-285-9700

SUBSURFACE PROFILE / SAMPLE

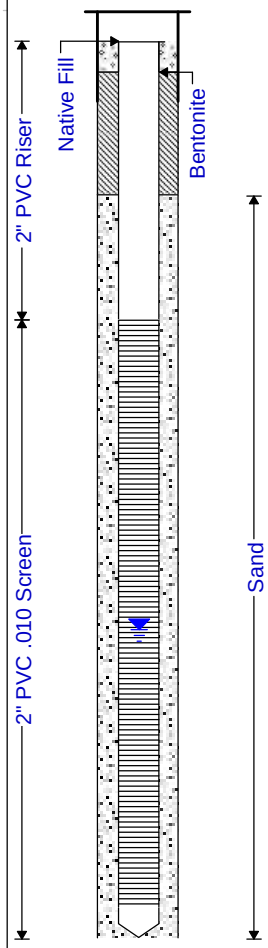
Depth	Description	Depth/Elev.	Number	Type	Blows/6 in.	Recovery
	Ground Surface	0				
0	dark brown, dry, medium to fine SAND, trace organic silt	0 / -1	SS-1	SS	9 11 9 8	
1	grey, dry, medium to fine SAND, trace organic silt	1 / -2				
2–3	dark brown, damp, medium to fine SAND, little coarse to fine gravel	2 / -4	SS-2	SS	11 13 15 12	
4–5	dark brown, damp, medium to fine SAND, little coarse to fine gravel	4 / -6	SS-3	SS	19 21 24 26	
6–7	brown, damp, medium to fine SAND and GRAVEL, trace cobble	6 / -8	SS-4	SS	21 27 23 21	
8–9	boulder	8 / -10				
10	dark-brown, moist-wet, organic SILT/PEAT	10 / -11	SS-5	SS	7 2 2 2	
11	brown, wet, coarse to fine SAND, trace silt	11 / -12				
12	dark brown, organic SILT dark brown organic SILT, trace roots	12 / -13	SS-6	SSL	4 25 36 37	
13	dark grey wet, fine SAND, little cobble	13 / -14				
14	dark grey, wet, silty SAND, some cobble	14 / -15	SS-7	SS	58 100=5"	
15	End of Borehole	15				

PID Results

(ppm) 1000 3000

0, 0, 0, 0, 270, 500, 79

Well Details



Drilled By: AM Drilling Services, Inc.
Drill Method: Hollow Stem Auger
Drill Date: 6/12/02

Hole Size: 4.25-inch
Well Diameter: 2-inch
Sheet: 1 of 1

Project No: 2006-056

Well ID: ESM-08B

Project: Former Lewis Chemical

Drill Date: 3/30-4/3/06

Client: DND Boston

Field Geologist: AF

Location: 12-24 Fairmount Ct, Hyde Park, MA

Environmental Strategies & Management

184 West Main Street
Norton, MA 02766
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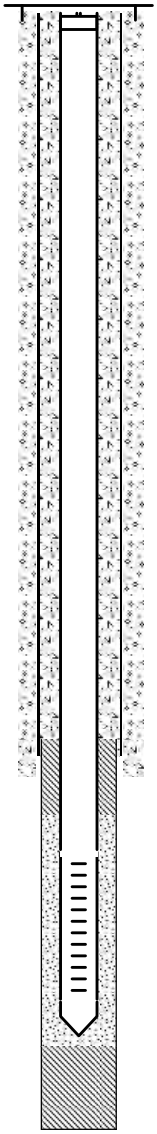
Depth	Well Completion Details	Elevation	Minutes Per Foot	RQD %	Description	PCE Concentration (ppm) 10 20 30 40	TCE Concentration (ppm) 20 40 60 80	111-TCA Concentration (ppm) 20 40 60 80
0		0			Ground Surface			
					Hollow Stem Auger to Bedrock			
5								
10								
15								
20				Auger				
25								
30								
35								
40		-40	3 2.50 4 3.33 5.50	53 %	argillaceous rock, porous looking, multiple horizontal fractures, few water bearing, some mineral filled	0.25	0.35	0.04
45			4.25 4.08 4.25 4.08 5.42	85 %				
50		-50	3.83 4.25 5 4.58 5	93 %	conglomerate, few horizontal fractures, little water			
55			3.50 4.75 5 5.50 6.25	95 %				
60		-60			End of Borehole			
65								
70								

Drill Method: HSA / NX Core

Bedrock Core Diameter: 3"

Drilling Contractor: GeoSearch

Sheet: 1 of 1

LEWIS CHEMICAL GEOPROBE DRILLING - BORING LOG SUMMARY SPREADSHEET

SAMPLE DATE	BORING #	SLEEVE #	FIELD ID	DEPTH	BORING RECOVERY	REFUSAL OR END DEPTH	PEAK TOV DEPTH	PID	DESCRIPTION
6/9/2020	1	1	A1(0-5)	0-5'	24"	-	-	0	0-8" Brown loam w/fine sand and organics --8-24" brown-black gravely fill w medium sand and crushed/broken asphalt
6/9/2020	1	2	A1(5-10)	5-10'	30"	10'	-	0	0-6" Brown loam w/ fine sand and organics--6-18" brown -black gravely fill w/med sand, crushed asphalt and trace concrete--18-30" dark brown-black-orange, wet fill w/gravel med sand and trace asphalt and concrete
6/9/2020	2	3	B1(0-5)	0-5'	31"	-	-	0	0-12" Brown loam w/fine sand, organics and trace glass--12-20" tan-orange fill w/ fine-med sand and gravel--20-31" tan-brown gravely fill w/med sand and trace asphalt and concrete
6/9/2020	2	4	B1(5-10)	5-10'	36"	10'	-	0	0-14" Brown - grey fill w/med sand, gravel and trace asphalt/concrete--14-22" tan-grey fill w/med-fine sand gravel and trace asphalt/concrete--22-36" brown -black fill w/med sand gravel and trace clay/concrete/wood/brick
6/9/2020	3	5	A2(0-5)	0-5'	48"	-	2-4'	0.1	0-7" Brown loam w/fine sand organics and trace gravel--7-28" Brown fill w/med sand and asphalt-- 28-37" brown -organge fill w/med to fine sand gravel and trace concrete--37-48" tan-grey fill w/med to fine sand, trace clay and asphalt
6/9/2020	3	6	A2(5-10)	5-10'	54"	10'	6-8'	0.1	0-15" Tan-grey gravely fill w/med-fine sand and trace asphalt--15-32" brown-tan-black fill w/med-fine sand and some clay, concrete--32-54" brown-black-tan fill w/med-fine sand, clay and trace gravel
6/9/2020	4	7	B2(0-5)	0-5'	44"	-	-	0	0-10" Brown loam w/fine sand and organics--10-39" tan-grey gravely fill w/med-fine sand and trace brick--39-44" black fill w/med-fine sand trace gravel/asphalt/clay
6/9/2020	4	8	B2(5-10)	5-10'	55"	10'	6-8'	0.1	0-28" Black-brown crushed asphalt-fill--28-37" tan-brown fill w/med sand, clay and gravel--37-55" brown-tan-orange fill w/med-fine sand , clay and trace gravel/concrete
6/9/2020	5	9	A3(0-5)	0-5'	39"	-	-	0	0-7" Brown loam w/fine sand and organics --7-24" brown-tan fill w/med-fine sand, crushed brick and gravel--24-39" brown -black fill w/med-fine sand, clay, gravel, asphalt and crushed brick
6/9/2020	5	10	A3(5-10)	5-10'	48"	10'	-	0	0-14" Brown-tan fill w/med-fine sand, gravel and crushed brick--14-27" black -tan fillw/med sand, rock/cobble and some clay--27-48" brown-tan-black fill w/med-fine sand, clay and some gravel
6/9/2020	6	11	B3(0-5)	0-5'	36"	-	-	0	0-8" Brown loam w/fine sand and organics--8-26" brown-tan fill w/med-fine sand gravel, trace wood and glass--26-32" black crushed asphalt-- -32-36" brown-grey fill w/med sand, gravel and trace concrete/asphalt
6/9/2020	6	12	B3(5-10)	5-10'	48"	10'	-	0	0-12" Brown fill w/med sand, gravel and trace concrete--12-26" tan-orange fill w/med-fine sand and gravel, 26-48" dark brown-tan-some orange fill w/ med-fine sand, gravel some clay and trace glass
6/9/2020	7	13	A4(0-5)	0-5'	37"	-	2-4'	0.1	0-7" Brown loam w/fine sand and organics-- 7-20" brown fill w/med-fine sand, gravel, clay and some glass-- 20-29" dark brown fill w/tan med-fine sand, gravel and some glass--29-32" tan fine sand--32-37" brown fill w/med-fine sand, gravel and trace glass
6/9/2020	7	14	A4(5-10)	5-10'	40"	10'	8-10'	0.2	0-11" Brown-grey fill w/med-fine sand gravel and some glass--11-20" brown-grey - some orange fill w/med-fine sand, clay and rock/cobble--20-25" dark grey dense clay w/some fine sand--25-35" brown-tan fill w/med-fine sand and gravel--35-40" brown peat layer with odors
6/9/2020	8	15	B4(0-5)	0-5'	37"	-	-	0	0-7" Brown loam w/fine sand and organics--7-37" tan-grey fill w/med-fine sand, gravel, clay and some asphalt
6/9/2020	8	16	B4(5-10)	5-10'	52"	10'	8-10'	0.1	0-12" Brown-gray fill w/ med-fine sand and gravel--12-28" brown-black fill w/med-fine sand and gravel--28-45" tan-grey med-fine sand and gravel--45-52" dark brown-wet silty sediment w/fine sand, clay and trace organics- marine odors
6/9/2020	9	17	A5(0-5)	0-5'	34"	-	2-4'	0.2	0-8" brown loam w/fine sand and organics--8-20" grey fine sand w/gravel/rock/cobble--20-34" brown-grey-black fill w/med-fine sand, gravel, clay and crushed brick
6/9/2020	9	18	A5(5-10)	5-10'	48"	10'	6-8'	0.1	0-8" grey fine sand w/gravel--8-16" tan-orange med-fine sand--16-22" brown silty sediment w/fine sand and trace organics--22-48" dark grey wet silty sediment w/fine sand, some clay and organics-marine odors
6/9/2020	10	19	B5(0-5)	0-5'	34"	-	-	0	0-8" Brown loam w/fine sand and organics--8-34" brown-tan fill w/med-fine sand, gravel, rock/cobble and trace clay
6/9/2020	10	20	B5(5-10)	5-10'	52"	10'	-	0	0-30" Brown-gray fill w/med-fine sand and gravel--30-35" tan-orange med-fine sand--35-42" brown silty sediment w/fine sand some clay and trace wood-marine odors--42-52" grey silty sediment w/fine sand (orange rings-staining) marine odors
6/10/2020	11	21	A6(0-5)	0-5'	47"	-	-	0	0-6" Brown loam w/fine sand and organics-- 6-10" tan fill w/med-fine sand and gravel--10-47" dark brown-tan fill w/med-fine sand and gravel
6/10/2020	11	22	A6(5-10)	5-10'	50"	10'	-	0	0-18" Brown -tan -some orange med-fine sand w/gravel--18-50" dark brown sility sediment w/fine sand, some clay -marine odors
6/10/2020	12	23	B6(0-5)	0-5'	50"	-	0-2'	0.1	0-7" Brown loam w/fine sand and organics--7-22" tan fill w/med-fine sand and gravel--22-30" dark brown fill w/med sand and gravel--30-50" brown-tan-some orange fill w/med-fine sand, gravel and some clay
6/10/2020	12	24	B6(5-10)	5-10'	52"	10'	8-10'	0.1	0-12" Tan-grey fill w/med-fine sand--12-52" dark brown-some tan silty sediment w/fine sand and clay-marine odors
6/10/2020	13	25	A7(0-5)	0-5'	38"	-	-	0	0-6" Brown loam w/fine sand and organics-- 6-9" tan fill w/med-fine sand and gravel--9-22" dark brown-black fill w/med-fine sand and gravel-- 22-38" brown-tan med sand w/gravel
6/10/2020	13	26	A7(5-10)	5-10'	43"	10'	8-10'	0.3	0-14" Brown-tan med sand w/gravel and some clay-- 14-30" brown-gray silty sediment w/fine sand and clay-marine odors--30-38" grey-brown coarse sand-- 38-43" dark brown peat w/strong odors
6/10/2020	14	27	B7(0-5)	0-5'	44"	-	2-4'	0.1	0-7" Brown loam w/fine sand and organics-- 7-32" brown-tan fill w/med-fine sand, gravel and clay--32-40 tan to orange med sand and trace gravel--40-44" brown silty fine sand
6/10/2020	14	28	B7(5-10)	5-10'	50"	10'	6-8'	0.1	0-10" Tan med-fine sand w/gravel-- 10-24" tan silty clay w/fine sand--24-30" grey silty clay w/fine sand -marine odor--30-38" grey med-fine sand-- 38-50" dark brown peat w/some fine sand --strong odors
6/10/2020	15	29	A8(0-5)	0-5'	32"	-	-	0	0-8" Brown loam w/fine sand and organics-- 8-32" brown -tan fill w/med sand, gravel, rock and some clay
6/10/2020	15	30	A8(5-10)	5-10'	42"	10'	8-10'	0.2	0-10" Brown-tan fill w/med-fine sand gravel/rock and trace clay-- 10-35" tan-grey, wet, silty sediment w/fine sand and clay--35-42" dark grey silty sediment w/fine sand and clay
6/10/2020	16	31	B8(0-5)	0-5'	37"	-	2-4'	0.1	0-4" brown loam w/fine sand and organics-- 4-18" grey med-fine sand w/gravel-rock-- 18-24" tan-orange fill w/med-fine sand and gravel -- 24-37" dark brown loam like soil w/fine sand and root matter
6/10/2020	16	32	B8(5-10)	5-10'	44"	10'	6-8'	0.2	0-12" Brown-grey fill w/med-fine sand, gravel/rock-- 12-36" tan-some grey, wet, silty sediment w/fine sand and some clay-- 36-39" dark grey med-coarse sand -- 39-44" dark brown silty sediment w/fine sand, clay, river rock - marine odors
6/10/2020	17	33	A9(0-5)	0-5'	42"	-	-	0	0-4" brown loam w/fine sand and organics-- 4-10" grey rock/concrete w/fines-- 10-42" brown-tan fill w/med-fine sand, gravel/rock and some clay
6/10/2020	17	34	A9(5-10)	5-10'	52"	10'	-	0	0-12" Grey-tan fine sand w/fine sand and gravel--12-30" dark silty sediment w/fine sand and clay--32-52" olive-grey-some orange, wet silty sediment w/fine sand and clay--
6/10/2020	18	35	B9(0-5)	0-5'	47"	-	2-4'	0.1	0-6" Brown loam w/fine sand and organics-- 6-30" tan-grey fill w/fine sand, gravel and trace clay--30-47" brown-tan fill w/med-fine sand, gravel, grey rock/concrete, trace clay, wood and root matter
6/10/2020	18	36	B9(5-10)	5-10'	53"	10'	8-10'	0.1	0-10" Grey fine sand w/gravel-- 10-40" grey-orange, wet silty fine sand w/some clay--40-53" dark grey wet silty sediment w/fine sand and clay
6/10/2020	19	37	A10(0-5)	0-5'	35"	-	-	0	0-6" Brown loam w/fine sand and organics-- 6-20" brown-tan fill w/med-fine sand gravel and clay-- 20-35" brown-grey fill w/med-fine sand, clay and trace gravel
6/10/2020	19	37	A10(5-10)	5-10'	56"	10'	6-8'	0.1	0-14" Tan-brown fill w/med-fine sand, gravel and some clay-- 14-22" dark brown silty sediment w/fine sand, clay and trace organics-- 22-56" grey-dark grey wet, silty sediment w/fine sand and clay-marine odors
6/10/2020	20	39	B10(0-5)	0-5'	33"	-	0-2'	0.1	0-5" Brown loam w/fine sand and organics-- 5-27" dark brown fill w/med-fine sand, gravel and some clay--27-30" gray rock w/some fines--30-33"
6/10/2020	20	40	B10(5-10)	5-10'	52"	10'	8-10'	0.3	0-11" Brown-grey fill w/med-fine sand and gravel-- 11-15" dark brown silty sediment w/fine sand, some clay and trace wood-- 15-46"- grey-orange silty wet, sediment w/fine sand and clay-- 46-52" dark grey, wet silty sandy sediment w/fine sand and clay - marine odors

NOTES:

A1(0-5)	REPRESENTS BORING SLEEVE ID
DEPTH	() REPRESENTS DEPTH OF BORING WITHIN THE GRID
PID	PHOTOIONIZATION DETECTOR READINGS IN PARTS PER MILLION
TOV	TOTAL ORGANIC VAPORS

SAMPLE DEPTH SOIL COLUMN COLLECTED USING MACRO-CORE SAMPLE DEVICE OR DUAL TUBE DISCREET SAMPLING DEVICE

LEWIS CHEMICAL GEOPROBE DRILLING - BORING LOG SUMMARY SPREADSHEET

SAMPLE DATE	BORING #	SLEEVE #	FIELD ID	DEPTH	BORING RECOVERY	REFUSAL OR END DEPTH	PEAK TOV DEPTH	PID	DESCRIPTION
6/10/2020	21	41	A11(0-5)	0-5'	32"	-	2-4'	0.1	0-7" Brown loam w/fine sand and organics--7-16" grey rock/concrete w/fines-- 16-32" tan-grey fill w/fine sand and gravel
6/10/2020	21	42	A11(5-10)	5-10'	54'	10'	6-8'	0.1	0-15" Grey fines w/gravel and rock-- 15-27" dark brown-grey silty sediment w/fine sand and clay--27-50" grey-dark grey wet, silty sediment w/fine sand and clay - odors-- 50-54" dark brown wet, silty sediment w/some clay and fines -strong odors
6/10/2020	22	43	B11(0-5)	0-5'	44"	-	-	0	0-7" brown loam w/fine sand and organics-- 7-20" brown-black fill w/coarse-fine sand, gravel and some coal ash-- 20-44" tan fill w/med-fine sand, gravel/rock and some clay
6/10/2020	22	44	B11(5-10)	5-10'	48"	10'	-	0	0-12" Grey-tan fill w/coarse-fine sand and trace gravel-- 12-37" tan silty sediment w/fine sand and some clay--37-48" dark grey-brown silty sediment w/fine sand and clay
6/10/2020	23	45	A12(0-5)	0-5'	35"	-	2-4'	0.2	0-5' Brown loam w/fine sand and organics -- 5-19" tan fine sand w/gravel and rock--19-35" tan-black fill w/coarse-fine sand , gravel and some clay
6/10/2020	23	46	A12(5-10)	5-10'	53"	10'	6-8'	0.2	0-14" Grey-tan fine sand w/gravel, some rock-- 14-24" Dark brown-tan peat like material w/organics -- 24-53" grey wet, silty sediment w/fine sand , clay (signs of staining)
6/10/2020	24	47	B12(0-5)	0-5'	39"	-	-	0	0-5" Brown loam w/fine sand and organics--5-12" tan-grey fill w/fine sand and gravel-- 22-39" brown-tan fill w/med-fine sand, gravel and clay
6/10/2020	24	48	B12(5-10)	5-10'	54"	10'	8-10'	0.3	0-26" Grey-olive silty fine sand w/trace clay-- 26-50" dark grey wet, silty sediment w/fine sand and clay- marine odors--50-54" dark grey wet, coarse sand
6/10/2020	25	49	A13(0-5)	0-5'	32"	-	2-4'	0.1	0-6" Brown loam w/fine sand and organics--6-26" brown fill w/fine sand, gravel and crushed brick - 26-29" wood (wet)-- 29-32" brown-grey fill w/gravel, med-fine sand
6/10/2020	25	50	A13(5-10)	5-10'	46"	10'	8-10'	0.1	0-10" Grey fill w/fine sand, gravel and crushed brick-- 10-46" grey-dark grey silty sediment w/fine sand and some clay--possible staining-marine odors
6/10/2020	26	51	B13(0-5)	0-5'	38"	-	-	0	0-7" Brown loam w/fine sand and organics-- 7-38" brown-olive-some orange fill w/med-fine sand, gravel and some clay
6/10/2020	26	52	B13(5-10)	5-10'	50"	10'	6-8'	0.2	0-8" Brown-orange gravely fill w/med-fine sand-- 8-22" Dark brown-tan silty sediment w/fine sand, some clay-- 22-50" grey-dark-grey(some orange) wet, silty sediment w/fine sand-some clay
6/11/2020	27	53	A14(0-5)	0-5'	39"	-	2-4'	0.1	0-6" Brown loam w/fine sand and organics-- 6-24' brown-tan fill w/med-fine sand, clay and trace gravel--24-39" tan fill w/med-fine sand, gravel, rock and some clay
6/11/2020	27	54	A14(5-10)	5-10'	48'	10'	8-10'	15.3	0-10" Brown-tan fill w/med-fine sand and trace gravel--10-28" dark brown wet,silty sediment w/fine sand and clay-- 28-48" grey wet, silty sediment w/fine sand and clay-strong odors-solvents/chlorine smell
6/10/2020	28	55	B14(0-5)	0-5'	36"	-	2-4'	0.1	0-6" Brown loam w/fine sand and organics-- 6-30" grey-black fill w/coarse -fine sand, gravel, asphalt and glass-- 30-36" tan silty clay w/some gravel
6/10/2020	28	56	B14(5-10)	5-10'	44"	10'	8-10'	0.3	0-12" grey fine sand w/gravel -- 12-22" dark brown silty sediment w/fine sand and clay-- 22-44" grey-orange silty sediment w/fine sand and clay
6/11/2020	29	57	A15(0-5)	0-5'	30"	-	2-4'	11.4	0-4" Brown loam w/fine sand and organics-- 4-18" brown-dark brown fill w/med-fine sand, gravel, clay, some organics-- 18-30" tan-brown fill w/fine sand, clay and some gravel
6/11/2020	29	58	A15(5-10)	5-10'	43"	10'	6-8'	3,810	0-7" Brown fill w/med-fine sand, clay and trace gravel--7-25" grey wet, silty sediment w/fine sand and clay (staining) --25-43" grey-dark grey silty sediment w/fine sand, clay--staining--strong odors(solvents)
6/11/2020	29	59	A15(10-15)	10-15'	33"		10-12'	207	0-10" grey-light grey wet, coarse sand- staining (sheen) strong odors- 10-33" tan wet coarse sand and clay
6/11/2020	29	60	A15(15-16)	15-16'	8"	16'	15-16'	0	0-8" Brown-tan coarse sand and some clay (REFUSAL AT 16')
6/11/2020	30	61	B15(0-5)	0-5'	39"	-	2-4'	3.2	0-5" Brown loam w/fine sand and organics--5-20" brown-tan fill w/med-fine sand, gravel/rock and trace clay-- 20-39" brown-tan fill w/med-fine sand, gravel and clay
6/11/2020	30	62	B15(5-10)	5-10'	54"	-	8-10'	869	0-10" Tan-grey fill w/med-fine sand, gravel-- 10-17" brown (moist) silty sediment w/fine sand, clay and some organics-- 17-54" grey-dark grey wet, (staining) silty sediment w/fine sand , clay--strong odors (solvents)
6/11/2020	30	63	B15(10-15)	10-15'	28"	-	12-14'	203	0-8" Brown wet, silty sediment w/fine sand some clay--8-28" grey-tan wet, coarse sand w/some clay - odors
6/11/2020	30	64	B15(15-16)	15-16'	10"	16'	15-16'	1.2	0-10" Brown wet, coarse wet sand w/some fines (REFUSAL AT 16')
6/11/2020	31	65	A16(0-5)	0-5'	38"	-	2-4'	15.6	0-6" Brown loam w/fine sand and organics--6-20" brown-black fill w/med-fine sand w/gravel/rock--20-38" dark brown-olive silty sediment w/fine sand and trace gravel
6/11/2020	31	66	A16(5-10)	5-10'	42'	-	8-10'	3,961	0-14" Dark brown-olive silty sediment w/fine sand-some clay-- 14-42" grey wet, (some staining) sediment w/fine sand, clay --strong odors
6/11/2020	31	67	A16(10-15)	10-15'	27"	-	12-14'	214	0-6" Brown-grey wet silty sediment w/fine sand and clay-odors--6-27" grey-tan wet, coarse sand w/some clay --staining--strong odors
6/11/2020	31	68	A16(15-16)	15-16'	14"	16'	15-16'	204	0-14" Tan-brown coarse sand, trace clay (REFUSAL AT 16')
6/11/2020	32	69	B16(0-5)	0-5'	32"	-	2-4'	263	0-8" Brown loam w/fine sand, organics and glass-- 8-11" grey rock w/fines--11-25" grey-black fill w/med-fine sand, gravel and some clay--strong odors--25-32" tan-orange fill w/med-fine sand, clay, crushed brick
6/11/2020	32	70	B16(5-10)	5-10'	39"	-	6-8'	1883	0-12" black-grey (staining) silty sediment w/fine sand, some clay-- 12-23" grey wet, silty sandy sediment w/fine sand , clay (some staining) strong odors
6/11/2020	32	71	B16(10-15)	10-15'	27"	-	10-12'	1,342	0-6" Dark brown-grey silty sediment w/ fine sand,some clay--6-27" grey-dark grey coarse to fine sand (staining) - odors
6/11/2020	32	72	B16(15-16)	15-16'	8"	16'	15-16'	12	0-8" Tan wet, coarse to fine sand
6/11/2020	33	73	A17(0-5)	0-5'	32"	-	2-4'	35	0-7" concrete -- 7-16" black(staining) fill w/med-fine sand, clay and gravel-- 16-32" tan fill w/med-fine sand, gravel some rock and clay
6/11/2020	33	74	A17(5-10)	5-10'	42"	-	6-8'	2,670	0-9" Tan fill w/med-fine sand, gravel and some clay -- 9-20" dark brown silty sediment w/fine sand , some organics--20-42" grey wet, (staining) silty sediment w/some clay -odors
6/11/2020	33	75	A17(10-15)	10-15'	18"	-	10-12'	475	0-18" Grey coarse-fine sand-odors
6/11/2020	33	76	A17(15-16)	15-16'	4"	16'	15-16'	215	0-4" Tan coarse to fine sand
6/11/2020	34	77	B17(0-5)	0-5'	36"	-	2-4'	21	0-7" Brown loam w/fine sand and organics-- 7-22" brown-black fill w/med sand, gravel, clay-coal ash (staining) odors-- 22-36" tan w/orange silty sediment
6/11/2020	34	78	B17(5-10)	5-10'	26"	-	8-10'	1,404	0-26" Grey w/black staining , silty sediment w/fine sand and some clay
6/11/2020	34	79	B17(10-15)	10-15'	32"	-	10-12'	581	0-32" grey-dark, grey wet, gravel w/coarse sand (staining) -odors
6/11/2020	34	80	B17(15-16)	15-16'	10"	16'	15-16'	1.1	0-10" dark grey wet, coarse to fine sand -marine odors
6/11/2020	35	81	A18(0-5)	0-5'	32"	-	2-4'	5.5	0-5" Concrete-- 5-20" black fill w/fine sand, clay, trace gravel and brick -odors-- 20-32" tan-brown fill w/sand, clay, some gravel w/rock
6/11/2020	35	82	A18(5-10)	5-10'	22"	-	6-8'	36	0-7" Tan fill w/med-fine sand, clay and gravel-- 7-22" grey wet, silty sediment w/fine sand, clay - trace gravel- (staining) strong odors
6/11/2020	35	83	A18(10-15)	10-15'	20"	-	10-12'	64	0-20" Grey-tan wet, gravely fill w/med-fine sand and clay- odors
6/11/2020	35	84	A18(15-16)	15-16'	11"	16'	15-16'	22	0-11" Tan wet coarse to fine sand- marine odors (REFUSAL AT 16')
6/11/2020	36	85	B18(0-5)	0-5'	28"	-	2-4'	10	0-6" Brown loam w/fine sand and organics-- 6-16" brown -tan fill w/med-fine sand, gravel, some rock--16-22" black (stained) wet fill w/med-fine sand, gravel, trace clay- odors -- 22-28" brown-tan fill w/med-fine sand, gravel, some clay
6/11/2020	36	86	B18(5-10)	5-10'	32"	-	6-8'	22	0-32" Grey w/black staining , wet, silty sediment w/fine sand and clay
6/11/2020	36	87	B18(10-15)	10-15'	20"	-	10-12'	31.4	Grey w/black staining, wet, coarse-fine sand- odors
6/11/2020	36	88	B18(15-16)	15-16'	5"	16'	15-16'	18	0-5" Grey-tan wet, coarse to fine sand - marine odors (REFUSAL AT 16')
6/11/2020	37	89	A19(0-5)	0-5'	37"	-	2-4'	2.3	0-9" Concrete-- 9-26" tan-grey fill w/med-fine sand, some gravel--26-37" grey w/black staining, wet, fill w/med-fine sand and some gravel-odors
6/11/2020	37	90	A19(5-10)	5-10'	32"	-	6-8'	17	0-32" Grey w/black staining , wet, silty sediment w/fine sand and - odors
6/11/2020	37	91	A19(10-15)	10-15'	29"	-	10-12'	20	0-14" Grey silty sediment w/fine sand and clay -odors--14-29" grey coarse to fine sand
6/11/2020	37	92	A19(15-16)	15-16'	8"	16'	15-16'	10.4	0-8" Tan-brown coarse -fine sand (REFUSAL AT 16')
6/11/2020	38	93	B19(0-5)	0-5'	34"		2-4'	2.7	0-5" Brown loam w/fine sand and organics-- 5-8" concrete/rock w/some fines-- 8-22" brown-black (staining) fill w/med sand , gravel and clay -- 22-25" grey concrete/rock-some fines-- 25-34" brown wet silty sediment w/fine sand, clay and trace gravel/organics
6/11/2020	38	94	B19(5-10)	5-10'	40"		6-8'	204	0-10" Brown wet, silty sediment w/fine sand , some clay and gravel--10-40" grey w/black staininig , wet, silty sediment w/fine sand and clay-odors
6/11/2020	38	95	B19(10-15)	10-15'	41"		12-14'	68.4	0-41" Grey - tan (staining) wet, coarse -fine sand - odors
6/11/2020	38	96	B19(15-16)	15-16'	8"	16'	15-16'	12	0-8" Tan-grey, wet coarse sand
6/12/2020	39	97	A20(0-5)	0-5'	38"	-	2-4'	3.1	0-12" Concrete w/fines-- 12-26" grey-black (staining) wet, fill w/med-fine sand and some clay-- 26-38" tan-grey fill w/coarse-fine sand, gravel and trace clay
6/12/2020	39	98	A20(5-10)	5-10'	33"	-	6-8'	29.2	0-16" Dark brown wet, silty sediment w/fine sand-some clay--16-33" grey silty sediment w/fine sand , clay - trace gravel /organics
6/12/2020	39	99	A20(10-15)	10-15'	27"	-	10-12'	18.4	0-27" Grey wet, gravel w/coarse-med sand
6/12/2020	39	100	A20(15-16)	15-16'	10"	16'	15-16'	11.6	0-10" Tan wet, gravel/river rock w/coarse-med sand
6/12/2020	40	101	B20(0-5)	0-5'	29"	-	2-4'	2.2	0-6" Brown loam w/fine sand and organics--6-17" brown fill w/med-fine sand, clay, some organics-- 17-22" Black (stained) fill w/gravel and med sand--22-29" grey gravely fill w/med-fine sand, some clay
6/12/2020	40	102	B20(5-10)	5-10'	40"	-	8-10'	15.4	0-8" Grey-tan, wet, fill w/med-fine sand, clay--8-15" brown, wet, organicy sediment w/fine sand, clay --15-40" grey (black staining) wet, sediment w/ fine sand clay-strong odors
6/12/2020	40	103	B20(10-15)	10-15'	34"	-	12-14'	33.1	0-18" Grey, wet, gravel w/coarse -fine sand --18-34" Tan, wet, gravel w/coarse-fine sand , river rock - odors
6/12/2020	40	104	B20(15-16)	15-16'	20"	16'	15-16'	9.8	0-20" Grey-tan, wet, gravel, river rock, coarse-fine sand- odors

