September 6, 2019

Wood Environment & Infrastructure Solutions, Inc.
4232 N. Brandywine Drive, Suite A
Peoria, IL 61614
USA
T: 309-692-4422
www.woodplc.com

Illinois Department of Transportation
Attention: Mr. James R. Curtis
2300 South Dirksen Pkwy
Springfield, IL 62764

Re: PTB No. 174-015
Final Preliminary Site Investigation Report

CDB Job No.: 630-012-004
District: 1
County: Lake
Municipality: Grayslake
Route: Not Listed
Marked: Not Listed
Street: 33300 N. Zeigler Drive
From To/Alt: Grayslake Yard (115)

PTB: 174-015 / Wood1
Work Order No.: 049
BDE Sequence No.: 22486
Requesting Agency: CDB
Contract No.: Not Listed
Section No.: Not Listed
ISGS PESA No.: Not Listed
Anticipated Letting Date: TBD
Target PSI Completion: October 12, 2019

Dear Mr. Curtis:

Wood Environment & Infrastructure Solutions, Inc. (Wood), is presenting this Final Preliminary Site Investigation Report (PSI) for the potential waste sites referenced above.

The attached PSI provides detailed information for proposed construction activities, investigative approach and sampling, and an analysis plan.

If you have any questions, please do not hesitate to contact us.

Respectfully submitted,
Wood Environment & Infrastructure Solutions, Inc.

George Ryan, P.E. (IL)
Vice President

Michael J. Hoffman, P.E. (IL)
Sr. Principal Environmental Engineer

Attachments

FINAL
PRELIMINARY SITE INVESTIGATION REPORT
GRAYSLAKE YARD (115)
GRAYSLAKE, LAKE COUNTY, ILLINOIS

CDB Job No.: 630-012-004
District: 1
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Route: Not Listed
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Prepared for:
Illinois Department of Transportation
Bureau of Design and Environment
2300 S. Dirksen Parkway
Springfield, IL 62764

Submitted by:
Wood Environment & Infrastructure Solutions, Inc.
4232 N. Brandywine Drive, Suite A
Peoria, Illinois 61614

September 2019

Table of Contents

Tables

Figures

Appendices

1.0 Introduction

Wood Environment & Infrastructure Solutions, Inc. (Wood) was tasked by the Illinois Department of Transportation (IDOT) to complete a preliminary site investigation (PSI) of potential environmental impacts associated with concrete removal, footing excavation and utility trenching in association with construction of a new salt barn at the Grayslake Team Section Headquarters Yard (115), Grayslake, Lake County, Illinois. Information from a Preliminary Environmental Site Assessment (PESA) dated May 22, 2017, was used to identify the construction area's recognized environmental conditions (RECs) that may potentially affect the project. Based on proposed construction and preliminary investigation, two property locations were identified for the construction of a new salt barn, and they have been identified as option 1 (OPT-1) and option-2 (OPT-2). Based on the findings of this report, IDOT will select the option they feel best fits their need for the Grayslake Yard (115). Note, Wood understands that only one option will be selected.

IDOT file information provided to Wood depicts proposed construction/excavation work which will extend to a maximum depth of 6.0 feet below ground surface (bgs) for the salt barn footings and up to 8.0 bgs in the vicinity of the utility trenching. The PSI was completed under Work Order 49 issued under IDOT Work Order Agreement for Consultant Services, PTB 174-015 (Various Statewide Assessments, Studies and Designs).

Field investigation activities were completed by Wood on June 26, 2019. Objectives for this investigation are defined in the IDOT-approved work plan dated June 20, 2019 as follows:

- Determine, to the degree possible pursuant to this scope of work, the nature and extent of subsurface contamination within the soil and/or groundwater of the project area. This determination specifically includes those areas in which subsurface excavation activities will be completed in support of construction activities.

- Develop an approach, including approximate volume estimates and associated cost estimates, for the proper handling and/or disposal of contaminated soil and groundwater that are likely to be encountered during the proposed construction activities within the proposed construction area on the IDOT yard.

- Assess the potential for the further or continued contamination of existing IDOT property caused by the migration of contaminants from adjacent properties to and/or the project area.

- Assess the potential for the release of contaminants resulting from the proposed construction activities within the project area.

- Generate the data necessary to evaluate the potential for construction workers on-site to be exposed to contaminants.

- Prepare a PSI report presenting the findings of the investigation, conclusions, and recommendations addressing all the above referenced objectives.

This report presents the findings of the investigation in five sections. Section 1 (above) provides an introduction to the site and details of the proposed work. Section 2 provides site background information. Section 3 describes the procedures and sampling rationale used during the field investigation. Section 4 summarizes field investigation results including observations, field measurements, sampling rationale, analytical results and comparison of analytical results to regulatory criteria. Section 5 provides conclusions of the investigation and recommendations for further investigation and contaminant migration reduction techniques, if necessary.

2.0 Site Background

The Illinois State Geological Survey (ISGS) completed a PESA of the project area in 2017 to identify sites with recognized environmental conditions (RECs) that may have a potential impact on the site. The assessment is a summary of project sites and includes 469 REC sites with the potential to have adverse impacts to human health or the environment. The Grayslake Yard (115) site is listed as RECs number 2562V-312. RECs associated with PESA 2562V-312included UST; former USTs with a documented release; ASTs; former ASTs; evidence of chemical use; spill; former drums; possible monitoring wells; road salt; and dirt mound at PESA 2562V-312.

IDOT file information provided to Wood depicts the proposed improvement options (OPT-1 and OPT-2) associated with the project to extend to a maximum depth of 8.0 feet bgs. All soil borings were advanced to a maximum depth of 10 feet bgs for characterization and field screening purposes.

Table 2-1 presents the site that was investigated by Wood as part of this PSI, along with the RECs identified by ISGS and the proposed construction activities and information. Applicable background information about the sites, as provided in the PESA dated May 2017, was used to identify the construction area's recognized environmental conditions (RECs) and is included as Appendix A. The site investigation area is depicted in Figure 2.

Wood received correspondence from IDOT updating the estimated construction quantities for either OPT-1 or OPT-2 and are as follows:

- Grayslake Yard (115) 2,091 cubic yards

Wood requested information from IDOT District 1 (and their design consultant for the project) regarding the construction limits for the project. Wood received the construction limits for the locations detailed above which are depicted on Figure 2 and 3. Figures 2a and 3a represent the 0 to 1-foot soil interval and Figure 2b and 3b represents the 1 to 6-foot soil interval. Two soil borings from each OPT area were sampled to a maximum depth of 8 feet bgs in accordance with the approved work plan. All borings were advanced to 10 feet bgs for characterization and field screening.

Based on the findings of this report, IDOT will select the option they feel best fits their need for the Grayslake Yard (115). Note, Wood understands that only one option will be selected.

3.0 Field Investigation Procedures

Wood followed the IDOT approved site-specific investigation work plan and standard operating procedures (SOPs) to achieve the objectives listed in Section 1 for the project area. The field investigation for this project included screening and sampling soil at the locations identified in Section 2 and depicted on Figures 2 and 3. This section details the procedures used for field screening, sample collection, equipment decontamination, quality assurance and sample custody.

3.1 Soil Boring and Sampling Procedures

Wood advanced a total of 8 borings in each of the proposed construction areas making a total of 16 borings. Borings were advanced using a direct push dual tube technology utilizing a track mounted Geoprobe® mobile drilling rig. Boring locations are identified on Figures 2a, 2b, 3a and 3b. A summary of the sampling analysis program for the PSI is presented in Table 3-1.

Individual boring locations are identified with a unique alpha-numeric identification code that identifies the Grayslake Yard (115) salt barn option number (i.e., OPT-1); following the OPT site number is a sequential boring number with the initial site at each OPT site starting at 1. Thus, for Grayslake Yard (115) OPT site 1, the initial boring is OPT-1-1.

On June 26, 2019, Wood marked the boring locations at OPT-1 and OPT-2 and reviewed the public utility clearance completed by Illinois 811 (JULIE). A private utility clearance was completed at the yard prior to breaking ground. All utilities were determined to be clear by public and private utilities.

Soil borings were advanced to the depths proposed in the IDOT-approved work plan prepared by Wood on June 26, 2018. When drilling was completed, Wood utilized a global positioning system (GPS) receiver to record the final location for each boring.

Samples were collected via geoprobe and samples were removed from the ground and placed on a clean folding table for screening. All samples were screened for volatile organic compounds (VOCs) using a photoionization detector (PID) in the field immediately upon collection directly from the soil liner. The depth interval, recovery, soil description, PID reading recorded in parts per million (ppm), and other observations were recorded for each sample. The proposed construction will extend to a maximum depth of 6 to 8 feet bgs. All borings were advanced to 10 feet bgs for characterization and screening purposes. Soil boring logs for this investigation are provided in Appendix B.

The Geoprobe® tooling coming in contact with the soil samples was decontaminated using a solution of Alconox® and water prior to breaking ground and between each soil boring. Each borehole was restored with removed soil cuttings at the completion of sample collection activities.

Wood collected 32 soil samples sample from the project area for laboratory analysis.

3.2 Groundwater Sampling Procedures

A total of two temporary wells were installed during this PSI. Depth-to-water (DTW) measurements were collected from the two temporary wells using a Solinst® Interface Meter before sampling. A groundwater sample was collected from both temporary wells using a peristaltic pump and dedicated, disposable tubing. The temporary wells were purged prior to sampling. Following the purge, a grab groundwater sample was collected from each temporary well.

The work plan identified a total of two groundwater samples, one at each identified investigation site. Wood collected two groundwater samples from the project area for laboratory analysis. Groundwater was not observed in the borings proposed for groundwater sampling in accordance with Table 2; however, groundwater was observed in adjacent borings. Wood moved the planned groundwater sample borings to accommodate Site conditions and collect analytical results to characterize potential construction worker exposure risk.

Sample identification, documentation, and chain-of-custody were conducted in accordance with the approved SOPs. Groundwater samples designated for analysis used laboratory grade containers and were shipped on ice from the site to Test America. The groundwater samples were analyzed for VOCs, semi-volatile organic compounds (SVOCs) and total and dissolved recoverable metals in accordance with Table 2-1. The sample collected at OPT-2 was also analyzed for chloride and cyanide. A trip blank accompanied a sample cooler containing the groundwater sample shipped for laboratory analysis for VOCs.

Upon completing the groundwater sampling activities, the temporary wells were removed, and the boreholes were abandoned.

Upon completion of the soil and groundwater sampling activities, all samples were shipped to TestAmerica Laboratories in University Park, Illinois (a NELAP [National Environmental Laboratory Accreditation Program] accredited laboratory) under chain-of-custody procedures in accordance with the IDOT-approved SOPs in accordance with the analysis listed in Table 2-1.

4.0 Field Investigation Results

This section presents results of the field investigation and includes a discussion of the project area geology and topography, significant field observations, sampling rationale and laboratory analytical results relative to regulatory criteria.

Table 4-1 summarizes Wood field observations and sample selection rationale by location and depth. Soil samples collected for laboratory analysis were analyzed for VOCs, SVOCs, total metals, toxicity characteristic leaching procedure (TCLP). Synthetic precipitation leaching procedure (SPLP) analysis was proposed to be completed if any TCLP results exceeded an applicable criterion in accordance with Table 3-1; however, SPLP analysis were only required for iron. OPT-2 samples, in the general vicinity of observed salt staining, were also analyzed for chloride and cyanide in accordance with the tables.

Following an anthropogenic source evaluation and soil survey review, it was determined that there were no anthropogenic sources of manganese in the site vicinity and manganese identified at the site would likely be naturally occurring. Therefore, as a cost saving measure, TCLP and SPLP analysis for manganese (only) was not proposed to be completed for this PSI.