NOTES:

A1(0-5)	REPRESENTS BORING SLEEVE ID
DEPTH	() REPRESENTS DEPTH OF BORING WITHIN THE GRID
PID	PHOTOIONIZATION DETECTOR READINGS IN PARTS PER MILLION
VOC	TOTAL ORGANIC VAPORS

SAMPLE DEPTH SOIL COLUMN COLLECTED USING MACRO-CORE SAMPLE DEVICE OR DUAL TUBE DISCREET SAMPLING DEVICE

LEWIS CHEMICAL GEOPROBE DRILLING - BORING LOG SUMMARY SPREADSHEET

SAMPLE DATE	BORING #	SLEEVE #	FIELD ID	DEPTH	BORING RECOVERY	REFUSAL OR END DEPTH	PEAK TOV DEPTH	PID	DESCRIPTION
6/12/2020	41	105	A21(0-5)	0-5'	30"	-	2-4'	2.7	0-12" Concrete-- 12-14" wood layer-- 14-15" concrete/rock--15-30" grey-dark-grey fill w/med-fine sand, gravel , some clay
6/12/2020	41	106	A21(5-10)	5-10'	17"	-	6-8'	13.4	0-7" Grey gravel w/coarse-fine sand-- 7-10" brown, wet, organicy sediment w/fine sand- odors-- 10-17" grey, wet, silty sediment w/fine sand, clay- odors
6/12/2020	41	107	A21(10-15)	10-15'	10"	-	10-12'	18.6	0-10" Grey gravel w/coarse-med sand
6/12/2020	41	108	A21(15-16)	15-16'	6"	16'	15-16'	9.1	0-6" Grey- tan, wet, gravel w/coarse-fine sand
6/12/2020	42	109	B21(0-5)	0-5'	36"	-	2-4'	3.1	0-8" Black stained fill w/med-fine sand, asphalt- trace organics--8-15" grey gravel w/med-fine sand--15-18" tan coarse sand--18-24" grey, wet, gravel w/coarse-fine sand --24-36" tan-grey fill w/gravel, med-fine sand, clay
6/12/2020	42	110	B21(5-10)	5-10'	35"	-	6-8'	144	0-6" Grey gravel w/coarse to fine sand-- 6-35" grey, wet, silty sediment w/fine sand, clay - odors
6/12/2020	42	111	B21(10-15)	10-15'	34"	-	12-14'	53.1	0-20" grey, wet, gravel w/coarse sand, some staining, odors-- 20-34" brown-tan, wet, coarse sand
6/12/2020	42	112	B21(15-16)	15-16'	18"	16'	15-16'	10.4	0-18" Tan-brown, wet, coarse sand and river rock (REFUSAL AT 16')
6/12/2020	43	113	A22(0-5)	0-5'	50"	-	2-4'	2.8	0-16" Black-grey fill w/coarse-fine sand and gravel-- 16-18" wood-- 18-24" grey-black, wet, (stained) sediment w/fine sand, clay and organics-odors-- 24-50" grey-tan fill w/med-fine sand and gravel
6/12/2020	43	114	A22(5-10)	5-10'	10"	-	6-8'	31.1	0-10" Grey, wet, gravel w/med-fine sand-odors
6/12/2020	43	115	A22(10-15)	10-15'	24"	-	10-12'	16.7	0-10" Grey coarse sand w/gravel-- 10-24" tan, wet, coarse-fine sand, river rock-odors
6/12/2020	43	116	A22(15-18)	15-18'	22"	18'	15-16'	10.6	0-22" Tan, wet, coarse-fine sand and river rock (REFUSAL AT 18')
6/12/2020	44	117	B22(0-5)	0-5'	15"	-	2-4'	2.3	0-8" Brown loam w/fine sand, organics and trace gravel -- 8-15" grey fill w/med-fine sand, gravel and trace clay
6/12/2020	44	118	B22(5-10)	5-10'	36"	-	8-10'	14.7	0-10" Brown, wet, sediment w/fine sand, clay, organics- strong odors--10-36" grey, wet, silty sediment w/fine sand, clay- strong odors
6/12/2020	44	119	B22(10-15)	10-15'	28"	-	12-14'	33.1	0-28" Grey, wet, coarse-fine sand w/gravel
6/12/2020	44	120	B22(15-16)	15-16'	20"	16'	15-16'	9.8	0-20" Tan, wet, coarse-fine sand and river rock
6/12/2020	45	121	A23(0-5)	0-5'	35"	-	2-4'	1.2	0-6" Brown loam, fine sand and organics-- 6-35" black-grey fill w/med-fine sand, gravel,clay some asphalt shingles
6/12/2020	45	122	A23(5-10)	5-10'	32"	-	6-8'	11.1	0-10" Grey-black fill w/med-fine sand, gravel , clay--10-28" dark brown sediment w/ fine sand, organics, clay-- 28-32" grey silty sediment w/fine sand and clay
6/12/2020	45	123	A23(10-15)	10-15'	29"	-	10-12'	12.3	0-25" Grey, wet coarse-fine sand and gravel--25-28" tan, wet coarse sand and gravel
6/12/2020	45	124	A23(15-16)	15-16'	8"	16'	15-16'	8.7	0-8" Tan, wet, med-fine sand
6/12/2020	46	125	B23(0-5)	0-5'	43"	-	2-4'	1.5	0-5" Brown loam w/fine sand, organics and asphalt--- 5-32" Black-grey fill w/med-fine sand, gravel, trace clay, glass and crushed brick-- 32-43" grey-tan fill w/med-fine sand, gravel, trace clay
6/12/2020	46	126	B23(5-10)	5-10'	30"	-	6-8'	51.2	0-10" grey-tan fill w/med-fine sand, gravel, clay-- 10-24" grey-brown, wet silty sediment w/fine sand, clay and organics-- 24-30" grey w/staining silty sediment w/fine sand and clay
6/12/2020	46	127	B23(10-15)	10-15'	26"	-	12-14'	49.7	0-20" Grey, wet, coarse-fine sand, gravel-odors--20-26" tan, wet, coarse-fine sand, gravel- strong odors
6/12/2020	46	128	B23(15-16)	15-18'	18"	16'	15-16'	7.7	0-18" Tan, wet corse-fine sand - strong odors (REFUSAL AT 18')
6/12/2020	47	129	A24(0-5)	0-5'	40"	-	2-4'	2.8	0-7" Brown loam w/fine sand , organics-- 7-32" black-grey fill w/med-fine sand , gravel, some clay-- 32-40" tan-brown fill w/med-fine sand, gravel/rock, and clay
6/12/2020	47	130	A24(5-10)	5-10'	32"	-	6-8'	31.1	0-32" grey-tan-black fill w/med-fine sand, gravel, clay
6/12/2020	47	131	A24(10-15)	10-15'	28"	-	10-12'	16.7	0-28" Grey-dark grey, wet, coarse-fine sand w/gravel-odors
6/12/2020	47	132	A24(15-16)	15-16'	10"	16'	15-16'	10.6	0-10" Tan, wet coarse-fine sand (REFUSAL AT 16')
6/12/2020	48	133	B24(0-5)	0-5'	44"	-	2-4'	2.1	0-5" Brown loam w/fine sand, organics--5-38" Tan- black fill w/med-fine sand, gravel, clay, trace brick-asphalt shingles-glass- odors--38-44" brown fill w/med-fine sand, gravel, chunks of brick
6/12/2020	48	134	B24(5-10)	5-10'	43"	-	8-10'	10.2	0-14" Black gavely fill w/med-fine sand, crushed brick, some clay-odors-- 14-22" brown-tan gravely fill w/med-fine sand--22-36" brown, wet, sediment w/fine sand, clay-odors--36-43" grey, wet, silty sediment w/fine sand, clay-odors
6/12/2020	48	135	B24(10-15)	10-15'	46"	-	12-14'	12.6	0-46" Grey-light grey, wet gravel w/coarse sand-odors
6/12/2020	48	136	B24(15-16)	15-16'	6"	16'	15-16'	6.4	0-6' Grey, wet, gravel w/coarse-fine sand-odors (REFUSAL AT 16')
6/15/2020	49	137	A25(0-5)	0-5'	47"	-	0-2'	0.2	0-6" Brown loam w/fine sand, organics-- 6-20" dark brown fill w/med-fine sand, gravel, some clay--20-32" brown-black asphalt shingles(roofing) some med-fine sand--32-47" dark brown, fill w/med-fine sand, gravel, clay-white caulking like substance(moist)
6/15/2020	49	138	A25(5-10)	5-10'	30'	-	8-10'	0.2	0-30" Grey-dark grey fill w/med-fine sand, gravel, clay
6/15/2020	49	139	A25(10-15)	10-15'	32'	-	10-12'	0.1	0-14" brown, wet, silty sediment w/fine sand, clay, some organics-odors-- 14-32" grey, wet, coarse-fine sand-odors
6/15/2020	49	140	A25(15-16)	15-16'	7"	16'	15-16'	0	0-7" Tan-grey, wet coarse-fine sand - marine odors
6/15/2020	50	141	B25(0-5)	0-5'	38"	-	2-4'	0.1	0-7" Brown loam w/fine sand , organics-- 7-14" brown-dark brown fill w/med-fine sand, gravel, clay--14-30" black-brown-wet, leather material (tannery) --30-38" tan-grey gravely fill w/coarse -fine sand, chunks of brick
6/15/2020	50	142	B25(5-10)	5-10'	42"	-	6-18'	0.1	0-10" Brown gravely fill w/med-fine sand, trace brick and clay-- 10-28" dark brown, wet silty sediment w/fine sand, clay , organics-- 28-42" grey, wet, silty sediment, fine sand and clay
6/15/2020	50	143	B25(10-15)	10-15'	36"	-	12-14'	0.6	0-12" Grey, wet, silty sediment w/fine sand, clay-marine odors-- 12-36" grey, wet, coarse-fine sand- marine odors
6/15/2020	50	144	B25(15-16)	15-16'	6"	16'	15-16'	0.2	0-6" Grey, wet, coarse-fine sand-marine odors (REFUSAL AT 16')

NOTES:

A1(0-5)	REPRESENTS BORING SLEEVE ID
DEPTH	() REPRESENTS DEPTH OF BORING WITHIN THE GRID
PID	PHOTOIONIZATION DETECTOR READINGS IN PARTS PER MILLION
VOC	TOTAL ORGANIC VAPORS

SAMPLE DEPTH SOIL COLUMN COLLECTED USING MACRO-CORE SAMPLE DEVICE OR DUAL TUBE DISCREET SAMPLING DEVICE

LEWIS CHEMICAL GEOPROBE DRILLING - BORING LOG SUMMARY SPREADSHEET

SAMPLE DATE	BORING #	SLEEVE #	FIELD ID	DEPTH	BORING RECOVERY	REFUSAL OR END DEPTH	PEAK TOV DEPTH	PID	DESCRIPTION
6/15/2020	51	145	A26(0-5)	0-5'	44"	-	2-4'	0.6	0-6" brown loam w/fine sand, organics-- 6-14" brown gravely fill w/fine sand-- 14-35" brown-dark brown, wet leather material 35-44" brown-grey gravely fill w/med-fine sand
6/15/2020	51	146	A26(5-10)	5-10'	22"	-	8-10'	0.1	0-22" dark brown-tan gravely fill w/med-fine sand, clay--
6/15/2020	51	147	A26(10-15)	10-15'	33"	-	10-12'	0.2	0-10" dark brown, wet, silty sediment w/fine sand, clay, some organics-- 10-22" grey, wet, gravely coarse sand-- 22-33' grey, wet, coarse-fine sand-marine odors
6/15/2020	51	148	A26(15-16)	15-16'	5"	16'	15-16'	0.1	0-5" Grey, wet, coarse sand w/some fines-marine odors
6/15/2020	52	149	B26(0-5)	0-5'	60"	-	2-4'	0	0-60" Brown - leather material-some broken down-full sleeve
6/15/2020	52	150	B26(5-10)	5-10'	45"	-	8-10'	0.4	0-6" brown loam w/fine sand, some gravel, spongey material (leather)--6-8" grey rock/concrete--8-15" brown-tan gravely fill w/coarse-fine sand and clay--15-33" dark brown, wet, silty sediment w/fine sand , organics, clay, trace wood-marine odors--33-45" grey-dark grey, wet, silty sediment w/fine sand, clay-marine odors
6/15/2020	52	151	B26(10-15)	10-15'	8"	14-15'	15-16'	0	Grey, wet, silty sediment w/fine sand, clay -marine odors- marine odors (REFUSAL AT 15')-next attempt
6/15/2020	53	152	A27(0-5)	0-5'	37"	-	-	0	0-7" Brown loam w/fine sand, organics-- 7-37" brown leather material w/ some black fill, med-fine sand, gravel, trace clay
6/15/2020	53	153	A27(5-10)	5-10'	38"	-	8-10'	9.4	0-15" Brown-gray fill w/med-fine sand, trace clay, asphalt shingle material--15-38" black fill w/med-fine sand, some clay, gravel-coal ash w/slag-slight odors
6/15/2020	53	154	A27(10-15)	10-15'	45"	-	-	0	0-6" Black-grey gravely fill w/coarse-fine sand, some clay-- 6-30" grey-dark grey, wet, silty sediment w/fine sand, clay--30-45" grey, wet, coarse-fine sand trace gravel-marine odors
6/15/2020	53	155	A27(15-20)	15-20'	45"	20'	-	0	0-14" dark brown, wet silty sediment w/fine sand some clay-- 14-40" grey, wet, coarse-fine sand-marine odors-- 40-45" tan, wet coarse sand, gravel - marine odors
6/15/2020	54	156	B27(0-5)	0-5'	45"	-	-	0	0-5" Brown loam w/fine sand and organics, 5-45" brown leather material--little to no soil-
6/15/2020	54	157	B27(5-10)	5-10'	30"	-	8-10'	11.3	0-30" Dark brown-black fill w/coarse-fine sand, clay, asphalt, coal ash, trace wood--odors
6/15/2020	54	158	B27(10-15)	10-15'	28"	-	12-14'	3.2	0-28" dark grey, very wet, silty sediment w/med-fine sand-marine odors
6/15/2020	54	159	B27(15-16)	15-20'	32"	20'	-	0	0-32" grey, wet, gravel w/coarse-fine sand-marine odors
6/15/2020	55	160	A28(0-5)	0-5'	47"	-	-	0	All leather material - no soil sample collected
6/15/2020	55	161	A28(5-10)	5-10'	50"	-	-	0	0-14" Black -grey crushed asphalt-fines-- 14-24" brown leather material--24-50" Black-multi color fill w/coals ash and slag
6/15/2020	55	162	A28(10-15)	10-15'	55"	-	-	0	0-16" Crushed asphaly. Coal ash, trace clay--16-32" dark brown , wet, silty sediment w/fine sand, clay-marine odor--32-55" grey, wet, silty sediment w/fine sand, clay-some staining- odors
6/15/2020	55	163	A28(15-20)	15-20'	48"	20'	-	0	0-20" Grey, wet, silty sediment w/fine sand , clay-some staining-odors--20-48" grey, wet, med-fine sand- marine odors
6/16/2020	56	164	B28(0-5)	0-5'	48"	-	-	0	All brown leather material -no soil
6/16/2020	56	165	B28(5-10)	5-10'	48"	-	8-10'	1.2	0-24" Brown leather material--24-48" brown-tan gravely fill w/med-fine sand, clay, coal ash w/slag material throughout
6/16/2020	56	166	B28(10-15)	10-15'	59"	-	10-12'	1.3	0-12" Black fill w/med-fine sand , gravel, clay, coal ash w/slag-- 12-27" brown, wet, silty sediment w/fine sand,clay, organics--27-59" tan-olive, wet, silty sediment w/fine sand , clay-marine odors
6/16/2020	56	167	B28(15-20)	15-20'	47"	20'	16-18'	0.4	0-14" Tan -olive, wet, silty sediment w/ clay fine sand--14-17" black elastic like material (caulk/mastic?) , black asphalt shingle, trace fine sand--17-29" grey, wet, gravel w/coarse-fine sand, organics-- 29-47" grey-light grey, wet, coarse sand w/gravel-marine odors
6/16/2020	57	168	A29(0-5)	0-5'	58"	-		0	0-39' Brown leather material, strong odors--39-58" black-grey fill w/coal ash/slag
6/16/2020	57	169	A29(5-10)	5-10'	58"	-	6-8'	0.3	0-10" Black fill w/med-fine sand, gravel coal ash w/slag--10-26" brown, wet, silty sediment w/med-fine sand, clay, organics--26-58" grey-olive silty sediment w/fine sand, clay-marine odors
6/16/2020	57	170	A29(10-15)	10-15'	57"	-	10-12'	1.1	0-28" Grey, wet, silty sediment w/fine sand, clay--28-57" tan-grey, wet, gravel w/coarse-fine sand
6/16/2020	57	171	A29(15-16)	15-20'	48"	20'	-	0	0-28" Grey , wet, coarse sand w/gravel--28-48" tan, wet, gravel w/coarse-fine sand
6/16/2020	58	172	B29(0-5)	0-5'	NA	SURFACE	-	-	REFUSAL - NO SAMPLES COLLECTED- AREA WHERE LEATHER HIDES - BROKEN TIPS ON GEOPROBE RIG
6/16/2020	59	173	A30(0-5)	0-5'	NA	SURFACE	-	-	REFUSAL - NO SAMPLES COLLECTED- AREA WHERE LEATHER HIDES - BROKEN TIPS ON GEOPROBE RIG
6/16/2020	60	174	B30(0-5)	5-10'	NA	SURFACE	-	-	REFUSAL - NO SAMPLES COLLECTED- AREA WHERE LEATHER HIDES - BROKEN TIPS ON GEOPROBE RIG
6/16/2020	61	175	C29(0-5)	0-5'	30"	-	0-2'	0.2	0-12" Brown loam w/fine sand, organics--12-30" brown leather material
6/16/2020	61	176	C29(5-10)	5-10'	50"	-	8-10'	0.2	0-10" Brown leather material--10-19" dark brown-black fill w/med-fine sand, clay, trace gravel, coal ash w/slag--19-50" dark brown fill w/coarse-fine sand, gravel
6/16/2020	61	177	C29(10-15)	10-15'	40"	-	10-12'	0.1	0-40" brown-tan gravely fill w/coarse-med sand, trace clay
6/16/2020	61	178	C29(15-20)	15-20'	37"	20'	15-16'	0	0-10" Brown-tan gravely fill w/coarse-med sand, trace clay-- 10-30" grey gravel w/coarse-fine sand--30-37" tan coarse sand w/gravel
6/16/2020	62	179	C30(0-5)	0-5'	39"	-	2-4'	0.1	0-32" Black-grey fill w/med-fine sand, trace gravel, coal ash w/slag, leather material, asphalt shingles--32-39" brown leather material
6/16/2020	62	180	C30(5-10)	5-10'	44"	-	6-18'	0.1	0-30" Brown leather material - some decomposed-odors--30-44" Brown-tan-black fill w/med-fine sand, clay, trace gravel, coal ash w/slag
6/16/2020	62	181	C30(10-15)	10-15'	38"	-	12-14'	0.6	0-29" Tan-black fill w/med-fine sand, clay, trace gravel, coal ash w/slag--29-38" brown, wet, silty sediment w/fine sand, clay and organics
6/16/2020	62	182	C30(15-20)	15-20'	44"	20'	15-16'	0.2	0-14" Brown, fill w/gravel w/med-fine -- 14-29" grey, wet, gravel, coarse sand-- 29-44" grey-tan, wet, coarse sand

NOTES:

A1(0-5)	REPRESENTS BORING SLEEVE ID
DEPTH	() REPRESENTS DEPTH OF BORING WITHIN THE GRID
PID	PHOTOIONIZATION DETECTOR READINGS IN PARTS PER MILLION
VOC	TOTAL ORGANIC VAPORS

SAMPLE DEPTH SOIL COLUMN COLLECTED USING MACRO-CORE SAMPLE DEVICE OR DUAL TUBE DISCREET SAMPLING DEVICE

APPENDIX C

EPC CALCULATIONS DOCUMENTATION

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				**1**	3.42	2.72
MCP Upper Concentration Limit				**100**	107 samples	330 samples
TSCA Limit				**50**		
June 2020 Sampling						
A1 (0-2')	6/9/2020	0 - 2'		0.6	0.6	0.1
A1 (2-4')	6/9/2020	2 - 4'		0.1	0.1	0.025
A1 (4-6')	6/9/2020	4 - 6'	ND	0.025	0.6	0.025
A1 (6-8')	6/9/2020	6 - 8'	ND	0.025	0.025	0.2
A1 (8-10')	6/9/2020	8 - 10'		0.2	0.025	0.6
B1 (0-2')	6/9/2020	0 - 2'		**43.8**	0.2	4.2
B1 (2-4')	6/9/2020	2 - 4'		0.6	0.025	4.1
B1 (4-6')	6/9/2020	4 - 6'		**4.2**	0.2	0.6
B1 (6-8')	6/9/2020	6 - 8'		**4.1**	0.025	0.025
B1 (8-10')	6/9/2020	8 - 10'		0.6	0.1	0.025
A2 (0-2')	6/9/2020	0 - 2'	ND	0.025	0.03	0.025
A2 (2-4')	6/9/2020	2 - 4'	ND	0.025	0.025	0.3
A2 (4-6')	6/9/2020	4 - 6'	ND	0.025	0.1	0.025
A2 (6-8')	6/9/2020	6 - 8'	ND	0.025	0.025	0.2
A2 (8-10')	6/9/2020	8 - 10'		0.3	0.025	1.8
B2 (0-2')	6/9/2020	0 - 2'		0.2	0.3	0.9
B2 (2-4')	6/9/2020	2 - 4'	ND	0.025	0.03	0.025
B2 (4-6')	6/9/2020	4 - 6'		0.2	0.1	0.025
B2 (6-8')	6/9/2020	6 - 8'		**1.8**	0.2	0.2
B2 (8-10')	6/9/2020	8 - 10'		0.9	0.09	0.03
A3 (0-2')	6/9/2020	0 - 2'		0.2	0.03	0.03
A3 (2-4')	6/9/2020	2 - 4'	ND	0.025	1.7	0.3
A3 (4-6')	6/9/2020	4 - 6'	ND	0.025	0.8	5.5
A3 (6-8')	6/9/2020	6 - 8'		0.2	0.5	0.5
A3 (8-10')	6/9/2020	8 - 10'	ND	0.03	0.025	0.1
B3 (0-2')	6/9/2020	0 - 2'		0.1	0.1	0.2
B3 (2-4')	6/9/2020	2 - 4'	ND	0.03	0.03	0.025
B3 (4-6')	6/9/2020	4 - 6'		0.3	0.3	0.035
B3 (6-8')	6/9/2020	6 - 8'		**5.5**	0.025	0.025
B3 (8-10')	6/9/2020	8 - 10'		0.5	0.7	0.2
A4 (0-2')	6/9/2020	0 - 2'	ND	0.025	0.4	0.025
A4 (2-4')	6/9/2020	2 - 4'		0.1	0.025	0.03
A4 (4-6')	6/9/2020	4 - 6'		0.2	0.03	0.03
A4 (6-8')	6/9/2020	6 - 8'	ND	0.025	1.3	0.03
A4 (8-10')	6/9/2020	8 - 10'	ND	0.035	1	0.035
B4 (0-2')	6/9/2020	0 - 2'	ND	0.025	0.025	0.03
B4 (2-4')	6/9/2020	2 - 4'	ND	0.025	0.025	0.2
B4 (4-6')	6/9/2020	4 - 6'		0.2	0.6	0.6
B4 (6-8')	6/9/2020	6 - 8'	ND	0.025	0.025	0.03
B4 (8-10')	6/9/2020	8 - 10'	ND	0.03	0.03	0.03
A5 (0-2')	6/9/2020	0 - 2'		0.3	0.07	0.03
A5 (2-4')	6/9/2020	2 - 4'	ND	0.03	0.03	0.025
A5 (4-6')	6/9/2020	4 - 6'	ND	0.03	0.025	0.035
A5 (6-8')	6/9/2020	6 - 8'	ND	0.035	0.1	0.08
A5 (8-10')	6/9/2020	8 - 10'	ND	0.03	0.03	0.8
B5 (0-2')	6/9/2020	0 - 2'		0.1	0.5	0.025
B5 (2-4')	6/9/2020	2 - 4'		0.2	0.03	0.035
B5 (4-6')	6/9/2020	4 - 6'		0.6	0.6	0.035
B5 (6-8')	6/9/2020	6 - 8'	ND	0.03	0.2	0.025
B5 (8-10')	6/9/2020	8 - 10'	ND	0.03	0.48	0.03
A6 (0-2')	6/10/2020	0 - 2'		0.09	0.09	0.03
A6 (2-4')	6/10/2020	2 - 4'	ND	0.03	8.9	0.045
A6 (4-6')	6/10/2020	4 - 6'	ND	0.025	0.025	0.03
A6 (6-8')	6/10/2020	6 - 8'	ND	0.035	4.5	0.03
A6 (8-10')	6/10/2020	8 - 10'		0.08	0.58	0.03
B6 (0-2')	6/10/2020	0 - 2'		**1.7**	0.5	0.05
B6 (2-4')	6/10/2020	2 - 4'		0.8	0.7	0.025
B6 (4-6')	6/10/2020	4 - 6'	ND	0.025	0.3	0.03

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				**1**	3.42	2.72
MCP Upper Concentration Limit				**100**	107 samples	330 samples
TSCA Limit				**50**		
B6 (6-8')	6/10/2020	6 - 8'	ND	0.035	2.6	0.03
B6 (8-10')	6/10/2020	8 - 10'	ND	0.035		0.035
A7 (0-2')	6/10/2020	0 - 2'		0.5	9.1	0.4
A7 (2-4')	6/10/2020	2 - 4'	ND	0.025		0.03
A7 (4-6')	6/10/2020	4 - 6'	ND	0.03	0.03	0.03
A7 (6-8')	6/10/2020	6 - 8'	ND	0.03	0.2	0.04
A7 (8-10')	6/10/2020	8 - 10'	ND	0.045	2	0.03
B7 (0-2')	6/10/2020	0 - 2'		0.1	0.7	0.035
B7 (2-4')	6/10/2020	2 - 4'	ND	0.03		0.03
B7 (4-6')	6/10/2020	4 - 6'	ND	0.03	0.1	0.03
B7 (6-8')	6/10/2020	6 - 8'	ND	0.03	0.025	1
B7 (8-10')	6/10/2020	8 - 10'	ND	0.05	0.03	0.03
A8 (0-2')	6/10/2020	0 - 2'		0.3	2.8	0.03
A8 (2-4')	6/10/2020	2 - 4'	ND	0.025	3.9	0.03
A8 (4-6')	6/10/2020	4 - 6'	ND	0.03	0.3	0.025
A8 (6-8')	6/10/2020	6 - 8'	ND	0.03	0.1	0.03
A8 (8-10')	6/10/2020	8 - 10'	ND	0.035	17	0.045
B8 (0-2')	6/10/2020	0 - 2'		0.7	0.03	0.035
B8 (2-4')	6/10/2020	2 - 4'		0.4	7.6	0.025
B8 (4-6')	6/10/2020	4 - 6'	ND	0.03	0.2	0.9
B8 (6-8')	6/10/2020	6 - 8'	ND	0.03	38.9	0.025
B8 (8-10')	6/10/2020	8 - 10'	ND	0.04	17.3	0.035
A9 (0-2')	6/10/2020	0 - 2'	ND	0.025	0.5	0.07
A9 (2-4')	6/10/2020	2 - 4'	ND	0.03	0.3	1.3
A9 (4-6')	6/10/2020	4 - 6'	ND	0.035	0.5	0.2
A9 (6-8')	6/10/2020	6 - 8'	ND	0.03	0.5	0.04
A9 (8-10')	6/10/2020	8 - 10'	ND	0.03	0.03	0.025
B9 (0-2')	6/10/2020	0 - 2'		**1.3**	0.2	0.1
B9 (2-4')	6/10/2020	2 - 4'		**1**	0.1	0.03
B9 (4-6')	6/10/2020	4 - 6'	ND	0.03	0.04	0.045
B9 (6-8')	6/10/2020	6 - 8'	ND	0.03	0.035	0.03
B9 (8-10')	6/10/2020	8 - 10'	ND	0.03	37.8	0.03
A10 (0-2')	6/10/2020	0 - 2'	ND	0.025	0.5	0.2
A10 (2-4')	6/10/2020	2 - 4'	ND	0.025	0.7	0.04
A10 (4-6')	6/10/2020	4 - 6'	ND	0.03	1.9	0.03
A10 (6-8')	6/10/2020	6 - 8'	ND	0.045	4.2	0.03
A10 (8-10')	6/10/2020	8 - 10'	ND	0.035	13.7	0.2
B10 (0-2')	6/10/2020	0 - 2'		0.6	38.1	0.03
B10 (2-4')	6/10/2020	2 - 4'	ND	0.025	33.5	0.2
B10 (4-6')	6/10/2020	4 - 6'		0.9	2.8	0.025
B10 (6-8')	6/10/2020	6 - 8'	ND	0.025	33.7	0.03
B10 (8-10')	6/10/2020	8 - 10'	ND	0.035	1.6	0.04
A11 (0-2')	6/10/2020	0 - 2'	ND	0.03	7.2	0.09
A11 (2-4')	6/10/2020	2 - 4'		0.07	2.5	0.5
A11 (4-6')	6/10/2020	4 - 6'		**1.3**	24.4	0.03
A11 (6-8')	6/10/2020	6 - 8'		0.2	21.3	0.035
A11 (8-10')	6/10/2020	8 - 10'	ND	0.04	0.09	0.025
B11 (0-2')	6/10/2020	0 - 2'	ND	0.03	0.1	0.3
B11 (2-4')	6/10/2020	2 - 4'	ND	0.025	8.6	0.03
B11 (4-6')	6/10/2020	4 - 6'		0.1	0.035	0.03
B11 (6-8')	6/10/2020	6 - 8'	ND	0.03	0.035	0.58
B11 (8-10')	6/10/2020	8 - 10'	ND	0.045	0.035	0.03
A12 (0-2')	6/10/2020	0 - 2'		0.1		0.04
A12 (2-4')	6/10/2020	2 - 4'	ND	0.03		0.035
A12 (4-6')	6/10/2020	4 - 6'	ND	0.03		0.5
A12 (6-8')	6/10/2020	6 - 8'		0.2		0.6
A12 (8-10')	6/10/2020	8 - 10'	ND	0.04		0.2
B12 (0-2')	6/10/2020	0 - 2'		0.5		0.035
B12 (2-4')	6/10/2020	2 - 4'	ND	0.03		0.025

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				**1**	3.42	2.72
MCP Upper Concentration Limit				**100**	107 samples	330 samples
TSCA Limit				**50**		
B12 (4-6')	6/10/2020	4 - 6'	ND	0.03		0.035
B12 (6-8')	6/10/2020	6 - 8'		0.2		0.04
B12 (8-10')	6/10/2020	8 - 10'	ND	0.03		0.5
A13 (0-2')	6/10/2020	0 - 2'		0.6		0.6
A13 (2-4')	6/10/2020	2 - 4'		0.2		0.2
A13 (4-6')	6/10/2020	4 - 6'	ND	0.025		0.035
A13 (6-8')	6/10/2020	6 - 8'	ND	0.03		0.025
A13 (8-10')	6/10/2020	8 - 10'	ND	0.04		0.035
B13 (0-2')	6/10/2020	0 - 2'		0.48		0.04
B13 (2-4')	6/10/2020	2 - 4'		0.09		0.7
B13 (4-6')	6/10/2020	4 - 6'		0.5		0.03
B13 (6-8')	6/10/2020	6 - 8'	ND	0.03		0.1
B13 (8-10')	6/10/2020	8 - 10'	ND	0.035		0.03
A14 (0-2')	6/11/2020	0 - 2'		**8.9**		3.9
A14 (2-4')	6/11/2020	2 - 4'	ND	0.025		0.025
A14 (4-6')	6/11/2020	4 - 6'		0.3		0.03
A14 (6-8')	6/11/2020	6 - 8'	ND	0.03		2
A14 (8-10')	6/11/2020	8 - 10'	ND	0.03		0.7
B14 (0-2')	6/10/2020	0 - 2'		**4.5**		0.025
B14 (2-4')	6/10/2020	2 - 4'		0.58		4.7
B14 (4-6')	6/10/2020	4 - 6'	ND	0.03		6.3
B14 (6-8')	6/10/2020	6 - 8'	ND	0.04		4.2
B14 (8-10')	6/10/2020	8 - 10'	ND	0.035		4
A15 (0-2')	6/11/2020	0 - 2'		0.8		2.3
A15 (2-4')	6/11/2020	2 - 4'		0.5		2.7
A15 (4-6')	6/11/2020	4 - 6'		0.6		0.4
A15 (6-8')	6/11/2020	6 - 8'		0.2		0.3
A15 (8-10')	6/11/2020	8 - 10'	ND	0.035		0.2
A15 (10-12')	6/11/2020	10-12'	ND	0.025		1.3
A15 (12-14')	6/11/2020	12-14'		0.035		10
A15 (14-16')	6/11/2020	14-16'		0.04		9.3
B15 (0-2')	6/11/2020	0 - 2'		**22.3**		14.6
B15 (2-4')	6/11/2020	2 - 4'		0.7		0.5
B15 (4-6')	6/11/2020	4 - 6'	ND	0.03		0.4
B15 (6-8')	6/11/2020	6 - 8'		0.1		26.6
B15 (8-10')	6/11/2020	8 - 10'	ND	0.03		12.9
B15 (10-12')	6/11/2020	10-12'		**3.9**		0.4
B15 (12-14')	6/11/2020	12-14'	ND	0.025		2.7
B15 (14-16')	6/11/2020	14-16'	ND	0.03		0.3
A16 (0-2')	6/11/2020	0 - 2'		**4,240**		3.1
A16 (2-4')	6/11/2020	2 - 4'		**676**		0.2
A16 (4-6')	6/11/2020	4 - 6'		**227**		0.2
A16 (6-8')	6/11/2020	6 - 8'		**5.2**		0.4
A16 (8-10')	6/11/2020	8 - 10'		2		0.3
A16 (10-12')	6/11/2020	10-12'		0.7		3.9
A16 (12-14')	6/11/2020	12-14'	ND	0.025		56.5
A16 (14-16')	6/11/2020	14-16'		**4.7**		1.5
B16 (0-2')	6/11/2020	0 - 2'		**15,550**		23.8
B16 (2-4')	6/11/2020	2 - 4'		**5,220**		3.9
B16 (4-6')	6/11/2020	4 - 6'		**1,140**		2.5
B16 (6-8')	6/11/2020	6 - 8'		**156**		6.6
B16 (8-10')	6/11/2020	8 - 10'		**6.3**		0.4
B16 (10-12')	6/11/2020	10-12'		**4.2**		0.3
B16 (12-14')	6/11/2020	12-14'		**4**		0.3
B16 (14-16')	6/11/2020	14-16'		**2.3**		4.5
A17 (0-2')	6/11/2020	0 - 2'		**99.6**		4.3
A17 (2-4')	6/11/2020	2 - 4'		0.8		5.3
A17 (4-6')	6/11/2020	4 - 6'		**14.3**		1.8

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				1	3.42	2.72
MCP Upper Concentration Limit				100	107 samples	330 samples
TSCA Limit				50		
A17 (6-8')	6/11/2020	6 - 8'		2.7		4.2
A17 (8-10')	6/11/2020	8 - 10'		0.4		4.6
A17 (10-12')	6/11/2020	10-12'		0.3		2.6
A17 (12-14')	6/11/2020	12-14'		0.2		28.5
A17 (14-16')	6/11/2020	14-16'		1.3		57.6
B17 (0-2')	6/11/2020	0 - 2'		9,610		30.1
B17 (2-4')	6/11/2020	2 - 4'		2,340		11.1
B17 (4-6')	6/11/2020	4 - 6'		441		3.7
B17 (6-8')	6/11/2020	6 - 8'		10		6.4
B17 (8-10')	6/11/2020	8 - 10'		9.3		3.4
B17 (10-12')	6/11/2020	10-12'		14.6		0.2
B17 (12-14')	6/11/2020	12-14'		0.5		12.2
B17 (14-16')	6/11/2020	14-16'		0.4		5.8
A18 (0-2')	6/11/2020	0 - 2'		18.6		2
A18 (2-4')	6/11/2020	2 - 4'		3		0.5
A18 (4-6')	6/11/2020	4 - 6'		10.8		9.1
A18 (6-8')	6/11/2020	6 - 8'		26.6		1.4
A18 (8-10')	6/11/2020	8 - 10'		12.9		0.4
A18 (10-12')	6/11/2020	10-12'		0.4		0.8
A18 (12-14')	6/11/2020	12-14'		2.7		1.1
A18 (14-16')	6/11/2020	14-16'		0.3		0.08
B18 (0-2')	6/11/2020	0 - 2'		490		0.03
B18 (2-4')	6/11/2020	2 - 4'		36		3
B18 (4-6')	6/11/2020	4 - 6'		396		0.2
B18 (6-8')	6/11/2020	6 - 8'		3.1		0.3
B18 (8-10')	6/11/2020	8 - 10'		0.2		0.08
B18 1(0-12')	6/11/2020	10-12'		0.2		0.025
B18 (12-14')	6/11/2020	12-14'		0.4		0.03
B18 (14-16')	6/11/2020	14-16'		0.3		0.6
A19 (0-2')	6/11/2020	0 - 2'		0.3		0.03
A19 (2-4')	6/11/2020	2 - 4'		0.7		0.1
A19 (4-6')	6/11/2020	4 - 6'		2		0.03
A19 (6-8')	6/11/2020	6 - 8'		1.7		0.2
A19 (8-10')	6/11/2020	8 - 10'		209		0.1
A19 (10-12')	6/11/2020	10-12'		3.9		13.5
A19 (12-14')	6/11/2020	12-14'		56.5		0.035
A19 (14-16')	6/11/2020	14-16'		1.5		0.035
B19 (0-2')	6/11/2020	0 - 2'		220		0.03
B19 (2-4')	6/11/2020	2 - 4'		46.7		0.1
B19 (4-6')	6/11/2020	4 - 6'		23.8		6.8
B19 (6-8')	6/11/2020	6 - 8'		3.9		1.1
B19 (8-10')	6/11/2020	8 - 10'		2.5		0.2
B19 (10-12')	6/11/2020	10-12'		6.6		0.2
B19 (12-14')	6/11/2020	12-14'		0.4		1.4
B19 (14-16')	6/11/2020	14-16'		0.3		4.1
A20 (0-2')	6/12/2020	0 - 2'		20.7		0.7
A20 (2-4')	6/12/2020	2 - 4'		0.3		0.2
A20 (4-6')	6/12/2020	4 - 6'		4.5		0.025
A20 (6-8')	6/12/2020	6 - 8'		4.3		0.2
A20 (8-10')	6/12/2020	8 - 10'		5.3		0.03
A20 (10-12')	6/12/2020	10-12'		1.8		0.1
A20 (12-14')	6/12/2020	12-14'		4.2		0.03
A20 (14-16')	6/12/2020	14-16'		4.6		0.03
B20 (0-2')	6/12/2020	0 - 2'		6		0.025
B20 (2-4')	6/12/2020	2 - 4'		2.6		0.2
B20 (4-6')	6/12/2020	4 - 6'		28.5		2
B20 (6-8')	6/12/2020	6 - 8'		57.6		1.3
B20 (8-10')	6/12/2020	8 - 10'		30.1		0.035

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				1	3.42	2.72
MCP Upper Concentration Limit				100	107 samples	330 samples
TSCA Limit				50		
B20 (10-12')	6/12/2020	10-12'		11.1		0.035
B20 (12-14')	6/12/2020	12-14'		3.7		0.03
B20 (14-16')	6/12/2020	14-16'		6.4		0.03
A21 (0-2')	6/12/2020	0 - 2'		13.5		0.07
A21 (2-4')	6/12/2020	2 - 4'		171		0.7
A21 (4-6')	6/12/2020	4 - 6'		3.4		0.03
A21 (6-8')	6/12/2020	6 - 8'		0.2		3.8
A21 (8-10')	6/12/2020	8 - 10'		12.2		0.03
A21 (10-12')	6/12/2020	10-12'		5.8		0.04
A21 (12-14')	6/12/2020	12-14'		2		0.035
A21 (14-16')	6/12/2020	14-16'		0.5		0.6
B21 (0-2')	6/12/2020	0 - 2'		1.7		13.8
B21 (2-4')	6/12/2020	2 - 4'		9.1		0.1
B21 (4-6')	6/12/2020	4 - 6'		1.4		0.1
B21 (6-8')	6/12/2020	6 - 8'		0.4		0.9
B21 (8-10')	6/12/2020	8 - 10'		0.8		0.3
B21 (10-12')	6/12/2020	10-12'		1.1		12.4
B21 (12-14')	6/12/2020	12-14'		0.08		0.025
B21 (14-16')	6/12/2020	14-16'	ND	0.03		0.035
A22 (0-2')	6/12/2020	0 - 2'		664		0.035
A22 (2-4')	6/12/2020	2 - 4'		25.9		0.03
A22 (4-6')	6/12/2020	4 - 6'		44.6		0.025
A22 (6-8')	6/12/2020	6 - 8'		3		0.2
A22 (8-10')	6/12/2020	8 - 10'		0.2		0.9
A22 (10-12')	6/12/2020	10-12'		0.3		1
A22 (12-14')	6/12/2020	12-14'		0.08		0.1
A22 (14-16')	6/12/2020	14-16'	ND	0.025		0.03
A22 (16-18')	6/12/2020	16-18'	ND	0.025		2.5
B22 (0-2')	6/12/2020	0 - 2'		34.7		0.03
B22 (2-4')	6/12/2020	2 - 4'	ND	0.03		0.035
B22 (4-6')	6/12/2020	4 - 6'		0.6		2
B22 (6-8')	6/12/2020	6 - 8'	ND	0.03		0.03
B22 (8-10')	6/12/2020	8 - 10'		0.1		0.035
B22 (10-12')	6/12/2020	10-12'	ND	0.03		0.03
B22 (12-14')	6/12/2020	12-14'		0.2		0.03
B22 (14-16')	6/12/2020	14-16'		0.1		0.1
A23 (0-2')	6/12/2020	0 - 2'		114		0.03
A23 (2-4')	6/12/2020	2 - 4'		148		0.1
A23 (4-6')	6/12/2020	4 - 6'		251		13.5
A23 (6-8')	6/12/2020	6 - 8'		13.5		0.03
A23 (8-10')	6/12/2020	8 - 10'	ND	0.035		0.03
A23 (10-12')	6/12/2020	10-12'	ND	0.035		0.035
A23 (12-14')	6/12/2020	12-14'	ND	0.03		0.03
A23 (14-16')	6/12/2020	14-16'		0.1		0.03
B23 (0-2')	6/12/2020	0 - 2'		197		23.7
B23 (2-4')	6/12/2020	2 - 4'		316		0.2
B23 (4-6')	6/12/2020	4 - 6'		951		0.025
B23 (6-8')	6/12/2020	6 - 8'		49.4		0.025
B23 (8-10')	6/12/2020	8 - 10'		6.8		0.025
B23 1(0-12')	6/12/2020	10-12'		1.1		0.04
B23 (12-14')	6/12/2020	12-14'		0.2		0.2
B23 (14-16')	6/12/2020	14-16'		0.2		0.2
A24 (0-2')	6/12/2020	0 - 2'		82.9		69.8
A24 (2-4')	6/12/2020	2 - 4'		265		0.03
A24 (4-6')	6/12/2020	4 - 6'		147		0.035
A24 (6-8')	6/12/2020	6 - 8'		0.6		0.7
A24 (8-10')	6/12/2020	8 - 10'		155		0.1
A24 (10-12')	6/12/2020	10-12'		1.4		0.7