Groundwater samples were collected in accordance with Table 4-1. Groundwater samples were analyzed for VOCs, SVOCs, total metals, dissolved metals. The OPT-2 groundwater sample was also analyzed for chloride and cyanide in accordance with the tables.

Wood reviewed laboratory results for precision, accuracy and completeness in accordance with procedures and quality control limits. Tables 4-2 and 4-3 provide a comparison of analytical results for soil with applicable regulatory criteria. Analytes detected at concentrations above applicable regulatory criteria in project area soil are considered contaminants of concern (COC). A discussion of the analytical results is presented below by site. Laboratory data packages are provided in Appendix C.

In Table 4-2, analyte concentrations identified in soil borings were compared to the Maximum Allowable Concentrations (MAC) of Chemical Constituents in Uncontaminated Soil Used as Fill Material at regulated Fill Operations presented in 35 Illinois Administrative Code (IAC) Part 1100, Subpart F. The total concentration of the analyte was completed when a MAC for an inorganic analyte was based on the 35 IAC Tiered Approach to Corrective Action Objectives (TACO) Class I soil component of the groundwater ingestion exposure route (SCGIER) (35 IAC Part 742, Appendix B, Table C). Results from the TCLP and SPLP analyses were independently compared with the TACO Class I SCGIER for analytes included in 35 IAC Part 742, Appendix B, Table A (Residential Properties). The analyte was considered to exceed a MAC if the Total, TCLP and SPLP results all exceed the applicable criteria. Additionally, if the TCLP and SPLP concentrations, for a given constituent, exceeded the TACO Soil Remediation Objective (SRO) for the Soil Component of the

Groundwater Ingestion Exposure Route, the constituent was considered a contaminant of concern.

When the MAC for a constituent is location-specific, the detected constituent concentration is also compared to the location-specific MAC statistical area background concentration identified in 35 IAC Part 742, Appendix B, Table G and H. Analytes detected at concentrations that exceed the statistical area background concentration for the project area are considered COCs.

Wood also evaluated sample pH levels and the results of PID headspace screening pursuant to 35 IAC 1100.201(g) and 205(b)(1), respectively. Soil pH must be between 6.25 and 9.0 standard units (SU) for the soil to be accepted at a clean construction demolition debris (CCDD) facility or an uncontaminated soil fill operation (USFO). Soils with a pH measurement outside of the acceptable range but otherwise not impacted by COCs may be used on-site as fill and/or managed and disposed of off-site in accordance with Article 202.03 (Standard Specifications for Road and Bridge Construction, Adopted January 1, 2016).

In addition, PID headspace screening results were compared to PID background readings. The PID instrument is accurate to 1 part per million (ppm) between 0 and 100 ppm. The PID was calibrated at the beginning of each field day and re-calibrated as necessary based on changing field conditions (i.e., primary wind direction, temperature, precipitation). Background was established at 0 ppm for this site. Soil exhibiting PID readings above background cannot be accepted by a CCDD/USFO.

The Wood field investigation, completed on June 26, 2019, was designed to provide an initial characterization of site conditions at pre-designated boring locations in accordance with objectives detailed in Section 1. The investigation was limited in terms of analytical parameters and number of samples collected, based on the site information provided in the environmental impact analysis (Appendix A). Based on the findings of this report, IDOT will select the option they feel best fits their need for the Grayslake Yard (115). Note, Wood understands that only one option will be selected.

4.1 Project Area Geology and Topography

Wood advanced 16 soil borings for this project and collected two samples from each boring. One shallow sample (0 to 1 foot or 0 to 3 feet) and one deep sample (1 to 6 feet or 3 to 8 feet) were collected from each boring in accordance with Table 2.1. Observations of subsurface materials in the project area are described by the soil borings included in Appendix B. The following information was provided by ISGS PESA dated May 2017:

Bedrock geology. The topmost bedrock unit in the project area has been mapped as undifferentiated rocks of Silurian age, which in this area consist primarily of limestones and dolomites.

Surficial geology. Along N. IL 83, surficial deposits are between 200 and 300 ft thick. Within 50 ft of the surface, these deposits consist of greater than 20 ft of the Wedron Group. Along Grand Avenue from the western project limit to McKinley Avenue, the Wedron Group is overlain by less than 20 ft of the Grayslake Peat, which in turn overlies less than 20 ft of the Equality Formation. Along E. Rollins Road from the western project limit to N. IL 83, at the eastern W. Rollins Road project limit, and along the entire project limits between Lexington Lane and Berry Avenue, less than 20 ft of the Henry Formation overlies the Wedron Group. The Wedron Group consists of grey clayey glacial deposits with various amounts of silt, sand, and gravel. The Grayslake Peat is composed of peat, muck, and marl interbedded with silt and clay. The Equality Formation is composed of grey to red silt and clay. The Henry Formation is composed of stratified sand and gravel. The Grayslake Peat, the Equality Formation, and the Henry Formation are discontinuous within the project area.

Soils. Along the project ROW, the NRCS has classified the Ashkum silty clay loam, 0-2%slopes; the Peotone silty clay loam, 0-2% slopes; the Pella silty clay loam, 0-2% slopes; the Houghton muck, 0-2% slopes; the Houghton muck, undrained, 0-2% slopes; and the Kish loam, 0-2% slopes as containing 33% to 100% hydric components. None of the other soils in the project area have been classified by NRCS as containing more than 33% hydric components. The NRCS has classified the Orthents, loamy, undulating; the Zurich silt loam, 4-6% slopes, eroded; the Zurich and Ozaukee silt loams, 4-6% slopes, eroded; the Orthents, clayey, undulating; the Ozaukee silt loam, 6-12% slopes; the Houghton muck, undrained, 0-2% slopes; the Ozaukee silty clay loam, 4-6% slopes, severely eroded; the Ozaukee silt loam, 20-30% slopes; and the Landfills as non-prime farmland.

Hydrogeology. Between W. Washington Street and W. Buckley Road, surficial drainage is generally toward the north, in the direction of Mill Creek and its tributaries. However, since the project area is partially urbanized and storm drains, sewers, and ditches are present, most surficial runoff will be controlled by the storm sewer and ditch systems; such systems typically are designed to follow natural drainage patterns.

Neither the near-surface nor the shallow unconfined groundwater flow direction was specifically determined for this project, but they generally mimic local topography.

Wellhead protection areas. The Grayslake Yard (115) is in the vicinity of a wellhead protection recharge area located along E. Center Street between stations 1920+00 and 1930+00. Another wellhead protection area in the vicinity of the site is crossed by E. Belvidere Road between stations 1811+00 and 1828+00; this wellhead protection area is also crossed by S. Barron Boulevard between approximately S. Barron Boulevard stations 256+00 and 275+00.

Surficial public water supplies. The proposed project is not likely to impact surficial public water supplies.

Groundwater recharge. The project area is located in two zones for groundwater recharge potential. Between approximately W. Shorewood Road and W. Washington Street the project area is in Zone 6. The remainder of the project area is in Zone 5, where Zone 1 indicates the highest potential for groundwater recharge and Zone 7 indicates the lowest potential as mapped by Keefer and Berg (1990). Groundwater recharge potential information is provided for a general regional perspective only, as this map was prepared at a scale of 1:1,000,000 and is not applicable on a site-specific basis.

The project area does not fall within the Mahomet aquifer sole-source boundaries as defined by USEPA, the only sole-source aquifer in Illinois according to the USEPA's list of designated sole-source aquifers as defined by Section 1424(E) of the Safe Drinking Water Act, and so the proposed project will not affect any such aquifers in Illinois.

Potential for contamination of shallow aquifers. The project area is located in three different zones, according to the map "Potential for contamination of shallow aquifers from land burial of municipal wastes" (Berg et al., 1984). The northern end of the project area (north of Grand Avenue) is located in Zone AX. Between approximately W. Shorewood Road and W. Washington Street, the project area is located in Zone B1. The remainder of the project area is located in Zone E. Zone AX is described as alluvium, a mixture of sand, gravel, silt and clay along streams, variable in composition and thickness. Zone B1 is described as sand and gravel less than 20 ft thick over relatively impermeable glacial deposits or bedrock. Zone E is described as uniform, relatively impermeable silty or clayey glacial deposits at least 50 ft thick, with no evidence of interbedded sand and gravel. Zones A indicate the highest potential for contamination and Zone G the lowest. This information is provided for a general regional perspective only, as the map was prepared at a scale of 1:500,000 and is not applicable on a site-specific basis. No borings were made to a depth of 50 ft to verify the geology of this site.

Well information. ISGS well records indicate that water in the project area is obtained from three distinct aquifers: from sandstone at a depth of approximately 1,000 ft below the surface; from limestone at depths ranging from 210 ft to 335 ft below the surface; and from unconsolidated sand and gravel deposits at depths ranging from 63 ft to 281 ft below the surface.

No other observed or known natural hazards were identified for this project.

4.2 Grayslake Yard (115) OPT-1 – Grayslake Team Section Headquarters Yard (115), Grayslake, IL

4.2.1 Field Observations at Grayslake Yard (115)-OPT-1

Wood completed 8 soil borings (OPT-1-1 through OPT-1-8) at the Grayslake Yard (115) in accordance with Table 3-1 and Figure 2. Field evidence of VOCs was observed during PID headspace screening of site soils in sample OPT-1-1 (1-6') and OPT-1-5 (1-6'). Two soil samples were collected from each boring at the maximum construction depth of 8.0' for analysis from the

borings. Groundwater was encountered in borings advanced at OPT-1 at approximately 5 feet bgs in some boring locations.

4.2.2 Analytical Results for Grayslake Yard (115) – OPT-1

SVOCs were detected at a concentration exceeding an applicable criterion in borings from Grayslake Yard (115) site OPT-1. Total metals including: chromium, iron, manganese, silver, and selenium were detected in one or more samples collected from the Grayslake Yard (115) OPT-1 site. Soil pH results ranged from 7.4 to 9.3 SU. Soil analysis for TCLP/SPLP metals contained detected iron concentrations exceeding an applicable criterion in boring OPT-1-2. Table 4-2 includes results for the analytes detected in soil.

4.2.3 Nature and Extent of Contamination Above Applicable Criteria at Grayslake Yard (115) OPT-1

Benzo(a)pyrene was detected at a concentration exceeding some MAC constituents in sample OPT-1-2 (1-6').

Naphthalene was detected at a concentration exceeding some MAC constituents in sample OPT-1-2 (1-6'), OPT-1-4 (0-1'), OPT-1-4 (1-6'), OPT-1-5 (1-6'), OPT-1-6 (0-1'), and OPT-1-6 (0-6').

Phenanthrene was detected at a concentration exceeding some MAC constituents in sample OPT-1-2 (1-6').

Chromium was detected at a concentration exceeding the most stringent MAC in sample OPT-1-2 (0-1'), OPT-1-7 (0-3'), and OPT-1-8 (3-8').

Iron was detected at a concentration exceeding the most stringent MAC and exceeding some location specific MACs in every sample and from every interval at OPT-1. Iron was detected at a concentration also exceeding the TACO TCLP and SPLP criteria in the sample from OPT-1-2 (0-1').

Manganese was detected at a concentration exceeding the most stringent MAC and exceeding some location specific MACs in samples: OPT-1-1 (1-6'), OPT-1-2 (1-6'), OPT-1-3 (0-1'), and OPT-1-8 (0-3).

Selenium was detected at a concentration exceeding the most stringent MAC in sample OPT-1-6 (1-6').

Silver was detected at a concentration exceeding the most stringent MAC in sample OPT-1-2 (0-1'), OPT-1-5 (1-6'), and OPT-1-7 (0-3').