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				**1**	3.42	2.72
MCP Upper Concentration Limit				**100**	107 samples	330 samples
TSCA Limit				**50**		
A24 (12-14')	6/12/2020	12-14'		**4.1**		17
A24 (14-16')	6/12/2020	14-16'		0.7		0.7
B24 (0-2')	6/12/2020	0 - 2'		**78**		0.03
B24 (2-4')	6/12/2020	2 - 4'		**337**		2.4
B24 (4-6')	6/12/2020	4 - 6'		**10**		11.6
B24 (6-8')	6/12/2020	6 - 8'		**88.6**		0.03
B24 (8-10')	6/12/2020	8 - 10'		0.3		4.8
B24 (10-12')	6/12/2020	10-12'		**147**		0.2
B24 (12-14')	6/12/2020	12-14'		0.2		4.9
B24 (14-16')	6/12/2020	14-16'	ND	0.025		0.07
A25 (0-2')	06/15/2020	0 - 2'		**318**		38.9
A25 (2-4')	06/15/2020	2 - 4'		0.2		16.9
A25 (4-6')	06/15/2020	4 - 6'	ND	0.03		0.2
A25 (6-8')	06/15/2020	6 - 8'		0.1		17.3
A25 (8-10')	06/15/2020	8 - 10'	ND	0.03		0.3
A25 (10-12')	06/15/2020	10-12'	ND	0.03		2
A25 (12-14')	06/15/2020	12-14'	ND	0.025		0.03
A25 (14-16')	06/15/2020	14-16'		0.2		0.5
B25 (0-2')	06/15/2020	0 - 2'		**173**		0.2
B25 (2-4')	06/15/2020	2 - 4'		**2**		0.1
B25 (4-6')	06/15/2020	4 - 6'		**1.3**		0.3
B25 (6-8')	06/15/2020	6 - 8'	ND	0.035		0.8
B25 (8-10')	06/15/2020	8 - 10'	ND	0.035		0.025
B25 (10-12')	06/15/2020	10-12'	ND	0.03		0.5
B25 (12-14')	06/15/2020	12-14'	ND	0.03		0.5
B25 (14-16')	06/15/2020	14-16'		0.07		0.2
A26 (0-2')	6/15/2020	0 - 2'		**199**		0.1
A26 (2-4')	6/15/2020	2 - 4'		0.7		0.04
A26 (4-6')	6/15/2020	4 - 6'	ND	0.03		0.035
A26 (6-8')	6/15/2020	6 - 8'		**3.8**		37.8
A26 (8-10')	6/15/2020	8 - 10'	ND	0.03		0.05
A26 (10-12')	6/15/2020	10-12'	ND	0.04		0.5
A26 (12-14')	6/15/2020	12-14'	ND	0.035		0.04
A26 (14-16')	6/15/2020	14-16'		0.6		0.05
B26 (4-6')	6/15/2020	4 - 6'		**13.8**		33.5
B26 (6-8')	6/15/2020	6 - 8'		0.1		2.8
B26 (8-10')	6/15/2020	8 - 10'		0.1		33.7
B26 (10-12')	6/15/2020	10-12'		0.9		7.2
B26 (12-14')	6/15/2020	12-14'		0.3		24.4
A27 (0-2')	6/15/2020	0 - 2'		**42.3**		
A27 (2-4')	6/15/2020	2 - 4'		**30.8**		
A27 (4-6')	6/15/2020	4 - 6'		**12.4**		
A27 (6-8')	6/15/2020	6 - 8'	ND	0.025		
A27 (8-10')	6/15/2020	8 - 10'	ND	0.035		
A27 (10-12')	6/15/2020	10-12'	ND	0.035		
A27 (12-14')	6/15/2020	12-14'	ND	0.03		
A27 (14-16')	6/15/2020	14-16'	ND	0.025		
A27 (16-18')	6/15/2020	16-18'		0.4		
A27 (18-20')	6/15/2020	18-20'	ND	0.025		
B27 (0-2')	6/15/2020	0 - 2'		**17.6**		
B27 (6-8')	6/15/2020	6 - 8'		0.2		
B27 (8-10')	6/15/2020	8 - 10'		0.9		
B27 (10-12')	6/15/2020	10-12'		**1**		
B27(12-14')	6/15/2020	12-14'		0.1		
B27 (14-16')	6/15/2020	14-16'	ND	0.03		
B27 (16-18')	6/15/2020	16-18'		0.2		
B27 (18-20')	6/15/2020	18-20'	ND	0.03		
A28 (4-6')	6/15/2020	4 - 6'		2.5		

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				1	3.42	2.72
MCP Upper Concentration Limit				100	107 samples	330 samples
TSCA Limit				50		
A28 (6-8')	6/15/2020	6 - 8'	ND	0.03		
A28 (8-10')	6/15/2020	8 - 10'	ND	0.035		
A28 (10-12')	6/15/2020	10-12'		2		
A28 (12-14')	6/15/2020	12-14'	ND	0.03		
A28 (14-16')	6/15/2020	14-16'	ND	0.035		
A28 (16-18')	6/15/2020	16-18'	ND	0.035		
A28 (18-20')	6/15/2020	18-20'	ND	0.03		
B28 (6-8')	6/15/2020	6 - 8'	ND	0.03		
B28 (8-10')	6/15/2020	8 - 10'	ND	0.03		
B28 (10-12')	6/15/2020	10-12'		0.1		
B28 (12-14')	6/15/2020	12-14'	ND	0.03		
B28 (14-16')	6/15/2020	14-16'		0.1		
B28 (16-18')	6/15/2020	16-18'		2.3		
B28 (18-20')	6/15/2020	18-20'	ND	0.035		
A29 (4-6')	6/15/2020	4 - 6'		13.5		
A29 (6-8')	6/15/2020	6 - 8'	ND	0.03		
A29 (8-10')	6/15/2020	8 - 10'	ND	0.03		
A29 (10-12')	6/15/2020	10-12'	ND	0.035		
A29 (12-14')	6/15/2020	12-14'	ND	0.03		
A29 (14-16')	6/15/2020	14-16'	ND	0.03		
A29 (16-18')	6/15/2020	16-18'	ND	0.025		
A29 (18-20')	6/15/2020	18-20'	ND	0.025		
C29 (0-2')	6/16/2020	0 - 2'		65.4		
C29 (2-4')	6/16/2020	2 - 4'		169		
C29 (4-6')	6/16/2020	4 - 6'		23.7		
C29 (6-8')	6/16/2020	6 - 8'		0.2		
C29 (8-10')	6/16/2020	8 - 10'	ND	0.025		
C29 (10-12')	6/16/2020	10-12'	ND	0.025		
C29 (12-14')	6/16/2020	12-14'	ND	0.025		
C29 (14-16')	6/16/2020	14-16'	ND	0.04		
C29 (16-18')	6/16/2020	16-18'		6.7		
C29 (18-20')	6/16/2020	18-20'	ND	0.025		
C30 (0-2')	6/16/2020	0 - 2'		241		
C30 (2-4')	6/16/2020	2 - 4'		173		
C30 (4-6')	6/16/2020	4 - 6'		185		
C30 (6-8')	6/16/2020	6 - 8'		0.2		
C30 (8-10')	6/16/2020	8 - 10'		0.2		
C30 (10-12')	6/16/2020	10-12'		69.8		
C30 (12-14')	6/16/2020	12-14'	ND	0.03		
C30 (14-16')	6/16/2020	14-16'	ND	0.035		
C30 (16-18')	6/16/2020	16-18'	ND	0.025		
C30 (18-20')	6/16/2020	18-20'	ND	0.025		
December 2020 Sampling						
B1 A 0-2ft	12/21/2020	0-2'		0.1		
B1 B 0-2ft	12/21/2020	0-2'	ND	0.025		
B1 C 0-2ft	12/21/2020	0-2'		214		
B1 D 0-2ft	12/21/2020	0-2'	ND	0.03		
A14-15 0-2ft	12/21/2020	0-2'		2.8		
B14-15 0-2ft	12/21/2020	0-2'		3.9		
A15-16 0-2ft	12/21/2020	0-2'		2.6		
A15-16 2-4ft	12/21/2020	2-4'		0.6		
A15-16 4-6ft	12/21/2020	4-6'		4.1		
A15-16 6-8ft	12/21/2020	6-8'		0.9		
A16-17 0-2ft	12/21/2020	0-2'		35.1		
A16-17 2-4ft	12/21/2020	2-4'		0.4		
A16-17 4-6ft	12/21/2020	4-6'		5.1		
A16-17 6-8ft	12/21/2020	6-8'		0.6		
A17-18 0-2ft	12/21/2020	0-2'		134		

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				1	3.42	2.72
MCP Upper Concentration Limit				100	107 samples	330 samples
TSCA Limit				50		
A17-18 2-4ft	12/21/2020	2-4'		25.9		
A17-18 4-6ft	12/21/2020	4-6'		119		
A17-18 6-8ft	12/21/2020	6-8'		0.7		
A18-19 0-2ft	12/21/2020	0-2'		0.3		
A18-19 2-4ft	12/21/2020	2-4'		0.1		
A18-19 4-6ft	12/21/2020	4-6'		0.7		
A18-19 B 0-2ft	12/21/2020	0-2'		3,340		
A18-19 B 2-4ft	12/21/2020	2-4'		33.4		
A18-19 B 4-6ft	12/21/2020	4-6'		0.6		
A19-20 0-2ft	12/21/2020	0-2'		60.4		
A19-20 2-4ft	12/21/2020	2-4'		17		
A19-20 4-6ft	12/21/2020	4-6'		0.7		
B19-20 0-2ft	12/21/2020	0-2'		35.1		
B19-20 2-4ft	12/21/2020	2-4'		98		
B19-20 4-6ft	12/21/2020	4-6'	ND	0.03		
A20-21 A 0-2ft	12/21/2020	0-2'		46.4		
A20-21 A 2-4ft	12/21/2020	2-4'		2.4		
A20-21 B 0-2ft	12/21/2020	0-2'		48		
A20-21 B 2-4ft	12/21/2020	2-4'		11.6		
A21-22 A 0-2ft	12/22/2020	0-2'		113		
A21-22 A 2-4ft	12/22/2020	2-4'	ND	0.03		
A21-22 A 4-6ft	12/22/2020	4-6'		4.8		
A21-22 B 0-2ft	12/22/2020	0-2'		7.6		
A21-22 B 2-4ft	12/22/2020	2-4'		0.2		
A21-22 B 4-6ft	12/22/2020	4-6'		4.9		
A22-23 A 0-2ft	12/22/2020	0-2'		396		
A22-23 A 2-4ft	12/22/2020	2-4'		52.9		
A22-23 A 4-6ft	12/22/2020	4-6'		166		
A22-23 A 6-8ft	12/22/2020	6-8'		0.07		
A22-23 B 0-2ft	12/22/2020	0-2'		5		
A22-23 B 2-4ft	12/22/2020	2-4'		38.9		
A22-23 B 4-6ft	12/22/2020	4-6'		16.9		
A22-23 B 6-8ft	12/22/2020	6-8'		0.2		
B22-23 0-2ft	12/22/2020	0-2'		32.1		
B22-23 2-4ft	12/22/2020	2-4'		17.3		
B22-23 4-6ft	12/22/2020	4-6'		0.3		
B22-23 6-8ft	12/22/2020	6-8'		2		
A23-24 0-2ft	12/22/2020	0-2'		211		
A23-24 2-4ft	12/22/2020	2-4'		1,520		
A23-24 4-6ft	12/22/2020	4-6'	ND	0.03		
B23-24 0-2ft	12/22/2020	0-2'		45.6		
B23-24 2-4ft	12/22/2020	2-4'		0.5		
B23-24 4-6ft	12/22/2020	4-6'		0.2		
B23-24 6-8ft	12/22/2020	6-8'		0.1		
A24-25 0-2ft	12/22/2020	0-2'		1,240		
A24-25 2-4ft	12/22/2020	2-4'		0.3		
A24-25 4-6ft	12/22/2020	4-6'		0.8		
B24-25 0-2ft	12/22/2020	0-2'	ND	0.03		
B24-25 2-4ft	12/22/2020	2-4'		134		
B24-25 4-6ft	12/22/2020	4-6'	ND	0.025		
A25-26 A 0-2ft	12/22/2020	0-2'		186		
A25-26 A 2-4ft	12/22/2020	2-4'	ND	0.5		
A25-26 B 0-2ft	12/22/2020	0-2'		146		
A25-26 B 2-4ft	12/22/2020	2-4'	ND	0.5		
B25-26 0-2ft	12/22/2020	0-2'	ND	0.03		
A26-27 A 0-2ft	12/22/2020	0-2'		17.9		
A26-27 A 2-4ft	12/22/2020	2-4'	ND	0.2		

Table 7B
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DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION	Sampling Date	Sample Depth	ND?	Total PCBs	post remedial EPC 0-3'	post remedial EPC 3-15'
MCP Reportable Concentration - RCS-1				1	3.42	2.72
MCP Upper Concentration Limit				100	107 samples	330 samples
TSCA Limit				50		
A26-27 B 0-2ft	12/22/2020	0-2'		16.2		
A26-27 B 2-4ft	12/22/2020	2-4'	ND	0.1		
A27-28 A 0-2ft	12/22/2020	0-2'		102		
A27-28 A 2-4ft	12/22/2020	2-4'	ND	0.04		
A27-28 B 0-2ft	12/22/2020	0-2'		69.3		
A27-28 B 2-4ft	12/22/2020	2-4'	ND	0.035		
C29 A 0-2ft	12/22/2020	0-2'		17.2		
C29 A 2-4ft	12/22/2020	2-4'		37.8		
C29 B 0-2ft	12/22/2020	0-2'		191		
C29 B 2-4ft	12/22/2020	2-4'		2.6		
C29-30 0-2ft	12/22/2020	0-2'		47.1		
C29-30 2-4ft	12/22/2020	2-4'		38		
C29-30 4-6ft	12/22/2020	4-6'		16.3		
C29-30 6-8ft	12/22/2020	6-8'	ND	0.05		
C30A 0-2ft	12/22/2020	0-2'		175		
C30A 2-4ft	12/22/2020	2-4'		0.5		
C30A 4-6ft	12/22/2020	4-6'	ND	0.04		
C30A 6-8ft	12/22/2020	6-8'	ND	0.05		
HB-1 (0-2')	12/8/2020	0 - 2'		0.7		
HB-2 (0-2')	12/8/2020	0 - 2'		1.9		
HB-3 (0-2')	12/8/2020	0 - 2'		4.2		
HB-4 (0-2')	12/8/2020	0 - 2'		55		
HB-5 (0-2')	12/8/2020	0 - 2'		53.1		
HB-6 (0-2')	12/8/2020	0 - 2'		356		
HB-7 (0-2')	12/8/2020	0 - 2'		7,930		
HB-8 (0-2')	12/8/2020	0 - 2'		1,910		
HB-9 (0-2')	12/8/2020	0 - 2'		447		
HB-10 (0-2')	12/9/2020	0 - 2'		149		
HB-11 (0-2')	12/9/2020	0 - 2'		67.3		
HB-11 (2-3')	12/9/2020	2 - 3'		71.8		
HB-12 (0-2')	12/9/2020	0 - 2'		43		
HB-13 (0-2')	12/9/2020	0 - 2'		16.3		
HB-13 (2-3')	12/9/2020	2 - 3'		13.7		
HB-14 (0-2')	12/9/2020	0 - 2'		41		
HB-14 (2-3')	12/9/2020	2 - 3'		38.1		
HB-15 (0-2')	12/9/2020	0 - 2'		79.6		
HB-15 (2-3')	12/9/2020	2 - 3'		90.7		
HB-16 (0-2')	12/9/2020	0 - 2'		39		
HB-17 (0-2')	12/9/2020	0 - 2'		10.7		
March 2021 River Bank Sampling						
HB-18 0-2ft	3/11/2021	0 - 2'		10,300		
HB-19 0-2ft	3/11/2021	0 - 2'		1,840		
HB-19 2-4ft	3/11/2021	2 - 4'		33.5		
HB-20 0-2ft	3/11/2021	0 - 2'		47.3		
HB-20 2-4ft	3/11/2021	2 - 4'		2.8		
HB-21 0-2ft	3/11/2021	0 - 2'		4,130		
HB-21 2-4ft	3/11/2021	2 - 4'		33.7		
HB-22 0-2ft	3/11/2021	0 - 2'		90.6		
HB-23 0-2ft	3/11/2021	0 - 2'		1.6		
HB-23 2-4ft	3/11/2021	2 - 4'		7.2		
HB-24 0-2ft	3/11/2021	0 - 2'		2.5		
HB-24 2-4ft	3/11/2021	2 - 4'		24.4		
RS-6	3/11/2021	0 - 6"		17.2		
RS-7	3/11/2021	0 - 6"		679		
RS-8	3/11/2021	0 - 6"		581		
RS-9	3/11/2021	0 - 6"		19.6		
RS-10	3/11/2021	0 - 6"		5,860		

Table 7B
Soil Analytical Results - TSCA PCB Investigations
DCR Neponset River Reservation, Hyde Park, MA
June 2020 to March 2021

SAMPLE LOCATION					post remedial EPC	
	Sampling Date	Sample Depth	ND?	Total PCBs	0-3'	3-15'
MCP Reportable Concentration - RCS-1				**1**	3.42	2.72
MCP Upper Concentration Limit				**100**	107 samples	330 samples
TSCA Limit				**50**		
RS-11	3/11/2021	0 - 6"		**21.3**		
SS-1	3/11/2021	0 - 6"		0.09		
SS-2	3/11/2021	0 - 6"		0.1		
SS-3	3/11/2021	0 - 6"		**19.6**		
SS-4	3/11/2021	0 - 6"		**67.2**		
SS-5	3/11/2021	0 - 6"		**185**		
SS-6	3/11/2021	0 - 6"		**3,890**		
SS-7	3/11/2021	0 - 6"		**1,320**		
SS-8	3/11/2021	0 - 6"		**921**		
SS-9	3/11/2021	0 - 6"		**4.8**		
SS-10	3/11/2021	0 - 6"		**797**		
SS-11	3/11/2021	0 - 6"		**624**		
SS-12	3/11/2021	0 - 6"		**14.6**		
SS-13	3/11/2021	0 - 6"		**30.1**		
SS-14	3/11/2021	0 - 6"		**7.7**		
SS-15	3/11/2021	0 - 6"		**10.4**		
SS-16	3/11/2021	0 - 6"		**8.6**		
SS-17	3/11/2021	0 - 6"		**20.8**		
SS-18	3/11/2021	0 - 6"	ND	0.035		
SS-19	3/11/2021	0 - 6"	ND	0.035		
SS-20	3/11/2021	0 - 6"	ND	0.035		

Bold = exceeds RCS-1 of 1 mg/kg
Yellow Highlighted = Exceeds TSCA Limit of 50 mg/kg
Orange Highlighted = Exceeds UCL of 100 mg/kg
cell to be excavated

APPENDIX D

METHOD 3 SHORTFORMS

Construction Worker - Soil: Table CW-1
Exposure Point Concentration (EPC) and Risk
Based on Construction Worker 18-25 years of age

ShortForm Version 10-12
Vlookup Version v0315

ELCR (all chemicals) = 1.2E-07
HI (all chemicals) = 3.1E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material (OHM)	EPC (mg/kg)	ELCR ingestion	ELCR dermal	ELCR inhalation GI	ELCR inhalation pulmonary	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{inh-GI}	Subchronic HQ_{inh}	HQ_{total}
POLYCHLORINATED BIPHENYLS (PCBs)	3.4E+00	6.0E-08	6.0E-08	1.6E-09	9.1E-11	1.2E-07	8.4E-02	8.5E-02	2.2E-03	6.4E-03	1.8E-01
TETRACHLOROETHYLENE	1.1E+00	1.8E-10	5.6E-11	4.8E-12	8.4E-13	2.5E-10	2.2E-04	6.5E-05	5.6E-06	9.8E-07	2.9E-04
TRICHLOROETHANE, 1,1,1-	8.0E-01						1.4E-07	4.3E-08	3.6E-09	6.0E-09	1.9E-07
TRICHLOROETHYLENE	1.5E+00	6.4E-10	1.9E-10	1.6E-11	1.9E-12	8.5E-10	3.6E-03	1.1E-03	9.3E-05	2.7E-05	4.8E-03
VINYL CHLORIDE											
LEAD	1.3E+02						1.1E-01	1.3E-02	2.8E-03	5.0E-03	1.3E-01

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Construction Worker - Soil: Table CW-2

Equations to Calculate Cancer Risk for Construction Worker

Vlookup Version v0315

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF_{oral}$$

$$LADD_{ing} = \frac{EPC * IR * RAF_{c\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF_{oral}$$

$$LADD_{derm} = \frac{EPC * SA * AF * RAF_{c\text{-}derm} * EF * ED_{derm} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$ELCR_{inh\text{-}GI} = LADD_{inh\text{-}GI} * CSF_{oral}$$

$$LADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{c\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Pulmonary Absorption

$$ELCR_{inh} = LADD_{inh} * CSF_{inhalation}$$

$$LADD = \frac{EPC * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{c\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM-specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{c\text{-}ing}$	OHM-specific	dimensionless
$RAF_{c\text{-}derm}$	OHM-specific	dimensionless
$RAF_{c\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	182	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{(lifetime)}$	25,550	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM_{10}	60	$\mu g/m^3$

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Construction Worker - Soil: Table CW-3

Equations to Calculate Noncancer Risk for Construction Worker

Vlookup Version v0315

Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{ing} = \frac{EPC * IR * RAF_{nc\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{dermal} = \frac{EPC * SA * AF * RAF_{nc\text{-}derm} * EF * ED_{dermal} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$HQ_{inh\text{-}GI} = \frac{ADD_{inh\text{-}GI}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{nc\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Pulmonary Absorption

$$HQ_{inh} = \frac{ADD}{RfD_{inhalation\text{-}subchronic}}$$

$$ADD_{inh} = \frac{EPC_{soil} * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{nc\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Parameter	Value	Units
RfD	OHM-specific	mg/kg-day
ADD	OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM-specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM-specific	dimensionless
$RAF_{nc\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	182	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{noncancer}$	182	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM10	60	$\mu g/m^3$

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Construction Worker - Soil: Table CW-4
Definitions and Exposure Factors