The groundwater analytical results from OPT-1-7 GW exceeded the TACO Remediation Objectives for the sample submitted for analytes: benzo(a)anthracene, benzo(a)pyrene,

benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, total iron, total lead, and total manganese.

No other analyte investigated in accordance with the approved work plan exceeded any applicable criteria.

4.2.4 IDOT Construction Activities at Grayslake Yard (115) – OPT-1

Construction activities anticipated at this site include footing excavation, utility trenching and construction of a new salt barn in accordance with Figures 2 and 3 and Table 2-1. Excavations associated with these proposed improvements are estimated to extend to a maximum depth of 8.0 feet bgs. Assumed areas of impact and COCs are identified in Figure 2. Table 4-5 presents an estimated volume of impacted soil within proposed construction excavation areas at the site that will require proper handling and disposal if removed from the site. When provided, Wood used volumes provided by IDOT District 1 to estimate impacted soil quantities.

PID readings ranged from 0.0 ppm to 4.1 ppm. OPT-1-1 (1-6′) contained a maximum PID reading of 1.8 ppm and OPT-1-5 (1-6′) contained a maximum PID reading of 4.1 ppm. All other boring locations and associated samples were at or below background screening of site soil for all locations within OPT-1. The pH results exceed the acceptable range to be considered CCDD eligible in boring OPT-1-7 (3-8′) with a value of 9.3 standard units (s.u.).

Laboratory results were not detected in the soil samples at a concentration which exceeded any MAC criteria in samples submitted from boring: OPT-1-1 (0-1′), OPT-1-3 (1-6′), and OPT-1-5 (0-1′). The soil is considered unrestrictive.

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring OPT-1-1 (1-6′), OPT-1-3 (0-1′) and OPT-1-8 (0-3′). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the lack of TCLP/SPLP data for manganese, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(c).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring: OPT-1-1 (1-6′). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the soil PID field screen reading, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(b)(1).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring: OPT-1-7 (3-8′). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in

accordance with Table 4-3. Based on the soil pH result, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(b)(2).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring: OPT-1-4 (0-1'), OPT-1-5 (1-6'), and OPT-1-6 (0-1'). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste, special waste or hazardous waste material in accordance with Table 4-3 and in accordance with Article 669.05(a)(1).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring OPT-1-2 (0-1'), OPT-1-7 (0-3'), and OPT-1-8 (3-8'). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3 in accordance with Article 669.05(a)(3).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring: OPT-1-2 (1-6'), OPT-1-4 (1-6'), and OPT-1-6 (1-6'). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3 in accordance with Article 669.05(a)(4).

Laboratory results were detected in the groundwater sample at a concentration which exceeded the TACO criteria in the sample submitted from boring OPT-1-7 (GW). The groundwater in the vicinity of OPT-1-7 is eligible to remain on-site and may be managed within the excavation by allowing the groundwater to infiltrate into the subsurface. If groundwater is required to be removed from the excavation area, the groundwater should be containerized and managed off-site as a special waste in accordance with Table 4-3 in accordance with Article 669.05(d).

4.2.5 IDOT Property Acquisition at Grayslake Yard (115) – OPT-1

IDOT is not currently planning ROW acquisition at the Grayslake Yard (115). Analytical results were detected at concentrations exceeding MAC and/or TACO Tier 1 ROs for soil associated with OPT-1 borings. Estimated volumes of excavated soil, if not managed on site for the OPT-1 area, include a total of 2,091 cubic yards (CY) of material. Based on the analytical results, 444.2 cubic yards of impacted soil are classified as non-special waste. Several sample intervals and one boring (OPT-1-2) are CCDD/USFO eligible. Estimated excavation disposal volumes are outlined in Table 4-4 and Table 5-1.

4.3 Grayslake Yard (115) OPT-2 – Grayslake Team Section Headquarters Yard (115), Grayslake, IL

4.3.1 Field Observations at Grayslake Yard (115) – OPT-2

Wood completed 8 soil borings (OPT-2-1 through OPT-2-8) at the Grayslake Yard (115) in accordance with Table 3-1 and Figure 2. Field evidence of VOCs was observed during PID headspace screening of site soils in sample OPT-2-7 (0-1') and OPT-2-7 (1-6'). Observations during field sampling did not show any evidence of discoloration due to fill materials but odors were observed in OPT-2-7 that suggested potential chemical contamination. Two soil samples were collected from each boring to a maximum construction depth of 8.0' for analysis from the borings. Groundwater was encountered in the borings advanced at OPT-2 at approximately 5 feet bgs in some boring locations.

4.3.2 Analytical Results for Grayslake Yard (115) – OPT-2

One SVOC, naphthalene, was detected at a concentration exceeding an applicable criterion in sample OPT-2-7 (0-1') and OPT-2-7 (1-6'). Total metals including: chromium, iron, manganese, silver, and selenium were detected in one or more samples collected from the Grayslake Yard (115) OPT-2 site. Soil pH results ranged from 7.2 to 9.5 s.u.. Soil analysis for TCLP/SPLP metals did not contain detected concentrations exceeding an applicable criterion in OPT-2. Table 4-2 includes results for the analytes detected in soil.

4.3.3 Nature and Extent of Contamination Above Applicable Criteria at Grayslake Yard (115) – OPT-2

Naphthalene was detected at a concentration exceeding some MAC constituents in sample OPT-2-7 (0-1') and OPT-2-7 (1-6').

Chromium was detected at a concentration exceeding the most stringent MAC in sample OPT-2-1 (0-1') and OPT-2-3 (0-1').

Iron was detected at a concentration exceeding the most stringent MAC and exceeding some location specific MACs in every sample and from every interval at OPT-2 with the exception of two samples. OPT-2-6 (1-6') and OPT-2-7 (1-6') did not exceed the applicable criteria.

Manganese was detected at a concentration exceeding the most stringent MAC and exceeding some location specific MACs in samples: OPT-2-4 (0-3'), OPT-2-5 (0-3'), and OPT-2-6 (1-6').

Selenium was detected at a concentration exceeding the most stringent MAC in sample OPT-2-1 (0-1').

Silver was detected at a concentration exceeding the most stringent MAC in sample OPT-2-6 (0-1').

Total cyanide was detected at a concentration exceeding the most stringent MAC in sample OPT-2-1 (0-1'), OPT-2-5 (0-3'), and OPT-2-5 (3-8').

Chloride was detected at a concentration exceeding the most stringent MAC in sample OPT-2-1 (0-1'), OPT-2-2 (1-6'), OPT-2-5 (0-3'), OPT-2-5 (3-8'), OPT-2-6 (0-1'), OPT-2-6 (1-6'), OPT-2-7 (0-1'), OPT-2-7 (1-6'), OPT-2-8 (0-1'), and OPT-2-8 (1-6').

The groundwater analytical results from OPT-1-7 GW exceeded the TACO Remediation Objectives for the sample submitted for analytes: chloride, total iron, total lead, total and dissolved manganese and vanadium.

No other analyte investigated in accordance with the approved work plan exceeded any applicable criteria.

4.3.4 IDOT Construction Activities at Grayslake Yard (115) – OPT-2

Construction activities anticipated at this site include footing excavation, utility trenching and construction of a new salt barn in accordance with Figures 2 and 3 and Table 2-1. Excavations associated with these proposed improvements are estimated to extend to a maximum depth of 8.0 feet bgs. Assumed areas of impact and COCs are identified in Figure 2. Table 4-5 presents an estimated volume of impacted soil within proposed construction excavation areas at the site that will require proper handling and disposal if removed from the site. When provided, Wood used volumes provided by IDOT District 1 to estimate impacted soil quantities.

PID readings ranged from 0.0 ppm to 67.4 ppm. OPT-2-7 (0-1') contained a maximum PID reading of 55.0 ppm and OPT-2-7 (1-6') contained a maximum PID reading of 67.4 ppm. All other boring locations and associated samples were at or below background screening of site soil for all locations within OPT-2. The pH results exceed the acceptable range to be considered CCDD eligible in boring OPT-2-4 (3-8') with a value of 9.5 standard units (s.u.).

Laboratory results were not detected in the soil samples at a concentration which exceeded any MAC criteria in samples submitted from boring: OPT-2-1 (1-6'), OPT-2-2 (0-1'), and OPT-2-3 (1-6'). The soil is considered unrestrictive.

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring OPT-2-4 (0-3'). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the lack of TCLP/SPLP data for manganese, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(c).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring: OPT-2-4 (3-8'). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in

accordance with Table 4-3. Based on the soil PID field screen reading, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(b)(1).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring: OPT-2-1 (0-1'), OPT-2-2 (1-6'), OPT-2-5 (0-3'), OPT-2-5 (3-8'), OPT-2-6 (0-1'), OPT-2-6 (1-6'), OPT-2-8 (0-1'), and OPT-2-8 (1-6'). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste, special waste or hazardous waste material in accordance with Table 4-3 and in accordance with Article 669.05(a)(1).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring OPT-2-3 (0-1'). The soil is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3 in accordance with Article 669.05(a)(3).

Laboratory results were detected in the soil sample at a concentration which exceeded the MAC criteria in the sample submitted from boring OPT-2-7 (0-1') and OPT-2-7 (1-6'). The soil is not eligible to remain on-site and must be disposed off-site as non-special waste, special waste or hazardous waste material in accordance with Table 4-3 and in accordance with Article 669.05(a)(5).

Laboratory results were detected in the groundwater sample at a concentration which exceeded the TACO criteria in the sample submitted from boring OPT-2-1 (GW). The groundwater in the vicinity of OPT-2-1 is eligible to remain on-site and may be managed within the excavation by allowing the groundwater to infiltrate into the subsurface. If groundwater is required to be removed from the excavation area, the groundwater should be containerized and managed off-site as a special waste in accordance with Table 4-3 in accordance with Article 669.05(d).

4.3.5 IDOT Property Acquisition at Grayslake Yard (115) – OPT-2

IDOT is not currently planning ROW acquisition at the Grayslake Yard (115). Analytical results were detected at concentrations exceeding MAC and/or TACO Tier 1 ROs for soil associated with OPT-2 borings. Estimated volumes of excavated soil, if not managed on site for the OPT-2 area, include a total of 2,091 cubic yards (CY) of material. Based on the analytical results, 1299 cubic yards of impacted soil are classified as non-special waste. Several sample intervals are CCDD/USFO eligible. Estimated excavation disposal volumes are outlined in Table 4-4 and Table 5-1.

5.0 Conclusions and Recommendations

Wood's investigation has identified the presence of COCs in project area soils. The following sections summarize investigation findings and provides recommendations for classification and management of impacted soil based on comparison with MAC and TACO Tier 1 ROs. Based on the findings of this report, IDOT will select the option they feel best fits their need for the Grayslake Yard (115). Note, Wood understands that only one option will be selected.

Wood's field investigation was designed to provide an initial characterization of site conditions at pre-designated boring locations. The investigation, limited in terms of analytical parameters and the number of samples collected, was based on the known history of the properties. Consequently, the findings and conclusions of this investigation are subject to revision should more site data become available.

Soil removed from outside Wood's investigation area that is observed to exhibit discoloration or odors indicative of contamination should be sampled to determine the proper disposal classification.

In accordance with the anthropogenic source evaluation, soil survey review, it was determined that there is no anthropogenic concern with respect to manganese. IDOT requested that Wood evaluate the manganese data regarding potential off-site soil management and tabulate the data as if it were to be managed off-site consistent with former protocols. The soil management strategy change resulted in cost savings changes with respect to management of manganese as shown on Table 5.2 in both dollars and percent.