Vlookup Version v0315

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
HI - Hazard Index	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table CW-5.
RfD - Reference Dose	chemical specific	mg/kg-day	see Table CW-5.
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-2.
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-3.
EPC - Exposure Point Concentration	chemical specific	mg/kg	see Table CW-1.
IR - Soil Ingestion Rate	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm).
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
RAF_{nc} - Relative Absorption Factor for Noncancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
EF - Exposure Frequency	0.714	event/day	5 events (days) / 7 events (days) in a week; MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-38.
$ED_{ing,derm}$ - Exposure Duration for ingestion or dermal exposure	1	day/event	
ED_{inh} - Exposure Duration for inhalation exposure	0.333	day/event	Represents 8 hours / event.
EP - Exposure Period	182	days	6 months; MADEP 1995 Guidance for Disposal Site Risk Characterization.
BW - Body Weight	58.0	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, Females, ages 18 - 25.
$AP_{(lifetime)}$ - Averaging Period for lifetime	25,550	days	Represents 70 years
$AP_{(noncancer)}$ - Averaging Period for noncancer	182	days	6 months; MADEP 1995 Guidance for Disposal Site Risk Characterization.
AF - Adherence Factor	0.29	mg/cm^2	MA DEP. 2002 Technical Update: Weighted Skin-Soil Adherence Factors. (http://www.mass.gov/dep/ors/orspubs.htm)
VR_{work} - Ventilation Rate during work (heavy exertion)	60	L/min	Table B-4 MADEP 1995 Guidance for Disposal Site Risk Characterization.
SA - Surface Area	3473	cm^2/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females. Appendix Table B-2.
$IFAF_{inh\text{-}gi}$ - Ingestion Fraction Adjustment Factor, gastrointestinal	1.5	dimensionless	MADEP 2007. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
$IFAF_{inh}$ - Inhalation Fraction Adjustment Factor, inhalation	0.5	dimensionless	MADEP 2002. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
PM10 - Concentration of PM_{10}	60	$\mu g/m^3$	MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-11

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Construction Worker - Soil: Table CW-5
Chemical-Specific Data

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Oil or Hazardous Material	Oral CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}inh}$	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Subchronic Oral RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}inh}$	Subchronic Inhalation RfD
POLYCHLORINATED BIPHENYLS (PCBs)	2.0E+00	1	0.1	1	3.5E-01	5.0E-05	1	0.1	1	5.7E-06
TETRACHLOROETHYLENE	2.0E-02	1	0.03	1	1.1E-02	6.0E-03	1	0.03	1	1.1E-02
TRICHLOROETHANE, 1,1,1-						7.0E+00	1	0.03	1	1.4E+00
TRICHLOROETHYLENE	5.0E-02	1	0.03	1	1.8E-02	5.0E-04	1	0.03	1	5.7E-04
VINYL CHLORIDE	1.4E+00	1	0.03	1	3.1E-02	3.0E-03	1	0.03	1	2.9E-02
LEAD						7.5E-04	0.5	0.006	1	2.9E-04

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Construction Worker - Soil: Table CW-1
Exposure Point Concentration (EPC) and Risk
Based on Construction Worker 18-25 years of age

ShortForm Version 10-12
Vlookup Version v0315

ELCR (all chemicals) = 1.4E-07
HI (all chemicals) = 2.6E-01

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Oil or Hazardous Material (OHM)	EPC (mg/kg)	ELCR ingestion	ELCR dermal	ELCR inhalation GI	ELCR inhalation pulmonary	$ELCR_{total}$	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{inh-GI}	Subchronic HQ_{inh}	HQ_{total}
POLYCHLORINATED BIPHENYLS (PCBs)	2.7E+00	4.8E-08	4.8E-08	1.2E-09	7.2E-11	9.7E-08	6.7E-02	6.7E-02	1.7E-03	5.1E-03	1.4E-01
TETRACHLOROETHYLENE	2.3E+01	4.1E-09	1.2E-09	1.1E-10	1.9E-11	5.5E-09	4.8E-03	1.5E-03	1.2E-04	2.2E-05	6.4E-03
TRICHLOROETHANE, 1,1,1-	2.5E+01						4.4E-06	1.3E-06	1.1E-07	1.9E-07	6.0E-06
TRICHLOROETHYLENE	2.8E+01	1.2E-08	3.7E-09	3.2E-10	3.7E-11	1.6E-08	6.9E-02	2.1E-02	1.8E-03	5.2E-04	9.2E-02
VINYL CHLORIDE	1.3E+00	1.5E-08	4.6E-09	4.0E-10	2.9E-12	2.0E-08	5.1E-04	1.6E-04	1.3E-05	4.7E-07	6.8E-04
LEAD	1.7E+01						1.4E-02	1.7E-03	3.6E-04	6.4E-04	1.7E-02

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Construction Worker - Soil: Table CW-2

Equations to Calculate Cancer Risk for Construction Worker

Vlookup Version v0315

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF_{oral}$$

$$LADD_{ing} = \frac{EPC * IR * RAF_{c\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF_{oral}$$

$$LADD_{derm} = \frac{EPC * SA * AF * RAF_{c\text{-}derm} * EF * ED_{derm} * EP * C1}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$ELCR_{inh\text{-}GI} = LADD_{inh\text{-}GI} * CSF_{oral}$$

$$LADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{c\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Cancer Risk from Particulate Inhalation - Pulmonary Absorption

$$ELCR_{inh} = LADD_{inh} * CSF_{inhalation}$$

$$LADD = \frac{EPC * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{c\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{lifetime}}$$

Parameter	Value	Units
CSF	OHM-specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{c\text{-}ing}$	OHM-specific	dimensionless
$RAF_{c\text{-}derm}$	OHM-specific	dimensionless
$RAF_{c\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	182	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{(lifetime)}$	25,550	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM_{10}	60	$\mu g/m^3$

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Construction Worker - Soil: Table CW-3

Equations to Calculate Noncancer Risk for Construction Worker

Vlookup Version v0315

Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{ing} = \frac{EPC * IR * RAF_{nc\text{-}ing} * EF * ED_{ing} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{dermal} = \frac{EPC * SA * AF * RAF_{nc\text{-}derm} * EF * ED_{dermal} * EP * C1}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Gastrointestinal Absorption

$$HQ_{inh\text{-}GI} = \frac{ADD_{inh\text{-}GI}}{RfD_{oral\text{-}subchronic}}$$

$$ADD_{inh\text{-}GI} = \frac{EPC * RCAF_{inh\text{-}gi} * PM_{10} * VR_{work} * RAF_{nc\text{-}ing} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Noncancer Risk from Particulate Inhalation - Pulmonary Absorption

$$HQ_{inh} = \frac{ADD}{RfD_{inhalation\text{-}subchronic}}$$

$$ADD_{inh} = \frac{EPC_{soil} * RCAF_{inh} * PM_{10} * VR_{work} * RAF_{nc\text{-}inh} * EF * ED_{inh} * EP * C2 * C3 * C4}{BW * AP_{noncancer}}$$

Parameter	Value	Units
RfD	OHM-specific	mg/kg-day
ADD	OHM-specific	mg/kg-day
EPC	OHM-specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM-specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM-specific	dimensionless
$RAF_{nc\text{-}inh}$	OHM-specific	dimensionless
EF	0.714	event/day
$ED_{ing\ \&\ derm}$	1	day/event
ED_{inh}	0.333	day/event
EP	182	days
C1	1.0E-06	kg/mg
C2	1.0E-09	kg/µg
C3	1440	min/days
C4	1.0E-03	m^3/L
BW	58.0	kg
$AP_{noncancer}$	182	days
VR_{work}	60	L/min
AF	0.29	mg/cm^2
SA	3473	cm^2/day
$RCAF_{inh\text{-}gi}$	1.5	dimensionless
$RCAF_{inh}$	0.5	dimensionless
PM10	60	$\mu g/m^3$

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Construction Worker - Soil: Table CW-4
Definitions and Exposure Factors

Vlookup Version v0315

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
HI - Hazard Index	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table CW-5.
RfD - Reference Dose	chemical specific	mg/kg-day	see Table CW-5.
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-2.
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific. See Table CW-3.
EPC - Exposure Point Concentration	chemical specific	mg/kg	see Table CW-1.
IR - Soil Ingestion Rate	100	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm).
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
RAF_{nc} - Relative Absorption Factor for Noncancer Effects	chemical specific	dimensionless	Pathway specific - see Table CW-5.
EF - Exposure Frequency	0.714	event/day	5 events (days) / 7 events (days) in a week; MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-38.
$ED_{ing,derm}$ - Exposure Duration for ingestion or dermal exposure	1	day/event	
ED_{inh} - Exposure Duration for inhalation exposure	0.333	day/event	Represents 8 hours / event.
EP - Exposure Period	182	days	6 months; MADEP 1995 Guidance for Disposal Site Risk Characterization.
BW - Body Weight	58.0	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, Females, ages 18 - 25.
$AP_{(lifetime)}$ - Averaging Period for lifetime	25,550	days	Represents 70 years
$AP_{(noncancer)}$ - Averaging Period for noncancer	182	days	6 months; MADEP 1995 Guidance for Disposal Site Risk Characterization.
AF - Adherence Factor	0.29	mg/cm^2	MA DEP. 2002 Technical Update: Weighted Skin-Soil Adherence Factors. (http://www.mass.gov/dep/ors/orspubs.htm)
VR_{work} - Ventilation Rate during work (heavy exertion)	60	L/min	Table B-4 MADEP 1995 Guidance for Disposal Site Risk Characterization.
SA - Surface Area	3473	cm^2/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. 50th percentile for females. Appendix Table B-2.
$IFAF_{inh\text{-}gi}$ - Ingestion Fraction Adjustment Factor, gastrointestinal	1.5	dimensionless	MADEP 2007. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
$IFAF_{inh}$ - Inhalation Fraction Adjustment Factor, inhalation	0.5	dimensionless	MADEP 2002. Characterization of Risks Due to Inhalation of Particulates by Construction Workers
PM10 - Concentration of PM_{10}	60	$\mu g/m^3$	MADEP 1995 Guidance for Disposal Site Risk Characterization pg B-11

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Construction Worker - Soil: Table CW-5
Chemical-Specific Data

Vlookup Version v0315

Oil or Hazardous Material	Oral CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	$RAF_{c\text{-}inh}$	Inhalation CSF $(mg/kg\text{-}day)^{-1}$	Subchronic Oral RfD mg/kg-day	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}inh}$	Subchronic Inhalation RfD
POLYCHLORINATED BIPHENYLS (PCBs)	2.0E+00	1	0.1	1	3.5E-01	5.0E-05	1	0.1	1	5.7E-06
TETRACHLOROETHYLENE	2.0E-02	1	0.03	1	1.1E-02	6.0E-03	1	0.03	1	1.1E-02
TRICHLOROETHANE, 1,1,1-						7.0E+00	1	0.03	1	1.4E+00
TRICHLOROETHYLENE	5.0E-02	1	0.03	1	1.8E-02	5.0E-04	1	0.03	1	5.7E-04
VINYL CHLORIDE	1.4E+00	1	0.03	1	3.1E-02	3.0E-03	1	0.03	1	2.9E-02
LEAD						7.5E-04	0.5	0.006	1	2.9E-04

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Park Visitor - Soil: Table PS-1
Exposure Point Concentration (EPC)
Based on Visitor Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

ShortForm Version 10-12

Vlookup Version v0315

ELCR (all chemicals) = 3.2E-06
Chronic HI (all chemicals) = 6.1E-01
Subchronic HI (all chemicals) = 8.3E-01

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Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Chronic			Subchronic			
					HQ_{ing}	HQ_{derm}	HQ_{total}	HQ_{ing}	HQ_{derm}	HQ_{total}	
POLYCHLORINATED BIPHENYLS (PCBs)	3.4E+00	1.5E-06	1.6E-06	3.1E-06	2.5E-01	2.1E-01	4.6E-01	2.7E-01	1.6E-01	4.3E-01	
TETRACHLOROETHYLENE	1.1E+00	4.7E-09	1.5E-09	6.2E-09	2.5E-04	6.5E-05	3.2E-04	7.0E-04	1.2E-04	8.2E-04	
TRICHLOROETHANE, 1,1,1-	8.0E-01				5.8E-07	1.5E-07	7.3E-07	4.6E-07	8.0E-08	5.4E-07	
TRICHLOROETHYLENE	1.5E+00	1.6E-08	5.1E-09	2.1E-08	4.2E-03	1.1E-03	5.3E-03	1.2E-02	2.0E-03	1.4E-02	
VINYL CHLORIDE											
LEAD	1.3E+02				1.3E-01	1.3E-02	1.4E-01	3.6E-01	2.5E-02	3.8E-01	**Note! Lead IH HQ limit is 1, not 10.**

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Park Visitor - Soil: Table PS-2

Equations to Calculate Cancer Risk for Visitor (Age 1-31 years)

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing(1\text{-}31)} * CSF$$

$$LADD_{ing\ (1\text{-}31)} = LADD_{ing\ (1\text{-}8)} + LADD_{ing\ (8\text{-}15)} + LADD_{ing\ (15\text{-}31)}$$

$$LADD_{ing\ (age\ group\ x)} = \frac{[OHM]_{soil} * IR_x * RAF_{c\text{-}ing} * EF_{ing} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm\ (1\text{-}31)} = LADD_{derm\ (1\text{-}8)} + LADD_{derm\ (8\text{-}15)} + LADD_{derm\ (15\text{-}31)}$$

$$LADD_{derm(age\ group\ x)} = \frac{[OHM]_{soil} * SA_x * RAF_{c\text{-}derm} * SAF_x * EF_{derm} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

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Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
$IR_{(1\text{-}8)}$	100	mg/day
$IR_{(8\text{-}15)}$	50	mg/day
$IR_{(15\text{-}31)}$	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
$EP_{(1\text{-}8)}$	7	years
$EP_{(8\text{-}15)}$	7	years
$EP_{(15\text{-}31)}$	16	years
C	0.000001	kg/mg
$BW_{(1\text{-}8)}$	17.0	kg
$BW_{(8\text{-}15)}$	39.9	kg
$BW_{(15\text{-}31)}$	58.7	kg
$AP_{(lifetime)}$	70	years
$SA_{(1\text{-}8)}$	2431	cm^2/day
$SA_{(8\text{-}15)}$	4427	cm^2/day
$SA_{(15\text{-}31)}$	5653	cm^2/day
$SAF_{(1\text{-}8)}$	0.35	mg/cm^2
$SAF_{(8\text{-}15)}$	0.14	mg/cm^2
$SAF_{(15\text{-}31)}$	0.13	mg/cm^2

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Park Visitor - Soil: Table PS-3
Equations to Calculate Chronic Noncancer Risk for Visitor (Age 1-8 years)

Vlookup Version v0315

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	17.0	kg
AP	7	year
SA	2431	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-4
Equations to Calculate Subchronic Noncancer Risk for Visitor (Age 1-2 years)

Vlookup Version v0315

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.428	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	10.7	kg
AP	0.577	year
SA	1670	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-5
Definitions and Exposure Factors

Vlookup Version v0315

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table PS-6
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table PS-6
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
$IR_{(1\text{-}2)}$ - Soil Ingestion Rate for age group 1-2	100	mg/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. Appendix Table B-3.
$IR_{(1\text{-}8)}$ - Soil Ingestion Rate for age group 1-8	100	mg/day	Ibid
$IR_{(8\text{-}15)}$ - Soil Ingestion Rate for age group 8-15	50	mg/day	Ibid
$IR_{(15\text{-}31)}$ - Soil Ingestion Rate for age group 15-31	50	mg/day	Ibid
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant CSF. See Table PS-6
RAF_{NC} - Relative Absorption Factor for non-Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant RfD. See Table PS-6
$EF_{subchronic}$ - Exposure Frequency for subchronic exposure	0.428	event/day	3 events/week
$EF_{chronic,lifetime}$ - Exposure Frequency for chronic or lifetime exposure	0.247	event/day	3 events/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(1\text{-}2)}$ - Exposure Period for age group 1-2	0.577	years	30 weeks
$EP_{(1\text{-}8)}$ - Exposure Period for age group 1-8	7	years	
$EP_{(8\text{-}15)}$ - Exposure Period for age group 8-15	7	years	
$EP_{(15\text{-}31)}$ - Exposure Period for age group 15-31	16	years	
$BW_{(1\text{-}2)}$ - Body Weight for age group 1-2, subchronic	10.7	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, females.
$BW_{(1\text{-}8)}$ - Body Weight for age group 1-8	17.0	kg	Ibid
$BW_{(8\text{-}15)}$ - Body Weight for age group 8-15	39.9	kg	Ibid
$BW_{(15\text{-}31)}$ - Body Weight for age group 15-31	58.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer/lifetime	70	years	
$SA_{(1\text{-}2)}$ - Surface Area for age group 1-2	1670	cm^2/day	50th percentile of face (1/3 head), forearms, hands, lower legs, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Appendix Table B-2.
$SA_{(1\text{-}8)}$ - Surface Area for age group 1-8	2431	cm^2 / day	Ibid
$SA_{(8\text{-}15)}$ - Surface Area for age group 8-15	4427	cm^2 / day	Ibid
$SA_{(15\text{-}31)}$ - Surface Area for age group 15-31	5653	cm^2 / day	Ibid
$SAF_{(1\text{-}2)}$ - Surface Adherence Factor for age group 1-2	0.35	mg_{soil} / cm^2	All SAFs developed for ShortForm according to procedure outlined in MADEP Technical
$SAF_{(1\text{-}8)}$ - Surface Adherence Factor for age group 1-8	0.35	mg_{soil} / cm^2	Update: Weighted Skin-Soil Adherence Factors, April 2002
$SAF_{(8\text{-}15)}$ - Surface Adherence Factor for age group 8-15	0.14	mg_{soil} / cm^2	
$SAF_{(15\text{-}31)}$ - Surface Adherence Factor for age group 15-31	0.13	mg_{soil} / cm^2	

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Park Visitor - Soil: Table PS-6
Chemical-Specific Data

Vlookup Version v0315

Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
POLYCHLORINATED BI	2.0E+00	1	0.1	2.0E-05	5.0E-05	1	0.1	1	0.1
TETRACHLOROETHYLI	2.0E-02	1	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
TRICHLOROETHANE, 1				2.0E+00	7.0E+00	1	0.03	1	0.03
TRICHLOROETHYLENE	5.0E-02	1	0.03	5.0E-04	5.0E-04	1	0.03	1	0.03
VINYL CHLORIDE	1.4E+00	1	0.03	3.0E-03	3.0E-03	1	0.03	1	0.03
LEAD				7.5E-04	7.5E-04	0.5	0.006	0.5	0.006

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Park Visitor - Soil: Table PS-1
Exposure Point Concentration (EPC)
Based on Visitor Ages 1-31 (Cancer), 1-8 (Chronic Noncancer), and 1-2 (Subchronic Noncancer)

ShortForm Version 10-12

Vlookup Version v0315

ELCR (all chemicals) = 3.5E-06
Chronic HI (all chemicals) = 4.9E-01
Subchronic HI (all chemicals) = 6.8E-01

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	Chronic HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	Subchronic HQ_{total}	
POLYCHLORINATED BIPHENYLS (PCBs)	2.7E+00	1.2E-06	1.3E-06	2.5E-06	2.0E-01	1.7E-01	3.7E-01	2.2E-01	1.3E-01	3.4E-01	
TETRACHLOROETHYLENE	2.3E+01	1.1E-07	3.3E-08	1.4E-07	5.7E-03	1.4E-03	7.1E-03	1.6E-02	2.7E-03	1.8E-02	
TRICHLOROETHANE, 1,1,1-	2.5E+01				1.8E-05	4.6E-06	2.3E-05	1.4E-05	2.5E-06	1.7E-05	
TRICHLOROETHYLENE	2.8E+01	3.1E-07	9.7E-08	4.1E-07	8.1E-02	2.1E-02	1.0E-01	2.2E-01	3.9E-02	2.6E-01	
VINYL CHLORIDE	1.3E+00	3.9E-07	1.2E-07	5.1E-07	6.1E-04	1.5E-04	7.6E-04	1.7E-03	2.9E-04	2.0E-03	
LEAD	1.7E+01				1.7E-02	1.7E-03	1.8E-02	4.6E-02	3.2E-03	4.9E-02	**Note! Lead IH HQ limit is 1, not 10.**

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Park Visitor - Soil: Table PS-2

Equations to Calculate Cancer Risk for Visitor (Age 1-31 years)

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing(1\text{-}31)} * CSF$$

$$LADD_{ing\ (1\text{-}31)} = LADD_{ing\ (1\text{-}8)} + LADD_{ing\ (8\text{-}15)} + LADD_{ing\ (15\text{-}31)}$$

$$LADD_{ing\ (age\ group\ x)} = \frac{[OHM]_{soil} * IR_x * RAF_{c\text{-}ing} * EF_{ing} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm\ (1\text{-}31)} = LADD_{derm\ (1\text{-}8)} + LADD_{derm\ (8\text{-}15)} + LADD_{derm\ (15\text{-}31)}$$

$$LADD_{derm(age\ group\ x)} = \frac{[OHM]_{soil} * SA_x * RAF_{c\text{-}derm} * SAF_x * EF_{derm} * ED * EP_x * C}{BW_x * AP_{lifetime}}$$

Vlookup Version v0315

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
$IR_{(1\text{-}8)}$	100	mg/day
$IR_{(8\text{-}15)}$	50	mg/day
$IR_{(15\text{-}31)}$	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
$EP_{(1\text{-}8)}$	7	years
$EP_{(8\text{-}15)}$	7	years
$EP_{(15\text{-}31)}$	16	years
C	0.000001	kg/mg
$BW_{(1\text{-}8)}$	17.0	kg
$BW_{(8\text{-}15)}$	39.9	kg
$BW_{(15\text{-}31)}$	58.7	kg
$AP_{(lifetime)}$	70	years
$SA_{(1\text{-}8)}$	2431	cm^2/day
$SA_{(8\text{-}15)}$	4427	cm^2/day
$SA_{(15\text{-}31)}$	5653	cm^2/day
$SAF_{(1\text{-}8)}$	0.35	mg/cm^2
$SAF_{(8\text{-}15)}$	0.14	mg/cm^2
$SAF_{(15\text{-}31)}$	0.13	mg/cm^2

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Park Visitor - Soil: Table PS-3
Equations to Calculate Chronic Noncancer Risk for Visitor (Age 1-8 years)

Vlookup Version v0315

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.247	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	17.0	kg
AP	7	year
SA	2431	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-4
Equations to Calculate Subchronic Noncancer Risk for Visitor (Age 1-2 years)

Vlookup Version v0315

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	100	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.428	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	10.7	kg
AP	0.577	year
SA	1670	cm^2/day
SAF	0.35	mg/cm^2

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Park Visitor - Soil: Table PS-5
Definitions and Exposure Factors

Vlookup Version v0315

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table PS-6
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table PS-6
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
$IR_{(1\text{-}2)}$ - Soil Ingestion Rate for age group 1-2	100	mg/day	MADEP. 1995. Guidance for Disposal Site Risk Characterization. Appendix Table B-3.
$IR_{(1\text{-}8)}$ - Soil Ingestion Rate for age group 1-8	100	mg/day	Ibid
$IR_{(8\text{-}15)}$ - Soil Ingestion Rate for age group 8-15	50	mg/day	Ibid
$IR_{(15\text{-}31)}$ - Soil Ingestion Rate for age group 15-31	50	mg/day	Ibid
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant CSF. See Table PS-6
RAF_{NC} - Relative Absorption Factor for non-Cancer Effects	chemical specific	dimensionless	Adjusts estimated dose to conform to the revelant RfD. See Table PS-6
$EF_{subchronic}$ - Exposure Frequency for subchronic exposure	0.428	event/day	3 events/week
$EF_{chronic,lifetime}$ - Exposure Frequency for chronic or lifetime exposure	0.247	event/day	3 events/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(1\text{-}2)}$ - Exposure Period for age group 1-2	0.577	years	30 weeks
$EP_{(1\text{-}8)}$ - Exposure Period for age group 1-8	7	years	
$EP_{(8\text{-}15)}$ - Exposure Period for age group 8-15	7	years	
$EP_{(15\text{-}31)}$ - Exposure Period for age group 15-31	16	years	
$BW_{(1\text{-}2)}$ - Body Weight for age group 1-2, subchronic	10.7	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7, females.
$BW_{(1\text{-}8)}$ - Body Weight for age group 1-8	17.0	kg	Ibid
$BW_{(8\text{-}15)}$ - Body Weight for age group 8-15	39.9	kg	Ibid
$BW_{(15\text{-}31)}$ - Body Weight for age group 15-31	58.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
$AP_{lifetime}$ - Averaging Period for cancer/lifetime	70	years	
$SA_{(1\text{-}2)}$ - Surface Area for age group 1-2	1670	cm^2/day	50th percentile of face (1/3 head), forearms, hands, lower legs, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Appendix Table B-2.
$SA_{(1\text{-}8)}$ - Surface Area for age group 1-8	2431	cm^2 / day	Ibid
$SA_{(8\text{-}15)}$ - Surface Area for age group 8-15	4427	cm^2 / day	Ibid
$SA_{(15\text{-}31)}$ - Surface Area for age group 15-31	5653	cm^2 / day	Ibid
$SAF_{(1\text{-}2)}$ - Surface Adherence Factor for age group 1-2	0.35	mg_{soil} / cm^2	All SAFs developed for ShortForm according to procedure outlined in MADEP Technical
$SAF_{(1\text{-}8)}$ - Surface Adherence Factor for age group 1-8	0.35	mg_{soil} / cm^2	Update: Weighted Skin-Soil Adherence Factors, April 2002
$SAF_{(8\text{-}15)}$ - Surface Adherence Factor for age group 8-15	0.14	mg_{soil} / cm^2	
$SAF_{(15\text{-}31)}$ - Surface Adherence Factor for age group 15-31	0.13	mg_{soil} / cm^2	

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Park Visitor - Soil: Table PS-6
Chemical-Specific Data

Vlookup Version v0315

Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
POLYCHLORINATED BI	2.0E+00	1	0.1	2.0E-05	5.0E-05	1	0.1	1	0.1
TETRACHLOROETHYLI	2.0E-02	1	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
TRICHLOROETHANE, 1				2.0E+00	7.0E+00	1	0.03	1	0.03
TRICHLOROETHYLENE	5.0E-02	1	0.03	5.0E-04	5.0E-04	1	0.03	1	0.03
VINYL CHLORIDE	1.4E+00	1	0.03	3.0E-03	3.0E-03	1	0.03	1	0.03
LEAD				7.5E-04	7.5E-04	0.5	0.006	0.5	0.006

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Trespasser - Soil: Table TS-1
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-18 (Cancer and Non-Cancer)

ShortForm Version 10-12

Vlookup Version v0315

ELCR (all chemicals) = 2.0E-07
Chronic HI (all chemicals) = 6.7E-02
Subchronic HI (all chemicals) = 7.7E-02

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	HQ_{total}
POLYCHLORINATED BIPHENYLS (PCBs)	3.4E+00	1.1E-07	9.1E-08	2.0E-07	2.8E-02	2.3E-02	5.1E-02	2.4E-02	1.7E-02	4.1E-02
TETRACHLOROETHYLENE	1.1E+00	3.4E-10	8.4E-11	4.2E-10	2.8E-05	7.0E-06	3.5E-05	6.2E-05	1.3E-05	7.5E-05
TRICHLOROETHANE, 1,1,1-	8.0E-01				6.5E-08	1.6E-08	8.1E-08	4.1E-08	8.4E-09	4.9E-08
TRICHLOROETHYLENE	1.5E+00	1.2E-09	2.9E-10	1.5E-09	4.7E-04	1.2E-04	5.9E-04	1.0E-03	2.1E-04	1.2E-03
VINYL CHLORIDE										
LEAD	1.3E+02				1.4E-02	1.4E-03	1.6E-02	3.2E-02	2.6E-03	3.4E-02

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Trespasser - Soil: Table TS-2
Equations to Calculate Cancer Risk for a Trespasser (Age 11-18 years)

Vlookup Version v0315

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.164	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	50.7	kg
$AP_{(lifetime)}$	70	years
SA	2940	cm^2 / day
SAF	0.14	mg/cm^2

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF$$

$$LADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{c\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{c\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP_{lifetime}}$$

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Trespasser - Soil: Table TS-3

Equations to Calculate Chronic Noncancer Risk for a Trespasser (Age 11-18 years)

Vlookup Version v0315

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.164	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	50.7	kg
AP	7	year
SA	2940	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TS-4

Equations to Calculate Subchronic Noncancer Risk for a Trespasser (Age 11-12 years)

Vlookup Version v0315

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.286	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	40.3	kg
AP	0.577	year
SA	2477	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TS-5
Definitions and Exposure Factors

Vlookup Version v0315

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table RS-7
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table RS-7
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
IR - Soil Ingestion Rate	50	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm)
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	
$EF_{subchronic}$ - Exposure Frequency for subchronic ingestion or dermal exposure	0.286	event/day	2 days/week
$EF_{chronic}$ - Exposure Frequency for chronic ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
EF_{cancer} - Exposure Frequency for cancer, ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(11\text{-}12)}$ - Exposure Period for age group 11-12	0.577	years	30 weeks
$EP_{(11\text{-}18)}$ - Exposure Period for age group 11-18	7	years	
$BW_{(11\text{-}12)}$ - Body Weight for age group 11-12	40.3	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7
$BW_{(11\text{-}18)}$ - Body Weight for age group 11-18	50.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
AP_{cancer} - Averaging Period for lifetime	70	years	
$SA_{(11\text{-}12)}$ - Surface Area for age group 11-12	2477	cm^2 / day	50th percentile of forearms, hands, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Table B-2.
$SA_{(11\text{-}18)}$ - Surface Area for age group 11-18	2940	cm^2 / day	Ibid
SAF - Surface Adherence Factor, Trespasser	0.14	mg/cm^2	SAF developed for ShortForm according to procedure outlined in MA DEP Technical Update: Weighted Skin-Soil Adherence Factors, April 2002.

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Trespasser - Soil: Table TS-6
Chemical-Specific Data

Vlookup Version v0315

Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
POLYCHLORINATED BI	2.0E+00	1.00	0.10	2.0E-05	5.0E-05	1	0.1	1	0.1
TETRACHLOROETHYLE	2.0E-02	1.00	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
TRICHLOROETHANE, 1				2.0E+00	7.0E+00	1	0.03	1	0.03
TRICHLOROETHYLENE	5.0E-02	1.00	0.03	5.0E-04	5.0E-04	1	0.03	1	0.03
VINYL CHLORIDE	1.4E+00	1.00	0.03	3.0E-03	3.0E-03	1	0.03	1	0.03
LEAD				7.5E-04	7.5E-04	0.5	0.006	0.5	0.006

MassDEP ORS
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Trespasser - Soil: Table TS-1
Exposure Point Concentration (EPC)
Based on Trespasser Ages 11-18 (Cancer and Non-Cancer)

ShortForm Version 10-12

Vlookup Version v0315

ELCR (all chemicals) = 2.3E-07
Chronic HI (all chemicals) = 5.4E-02
Subchronic HI (all chemicals) = 6.3E-02

****Do not insert or delete any rows****
Click on empty cell below and select OHM using arrow.

Oil or Hazardous Material	EPC (mg/kg)	$ELCR_{ingestion}$	$ELCR_{dermal}$	$ELCR_{total}$	Chronic HQ_{ing}	Chronic HQ_{derm}	HQ_{total}	Subchronic HQ_{ing}	Subchronic HQ_{derm}	HQ_{total}
POLYCHLORINATED BIPHENYLS (PCBs)	2.7E+00	8.8E-08	7.3E-08	1.6E-07	2.2E-02	1.8E-02	4.0E-02	1.9E-02	1.3E-02	3.3E-02
TETRACHLOROETHYLENE	2.3E+01	7.6E-09	1.9E-09	9.5E-09	6.3E-04	1.6E-04	7.9E-04	1.4E-03	2.9E-04	1.7E-03
TRICHLOROETHANE, 1,1,1-	2.5E+01				2.0E-06	5.0E-07	2.5E-06	1.3E-06	2.6E-07	1.5E-06
TRICHLOROETHYLENE	2.8E+01	2.3E-08	5.6E-09	2.8E-08	9.0E-03	2.2E-03	1.1E-02	2.0E-02	4.1E-03	2.4E-02
VINYL CHLORIDE	1.3E+00	2.8E-08	7.0E-09	3.5E-08	6.8E-05	1.7E-05	8.4E-05	1.5E-04	3.1E-05	1.8E-04
LEAD	1.7E+01				1.8E-03	1.8E-04	2.0E-03	4.0E-03	3.4E-04	4.4E-03

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Trespasser - Soil: Table TS-2
Equations to Calculate Cancer Risk for a Trespasser (Age 11-18 years)

Vlookup Version v0315

Parameter	Value	Units
CSF	OHM specific	$(mg/kg\text{-}day)^{-1}$
LADD	age/OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{c\text{-}ing}$	OHM specific	dimensionless
$RAF_{c\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.164	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	50.7	kg
$AP_{(lifetime)}$	70	years
SA	2940	cm^2 / day
SAF	0.14	mg/cm^2

Cancer Risk from Ingestion

$$ELCR_{ing} = LADD_{ing} * CSF$$

$$LADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{c\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP_{lifetime}}$$

Cancer Risk from Dermal Absorption

$$ELCR_{derm} = LADD_{derm} * CSF$$

$$LADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{c\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP_{lifetime}}$$

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Trespasser - Soil: Table TS-3

Equations to Calculate Chronic Noncancer Risk for a Trespasser (Age 11-18 years)

Vlookup Version v0315

Chronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Chronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{ing,derm}}{RfD}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.164	event/day
ED	1	day/event
EP	7	years
C	0.000001	kg/mg
BW	50.7	kg
AP	7	year
SA	2940	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TS-4

Equations to Calculate Subchronic Noncancer Risk for a Trespasser (Age 11-12 years)

Vlookup Version v0315

Subchronic Noncancer Risk from Ingestion

$$HQ_{ing} = \frac{ADD_{ing}}{RfD_{subchronic}}$$

$$ADD_{ing} = \frac{[OHM]_{soil} * IR * RAF_{nc\text{-}ing} * EF_{ing} * ED * EP * C}{BW * AP}$$

Subchronic Noncancer Risk from Dermal Absorption

$$HQ_{derm} = \frac{ADD_{derm}}{RfD_{subchronic}}$$

$$ADD_{derm} = \frac{[OHM]_{soil} * SA * RAF_{nc\text{-}derm} * SAF * EF_{derm} * ED * EP * C}{BW * AP}$$

Parameter	Value	Units
RfD	OHM specific	mg/kg-day
ADD	OHM specific	mg/kg-day
$[OHM]_{soil}$	OHM specific	mg/kg
IR	50	mg/day
$RAF_{nc\text{-}ing}$	OHM specific	dimensionless
$RAF_{nc\text{-}derm}$	OHM specific	dimensionless
$EF_{ing,derm}$	0.286	event/day
ED	1	day/event
EP	0.577	years
C	0.000001	kg/mg
BW	40.3	kg
AP	0.577	year
SA	2477	cm^2 / day
SAF	0.14	mg/cm^2

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Trespasser - Soil: Table TS-5
Definitions and Exposure Factors

Vlookup Version v0315

Parameter	Value	Units	Notes
ELCR - Excess Lifetime Cancer Risk	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
CSF - Cancer Slope Factor	chemical specific	$(mg/kg\text{-}day)^{-1}$	see Table RS-7
LADD - Lifetime Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
HQ - Hazard Quotient	chemical specific	dimensionless	Pathway specific (ing =ingestion, derm=dermal, inh=inhalation)
RfD - Reference Dose	chemical specific	mg/kg-day	see Table RS-7
ADD - Average Daily Dose	chemical specific	mg/kg-day	Pathway specific
EPC - Exposure Point Concentration	chemical specific	mg/kg	
IR - Soil Ingestion Rate	50	mg/day	MADEP. 2002. Technical Update: Calculation of an Enhanced Soil Ingestion Rate. (http://www.mass.gov/dep/ors/orspubs.htm)
RAF_c - Relative Absorption Factor for Cancer Effects	chemical specific	dimensionless	
$EF_{subchronic}$ - Exposure Frequency for subchronic ingestion or dermal exposure	0.286	event/day	2 days/week
$EF_{chronic}$ - Exposure Frequency for chronic ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
EF_{cancer} - Exposure Frequency for cancer, ingestion or dermal exposure	0.164	event/day	2 days/week, 30 weeks/year
ED - Exposure Duration	1	day/event	
$EP_{(11\text{-}12)}$ - Exposure Period for age group 11-12	0.577	years	30 weeks
$EP_{(11\text{-}18)}$ - Exposure Period for age group 11-18	7	years	
$BW_{(11\text{-}12)}$ - Body Weight for age group 11-12	40.3	kg	U.S. EPA. 1997. Exposure Factors Handbook. Table 7-7
$BW_{(11\text{-}18)}$ - Body Weight for age group 11-18	50.7	kg	Ibid
$AP_{subchronic}$ - Averaging Period for subchronic noncancer	0.577	years	30 weeks
$AP_{chronic}$ - Averaging Period for chronic noncancer	7	years	
AP_{cancer} - Averaging Period for lifetime	70	years	
$SA_{(11\text{-}12)}$ - Surface Area for age group 11-12	2477	cm^2 / day	50th percentile of forearms, hands, and feet for females. MADEP 1995 Guidance for Disposal Site Risk Characterization, Table B-2.
$SA_{(11\text{-}18)}$ - Surface Area for age group 11-18	2940	cm^2 / day	Ibid
SAF - Surface Adherence Factor, Trespasser	0.14	mg/cm^2	SAF developed for ShortForm according to procedure outlined in MA DEP Technical Update: Weighted Skin-Soil Adherence Factors, April 2002.

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Trespasser - Soil: Table TS-6
Chemical-Specific Data

Vlookup Version v0315

Oil or Hazardous Material	CSF $(mg/kg\text{-}day)^{-1}$	$RAF_{c\text{-}ing}$	$RAF_{c\text{-}derm}$	Chronic RfD mg/kg-day	Subchronic RfD mg/kg-day	Chronic $RAF_{nc\text{-}ing}$	Chronic $RAF_{nc\text{-}derm}$	Subchronic $RAF_{nc\text{-}ing}$	Subchronic $RAF_{nc\text{-}derm}$
POLYCHLORINATED BI	2.0E+00	1.00	0.10	2.0E-05	5.0E-05	1	0.1	1	0.1
TETRACHLOROETHYLE	2.0E-02	1.00	0.03	6.0E-03	6.0E-03	1	0.03	1	0.03
TRICHLOROETHANE, 1				2.0E+00	7.0E+00	1	0.03	1	0.03
TRICHLOROETHYLENE	5.0E-02	1.00	0.03	5.0E-04	5.0E-04	1	0.03	1	0.03
VINYL CHLORIDE	1.4E+00	1.00	0.03	3.0E-03	3.0E-03	1	0.03	1	0.03
LEAD				7.5E-04	7.5E-04	0.5	0.006	0.5	0.006

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APPENDIX E

ENGINEERED CAP DOCUMENTATION

LEGEND

0 TO 1 FOOT CAP

0 TO 2 FOOT CAP

A-30 GEOPROBE BORING COMPLETED JUNE 2020

A14/15 GEOPROBE BORING COMPLETED DECEMBER 2020

HB-1 HAND GEOPROBE BORING COMPLETED DECEMBER 2020

RS-1 SOIL SAMPLE BETWEEN RIP RAP COMPLETED MARCH 2021

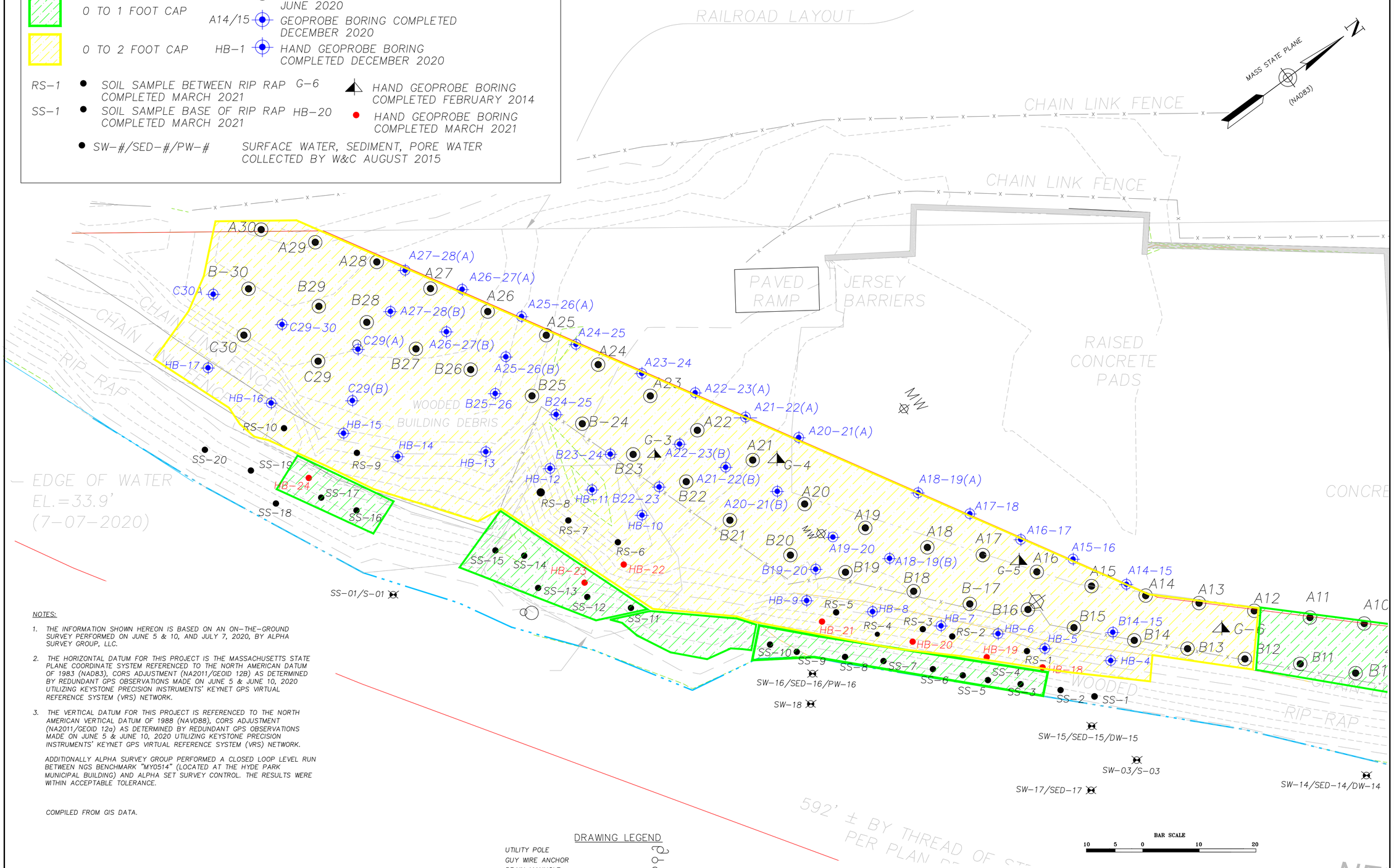
SS-1 SOIL SAMPLE BASE OF RIP RAP COMPLETED MARCH 2021

G-6 HAND GEOPROBE BORING COMPLETED FEBRUARY 2014

HB-20 HAND GEOPROBE BORING COMPLETED MARCH 2021

SW-#/SED-#/PW-# SURFACE WATER, SEDIMENT, PORE WATER COLLECTED BY W&C AUGUST 2015

NOTE: SHADED AREA REPRESENTS "AREA REQUIRING EXCAVATION UNDER TSCA"



NOTES:

1. THE INFORMATION SHOWN HEREON IS BASED ON AN ON-THE-GROUND SURVEY PERFORMED ON JUNE 5 & 10, AND JULY 7, 2020, BY ALPHA SURVEY GROUP, LLC.
2. THE HORIZONTAL DATUM FOR THIS PROJECT IS THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), CORS ADJUSTMENT (NA2011/GEOID 12B) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE ON JUNE 5 & JUNE 10, 2020 UTILIZING KEYSTONE PRECISION INSTRUMENTS' KEYNET GPS VIRTUAL REFERENCE SYSTEM (VRS) NETWORK.
3. THE VERTICAL DATUM FOR THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), CORS ADJUSTMENT (NA2011/GEOID 12a) AS DETERMINED BY REDUNDANT GPS OBSERVATIONS MADE ON JUNE 5 & JUNE 10, 2020 UTILIZING KEYSTONE PRECISION INSTRUMENTS' KEYNET GPS VIRTUAL REFERENCE SYSTEM (VRS) NETWORK.

ADDITIONALLY ALPHA SURVEY GROUP PERFORMED A CLOSED LOOP LEVEL RUN BETWEEN NGS BENCHMARK "MY0514" (LOCATED AT THE HYDE PARK MUNICIPAL BUILDING) AND ALPHA SET SURVEY CONTROL. THE RESULTS WERE WITHIN ACCEPTABLE TOLERANCE.

COMPILED FROM GIS DATA.

UTILITY NOTE:

NO UTILITY INVESTIGATION WAS PERFORMED FOR THIS PROJECT. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. BEFORE DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACK FILLING, GRADING, PAVEMENT RESTORATION OR REPAIRING, ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS. ALPHA SURVEY GROUP, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE FUTURE CONNECTIONS, THE APPROPRIATE UTILITY ENGINEERING DEPARTMENTS MUST BE CONSULTED. CALL "DIG SAFE" AT 811.

DRAWING LEGEND

UTILITY POLE
GUY WIRE ANCHOR
DRAIN MANHOLE
SEWER MANHOLE
ELECTRIC MANHOLE
CATCH BASIN (ROUND)
HAND HOLE — HH
MONITORING WELL — MW#
SEWER LINE — S
OVERHEAD ELECTRIC — OHW
CHAIN LINK FENCE — X
TREELINE
RR — RAILROAD

RETAINING — RET.
CONCRETE — CONC.
BITUMINOUS — BIT.
STONE BOUND — SB
CONCRETE BOUND WITH PLUG & PIN — CB/PP
DRILL HOLE — DH
IRON PIPE — IP
FOUND — -F
GEOPROBE SAMPLING LOCATION — A-5

PLAN REFERENCES:

1.) LAND COURT PLAN 38601A
2.) SHLO #6491
3.) PLAN ENTITLED "NEPONSET RIVER FLOOD CONTROL, LAND TAKING PLAN NO. N.R.F.C.-9" DATED JUNE 5, 1964.

BAR SCALE
10 5 0 10 20

REGISTERED PROFESSIONAL LAND SURVEYOR FOR ALPHA SURVEY GROUP, LLC

DATE

NO	DATE	REVISIONS

SEAL

DATE : 08/19/20202
DRAWN : AMS
SCALE : AS SHOWN

PCB SOIL CAPPING PLAN A-12 to A-30

DCR NEPONSET RIVER RESERVATION
ADJACENT TO 12 TO 24 FAIRMOUNT COURT
HYDE PARK, MASSACHUSETTS

CDW CONSULTANTS
Environmental and Civil Engineering

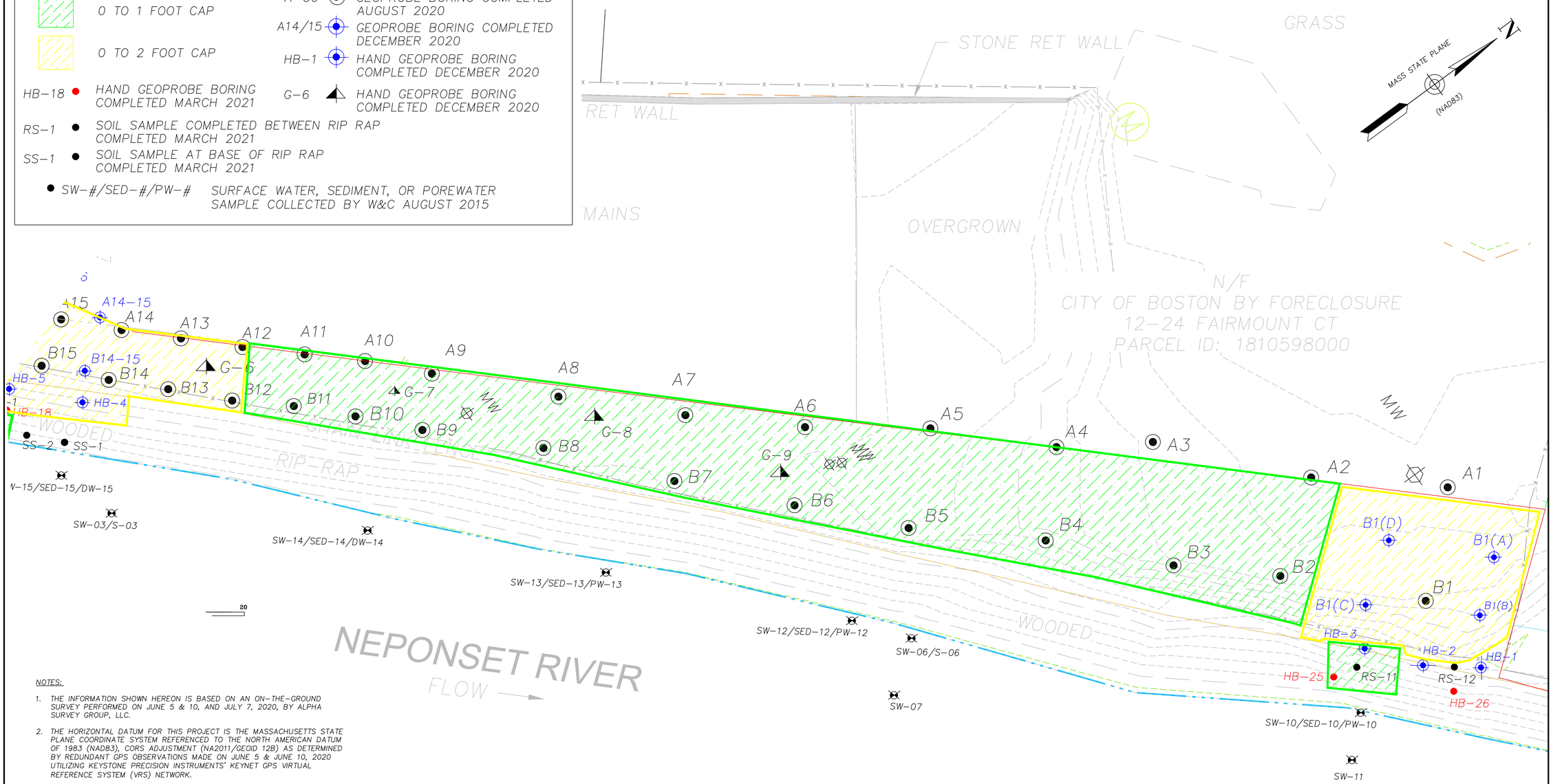
C-2.0

1363.4

LEGEND

- 0 TO 1 FOOT CAP
- 0 TO 2 FOOT CAP
- HB-18 — HAND GEOPROBE BORING COMPLETED MARCH 2021
- RS-1 — SOIL SAMPLE COMPLETED BETWEEN RIP RAP COMPLETED MARCH 2021
- SS-1 — SOIL SAMPLE AT BASE OF RIP RAP COMPLETED MARCH 2021
- SW-#/SED-#/PW-# — SURFACE WATER, SEDIMENT, OR POREWATER SAMPLE COLLECTED BY W&C AUGUST 2015
- A-30 — GEOPROBE BORING COMPLETED AUGUST 2020
- A14/15 — GEOPROBE BORING COMPLETED DECEMBER 2020
- HB-1 — HAND GEOPROBE BORING COMPLETED DECEMBER 2020
- G-6 — HAND GEOPROBE BORING COMPLETED DECEMBER 2020

NOTE: SHADED AREA REPRESENTS "AREAS REQUIRING EXCAVATION UNDER TSCA"



NOTES:

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4. THE BOUNDARY LINES SHOWN HEREON ARE BASED ON RECORDED DEEDS AND PLANS, WITH THE EXCEPTION OF THOSE WITHOUT LABELS WHICH WERE COMPILED FROM GIS DATA.