5.1 Estimated Soil Management Volumes and Costs

5.1.1 Grayslake Yard (115)– Soil Management – OPT-1

Soil in the vicinity of samples OPT-1-1 (0-1'), OPT-1-3 (1-6'), and OPT-1-5 (0-1') is considered unrestrictive and does not require a special provision.

Soil near boring sample OPT-1-1 (1-6'), OPT-1-3 (0-1') and OPT-1-8 (0-3') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the lack of TCLP/SPLP data for manganese, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(c).

Soil near sample OPT-1-1 (1-6') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the soil PID field screen reading, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(b)(1).

Soil near OPT-1-7 (3-8') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the soil

pH result, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(b)(2).

Soil near OPT-1-4 (0-1'), OPT-1-5 (1-6'), and OPT-1-6 (0-1') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste, special waste or hazardous waste material in accordance with Table 4-3 and in accordance with Article 669.05(a)(1).

Soil near OPT-1-2 (0-1'), OPT-1-7 (0-3'), and OPT-1-8 (3-8') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3 in accordance with Article 669.05(a)(3).

Soil in the vicinity of samples OPT-1-2 (1-6'), OPT-1-4 (1-6'), and OPT-1-6 (1-6') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3 in accordance with Article 669.05(a)(4).

Groundwater from OPT-1 is eligible to remain on-site and may be managed within the excavation by allowing the groundwater to infiltrate into the subsurface. If groundwater is required to be removed from the excavation area, the groundwater should be containerized and managed off-site as a special waste in accordance with Table 4-3 in accordance with Article 669.05(d).

5.1.1.1 Grayslake Yard (115)– OPT-1 - Soil Volume and Cost: Construction Area

Costs estimated for the off-site disposal of soils and groundwater (if required) are shown in Table 5-1. Based on the provided construction excavation quantities provided by the IDOT district and analytical results, 2,091 cubic yards of soil at the site may require off-site disposal (Table 5-1). Estimated cost for off-site disposal (non-special waste) of impacted soils from the ISGS PESA site Grayslake Yard (115) site area is $97,475, which includes generation of special waste plans and reports.

5.2.1 Grayslake Yard (115)– Soil Management – OPT-2

Soil in the vicinity of samples: OPT-2-1 (1-6'), OPT-2-2 (0-1'), and OPT-2-3 (1-6') is considered unrestrictive and does not require a special provision.

Soil near boring sample OPT-2-4 (0-3') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the lack of TCLP/SPLP data for manganese, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(c).

Soil near sample OPT-2-4 (3-8') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3. Based on the soil PID field screen reading, the excavated soil cannot be taken to a CCDD facility or USFO in accordance with Article 669.05(b)(1).

Soil near OPT-2-1 (0-1'), OPT-2-2 (1-6'), OPT-2-5 (0-3'), OPT-2-5 (3-8'), OPT-2-6 (0-1'), OPT-2-6 (1-6'), OPT-2-8 (0-1'), and OPT-2-8 (1-6') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste, special waste or hazardous waste material in accordance with Table 4-3 and in accordance with Article 669.05(a)(1).

Soil near OPT-2-3 (0-1') is eligible to remain on-site to be used within the right-of-way or may be disposed off-site as non-special waste material in accordance with Table 4-3 in accordance with Article 669.05(a)(3).

Soil in the vicinity of samples OPT-2-7 (0-1') and OPT-2-7 (1-6') is not eligible to remain on-site and must be disposed off-site as non-special waste, special waste or hazardous waste material in accordance with Table 4-3 and in accordance with Article 669.05(a)(5).

Groundwater from OPT-2 is eligible to remain on-site and may be managed within the excavation by allowing the groundwater to infiltrate into the subsurface. If groundwater is required to be removed from the excavation area, the groundwater should be containerized and managed off-site as a special waste in accordance with Table 4-3 in accordance with Article 669.05(d).

5.2.1.1 Grayslake Yard (115)– OPT-2 - Soil Volume and Cost: Construction Area

Costs estimated for the off-site disposal of soils and groundwater (if required) are shown in Table 5-1. Based on the provided construction excavation quantities provided by the IDOT district and analytical results, 2,091 cubic yards of soil at the site may require off-site disposal (Table 5-1). Estimated cost for off-site disposal (non-special waste) of impacted soils from the ISGS PESA site Grayslake Yard (115) site area is $121,490, which includes generation of special waste plans and reports.

5.2 Soil Management Areas and Applicable Regulations

5.2.1 Grayslake Yard (115) – OPT-1, Grayslake, Lake County

Sta. 00+70 to 1+38, 40'LT to 80'LT. The Engineer has determined this material from 0 to 3' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminants of concern sampling parameters include: iron and manganese.

Sta. 00+70 to 1+38, 40'LT to 80'LT. The Engineer has determined this material from 3 to 8' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminants of concern sampling parameters include: iron and chromium.

Sta. 00+70 to 1+38, 80'LT to 125'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(b)(2). Contaminants of concern sampling parameters include: iron, manganese and PID.

Sta. 1+38 to 2+18, 40'LT to 80'LT. The Engineer has determined this material from 0 to 3' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminants of concern sampling parameters include: chromium, iron and silver.

Sta. 1+38 to 2+18, 40'LT to 80'LT. The Engineer has determined this material from 3 to 8' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminants of concern sampling parameters include: iron and pH.

Sta. 1+38 to 2+18, 80'LT to 125'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminants of concern sampling parameters include: chromium, iron and silver.

Sta. 1+38 to 2+18, 80'LT to 125'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(4). Contaminants of concern sampling parameters include: SVOCs, iron and manganese.

Sta. 2+18 to 2+65, 40'LT to 80'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: SVOCs and iron.

Sta. 2+18 to 2+65, 40'LT to 80'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(4). Contaminants of concern sampling parameters include: SVOCs, iron and selenium.

Sta. 2+18 to 2+65, 80'LT to 125'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminants of concern sampling parameters include: iron and manganese.

Sta. 2+65 to 3+00, 60'LT to 105'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: SVOCs and iron.

Sta. 2+65 to 3+00, 60'LT to 105'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(4). Contaminants of concern sampling parameters include: SVOCs and iron.

Sta. 3+00 to 3+35, 30'LT to 70'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: SVOC, iron, silver and PID.

Sta. 0+70 to 3+35, 40'LT to 125'LT. The Engineer has determined groundwater encountered in this area meets the criteria of and shall be managed in accordance with Article 669.05(d). Contaminants of concern sampling parameters include: SVOCs, metals and chloride.

5.2.2 Grayslake Yard (115) – OPT-2, Grayslake, Lake County

Sta. 00+05 to 0+60, 335'LT to 380'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: iron and chloride.

Sta. 00+05 to 0+60, 335'LT to 380'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: iron and chromium.

Sta. 00+05 to 0+60, 380'LT to 418'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: chromium, iron, selenium, cyanide and chloride.

Sta. 0+60 to 1+50, 335'LT to 380'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(5). Contaminants of concern sampling parameters include: SVOCs, iron, chloride and PID.

Sta. 0+60 to 1+50, 335'LT to 380'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(5). Contaminants of concern sampling parameters include: SVOCs, chloride and PID.

Sta. 0+60 to 1+50, 380'LT to 418'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: iron and chloride.

Sta. 1+50 to 2+05, 335'LT to 380'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: iron, silver and chloride.

Sta. 1+50 to 2+05, 335'LT to 380'LT. The Engineer has determined this material from 1 to 6' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: manganese and chloride.

Sta. 1+50 to 2+05, 380'LT to 418'LT. The Engineer has determined this material from 0 to 1' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(3). Contaminants of concern sampling parameters include: chromium and iron.

Sta. 2+05 to 2+90, 350'LT to 400'LT. The Engineer has determined this material from 0 to 3' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: iron, manganese, cyanide and chloride.

Sta. 2+05 to 2+90, 350'LT to 400'LT. The Engineer has determined this material from 3 to 8' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(a)(1). Contaminants of concern sampling parameters include: iron, cyanide and chloride.

Sta. 2+90 to 3+75, 380'LT to 418'LT. The Engineer has determined this material from 0 to 3' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(c). Contaminants of concern sampling parameters include: iron and manganese.

Sta. 2+90 to 3+75, 380'LT to 418'LT. The Engineer has determined this material from 3 to 8' bgs. meets the criteria of and shall be managed in accordance with Article 669.05(b)(1). Contaminants of concern sampling parameters include: iron and pH.

Sta. 0+05 to 3+75, 335'LT to 418'LT. The Engineer has determined groundwater encountered in this area meets the criteria of and shall be managed in accordance with Article 669.05(d). Contaminants of concern sampling parameters include: metals and chloride.

5.3 Recommendations

5.3.1 Additional Investigations

Based on site history, field observations, and analytical results, Wood does not recommend further investigation for this project. Soil in the project area has been characterized regarding IDOT construction activities. Additional sampling may be required should construction excavation activities extend beyond the previously investigated area and/or if soil or groundwater is encountered that exhibits odor or discoloration indicative of contamination.

5.3.2 Prevention of Accelerated Contaminant Migration

Soil containment and storm water runoff control measures are recommended to minimize the potential migration of contaminants from any impacted soils that are stockpiled at the sites. If soil must be stockpiled, it should be stored in lined and covered roll-off boxes or segregated from other soils on storage pads designed to prevent migration of contaminants to un-impacted areas.

Groundwater is anticipated to be encountered during construction excavation at depths greater than 5 feet below ground surface. Based on observations during the investigation and the maximum proposed excavation depth at the site, it remains likely that groundwater will be encountered.

5.3.3 Comparison of Detected Soil Concentrations with TACO Tier 1 Remediation Objectives for Construction Worker Exposure

The COCs detected in site soil were compared with TACO Tier 1 ROs for construction worker exposure. Analytical results from all samples collected throughout the proposed excavation area are below the applicable TACO Tier 1 Remediation Objectives for Construction Worker Exposure. However, if soil unearthed during excavation activities exhibits PID readings, odors, or discoloration indicative of contamination, Wood recommends that the soil be sampled to determine appropriate worker protection measures during construction activities. The health and safety of construction workers are the sole responsibility of the construction contractor, and Occupational Safety and Health Administration (OSHA) regulations should be adhered to during all construction activities.

Table 2-1. Summary of Recognized Environmental Conditions, Planned Construction Activities, and Contaminants of Concern

Grayslake Yard Team Section Headquarters (115)

Grayslake, Lake County, Illinois

PESA Site Name	Recognized Environmental Conditions (RECs)	Planned Construction Activities	Contaminants of Concern**	Investigation Objectives/Rationale	Planned Property Acquisition
2562V - 312 Grayslake Yard Team Section Headquarters (115)	UST; former USTs with a documented release; ASTs; former ASTs; evidence of chemical use; spill; former drums; possible monitoring wells; road salt; dirt mound	Excavation for proposed salt barn	VOC, SVOC, Metals*, Chloride, Cyanide	Investigate the soil and groundwater in the proposed construction area	NO

*Metals: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc, and Mercury

**All soil samples will be analyzed for pH.

Note: TCLP and SPLP Manganese was eliminated from the analyte list for this PSI at the request of IDOT.

SVOC - Semi-Volatile Organic Compound

VOC - Volatile Organic Compound

Table 3-1. Summary of Sampling and Analysis Program
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Borings	Offset from Proposed Location	Boring Depth (feet)	Sample(s)	Matrix	Parameters
ISGS PESA Site 2562V-312 (approximate N. Barron Boulevard station 307+00 RT)					
OPT-1-1	None	6'	OPT-1-1 (0-1') OPT-1-1 (1-6')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-1-2	None	6'	OPT-1-2 (0-1') OPT-1-2 (1-6')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-1-3	None	6'	OPT-1-3 (0-1') OPT-1-3 (1-6')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-1-4	None	6'	OPT-1-4 (0-1') OPT-1-4 (1-6')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-1-5	None	6'	OPT-1-5 (0-1') OPT-1-5 (1-6')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-1-6	None	6'	OPT-1-6 (0-1') OPT-1-6 (1-6')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-1-7	None	8'	OPT-1-7 (0-3') OPT-1-7 (3-8')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-1-7 GW	None	8'	OPT-1-7 GW	Groundwater	VOC/SVOC/Metals/Dissolved Metals/pH/%Solids
OPT-1-8	None	8'	OPT-1-8 (0-3') OPT-1-8 (3-8')	Soil	VOC/SVOC/Metals/pH/%Solids
OPT-2-1	None	6'	OPT-2-1 (0-1') OPT-2-1 (1-6')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids
OPT-2-1 GW	None	6'	OPT-2-1 GW	Groundwater	VOC/SVOC/Metals/Dissolved Metals/Chloride/Cyanide/pH/%Solids
OPT-2-2	None	6'	OPT-2-2 (0-1') OPT-2-2 (1-6')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids
OPT-2-3	None	8'	OPT-2-3 (0-1') OPT-2-3 (1-6')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids
OPT-2-4	None	8'	OPT-2-4 (0-3') OPT-2-4 (3-8')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids
OPT-2-5	None	6'	OPT-2-5 (0-3') OPT-2-5 (3-8')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids
OPT-2-6	None	6'	OPT-2-6 (0-1') OPT-2-6 (1-6')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids
OPT-2-7	None	6'	OPT-2-7 (0-1') OPT-2-7 (1-6')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids
OPT-2-8	None	6'	OPT-2-8 (0-1') OPT-2-8 (1-6')	Soil	VOC/SVOC/Metals/Chloride/Cyanide/pH/%Solids

NA = Not Applicable
VOC = Volatile Organic Compound
GW = Groundwater
ISGS = Illinois State Geological Survey
SVOC = Semi-Volatile Organic Compound
TCLP= Toxicity characteristics leaching procedure.
SPLP= Synthetic precipitation leaching procedure.
Note: TCLP and SPLP Manganese was eliminated from the analyte list for this PSI at the request of IDOT.

Analysis Methods:
VOC: SW8260
SVOC: SW8270
Cyanide: 9010C
Chloride: 300.0 M
Total Metals: SW6010B/SW7470A/SW7471A
Dissolved Metals: SW6010B/SW7470A/SW7471A
TCLP/SPLP Metals: SW6010B/SW7041/SW7470A/SW7841
pH: SW9054D
percent solids: SW2540G

Table 4-1. Field Observations and Sampling Rationale
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Boring ID	Depth to Groundwater (feet bgs)	Range of PID Readings (ppm)	Depth of Interval of Highest PID Readings (feet)	Observed Evidence of Potential Contamination	Depth of Interval(s) Sampled (feet bgs)	Rationale
ISGS PESA Site 2562V-312 (approximate N. Barron Boulevard station 307+00 RT)						
OPT-1-1	N/A	0.0-1.8	4'	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-2	5'	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-3	N/A	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-4	N/A	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-5	N/A	0.0-4.1	2'	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-6	N/A	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-7	N/A	0.0	N/A	N/A	0-3', 3-8'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-7 GW	5'	0.0	N/A	N/A	0-8'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-1-8	N/A	0.0	N/A	N/A	0-3', 3-8'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-1	5'	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-1 GW	5'	0.0	N/A	N/A	0-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-2	5'	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-3	N/A	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-4	N/A	0.0	N/A	N/A	0-3', 3-8'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-5	5'	0.0	N/A	N/A	0-3', 3-8'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-6	N/A	0.0	N/A	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-7	N/A	0.0-67.4	6'	N/A	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.
OPT-2-8	N/A	0.0	N/A	Petroleum odor from 1-2'	0-1', 1-6'	Sample intervals were selected based on proposed construction and potential to be impacted.

Key:
bgs = below ground surface
N/A = Not Applicable
PID = Photo-ionization Detector
ppm = part per million
ISGS = Illinois State Geological Survey

Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Sample ID	OPT-1-1 (0-1')		OPT-1-1 (1-6')		OPT-1-2 (0-1')		OPT-1-2 (1-6')		OPT-1-3 (0-1')		OPT-1-3 (1-6')		OPT-1-4 (0-1')		OPT-1-4 (1-6')		OPT-1-5 (0-1')		OPT-1-5 (1-6')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-1		1-6		0-1		1-6		0-1		1-6		0-1		1-6									Most Stringent TACO Tier 1 Construction Worker Exposure Objective [8]	Most Stringent TACO Tier 1 Residential Objective[9] and Groundwater Protection (TCLP/SPLP) [10]
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		1.8		0.0		0.0		0.0		0.0		0.0		0.0		0.0		4.1										
Sample pH	7.5		8.6		7.9		8.2		7.7		8.4		7.9		8.2		7.5		8.4										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	Unrestrictive		(b)(2)		(a)(3)		(a)(4)		(c)		Unrestrictive		(a)(1)		(a)(4)		Unrestrictive		(a)(1)		Most Stringent Maximum Allowable Concentration [1]	Within Chicago Corporate Limits [2]	Within a Populated Area in a MSA (excluding Chicago) [3]	Within a MSA County [4]	Within a Populated Area in a non-MSA County [5]	Outside a Populated Area [6]	Within a non-MSA County [7]		
VOCs (mg/kg)																													
Acetone	**0.073**		**0.028**		**0.093**		**0.023**		**0.034**		**0.044**		**0.048**		**0.079**		**0.052**		**0.081**		25	NA	NA	NA	NA	NA	NA	100,000	70,000
Benzene	<0.0018		<0.0018		<0.0017		<0.0021		<0.0019		<0.0020		<0.0021		**0.00053**	J	**0.00093**	J	**0.00058**	J	0.03	NA	NA	NA	NA	NA	NA	2.2	0.8
2-Butanone (MEK)	**0.020**		<0.0044		**0.019**		<0.0051		<0.0047		<0.0050		**0.015**		**0.017**		**0.0092**		**0.018**		NA	NA	NA	NA	NA	NA	NA	NA	0.8
Carbon disulfide	<0.0044		<0.0044		<0.0042		<0.0051		<0.0047		<0.0050		<0.0053		**0.0015**	J	<0.0049		<0.0052		9	NA	NA	NA	NA	NA	NA	9	720
Toluene	<0.0018		<0.0018		<0.0017		<0.0021		**0.0011**	J	**0.00068**	J	**0.00060**	J	**0.00098**	J	**0.00074**	J	**0.00054**	J	12	NA	NA	NA	NA	NA	NA	42	650
Xylenes, Total	<0.0035		<0.0035		<0.0033		<0.0041		<0.0037		<0.0040		**0.0021**	J	**0.0066**		<0.0039		<0.0041		5.6	NA	NA	NA	NA	NA	NA	5.6	320
SVOCs (mg/kg)																													
Acenaphthene	<0.040		<0.038		**0.010**	J	**0.086**		<0.038		<0.038		**0.0078**	J	<0.040		<0.039		**0.036**	J	570	NA	NA	NA	NA	NA	NA	120,000	4,700
Acenaphthylene	<0.040		<0.038		**0.010**	J	**0.10**		<0.038		<0.038		<0.041		<0.040		<0.039		**0.027**	J	NA	NA	NA	NA	NA	NA	NA	--	--
Anthracene	<0.040		<0.038		**0.040**		**0.33**		<0.038		**0.010**	J	<0.041		<0.040		**0.013**	J	**0.083**		12,000	NA	NA	NA	NA	NA	NA	610,000	23,000