UTILITY NOTE:

NO UTILITY INVESTIGATION WAS PERFORMED FOR THIS PROJECT. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. BEFORE DESIGNING, EXCAVATING, BLASTING, INSTALLING, BACK FILLING, GRADING, PAVEMENT RESTORATION OR REPAIRING, ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE NOTIFIED INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS. ALPHA SURVEY GROUP, LLC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE FUTURE CONNECTIONS, THE APPROPRIATE UTILITY ENGINEERING DEPARTMENTS MUST BE CONSULTED. CALL "DIG SAFE" AT 811.

DRAWING LEGEND

UTILITY POLE	
GUY WIRE ANCHOR	
DRAIN MANHOLE	D
SEWER MANHOLE	S
ELECTRIC MANHOLE	E
CATCH BASIN (ROUND)	
HAND HOLE	HH
MONITORING WELL	MW#
SEWER LINE	S
OVERHEAD ELECTRIC	OHW
CHAIN LINK FENCE	X X
TREELINE	
RR	RAILROAD
RETAINING	RET.
CONCRETE	CONC.
BITUMINOUS	BIT.
STONE BOUND	SB
CONCRETE BOUND WITH PLUG & PIN	CB/PP
DRILL HOLE	DH
IRON PIPE	IP
FOUND	-F
GEOPROBE SAMPLING LOCATION	A-5

PLAN REFERENCES:

1.) LAND COURT PLAN 38601A
2.) SHLO #6491
3.) PLAN ENTITLED "NEPONSET RIVER FLOOD CONTROL, LAND TAKING PLAN NO. N.R.F.C.-9" DATED JUNE 5, 1964.

BAR SCALE
10 5 0 10 20

REGISTERED PROFESSIONAL LAND SURVEYOR FOR ALPHA SURVEY GROUP, LLC — DATE

NO	DATE	REVISIONS

SEAL

DATE : 08/19/20202
DRAWN : AMS
SCALE : AS SHOWN

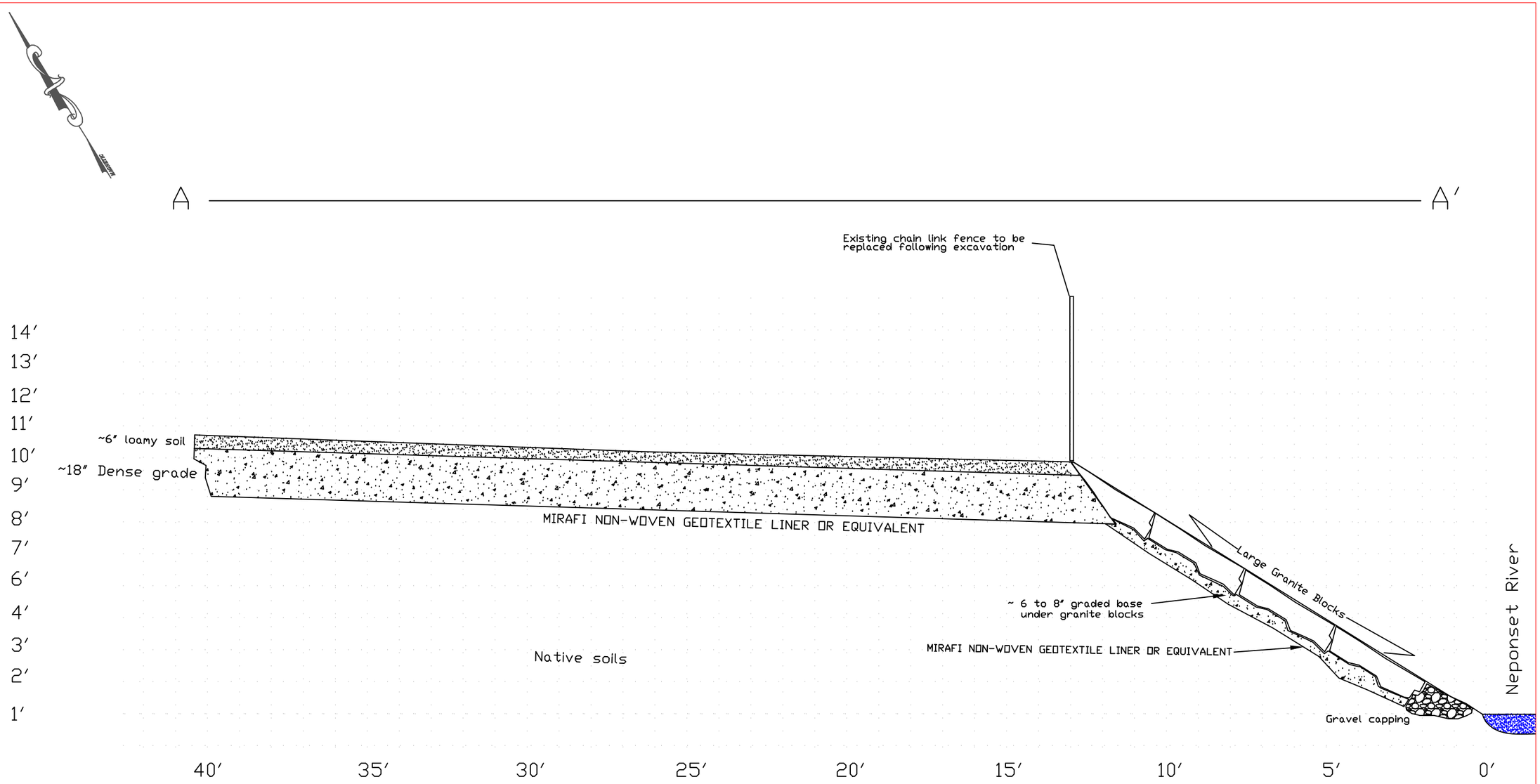
PCB SOIL CAPPING PLAN A-1 THROUGH A-12

DCR NEPONSET RIVER RESERVATION
ADJACENT TO 12 TO 24 FAIRMOUNT COURT
HYDE PARK, MASSACHUSETTS

CDW CONSULTANTS
Environmental and Civil Engineering

C-1.0

1363.4



Note: 1. Horizontal scale 1 foot between grids
2. Vertical scale 1 foot elevation grid
3. Geotextile fabric to be approved prior to implementation.
4. Granite blocks along embankment range from 18 to 24″ in thickness.

NO	DATE	REVISIONS

SEAL

DATE : 5/25/21
DRAWN : AS
SCALE : SEE GRID

PCB CAPPING PLAN
CROSS SECTION

DCR NEPONSET RIVER RESERVATION
ADJACENT TO 12 TO 24 FAIRMOUNT COURT
HYDE PARK, MASSACHUSETTS

CDW CONSULTANTS
Environmental and Civil Engineering

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1363.4

APPENDIX F

ECOLOGICAL SAMPLING DATA

TABLE 1
SUMMARY OF LABORATORY ANALYTICAL DATA - PORE WATER
Former Lewis Chemical Facility, Boston, Massachusetts

			PW-10	PW-12		PW-13	PW-14	PW-15		PW-16	REF-PW-01	REF-PW-02	REF-PW-03
			PW-10-20150825	PW-12-20150826	PW-12 (DUP)-20150826	PW-13-20150826	PW-14-20150826	PW-15-20150826	PW-15 filtered-20150826	PW-16-20150826	REF-PW-01-20150827	REF-PW-02-20150827	REF-PW-03-20150827
Analyte	**CAS No.**	**Units**	8/25/2015	8/26/2015	8/26/2015	8/26/2015	8/26/2015	8/26/2015	8/26/2015	8/26/2015	8/27/2015	8/27/2015	8/27/2015
Hardness as calcium carbonate	STL00009	mg/L	372	476	484	532	410	390		540	348	112	20
Total Metals													
Antimony	7440-36-0	ug/L	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	--	<6.79	<6.79	<6.79	<6.79
Arsenic	7440-38-2	ug/L	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	--	<5.55	<5.55	<5.55	5.66
Barium	7440-39-3	ug/L	247	438	454	508	269	232	--	169	234	98.7	42.3
Beryllium	7440-41-7	ug/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	--	<0.3	<0.3	<0.3	<0.3
Cadmium	7440-43-9	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	<0.5	0.63	<0.5	<0.5
Chromium	7440-47-3	ug/L	1.07	<1	<1	1.98	6.35	5.17	--	3.55	<1	<1	2.57
Copper	7440-50-8	ug/L	1.72	<1.6	<1.6	<1.6	<1.6	<1.6	--	<1.6	<1.6	<1.6	<1.6
Lead	7439-92-1	ug/L	<3	<3	<3	<3	<3	<3	--	<3	<3	<3	<3
Mercury	7439-97-6	ug/L	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	--	0.147	<0.12	<0.12	<0.12
Nickel	7440-02-0	ug/L	2.63	<1.26	<1.26	<1.26	3.22	6.74	--	2.71	15.4	1.4	<1.26
Selenium	7782-49-2	ug/L	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	--	<8.7	<8.7	<8.7	<8.7
Silver	7440-22-4	ug/L	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	--	<1.7	<1.7	<1.7	<1.7
Thallium	7440-28-0	ug/L	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	--	<10.2	<10.2	<10.2	<10.2
Vanadium	7440-62-2	ug/L	<1.5	<1.5	<1.5	<1.5	2.72	4.29	--	2.41	<1.5	<1.5	2.67
Zinc	7440-66-6	ug/L	26.6	<1.5	1.85	<1.5	1.66	2.12	--	3.15	440	7.99	3.35
PCBs													
Aroclor-1016	12674-11-2	ug/L	<0.233	<0.23	<0.237	<0.24	<0.24	<0.234	<0.248	<0.277	<0.238	<0.236	<0.234
Aroclor-1221	11104-28-2	ug/L	<0.233	<0.23	<0.237	<0.24	<0.24	<0.234	<0.248	<0.277	<0.238	<0.236	<0.234
Aroclor-1232	11141-16-5	ug/L	<0.233	10.6 J	6.68 J	71.5 J	26.7 J	116 J	0.742 J	43 J	9.11	1.7	<0.234
Aroclor-1242	53469-21-9	ug/L	2.93	<0.23	<0.237	<0.24	<0.24	<0.234	<0.248	<0.277	<0.238	<0.236	1.15
Aroclor-1248	12672-29-6	ug/L	<0.233	<0.23	<0.237	<0.24	<0.24	<0.234	<0.248	<0.277	<0.238	<0.236	<0.234
Aroclor-1254	11097-69-1	ug/L	0.373	<0.23	<0.237	0.344 J	0.242 J	0.48 J	<0.248	0.745 J	<0.238	<0.236	0.272
Aroclor-1260	11096-82-5	ug/L	<0.233	<0.23	<0.237	<0.24	<0.24	<0.234	<0.248	<0.277	<0.238	<0.236	<0.234
Aroclor-1262	37324-23-5	ug/L	<0.233	<0.23	<0.237	<0.24	<0.24	<0.234	<0.248	<0.277	<0.238	<0.236	<0.234
Aroclor-1268	11100-14-4	ug/L	<0.233	<0.23	<0.237	<0.24	<0.24	<0.234	<0.248	<0.277	<0.238	<0.236	<0.234
VOCs													
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	ug/L	2.03	498	446	<1	<4	<20	--	<4	<1	<1	<1
1,1,2,2-Tetrachloroethane	79-34-5	ug/L	<0.5	<10	<10	<0.5	<2	<10	--	<2	<0.5	<0.5	<0.5
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	ug/L	11.1	184	158	<1	<4	<20	--	<4	<1	<1	<1
1,1,2-Trichloroethane	79-00-5	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,1-Dichloroethane	75-34-3	ug/L	10.8	447	412	3.28	<4	<20	--	<4	9.57	<1	<1
1,1-Dichloroethylene	75-35-4	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,1-Dichloropropene	563-58-6	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,2,3-Trichlorobenzene	87-61-6	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,2,3-Trichloropropane	96-18-4	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,2,4-Trichlorobenzene	120-82-1	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	ug/L	<5	<100	<100	<5	<20	<100	--	<20	<5	<5	<5
1,2-Dibromoethane (EDB)	106-93-4	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,2-Dichlorobenzene	95-50-1	ug/L	1.17	36.7	32.7	5.16	<4	<20	--	<4	<1	<1	<1
1,2-Dichloroethane	107-06-2	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,2-Dichloropropane	78-87-5	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,3-Dichlorobenzene	541-73-1	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,3-Dichloropropane	142-28-9	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,4-Dichlorobenzene	106-46-7	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
1,4-Dioxane	123-91-1	ug/L	<50	<1000	<1000	<50	<200	<1000	--	<200	<50	<50	<50
2,2-Dichloropropane	594-20-7	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
2-Butanone (MEK)	78-93-3	ug/L	<10	<200	<200	<10	<40	<200	--	<40	<10	<10	<10
2-Chlorotoluene	95-49-8	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
2-Hexanone	591-78-6	ug/L	<10	<200	<200	<10	<40	<200	--	<40	<10	<10	<10
4-Chlorotoluene	106-43-4	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
4-Isopropyltoluene	99-87-6	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
4-Methyl-2-Pentanone (MIBK)	108-10-1	ug/L	<10	<200	<200	<10	<40	<200	--	<40	<10	<10	<10
Acetone	67-64-1	ug/L	<50	<1000	<1000	<50	<200	<1000	--	<200	<50	<50	<50
Benzene	71-43-2	ug/L	<1	<20	<20	1.08	<4	<20	--	<4	<1	<1	<1
Bromobenzene	108-86-1	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Bromochloromethane	74-97-5	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Bromodichloromethane	75-27-4	ug/L	<0.5	<10	<10	<0.5	<2	<10	--	<2	<0.5	<0.5	<0.5
Bromoform	75-25-2	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Bromomethane	74-83-9	ug/L	<2	<40	<40	<2	<8	<40	--	<8	<2	<2	<2
Carbon Disulfide	75-15-0	ug/L	<10	<200	<200	<10	<40	<200	--	<40	<10	<10	<10
Carbon Tetrachloride	56-23-5	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Chlorobenzene	108-90-7	ug/L	<1	<20	<20	3.6	<4	<20	--	<4	<1	<1	<1
Chloroethane	75-00-3	ug/L	<2	<40	<40	5.32	12.1	1800	--	12.2	<2	<2	<2
Chloroform	67-66-3	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Chloromethane	74-87-3	ug/L	<2	<40	<40	<2	<8	<40	--	<8	<2	<2	<2
cis-1,2-Dichloroethylene	156-59-2	ug/L	20.7	356	316	1.62	<4	<20	--	<4	9.87	<1	<1
cis-1,3-Dichloropropene	10061-01-5	ug/L	<0.4	<8	<8	<0.4	<1.6	<8	--	<1.6	<0.4	<0.4	<0.4
Dibromochloromethane	124-48-1	ug/L	<0.5	<10	<10	<0.5	<2	<10	--	<2	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Dichlorodifluoromethane	75-71-8	ug/L	<1	122	113	<1 UJ	<4 UJ	<20	--	<4 UJ	<1	<1	<1
Diethyl Ether	60-29-7	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Ethyl tert-Butyl Ether (ETBE)	637-92-3	ug/L	<5	<100	<100	<5	<20	<100	--	<20	<5	<5	<5
Ethylbenzene	100-41-4	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Hexachlorobutadiene	87-68-3	ug/L	<0.4	<8	<8	<0.4	<1.6	<8	--	<1.6	<0.4	<0.4	<0.4
Isopropyl Ether (DIPE)	108-20-3	ug/L	<10	<200	<200	<10	<40	<200	--	<40	<10	<10	<10
Isopropylbenzene	98-82-8	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
m/p-Xylenes	179601-23-1	ug/L	<2	<40	<40	<2	<8	<40	--	<8	<2	<2	<2
Methyl tert-Butyl Ether (MTBE)	1634-04-4	ug/L	<1	<20	<20	<1	<4	<20	--	4.71	<1	<1	<1
Methylene Chloride	75-09-2	ug/L	<1	49.2	61.9	<1	<4 U	76.8	--	9.25	<1	<1	<1
Naphthalene	91-20-3	ug/L	<5	<100	<100	<5	<20	<100	--	<20	<5	<5	<5
n-Butylbenzene	104-51-8	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
n-Propylbenzene	103-65-1	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
o-Xylene	95-47-6	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
sec-Butylbenzene	135-98-8	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Styrene	100-42-5	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
tert-Amyl-Methyl Ether (TAME)	994-05-8	ug/L	<5	<100	<100	<5	<20	<100	--	<20	<5	<5	<5
tert-Butylbenzene	98-06-6	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Tetrachloroethene	127-18-4	ug/L	19.7	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Tetrahydrofuran (THF)	109-99-9	ug/L	<10	<200	<200	<10	<40	<200	--	<40	<10	<10	<10
Toluene	108-88-3	ug/L	<1	29.2	23.4	<1	<4	<20	--	<4	<1	<1	<1
trans-1,2-Dichloroethylene	156-60-5	ug/L	1.98	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
trans-1,3-Dichloropropene	10061-02-6	ug/L	<0.4	<8	<8	<0.4	<1.6	<8	--	<1.6	<0.4	<0.4	<0.4
Trichloroethylene	79-01-6	ug/L	18.3	21.4	<20	<1	<4	<20	--	<4	4.38	<1	<1
Trichlorofluoromethane	75-69-4	ug/L	<1	<20	<20	<1	<4	<20	--	<4	<1	<1	<1
Vinyl Chloride	75-01-4	ug/L	22.6	826	726	1.93	<4	<20	--	<4	3.55	<1	<1

Notes
< = Analyte is not detected above the Laboratory Reporting Limit (LRL) presented.
-- = constituent not analyzed
J = indicates that the result is less than the LRL, but equal to or greater than the medhod detection limit and the concentration is estimated.
ug/L = micrograms per liter
mg/L = milligrams per liter
VOCs = volatile organic compounds
PCBs = polychlorinated biphenyls

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL DATA - SURFACE WATER
Former Lewis Chemical Facility, Boston, Massachusetts

			SW-10	SW-11	SW-12		SW-13	SW-14	SW-15	SW-16	SW-17	SW-18	REF-SW-01	REF-SW-02	REF-SW-03	REF-SW-04
			SW-10-20150825	SW-11-20150825	SW-12-20150826	SW-12 (DUP)-20150826	SW-13-20150826	SW-14-20150826	SW-15-20150826	SW-16-20150826	SW-17-20150827	SW-18-20150827	REF-SW-01-20150827	REF-SW-02-20150827	REF-SW-03-20150827	REF-SW-04-20150827
Analyte	**CAS No.**	**Units**	8/25/2015	8/25/2015	8/26/2015	8/26/2015	8/26/2015	8/26/2015	8/26/2015	8/26/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015
Hardness as calcium carbonate	STL00009	mg/L	80	76	88	104	100	88	92	84	90	88	88	84	80	32
Metals																
Antimony	7440-36-0	ug/L	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79	<6.79
Arsenic	7440-38-2	ug/L	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55	<5.55
Barium	7440-39-3	ug/L	65.2	59.7	70.2	67.4	79.7	63.6	66.3	64.8	64.4	60.7	60.1	67.9	62.5	59
Beryllium	7440-41-7	ug/L	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Cadmium	7440-43-9	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	7440-47-3	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Copper	7440-50-8	ug/L	<1.6	<1.6	<1.6	2.71	1.78	2.05	<1.6	2.3	2.44	2.48	2.74	1.6	2.31	2.2
Lead	7439-92-1	ug/L	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Mercury	7439-97-6	ug/L	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	<0.12	0.142	<0.12	<0.12	<0.12
Nickel	7440-02-0	ug/L	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	1.27	1.42	<1.26	<1.26
Selenium	7782-49-2	ug/L	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7	<8.7
Silver	7440-22-4	ug/L	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Thallium	7440-28-0	ug/L	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2	<10.2
Vanadium	7440-62-2	ug/L	<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
Zinc	7440-66-6	ug/L	16.3	4.68	7.77	8.33	9.32	9.21	5.66	3.56	5.57	5.18	9.17	6.53	4.12	5.02
PCBs																
Aroclor-1016	12674-11-2	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
Aroclor-1221	11104-28-2	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
Aroclor-1232	11141-16-5	ug/L	<0.235	<0.229	<0.233	<0.235	1.26 J	<0.233	<0.232	0.469 J	0.292	<0.235	1.25	<0.234	<0.239	<0.235
Aroclor-1242	53469-21-9	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
Aroclor-1248	12672-29-6	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
Aroclor-1254	11097-69-1	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
Aroclor-1260	11096-82-5	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
Aroclor-1262	37324-23-5	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
Aroclor-1268	11100-14-4	ug/L	<0.235	<0.229	<0.233	<0.235	<0.233	<0.233	<0.232	<0.23	<0.231	<0.235	<0.239	<0.234	<0.239	<0.235
VOCs																
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	71-55-6	ug/L	<1	<1	1.24	1.03	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	79-34-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloro-1,2,2-Trifluoroethan	76-13-1	ug/L	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	79-00-5	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	75-34-3	ug/L	<1	<1	1.4	1.51	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethylene	75-35-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	563-58-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	87-61-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	96-18-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	120-82-1	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane (DB	96-12-8	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane (EDB)	106-93-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	95-50-1	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	107-06-2	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	78-87-5	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	541-73-1	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	142-28-9	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	106-46-7	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	123-91-1	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
2,2-Dichloropropane	594-20-7	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (MEK)	78-93-3	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Chlorotoluene	95-49-8	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	591-78-6	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Chlorotoluene	106-43-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	99-87-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methyl-2-Pentanone (MIBK)	108-10-1	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	67-64-1	ug/L	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Benzene	71-43-2	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromobenzene	108-86-1	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	74-97-5	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	75-27-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	74-83-9	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Disulfide	75-15-0	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	56-23-5	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	108-90-7	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	75-00-3	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	67-66-3	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	74-87-3	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
cis-1,2-Dichloroethylene	156-59-2	ug/L	1.16	<1	1.59	1.64	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	10061-01-5	ug/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Dibromochloromethane	124-48-1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	75-71-8	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Diethyl Ether	60-29-7	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethyl tert-Butyl Ether (ETBE)	637-92-3	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	100-41-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	87-68-3	ug/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Isopropyl Ether (DIPE)	108-20-3	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Isopropylbenzene	98-82-8	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m/p-Xylenes	179601-23-1	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Methyl tert-Butyl Ether (MTBE)	1634-04-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	75-09-2	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	91-20-3	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
n-Butylbenzene	104-51-8	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Propylbenzene	103-65-1	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	95-47-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	100-42-5	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
tert-Amyl-Methyl Ether (TAME)	994-05-8	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
tert-Butylbenzene	98-06-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	127-18-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrahydrofuran (THF)	109-99-9	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Toluene	108-88-3	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethylene	156-60-5	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	10061-02-6	ug/L	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Trichloroethylene	79-01-6	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	75-69-4	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	75-01-4	ug/L	<1	<1	1.89	1.93	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

Notes

< = Analyte is not detected above the Laboratory Reporting Limit (LRL) presented.