Benzo[a]anthracene	**0.019**	J	**0.016**	J	**0.061**		**0.37**		**0.012**	J	**0.0099**	J	**0.012**	J	<0.040		**0.022**	J	**0.091**		0.9	1.1	1.8	NA	0.9	0.9	NA	170	0.9
Benzo[a]pyrene	**0.021**	J	**0.018**	J	**0.048**		**0.29**	1,6,9	<0.038		**0.015**	J	**0.012**	J	<0.040		**0.016**	J	**0.066**		0.09	1.3	2.1	NA	0.98	0.09	NA	17	0.09
Benzo[b]fluoranthene	**0.026**	J	**0.020**	J	**0.062**		**0.39**		**0.024**	J	**0.015**	J	**0.018**	J	<0.040		**0.022**	J	**0.093**		0.9	1.5	2.1	NA	0.9	0.9	NA	170	0.9
Benzo[g,h,i]perylene	<0.040	F1	<0.038		**0.021**	J	**0.079**		<0.038		<0.038		<0.041		<0.040		<0.039		**0.015**	J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	**0.013**	J	**0.011**	J	**0.025**	J	**0.13**		<0.038		<0.038		<0.041		<0.040		<0.039		**0.034**	J	9	NA	NA	NA	NA	NA	NA	1,700	9
Carbazole	<0.20		<0.19		<0.20		**0.15**	J	<0.19		<0.19		<0.21		<0.20		<0.20		<0.21		0.6	NA	NA	NA	NA	NA	NA	290	32
Chrysene	**0.021**	J	**0.016**	J	**0.061**		**0.35**		**0.014**	J	<0.038		**0.013**	J	<0.040		**0.020**	J	**0.076**		88	NA	NA	NA	NA	NA	NA	17,000	88
Dibenz(a,h)anthracene	<0.040	F1	<0.038		<0.040		**0.028**	J	<0.038		<0.038		<0.041		<0.040		<0.039		**0.0082**	J	0.09	0.2	0.42	NA	0.15	0.09	NA	17	0.09
Dibenzofuran	<0.20		<0.19		<0.20		**0.22**		<0.19		<0.19		<0.21		<0.20		<0.20		**0.074**	J	NA	NA	NA	NA	NA	NA	NA	--	--
Fluoranthene	**0.030**	J	**0.026**	J	**0.14**		**0.96**		**0.024**	J	**0.015**	J	**0.017**	J	**0.0080**	J	**0.048**		**0.24**		3,100	NA	NA	NA	NA	NA	NA	82,000	3,100
Fluorene	<0.040		<0.038		**0.035**	J	**0.32**		**0.0075**	J	**0.015**	J	<0.041		<0.040		**0.012**	J	**0.11**		560	NA	NA	NA	NA	NA	NA	82,000	3,100
Indeno(1,2,3-cd)pyrene	**0.011**	J F1	<0.038		**0.022**	J	<0.040		<0.038		<0.038		<0.041		<0.040		<0.039		**0.020**	J	0.9	0.9	1.6	NA	0.9	0.9	NA	170	0.9
2-Methylnaphthalene	<0.082	F1	<0.076		**0.0093**	J	**0.14**		<0.077		**0.011**	J	**0.0078**	J	<0.082		<0.079		**0.051**	J	NA	NA	NA	NA	NA	NA	NA	--	--
3 & 4 Methylphenol	<0.20		<0.19		**0.60**		<0.20		<0.19		<0.19		<0.21		<0.20		<0.20		<0.21		NA	NA	NA	NA	NA	NA	NA	--	--
Naphthalene	<0.040		<0.038		**0.021**	J	**0.19**	2,6	**0.031**	J	**0.029**	J	**2.9**	1,2,3,6,8	**0.069**	2	**0.034**	J	**0.082**	2	1.8	0.04	0.2	NA	NA	0.17	NA	1.8	170
Phenanthrene	**0.017**	J	**0.015**	J	**0.17**		**1.3**	1,6	**0.026**	J	**0.035**	J	**0.0077**	J	**0.0061**	J	**0.055**		**0.37**		0.99	1.3	2.5	NA	2.5	0.99	NA	NA	NA
Pyrene	**0.027**	J	**0.024**	J	**0.11**		**0.69**		**0.021**	J	**0.014**	J	**0.016**	J	<0.040		**0.036**	J	**0.18**		2,300	NA	NA	NA	NA	NA	NA	61,000	2,300
Inorganics (mg/kg)																													
Antimony	**0.35**	J B F1	**0.37**	J B	<1.2		**0.23**	J B	<1.1		**0.30**	J B	**0.43**	J B	<1.2		<1.2		<1.2		5	NA	NA	NA	NA	NA	NA	82	31
Arsenic	**8.0**		**5.8**		**8.3**		**5.9**		**7.5**		**7.7**		**6.2**		**8.8**		**5.5**		**6.8**		11.3	NA	NA	13.0	NA	NA	11.3	61	750
Barium	**88**		**90**		**77**		**71**		**65**		**42**		**67**		**58**		**73**		**91**		1,500	NA	NA	NA	NA	NA	NA	14,000	5,500
Beryllium	**0.78**		**0.86**		**1.0**		**0.66**		**0.66**		**0.70**		**0.77**		**0.72**		**0.75**		**0.82**		22	NA	NA	NA	NA	NA	NA	410	160
Cadmium	**0.25**	B	**0.29**	B	**0.23**	B	**0.30**	B	**0.36**	B	**0.32**	B	**0.27**	B	**0.42**	B	**0.25**	B	**0.45**	B	5.2	NA	NA	NA	NA	NA	NA	200	78
Chromium	**19**		**21**		**25**	1	**17**		**16**		**17**		**19**		**21**		**19**		**23**		21	NA	NA	NA	NA	NA	NA	690	230
Cobalt	**14**		**11**		**16**		**11**		**16**		**15**		**14**		**16**		**12**		**16**		20	NA	NA	NA	NA	NA	NA	12,000	4,700
Copper	**21**	B	**26**	B	**27**	B	**23**	B	**19**	B	**21**	B	**18**	B	**24**	B	**18**	B	**26**	B	2,900	NA	NA	NA	NA	NA	NA	8,200	2,900
Iron	**21000**	1,4,7	**22000**	1,4,7	**28000**	1,4,7	**19000**	1,4,7	**19000**	1,4,7	**21000**	1,4,7	**19000**	1,4,7	**26000**	1,4,7	**18000**	1,4,7	**26000**	1,4,7	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Lead	**27**		**16**		**18**		**12**		**20**		**13**		**17**		**17**		**16**		**15**		107	NA	NA	NA	NA	NA	NA	700	400
Manganese	**480**	F2	**710**	1,4,7	**520**		**880**	1,4,7	**690**	1,4,7	**560**		**210**		**220**		**340**		**510**		630	NA	NA	636	NA	NA	630	4,100	1,600
Mercury	**0.029**	B	**0.023**	B	**0.035**	B	**0.028**	B	**0.026**	B	**0.027**	B	**0.025**	B	**0.028**	B	**0.031**	B	**0.035**	B	0.89	NA	NA	NA	NA	NA	NA	0.1	10
Nickel	**23**		**32**		**38**		**28**		**27**		**34**		**27**		**38**		**26**		**42**		100	NA	NA	NA	NA	NA	NA	4,100	1,600
Selenium	**1.3**	B F1	**0.67**	B	**0.77**	B	**0.66**	B	**1.3**	B	**0.53**	J B	**0.81**	B	**1.0**	B	**0.72**	B	**0.82**	B	1.3	NA	NA	NA	NA	NA	NA	1,000	390
Silver	**4.0**		**3.8**		**4.9**	1	**3.2**		**3.7**		**3.4**		**3.9**		**4.3**		**3.9**		**4.9**	1	4.4	NA	NA	NA	NA	NA	NA	1,000	390
Thallium	**0.92**		**0.88**		**1.4**		**0.37**	J	**0.93**		**0.91**		**1.0**		**1.4**		**0.97**		**1.4**		2.6	NA	NA	NA	NA	NA	NA	160	6.3
Vanadium	**30**		**27**		**34**		**27**		**25**		**25**		**29**		**28**		**28**		**30**		550	NA	NA	NA	NA	NA	NA	1,400	550
Zinc	**73**		**75**		**85**		**50**		**58**		**57**		**57**		**70**		**60**		**76**		5,100	NA	NA	NA	NA	NA	NA	61,000	23,000
TCLP Metals (mg/L)																													
Antimony	<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		--	--	--	--	--	--	--	--	0.006
Arsenic	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		--	--	--	--	--	--	--	--	0.05
Barium	**0.31**	J	**0.61**		**0.23**	J	**0.54**		**0.41**	J	**0.35**	J	**0.32**	J	**0.22**	J	**0.23**	J	**0.34**	J	--	--	--	--	--	--	--	--	2
Beryllium	<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		--	--	--	--	--	--	--	--	0.004
Cadmium	**0.0023**	J B	**0.0036**	J B	**0.0027**	J B	**0.0035**	J B	**0.0031**	J B	**0.0034**	J B	**0.0027**	J B	**0.0029**	J B	**0.0026**	J B	**0.0031**	J B	--	--	--	--	--	--	--	--	0.005
Chromium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.1
Cobalt	**0.038**		**0.027**		**0.035**		**0.042**		**0.040**		**0.016**	J	**0.026**		**0.041**		**0.044**		**0.029**		--	--	--	--	--	--	--	--	1
Copper	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.65
Iron	2.8		<0.40		**5.2**	10	<0.40		**1.3**		<0.40		<0.40		**1.2**		**2.1**		**0.65**		--	--	--	--	--	--	--	--	5
Lead	<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		--	--	--	--	--	--	--	--	0.0075
Mercury	<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		--	--	--	--	--	--	--	--	0.002
Nickel	**0.018**	J	**0.022**	J	**0.029**		**0.037**		**0.031**		**0.019**	J	**0.018**	J	**0.035**		**0.027**		**0.024**	J	--	--	--	--	--	--	--	--	0.1
Selenium	**0.031**	J	**0.035**	J	**0.028**	J	**0.033**	J	**0.022**	J	**0.030**	J	**0.033**	J	<0.050		**0.028**	J	**0.031**	J	--	--	--	--	--	--	--	--	0.05
Silver	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.05
Thallium	<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		--	--	--	--	--	--	--	--	0.002
Vanadium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.049
Zinc	**0.13**	J	**0.27**	J	**0.055**	J	**0.20**	J	**0.060**	J	**0.57**		**0.050**	J	**0.87**		**0.089**	J	**0.45**	J	--	--	--	--	--	--	--	--	5
SPLP Metals (mg/L)																													
Iron	NA		NA		**260**	10	NA		NA		NA		NA		NA		NA		NA		--	--	--	--	--	--	--	--	5