-- = constituent not analyzed

J = indicates that the result is less than the LRL, but equal to or greater than the medhod detection limit and the concentration is estimated.

ug/L = micrograms per liter

mg/L = milligrams per liter

VOCs = volatile organic compounds

PCBs = polychlorinated biphenyls

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL DATA - SEDIMENT
Former Lewis Chemical Facility, Boston, Massachusetts

			SED-10	SED-12		SED-13	SED-14	SED-15	SED-16	SED-17	REF-SED-01	REF-SED-02	REF-SED-03	REF-SED-04
			SED-10-20150825	SED-12-20150826	SED-12 (DUP)-20150826	SED-13-20150827	SED-14-20150827	SED-15-20150827	SED-16-20150827	SED-17-20150827	REF-SED-01-20150827	REF-SED-02-20150827	REF-SED-03-20150827	REF-SED-04-20150827
Analyte	**CAS No.**	**Units**	8/25/2015	8/26/2015	8/26/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015
Fractional Organic Carbon	7440-44-0	%	17.4 J	9.1	9.2	8.1	3	2.6	8.7	10.8 J	5.3	16.5 J	1.4	4.3
Metals														
Antimony	7440-36-0	mg/Kg	1.79 J	2.34	2.27	<1.19	<0.79	2.44	1.97	1.61 J	<0.643	<1.82 UJ	<0.45	<4.45
Arsenic	7440-38-2	mg/Kg	2.51 J	11.1	8.87	3.56	3.82	7.99	7.36	7 J	3.29	7.81 J	1.74	<4.45
Barium	7440-39-3	mg/Kg	55.3 J	246 J+	164 J+	78 J+	51.6 J+	123 J+	113 J+	127 J+	40.1 J+	103 J+	16.7 J+	48.7 J+
Beryllium	7440-41-7	mg/Kg	0.18 J	0.896	0.606	0.315	0.257	0.517	0.428	0.475 J	0.23	0.551 J	0.127	<0.312
Cadmium	7440-43-9	mg/Kg	1.11 J	4.57	3.18	1.05	0.699	2.57	1.94	1.87 J	0.5	1.82 J	0.146	0.757
Chromium	7440-47-3	mg/Kg	25.6 J	167	112	29.3	24.1	91.4	71.3	46 J	25.1	47.3 J	6.65	31.5
Copper	7440-50-8	mg/Kg	58.2 J	164	153	39.9	41.3	146	110	69 J	55.9	75.3 J	17	26.1
Lead	7439-92-1	mg/Kg	83.9 J	544 J-	366 J-	88 J-	79.9 J-	427 J-	378 J-	131 J-	212 J-	144 J-	50.7 J-	60.5 J-
Mercury	7439-97-6	mg/Kg	0.368 J	2.01 J+	1.76 J+	0.213 J+	0.309 J+	1.16 J+	0.844 J+	0.495 J+	0.138 J+	0.464 J+	0.0266 J+	0.198 J+
Nickel	7440-02-0	mg/Kg	6.72 J	28.3	19.3	10.1	18.9	22.9	18.4	13.9 J	11.5	15.8 J	5.97	7.25
Selenium	7782-49-2	mg/Kg	<1.63 UJ	<1.22	<1.22	<1.19	<0.79	<1.25	<0.907	1.63 J	<0.643	<1.82 UJ	<0.45	<4.45
Silver	7440-22-4	mg/Kg	<0.817 UJ	1.14	0.721	<0.594	<0.395	<0.623	<0.453	<0.665 UJ	<0.322	<0.911 UJ	<0.225	<2.23
Thallium	7440-28-0	mg/Kg	<1.23 UJ	<0.914	<0.913	<0.891	<0.592	<0.935	<0.68	<0.998 UJ	<0.483	<1.37 UJ	<0.338	<3.34
Vanadium	7440-62-2	mg/Kg	17.8 J	68.4	47.7	20.6	16.9	35.8	26.9	25.5 J	16.6	30.4 J	12.2	16.1
Zinc	7440-66-6	mg/Kg	146 J	474 J+	323 J+	224 J+	207 J+	398 J+	335 J+	342 J+	206 J+	333 J+	73.1 J+	134 J+
PCBs														
Aroclor-1016	12674-11-2	mg/Kg	<1.57 UJ	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
Aroclor-1221	11104-28-2	mg/Kg	<1.57 UJ	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
Aroclor-1232	11141-16-5	mg/Kg	<1.57 UJ	768 J	963 J	<12.8	<8.18	218 J	128 J	<15.8 UJ	8.4	47.4 J	<0.974	<7.63
Aroclor-1242	53469-21-9	mg/Kg	5.42 J	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
Aroclor-1248	12672-29-6	mg/Kg	<1.57 UJ	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
Aroclor-1254	11097-69-1	mg/Kg	<1.57 UJ	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
Aroclor-1260	11096-82-5	mg/Kg	<1.57 UJ	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
Aroclor-1262	37324-23-5	mg/Kg	<1.57 UJ	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
Aroclor-1268	11100-14-4	mg/Kg	<1.57 UJ	<151	<129	<12.8	<8.18	<28.8	<9.03	<15.8 UJ	<1.42	<18.9 UJ	<0.974	<7.63
VOCs (Medium Level)														
1,1,1,2-Tetrachloroethane	630-20-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,1,1-Trichloroethane	71-55-6	mg/Kg	<0.0263 UJ	0.129	0.0952	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,1,2,2-Tetrachloroethane	79-34-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	mg/Kg	0.0771 J	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,1,2-Trichloroethane	79-00-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,1-Dichloroethane	75-34-3	mg/Kg	0.0451 J	<1.55	<1.28	<0.0166	0.00948	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,1-Dichloroethylene	75-35-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,1-Dichloropropene	563-58-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2,3-Trichlorobenzene	87-61-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2,3-Trichloropropane	96-18-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2,4-Trichlorobenzene	120-82-1	mg/Kg	<0.0263 UJ	0.101	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2,4-Trimethylbenzene	95-63-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	0.0153	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	mg/Kg	<0.131 UJ	<7.75	<6.39	<0.0831	<0.0468	<0.0924	<0.058	<0.0968 UJ	<0.0474	<0.125 UJ	<0.0216	<0.0563
1,2-Dibromoethane (EDB)	106-93-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2-Dichlorobenzene	95-50-1	mg/Kg	0.14 J	0.381	0.32	0.274	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2-Dichloroethane	107-06-2	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,2-Dichloropropane	78-87-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,3,5-Trimethylbenzene	108-67-8	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,3-Dichlorobenzene	541-73-1	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,3-Dichloropropane	142-28-9	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,4-Dichlorobenzene	106-46-7	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
1,4-Dioxane	123-91-1	mg/Kg	<1.31 UJ	<77.5	<63.9	<0.831	<0.468	<0.924	<0.58	<0.968 UJ	<0.474	<1.25 UJ	<0.216	<0.563
2,2-Dichloropropane	594-20-7	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
2-Butanone (MEK)	78-93-3	mg/Kg	<0.131 UJ	<7.75	<6.39	0.177	0.167	0.312	0.153	<0.0968 UJ	<0.0474	<0.125 UJ	<0.0216	<0.0563
2-Chlorotoluene	95-49-8	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
2-Hexanone	591-78-6	mg/Kg	<0.131 UJ	<7.75	<6.39	<0.0831	<0.0468	<0.0924	<0.058	<0.0968 UJ	<0.0474	<0.125 UJ	<0.0216	<0.0563
4-Chlorotoluene	106-43-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
4-Isopropyltoluene	99-87-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
4-Methyl-2-Pentanone (MIBK)	108-10-1	mg/Kg	<0.131 UJ	<7.75	<6.39	<0.0831	<0.0468	<0.0924	<0.058	<0.0968 UJ	<0.0474	<0.125 UJ	<0.0216	<0.0563
Acetone	67-64-1	mg/Kg	<1.31 UJ	<77.5	<63.9	<0.831	0.553	1.07	<0.58	<0.968 UJ	<0.474	<1.25 UJ	<0.216	<0.563
Benzene	71-43-2	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Bromobenzene	108-86-1	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Bromochloromethane	74-97-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Bromodichloromethane	75-27-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Bromoform	75-25-2	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Bromomethane	74-83-9	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Carbon Disulfide	75-15-0	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Carbon Tetrachloride	56-23-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Chlorobenzene	108-90-7	mg/Kg	<0.0263 UJ	<1.55	<1.28	0.0527	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Chloroethane	75-00-3	mg/Kg	<0.0263 UJ	<1.55 UJ	<1.28 UJ	0.0198 J-	0.0665 J-	1.18 J-	0.228 J-	<0.0194 UJ	<0.00948 UJ	<0.025 UJ	<0.00431 UJ	<0.0113 UJ
Chloroform	67-66-3	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Chloromethane	74-87-3	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
cis-1,2-Dichloroethylene	156-59-2	mg/Kg	0.178 J	0.469	0.398	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
cis-1,3-Dichloropropene	10061-01-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Dibromochloromethane	124-48-1	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Dibromomethane	74-95-3	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Dichlorodifluoromethane	75-71-8	mg/Kg	<0.0263 UJ	<1.55 UJ	<1.28 UJ	<0.0166 UJ	<0.00936 UJ	<0.0185 UJ	<0.0116 UJ	<0.0194 UJ	<0.00948 UJ	<0.025 UJ	<0.00431 UJ	<0.0113 UJ
Diethyl Ether	60-29-7	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Ethyl tert-Butyl Ether (ETBE)	637-92-3	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Ethylbenzene	100-41-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Hexachlorobutadiene	87-68-3	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Isopropyl Ether (DIPE)	108-20-3	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Isopropylbenzene	98-82-8	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
m/p-Xylenes	179601-23-1	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	0.0178	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Methyl tert-Butyl Ether (MTBE)	1634-04-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Methylene Chloride	75-09-2	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Naphthalene	91-20-3	mg/Kg	<0.131 UJ	<7.75	<6.39	<0.0831	<0.0468	<0.0924	<0.058	<0.0968 UJ	<0.0474	<0.125 UJ	<0.0216	<0.0563
n-Butylbenzene	104-51-8	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
n-Propylbenzene	103-65-1	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
o-Xylene	95-47-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	0.0285	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
sec-Butylbenzene	135-98-8	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Styrene	100-42-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
tert-Amyl-Methyl Ether (TAME)	994-05-8	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
tert-Butylbenzene	98-06-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Tetrachloroethene	127-18-4	mg/Kg	0.231 J	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL DATA - SEDIMENT
Former Lewis Chemical Facility, Boston, Massachusetts

			SED-10	SED-12		SED-13	SED-14	SED-15	SED-16	SED-17	REF-SED-01	REF-SED-02	REF-SED-03	REF-SED-04
			SED-10-20150825	SED-12-20150826	SED-12 (DUP)-20150826	SED-13-20150827	SED-14-20150827	SED-15-20150827	SED-16-20150827	SED-17-20150827	REF-SED-01-20150827	REF-SED-02-20150827	REF-SED-03-20150827	REF-SED-04-20150827
Analyte	**CAS No.**	**Units**	8/25/2015	8/26/2015	8/26/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015
Tetrahydrofuran (THF)	109-99-9	mg/Kg	<0.263 UJ	<15.5	<12.8	<0.166	0.112	<0.185	0.131	<0.194 UJ	<0.0948	<0.25 UJ	0.0561	<0.113
Toluene	108-88-3	mg/Kg	<0.0263 UJ	0.191	<1.28	<0.0166	<0.00936	0.0202	0.0128	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
trans-1,2-Dichloroethylene	156-60-5	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
trans-1,3-Dichloropropene	10061-02-6	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Trichloroethylene	79-01-6	mg/Kg	0.107 J	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Trichlorofluoromethane	75-69-4	mg/Kg	<0.0263 UJ	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
Vinyl Chloride	75-01-4	mg/Kg	0.0457 J	<1.55	<1.28	<0.0166	<0.00936	<0.0185	<0.0116	<0.0194 UJ	<0.00948	<0.025 UJ	<0.00431	<0.0113
VOCs (Low Level)														
1,1,1,2-Tetrachloroethane	630-20-6	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	71-55-6	mg/Kg	--	0.0635 J-	0.0705 J-	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	mg/Kg	--	0.0903 J-	0.132 J-	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	mg/Kg	--	0.0725 J-	0.0845 J-	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,1-Dichloropropene	563-58-6	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	87-61-6	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	96-18-4	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	120-82-1	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,2,4-Trimethylbenzene	95-63-6	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	mg/Kg	--	<0.0762 R	<0.0772 R	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (EDB)	106-93-4	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	mg/Kg	--	0.156 J-	0.089 J-	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	108-67-8	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	541-73-1	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,3-Dichloropropane	142-28-9	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
1,4-Dioxane	123-91-1	mg/Kg	--	<0.762 R	<0.772 R	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	594-20-7	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
2-Butanone (MEK)	78-93-3	mg/Kg	--	<0.0762 R	<0.0772 R	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	95-49-8	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
2-Hexanone	591-78-6	mg/Kg	--	<0.0762 R	<0.0772 R	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	106-43-4	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
4-Isopropyltoluene	99-87-6	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	108-10-1	mg/Kg	--	<0.0762 R	<0.0772 R	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	mg/Kg	--	<0.762 R	<0.772 R	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Bromobenzene	108-86-1	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Bromochloromethane	74-97-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Bromodichloromethane	75-27-4	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Bromoform	75-25-2	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Bromomethane	74-83-9	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Chloroethane	75-00-3	mg/Kg	--	0.13 J-	0.0651 J-	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Chloromethane	74-87-3	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethylene	156-59-2	mg/Kg	--	0.0272 J-	0.031 J-	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Dibromochloromethane	124-48-1	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Dibromomethane	74-95-3	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	75-71-8	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Diethyl Ether	60-29-7	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Ethyl tert-Butyl Ether (ETBE)	637-92-3	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	mg/Kg	--	0.0311 J-	<0.0154 R	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	87-68-3	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Isopropyl Ether (DIPE)	108-20-3	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Isopropylbenzene	98-82-8	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
m/p-Xylenes	179601-23-1	mg/Kg	--	0.0498 J-	<0.0154 R	--	--	--	--	--	--	--	--	--
Methyl tert-Butyl Ether (MTBE)	1634-04-4	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Methylene Chloride	75-09-2	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	mg/Kg	--	<0.0762 R	<0.0772 R	--	--	--	--	--	--	--	--	--
n-Butylbenzene	104-51-8	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
n-Propylbenzene	103-65-1	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
o-Xylene	95-47-6	mg/Kg	--	0.079 J-	0.0234 J-	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	135-98-8	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Styrene	100-42-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
tert-Amyl-Methyl Ether (TAME)	994-05-8	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
tert-Butylbenzene	98-06-6	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	mg/Kg	--	0.0195 J-	0.0251 J-	--	--	--	--	--	--	--	--	--
Tetrahydrofuran (THF)	109-99-9	mg/Kg	--	<0.152 R	<0.154 R	--	--	--	--	--	--	--	--	--
Toluene	108-88-3	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethylene	156-60-5	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	10061-02-6	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	mg/Kg	--	<0.0152 R	0.0228 J-	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane	75-69-4	mg/Kg	--	<0.0152 R	<0.0154 R	--	--	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	mg/Kg	--	<0.0152 R	0.0171 J-	--	--	--	--	--	--	--	--	--
SVOCs														
2-Methylnaphthalene	91-57-6	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	50-32-8	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	205-99-2	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	191-24-2	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	207-08-9	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	117-81-7	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	86-74-8	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	218-01-9	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL DATA - SEDIMENT
Former Lewis Chemical Facility, Boston, Massachusetts

			SED-10	SED-12		SED-13	SED-14	SED-15	SED-16	SED-17	REF-SED-01	REF-SED-02	REF-SED-03	REF-SED-04
			SED-10-20150825	SED-12-20150826	SED-12 (DUP)-20150826	SED-13-20150827	SED-14-20150827	SED-15-20150827	SED-16-20150827	SED-17-20150827	REF-SED-01-20150827	REF-SED-02-20150827	REF-SED-03-20150827	REF-SED-04-20150827
Analyte	**CAS No.**	**Units**	8/25/2015	8/26/2015	8/26/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015	8/27/2015
Dibenzofuran	132-64-9	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
di-n-Octylphthalate	117-84-0	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--

Notes

< = Analyte is not detected above the Laboratory Reporting Limit (LRL) presented.

-- = constituent not analyzed

J = indicates that the result is less than the LRL, but equal to or greater than the medhod detection limit and the concentration is estimated.

R = rejected

mg/kg = milligrams per kilogram

VOCs = volatile organic compounds

SVOCs = semi-volatile organic compounds

PCBs = polychlorinated biphenyls

Notes

1. Orthophotography provided by USGS, 2013.
2. See city of Boston Assessor's Plan Ward #18, Block #199, Lot #10598 and #10601 for site reference. Site is known as #12 and #0 Fairmount Court.
3. See S.C.R.D. Book 8338, pg 650, and LC 36601 for site property line information
4. Parcel lines and road lines from MassGIS and City of Boston. Accessed July 14, 2015.
5. Monitoring locations, soil vapor extraction system, utility locations, disposal site boundary, sampling grid, hot spots, fence line, river bank georeferenced from Figure 2 of Phase II CSA report, April 22, 2015.

FORMER LEWIS CHEMICAL SITE
CITY OF BOSTON DND

Surface Water, Pore Water, and Sediment Sampling Locations

FIGURE 5

WOODARD & CURRAN

SCALE: 1 " = 30 '	DOC: Figure5_SW_PW_SED.mxd
DATE: OCTOBER 2015	PROJECT #: 229286.01
DRAWN BY: PQ	SOURCE: USGS

APPENDIX G

LONG TERM MONITORING AND MAINTENANCE PLAN

Long-Term Monitoring & Maintenance Plan (LTMMP)

Cap Construction

Pursuant to the requirements of 40 CFR 761.61(a)(7) and the Massachusetts Contingency Plan (MCP), the engineered cap must be maintained in accordance with the following LTMMP, to reduce or eliminated exposure of human and environmental receptors to PCB-contaminated soil remaining at the DCR Neponset River Reservation adjacent to 12-24 Fairmount Court in Hyde Park, MA (the Site):

1) Most of the Site will be landscaped. Landscaped areas will be constructed with 1 to 2 feet of clean fill, which is composed of 6 inches of loam on top of 18 inches of dense grade fill in 2 foot areas, and 2 inches of loam on top of 10 inches of dense grade material in 1 foot areas. A low permeability geotextile marker fabric will be placed at the base of the dense grade fill.
2) The remaining site areas consist of an armored embankment with large flat boulders and dense grade fill between and beneath, and a low permeability geotextile marker fabric beneath. Boulders in these areas will remain to maintain a cap material comparable to asphalt or concrete. Certain areas near the base of the embankment will be composed of a minimum of 1 foot of clean gravel fill.

Cap Maintenance

The following activities are required to maintain the integrity of the cap. In the event that activities prohibited in this section must be undertaken, a Massachusetts Licensed Site Professional must be involved to direct and oversee the activities.

A. Maintain all embankment boulders such that the integrity of each is not compromised as follows:

1) If replacement of boulders are required, it shall be limited to the material to be replaced such that the underlying soil is not significantly disturbed (12 inches deep or less below top of surface being removed) and the surface material is immediately repaired or replaced with a comparable barrier (initiated within 72 hours).
2) Prohibit any such activities that result, or could result, in compromising the structural integrity of the armored embankment.

B. Maintain all landscaped areas such that their integrity is not compromised as follows:

1) If vegetation is to be planted or removed, excavation and/or removal of existing root systems shall not extend beyond 1 foot below existing grade.
2) Prohibit any excavation to a depth greater than 2 feet in landscaped areas.
3) Prohibit any activities that result, or could result, in the erosion of soil in any unpaved area.
4) Prohibit planting any deep-rooted vegetation (i.e., with roots typically extending greater than 2 feet below grade).
5) Prohibit removal of overburden soil that reduces the depth of clean fill to less than 2 feet.

Cap Inspections
Perform semi-annual inspections and associated record keeping activities to confirm that the cap is being properly maintained to prevent exposure. Particular attention is drawn to the following:

1) Best management practices.
2) Prompt repair of any damage to the cap, whatever the cause, to substantially restore the cap to its original design condition (initiated within 72 hours).
3) Performance of frequent and short watering of landscape vegetation to encourage shallow root growth is recommended.
4) Prompt removal of any deep-rooted indigenous species identified during routine inspections.

Groundwater Monitoring
Groundwater monitoring will be performed after soil remediation to track reductions in concentrations of PCBs in groundwater. Perform semi-annual groundwater sampling and analysis of 5 monitoring wells/shoreline piezometers for PCBs by Soxhlet extraction. Evaluate the program after 5 years to determine if additional monitoring is required.

Deed Restriction
The above requirements will be recorded on the property in a Notice of Activity and Use Limitation (AUL) at the Suffolk County Registry of Deeds. The AUL will be prepared and filed within 60 days of completion of cleanup activity, as required in 40 CFR 761.61(8)(i), and in accordance with the requirements of the MCP 310 CMR 40.0000. The AUL will be maintained, and the LTMMP will continue to be implemented, in perpetuity, or until such time as additional response actions allow the modification or removal of the AUL and LTMMP in accordance with all applicable laws and regulations in force at the time.

Soil Management Plan
A Soil Management Plan must be prepared by a Massachusetts Licensed Site Professional (LSP) and implemented prior to the commencement of any activity which is likely to disturb contaminated soil, the top of which is located at 1 foot to 2 feet below surface grade within the AUL area. The Soil Management Plan should describe appropriate soil excavation, handling, storage, transport, and disposal procedures and include a description of the engineering controls and air monitoring procedures necessary to ensure that workers and receptors in the vicinity are not affected by fugitive dust or particles. On-Site workers must be informed of the requirements of the soil management plan, and the Plan must be available on-site throughout the course of the project.

Health and Safety Plan
A Health and Safety Plan must be prepared by a certified Industrial Hygienist or other qualified individual sufficiently trained in worker health and safety requirements and implemented prior to the commencement of any activity which is likely to disturb contaminated soil, the top of which is located at 1 foot to 2 feet below surface grade within the AUL area. The Health and Safety Plan should specify the type of personal protection (i.e., clothing, respirators), engineering controls, and environmental monitoring (if any) necessary to prevent worker exposures to contaminated soil through dermal contact, ingestion, and/or inhalation. Workers must be informed of the requirements of the Health and Safety Plan, and the plan must be available on-site throughout the course of the project.

Communications

The documentation of all maintenance and monitoring activities conducted under this LTMMP will be maintained in the following location:

Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA 02114

Interested stakeholders can contact the following if they wish to review this documentation:

Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA 02114
617 626-1250

Cap Inspection Log Sheet (to be completed at least semi-annually)

Inspection Date: _____ Inspection By: _____
Use this inspection form to document inspections. If unacceptable conditions are observed, complete form again immediately after repairs are completed.

A. Asphalt and Concrete Paved Surfaces - observe surfaces for cracking, holes, material removed during construction, and/or other damage. Also inspect joints separating different cap materials.
All surfaces acceptable? _____YES _____NO
If no, describe unacceptable conditions:
Location _____
Condition _____
_____
_____
Describe any repairs conducted since previous inspection: _____
_____
_____
All repairs adequate? YES NO

B. Concrete Building Floor Surfaces - observe concrete for cracking, holes, concrete removed during construction, and/or other damage. Also inspect joints separating different cap materials.
All concrete building floor surfaces acceptable? _____YES _____NO
If no, describe unacceptable concrete:
Location _____
Condition _____
_____
_____
Describe any repairs conducted since previous inspection: _____
_____
_____
All repairs adequate? _____YES _____NO

C. Landscaping - observe landscaping for erosion, animal holes, excavation, vegetation health.
All landscaped areas acceptable? _____YES _____NO
If no, describe unacceptable conditions:
Location _____

OTHER COMMENTS: _____
_____
_____
_____
_____

Upon completion of cap inspection, please mail a copy of the completed form to each of the following locations:

Massachusetts DCR	CDW Consultants, Inc.
251 Causeway St.	6 Huron Drive
Boston, MA 02114	Natick, MA 01760

APPENDIX H

CERTIFICATION OF FILE LOCATION

Adjacent to 12-24 Fairmount Court, Hyde Park, MA

May 2021

CERTIFICATION OF FILE LOCATION

Pursuant to 40 CFR 761.61 (a)(3)(i)(E), all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrument/ chemical analysis procedures used to assess or characterize the PCB contamination related to the investigation and cleanup activities specified herein will be maintained in the following location and will be accessible for inspection by the United States Environmental Protection Agency:

Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA 02114

_____ _____

Cleanup Party's Representative Signature *Date*

Robert Lowell – Environmental Manager

Cleanup Party's Representative Printed Name

Address of Cleanup Party:

Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA 02114