Notes:

NA= Not available
ND= Not detected above laboratory reporting limit
NT= Not tested
mg/kg= Milligrams per kilogram
mg/L= Milligrams per liter
TCLP= Toxicity Characteristic Leaching Procedure
SPLP= Synthetic Precipitation Leaching Procedure
MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).
TACO = Tiered Approach to Corrective Action Objectives

*= Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits.
^= Instrument related QC is outside acceptance limits.
B= Compound was found in the blank and sample.
J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.
F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.
F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.
CCDD = Clean Construction Demolition Debris
****= cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both
CCDD Eligible- metals exceed TCLP and SPLP but not Totals
CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability
Greater than TACO Construction Worker Exposure Objectives
pH outside of the acceptable range (6.25 to 9.0); PID exceeds background
Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Sample ID	OPT-1-6 (0-1')		OPT-1-6 (1-6')		OPT-1-7 (0-3')		OPT-1-7 (3-8')		OPT-1-8 (0-3')		OPT-1-8 (3-8')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-3		3-8		0-3		3-8										
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		0.0		0.0		0.0		0.0		0.0										
Sample pH	7.7		7.4		8.2		9.3		7.5		8.7										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	(a)(1)		(a)(4)		(a)(3)		(b)(1)		(c)		(a)(3)		Most Stringent Maximum Allowable Concentration [1]	Within Chicago Corporate Limits [2]	Within a Populated Area in a MSA (excluding Chicago) [3]	Within a MSA County [4]	Within a Populated Area in a non-MSA County [5]	Outside a Populated Area [6]	Within a non-MSA County [7]	Most Stringent TACO Tier 1 Construction Worker Exposure Objective [8]	Most Stringent TACO Tier 1 Residential Objective [9] and Groundwater Protection (TCLP/SPLP) [10]
VOCs (mg/kg)																					
Acetone	**0.055**		**0.11**		**0.062**		**0.016**	J	**0.043**		**0.026**		25	NA	NA	NA	NA	NA	NA	100,000	70,000
Benzene	<0.0019		**0.0016**	J	<0.0022		<0.0019		<0.0018		<0.0021		0.03	NA	NA	NA	NA	NA	NA	2.2	0.8
2-Butanone (MEK)	<0.0048		**0.031**		<0.0056		<0.0048		**0.011**		<0.0053		NA	NA	NA	NA	NA	NA	NA	NA	0.8
2-Hexanone	<0.0048		**0.011**		<0.0056		<0.0048		<0.0046		<0.0053		NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	**0.0062**		**0.027**		<0.0056		<0.0048		<0.0046		<0.0053		NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	**0.0029**		**0.0025**		**0.001**	J	<0.0019		<0.0018		<0.0021		12	NA	NA	NA	NA	NA	NA	42	650
Xylenes, Total	**0.0048**		**0.001**	J	<0.0045		<0.0038		<0.0037		<0.0042		5.6	NA	NA	NA	NA	NA	NA	5.6	320
SVOCs (mg/kg)																					
Acenaphthene	**0.012**	J	**0.017**	J	<0.047		<0.038		<0.042		<0.041		570	NA	NA	NA	NA	NA	NA	120,000	4,700
Acenaphthylene	**0.016**	J	**0.029**	J	<0.047		<0.038		<0.042		<0.041		NA	NA	NA	NA	NA	NA	NA	--	--
Anthracene	**0.043**		**0.089**		<0.047		<0.038		<0.042		<0.041		12,000	NA	NA	NA	NA	NA	NA	610,000	23,000
Benzo[a]anthracene	**0.049**		**0.097**		**0.0099**	J	<0.038		**0.013**	J	<0.041		0.9	1.1	1.8	NA	0.9	0.9	NA	170	0.9
Benzo[a]pyrene	**0.045**		**0.076**		**0.0098**	J	<0.038		**0.016**	J	<0.041		0.09	1.3	2.1	NA	0.98	0.09	NA	17	0.09
Benzo[b]fluoranthene	**0.064**		**0.1**		**0.013**	J	<0.038		**0.023**	J	<0.041		0.9	1.5	2.1	NA	0.9	0.9	NA	170	0.9
Benzo[g,h,i]perylene	**0.028**	J	**0.038**	J	<0.047		<0.038		**0.014**	J	<0.041		NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	**0.018**	J	**0.029**	J	<0.047		<0.038		<0.042		<0.041		9	NA	NA	NA	NA	NA	NA	1,700	9
Chrysene	**0.051**		**0.085**		**0.014**	J	<0.038		**0.015**	J	<0.041		88	NA	NA	NA	NA	NA	NA	17,000	88
Dibenz(a,h)anthracene	<0.040		**0.014**	J	<0.047		<0.038		<0.042		<0.041		0.09	0.2	0.42	NA	0.15	0.09	NA	17	0.09
Dibenzofuran	<0.20		**0.052**	J	<0.24		<0.19		<0.21		<0.21		NA	NA	NA	NA	NA	NA	NA	--	--
Fluoranthene	**0.12**		**0.26**		**0.022**	J	<0.038		**0.017**	J	<0.041		3,100	NA	NA	NA	NA	NA	NA	82,000	3,100
Fluorene	**0.046**		**0.085**		<0.047		<0.038		<0.042		<0.041		560	NA	NA	NA	NA	NA	NA	82,000	3,100
Indeno(1,2,3-cd)pyrene	**0.026**	J	**0.04**	J	<0.047		<0.038		**0.011**	J	<0.041		0.9	0.9	1.6	NA	0.9	0.9	NA	170	0.9
2-Methylnaphthalene	**0.028**	J	**0.032**	J	**0.015**	J	<0.078		**0.015**	J	<0.084		NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	**0.24**		**1.9**		<0.24		<0.19		<0.21		<0.21		NA	NA	NA	NA	NA	NA	NA	NA	NA
3 & 4 Methylphenol	**3.7**		**4.3**		**0.078**	J	<0.19		<0.21		<0.21		NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	**1.6**	2,3,6	**0.1**	2	**0.012**	J	<0.038		**0.013**	J	<0.041		1.8	0.04	0.2	NA	NA	0.17	NA	1.8	170
Phenanthrene	**0.17**		**0.39**		**0.02**	J	<0.038		**0.015**	J	<0.041		0.99	1.3	2.5	NA	2.5	0.99	NA	NA	NA
Pyrene	**0.089**		**0.18**		**0.023**	J	<0.038		**0.016**	J	<0.041		2,300	NA	NA	NA	NA	NA	NA	61,000	2,300
Inorganics (mg/kg)																					
Antimony	<1.2		<1.2		<1.4		<1.1		**0.32**	J B	**0.35**	J B	5	NA	NA	NA	NA	NA	NA	82	31
Arsenic	**6.2**		**4**		**7.6**		**7.8**		**6.3**		**6.7**		11.3	NA	NA	13.0	NA	NA	11.3	61	750
Barium	**61**		**110**		**86**		**57**		**120**		**95**		1,500	NA	NA	NA	NA	NA	NA	14,000	5,500
Beryllium	**0.71**		**0.78**		**0.86**		**0.7**		**1**		**0.98**		22	NA	NA	NA	NA	NA	NA	410	160
Cadmium	**0.3**	B	**0.34**	B	**0.24**	B	**0.29**	B	**0.34**	B	**0.27**	B	5.2	NA	NA	NA	NA	NA	NA	200	78
Chromium	**17**		**19**		**23**	1	**18**		**20**		**22**	1	21	NA	NA	NA	NA	NA	NA	690	230
Cobalt	**13**		**10**		**15**		**14**		**12**		**15**		20	NA	NA	NA	NA	NA	NA	12,000	4,700
Copper	**18**	B	**23**	B	**24**	B	**25**	B	**44**	B	**29**	B	2,900	NA	NA	NA	NA	NA	NA	8,200	2,900
Iron	**18000**	1,4,7	**18000**	1,4,7	**25000**	1,4,7	**21000**	1,4,7	**23000**	1,4,7	**24000**	1,4,7	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Lead	**20**		**15**		**17**		**13**		**33**		**18**		107	NA	NA	NA	NA	NA	NA	700	400
Manganese	**420**		**200**		**380**		**420**		**870**	1,4,7	**540**		630	NA	NA	636	NA	NA	630	4,100	1,600
Mercury	**0.025**	B	**0.025**	B	**0.035**	B	**0.032**	B	**0.032**	B	**0.023**	B	0.89	NA	NA	NA	NA	NA	NA	0.1	10
Nickel	**23**		**22**		**35**		**35**		**28**		**37**		100	NA	NA	NA	NA	NA	NA	4,100	1,600
Selenium	**1.1**	B	**1.4**	1, B	**1**	B	**0.97**	B	**1.3**	B	**0.96**	B	1.3	NA	NA	NA	NA	NA	NA	1,000	390
Silver	**3.7**		**3.9**		**4.5**	1	**3.5**		**4.2**		**4.4**		4.4	NA	NA	NA	NA	NA	NA	1,000	390
Thallium	**1.2**		**1**		**1.5**		**0.88**		**0.81**		**1.1**		2.6	NA	NA	NA	NA	NA	NA	160	6.3
Vanadium	**26**		**27**		**33**		**25**		**31**		**31**		550	NA	NA	NA	NA	NA	NA	1,400	550
Zinc	**59**		**76**		**67**		**57**		**270**		**110**		5,100	NA	NA	NA	NA	NA	NA	61,000	23,000
TCLP Metals (mg/L)																					
Antimony	<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		--	--	--	--	--	--	--	--	0.006
Arsenic	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		--	--	--	--	--	--	--	--	0.05
Barium	**0.24**	J	**0.19**	J	**0.3**	J	**0.44**	J	**0.34**	J	**0.5**		--	--	--	--	--	--	--	--	2
Beryllium	<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		--	--	--	--	--	--	--	--	0.004
Cadmium	**0.0028**	J B	**0.0021**	J B	**0.0023**	J B	**0.0033**	J B	**0.0024**	J B	**0.0035**	J B	--	--	--	--	--	--	--	--	0.005
Chromium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.1
Cobalt	**0.026**		**0.011**	J	**0.035**		**0.02**	J	**0.035**		**0.033**		--	--	--	--	--	--	--	--	1
Copper	<0.025		**0.01**	J	<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.65
Iron	**1.3**		**2**		**4.1**		<0.40		**1**		<0.40		--	--	--	--	--	--	--	--	5
Lead	<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		--	--	--	--	--	--	--	--	0.0075
Mercury	**0.0002**		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		--	--	--	--	--	--	--	--	0.002
Nickel	**0.018**	J	**0.011**	J	**0.023**	J	**0.02**	J	**0.023**	J	**0.03**		--	--	--	--	--	--	--	--	0.1
Selenium	**0.031**	J	**0.025**	J	**0.025**	J	**0.028**	J	**0.031**	J	**0.038**	J	--	--	--	--	--	--	--	--	0.05
Silver	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025	F1	--	--	--	--	--	--	--	--	0.05
Thallium	<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		--	--	--	--	--	--	--	--	0.002
Vanadium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.049
Zinc	<0.50		**0.43**	J	**0.044**	J	**0.13**	J	**0.1**	J	**0.028**	J	--	--	--	--	--	--	--	--	5

Notes:

NA= Not available
ND= Not detected above laboratory reporting limit
NT= Not tested
mg/kg= Milligrams per kilogram
mg/L= Milligrams per liter
TCLP= Toxicity Characteristic Leaching Procedure
SPLP= Synthetic Precipitation Leaching Procedure
MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).
TACO = Tiered Approach to Corrective Action Objectives

*= Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits.
^= Instrument related QC is outside acceptance limits.
B= Compound was found in the blank and sample.
J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.
F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.
F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.
CCDD = Clean Construction Demolition Debris
**=cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both
CCDD Eligible- metals exceed TCLP and SPLP but not Totals
CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability
Greater than TACO Construction Worker Exposure Objectives
pH outside of the acceptable range (6.25 to 9.0); PID exceeds background
Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Sample ID	OPT-2-1 (0-1')		OPT-2-1 (1-6')		OPT-2-2 (0-1')		OPT-2-2 (1-6')		OPT-2-3 (0-1')		OPT-2-3 (1-6')		OPT-2-4 (0-3')		OPT-2-4 (3-8')		OPT-2-5 (0-3')		OPT-2-5 (3-8')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-1		1-6		0-1		1-6		0-3		3-8		0-3		3-8										
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0										
Sample pH	7.2		7.5		7.7		8.4		8.4		8.6		8.8		9.5		7.9		8.3										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	(a)(1)		Unrestrictive		Unrestrictive		(a)(1)		(a)(3)		Unrestrictive		(c)		(b)(1)		(a)(1)		(a)(1)		Most Stringent Maximum Allowable Concentration [1]	Within Chicago Corporate Limits [2]	Within a Populated Area in a MSA (excluding Chicago) [3]	Within a MSA County [4]	Within a Populated Area in a non-MSA County [5]	Outside a Populated Area [6]	Within a non-MSA County [7]	Most Stringent TACO Tier 1 Construction Worker Exposure Objective [8]	Most Stringent TACO Tier 1 Residential Objective [9] and Groundwater Protection (TCLP/SPLP) [10]
VOCs (mg/kg)																													
Acetone	**0.035**		<0.017		**0.054**		**0.057**		**0.056**		**0.034**		**0.026**		<0.015		**0.044**		<0.017		25	NA	NA	NA	NA	NA	NA	100,000	70,000
2-Butanone (MEK)	**0.0054**		<0.0043		**0.012**		**0.0045**	J	**0.0084**		<0.0043		**0.0037**	J	<0.0039		**0.0064**		<0.0044		NA	NA	NA	NA	NA	NA	NA	NA	0.8
SVOCs (mg/kg)																													
Benzo[a]anthracene	**0.0073**	J	<0.041		<0.041		**0.0062**	J	<0.040		<0.038		<0.037		**0.0078**	J	<0.045		<0.037		0.9	1.1	1.8	NA	0.9	0.9	NA	170	0.9
Benzo[a]pyrene	**0.012**	J	<0.041		<0.041		<0.044		<0.040		<0.038		<0.037		**0.0089**	J	<0.045		<0.037		0.09	1.3	2.1	NA	0.98	0.09	NA	17	0.09
Benzo[b]fluoranthene	**0.015**	J	<0.041		<0.041		**0.013**	J	<0.040		<0.038		<0.037		**0.011**	J	<0.045		<0.037		0.9	1.5	2.1	NA	0.9	0.9	NA	170	0.9
Fluoranthene	**0.011**	J	<0.041		<0.041		**0.0089**	J	<0.040		<0.038		<0.037		**0.0083**	J	<0.045		<0.037		3,100	NA	NA	NA	NA	NA	NA	82,000	3,100
2-Methylnaphthalene	<0.084		<0.083		<0.082		<0.089		<0.082		<0.077		<0.075		**0.010**	J	<0.090		<0.076		NA	NA	NA	NA	NA	NA	NA	--	--
Phenanthrene	<0.041		<0.041		<0.041		<0.044		<0.040		<0.038		**0.013**	J	**0.025**	J	<0.045		<0.037		0.99	1.3	2.5	NA	2.5	0.99	NA	NA	NA
Pyrene	**0.012**	J	<0.041		<0.041		**0.0099**	J	<0.040		<0.038		<0.037		**0.0096**	J	<0.045		<0.037		2,300	NA	NA	NA	NA	NA	NA	61,000	2,300
Inorganics (mg/kg)																													
Antimony	<1.2		<1.2		**0.28**	J	**0.44**	J	<1.2		**0.34**	J	**0.31**	J	**0.41**	J	**0.27**	J	**0.37**	J F1	5	NA	NA	NA	NA	NA	NA	82	31
Arsenic	**6.7**		**8.2**		**7.1**		**5.7**		**7.1**		**10**		**6.2**		**7.2**		**7.9**		**6.9**	F1	11.3	NA	NA	13.0	NA	NA	11.3	61	750
Barium	**93**		**77**		**84**		**43**		**83**		**48**		**58**		**40**		**42**		**21**		1,500	NA	NA	NA	NA	NA	NA	14,000	5,500
Beryllium	**0.81**		**0.87**		**0.79**		**0.53**		**0.76**		**0.60**		**0.54**		**0.52**		**0.81**		**0.56**		22	NA	NA	NA	NA	NA	NA	410	160
Cadmium	**0.24**	B	**0.30**	B	**0.35**	B	**0.27**	B	**0.28**	B	**0.45**	B	**0.29**	B	**0.35**	B	**0.22**	B	**0.32**	F1 B	5.2	NA	NA	NA	NA	NA	NA	200	78
Chromium	**23**	1	**21**		**21**		**15**		**22**	1	**15**		**14**		**13**		**21**		**14**		21	NA	NA	NA	NA	NA	NA	690	230
Cobalt	**13**		**14**		**13**		**10**		**13**		**13**		**16**		**9.8**		**18**		**13**	F1	20	NA	NA	NA	NA	NA	NA	12,000	4,700
Copper	**22**	B	**28**	B	**21**	B	**19**	B	**22**	B	**25**	B	**19**	B	**24**	B	**24**	B	**22**	B	2,900	NA	NA	NA	NA	NA	NA	8,200	2,900
Iron	**23000**	1,4,7,B	**24000**	1,4,7,B	**23000**	1,4,7,B	**18000**	1,4,7,B	**23000**	1,4,7,B	**23000**	1,4,7,B	**19000**	1,4,7,B	**18000**	1,4,7,B	**24000**	1,4,7,B	**20000**	1,4,7,B	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Lead	**17**		**15**		**22**		**11**		**18**		**15**		**11**		**12**		**15**		**14**	F1	107	NA	NA	NA	NA	NA	NA	700	400
Manganese	**620**		**580**		**560**		**540**		**590**		**580**		**870**	1,4,7	**480**		**770**	1,4,7	**560**		630	NA	NA	636	NA	NA	630	4,100	1,600
Mercury	**0.028**		**0.018**	J	**0.027**		**0.014**	J	**0.024**		**0.019**		**0.014**	J	**0.0060**	J	**0.025**		**0.010**	J	0.89	NA	NA	NA	NA	NA	NA	0.1	10
Nickel	**29**		**37**		**30**		**25**		**29**		**31**		**32**		**25**		**38**		**31**	F1	100	NA	NA	NA	NA	NA	NA	4,100	1,600
Selenium	**1.4**	1,B	**0.71**	B	**0.86**	B	**0.64**	B	**1.1**	B	**0.41**	J B	**0.36**	J B	**0.71**	B	**0.81**	B	**0.68**	F1 B	1.3	NA	NA	NA	NA	NA	NA	1,000	390
Silver	**4.1**		**4.0**		**4.0**		**2.5**		**3.9**		**2.7**		**2.8**		**2.3**		**3.9**		**2.5**		4.4	NA	NA	NA	NA	NA	NA	1,000	390
Thallium	**1.1**		**0.99**		**1.1**		<0.63		**0.86**		**0.28**	J	**0.35**	J	<0.55		**1.1**		**0.59**	F1	2.6	NA	NA	NA	NA	NA	NA	160	6.3
Vanadium	**32**		**28**		**31**		**22**		**29**		**22**		**22**		**18**		**29**		**19**		550	NA	NA	NA	NA	NA	NA	1,400	550
Zinc	**70**	B	**67**	B	**130**	B	**48**	B	**60**	B	**52**	B	**36**	B	**50**		**61**		**50**		5,100	NA	NA	NA	NA	NA	NA	61,000	23,000
Other Parameters (mg/Kg)																													
Cyanide, Total	**0.57**	4,7,J H	**0.22**	J H	<0.52	H	**0.22**	J H	<0.46	H	<0.50	H	<0.52	H	**0.26**	J H	**0.98**	4,7,H	**1.6**	4,7,H	40	NA	NA	0.51	NA	NA	0.5	4,100	1,600
Chloride	**7100**	1	**2300**		**1600**		**5700**	1	**490**		**430**		**2300**		**470**		**9400**	1	**5200**	1	4,000	NA	NA	NA	NA	NA	NA	NA	NA
TCLP Metals (mg/L)																													
Antimony	<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		--	--	--	--	--	--	--	--	0.006
Arsenic	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		--	--	--	--	--	--	--	--	0.05
Barium	**0.23**	J	**0.44**	J	**0.38**	J	**0.42**	J	**0.39**	J	**0.43**	J	**0.58**		**0.42**	J	**0.23**	J	**0.27**	J	--	--	--	--	--	--	--	--	2
Beryllium	<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		--	--	--	--	--	--	--	--	0.004
Cadmium	<0.0050		<0.0050		<0.0050		**0.0021**	J	<0.0050		<0.0050		<0.0050		<0.0050		<0.0050		<0.0050		--	--	--	--	--	--	--	--	0.005
Chromium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.1
Cobalt	**0.015**	J	<0.025		**0.028**		**0.013**	J	**0.024**	J	<0.025		**0.024**	J	<0.025		**0.028**		<0.025		--	--	--	--	--	--	--	--	1
Copper	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.65
Iron	<0.40		<0.40		**0.47**		<0.40		<0.40		<0.40		<0.40		<0.40		<0.40		<0.40		--	--	--	--	--	--	--	--	5
Lead	<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		--	--	--	--	--	--	--	--	0.0075
Mercury	<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		--	--	--	--	--	--	--	--	0.002
Nickel	<0.025		<0.025		**0.013**	J	**0.018**	J	**0.015**	J	<0.025		**0.023**	J	<0.025		**0.020**	J	<0.025		--	--	--	--	--	--	--	--	0.1
Selenium	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		--	--	--	--	--	--	--	--	0.05
Silver	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.05
Thallium	<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		--	--	--	--	--	--	--	--	0.002
Vanadium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.049
Zinc	**0.081**	J	<0.50		**0.39**	J	**0.19**	J	**0.081**	J	**0.22**	J	**0.16**	J	<0.50		**0.13**	J	<0.50		--	--	--	--	--	--	--	--	5

Notes:

NA= Not available
ND= Not detected above laboratory reporting limit
NT= Not tested
mg/kg= Milligrams per kilogram
mg/L= Milligrams per liter
TCLP= Toxicity Characteristic Leaching Procedure
SPLP= Synthetic Precipitation Leaching Procedure
MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).
TACO = Tiered Approach to Corrective Action Objectives

*= Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits.
^= Instrument related QC is outside acceptance limits.
B= Compound was found in the blank and sample.
J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.
F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.
F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.
CCDD = Clean Construction Demolition Debris
**=cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both
CCDD Eligible- metals exceed TCLP and SPLP but not Totals
CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability
Greater than TACO Construction Worker Exposure Objectives
pH outside of the acceptable range (6.25 to 9.0); PID exceeds background
Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Sample ID	OPT-2-6 (0-1')		OPT-2-6 (1-6')		OPT-2-7 (0-1')		OPT-2-7 (1-6')		OPT-2-8 (0-1')		OPT-2-8 (1-6')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-1		1-6		0-1		1-6										
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		0.0		55.0		67.4		0.0		0.0										
Sample pH	7.6		8.2		7.9		8.2		8.2		8.1										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	(a)(1)		(a)(1)		(a)(5)		(a)(5)		(a)(1)		(a)(1)		Most Stringent Maximum Allowable Concentration [1]	Within Chicago Corporate Limits [2]	Within a Populated Area in a MSA (excluding Chicago) [3]	Within a MSA County [4]	Within a Populated Area in a non-MSA County [5]	Outside a Populated Area [6]	Within a non-MSA County [7]	Most Stringent TACO Tier 1 Construction Worker Exposure Objective [8]	Most Stringent TACO Tier 1 Residential Objective[9] and Groundwater Protection (TCLP/SPLP) [10]
VOCs (mg/kg)																					
Acetone	**0.098**		**0.021**		<0.58		<0.47		**0.042**		**0.0093**	J	25	NA	NA	NA	NA	NA	NA	100,000	70,000
Benzene	**0.00052**	J	<0.0017		**0.011**	J	<0.012		<0.0018		<0.0016		0.03	NA	NA	NA	NA	NA	NA	2.2	0.8
2-Butanone (MEK)	**0.018**		**0.0026**	J	<0.29		<0.24		**0.0082**		<0.0040		NA	NA	NA	NA	NA	NA	NA	NA	0.8
Carbon disulfide	**0.0014**	J	<0.0041		<0.12		<0.094		<0.0044		<0.0040		9	NA	NA	NA	NA	NA	NA	9	720
Ethylbenzene	<0.0019		<0.0017		**1.1**		**0.68**		<0.0018		<0.0016		13	NA	NA	NA	NA	NA	NA	58	400
Xylenes, Total	<0.0037		<0.0033		**0.99**		**0.37**		<0.0035		<0.0032		5.6	NA	NA	NA	NA	NA	NA	5.6	320
SVOCs (mg/kg)																					
Acenaphthene	<0.042		**0.0072**	J	<0.040		**0.017**	J	<0.039		<0.037		570	NA	NA	NA	NA	NA	NA	120,000	4,700
Anthracene	**0.0076**	J	**0.011**	J	<0.040		<0.037		<0.039		<0.037		12,000	NA	NA	NA	NA	NA	NA	610,000	23,000
Benzo[a]anthracene	**0.012**	J	**0.015**	J	<0.040		**0.011**	J	<0.039		<0.037		0.9	1.1	1.8	NA	0.9	0.9	NA	170	0.9
Benzo[a]pyrene	**0.0095**	J	**0.013**	J	<0.040		**0.012**	J	**0.011**	J	<0.037		0.09	1.3	2.1	NA	0.98	0.09	NA	17	0.09
Benzo[b]fluoranthene	**0.012**	J	**0.011**	J	<0.040		**0.016**	J	<0.039		<0.037		0.9	1.5	2.1	NA	0.9	0.9	NA	170	0.9
Bis(2-ethylhexyl) phthalate	<0.21		<0.19		<0.20		**0.092**	J	<0.20		<0.18		NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	<0.042		**0.011**	J	<0.040		**0.026**	J	<0.039		<0.037		88	NA	NA	NA	NA	NA	NA	17,000	88
Fluoranthene	**0.046**		**0.037**	J	<0.040		**0.012**	J	<0.039		<0.037		3,100	NA	NA	NA	NA	NA	NA	82,000	3,100
Fluorene	<0.042		**0.015**	J	<0.040		**0.014**	J	<0.039		<0.037		560	NA	NA	NA	NA	NA	NA	82,000	3,100
2-Methylnaphthalene	<0.085		<0.077		**0.053**	J	**0.12**		<0.079		<0.074		NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	<0.042		**0.014**	J	**0.26**	2,3,7	**1.8**	2,3,7	**0.0083**	J	<0.037		1.8	0.04	0.2	NA	NA	0.17	NA	1.8	170
Phenanthrene	**0.020**	J	**0.037**	J	<0.040		**0.039**		<0.039		<0.037		0.99	1.3	2.5	NA	2.5	0.99	NA	NA	NA
Pyrene	**0.018**	J	**0.028**	J	<0.040		**0.039**		**0.0087**	J	<0.037		2,300	NA	NA	NA	NA	NA	NA	61,000	2,300
Inorganics (mg/kg)																					
Antimony	**0.32**	J	**0.42**	J	**0.33**	J	**0.42**	J	**0.39**	J	**0.20**	J	5	NA	NA	NA	NA	NA	NA	82	31
Arsenic	**6.6**		**5.1**		**6.2**		**5.2**		**4.7**		**7.0**		11.3	NA	NA	13.0	NA	NA	11.3	61	750
Barium	**89**		**65**		**78**		**56**		**66**		**84**		1,500	NA	NA	NA	NA	NA	NA	14,000	5,500
Beryllium	**0.79**		**0.46**		**0.68**		**0.42**		**0.60**		**0.77**		22	NA	NA	NA	NA	NA	NA	410	160
Cadmium	**0.28**	B	**0.28**	B	**0.31**	B	**0.27**	B	**0.26**	B	**0.30**	B	5.2	NA	NA	NA	NA	NA	NA	200	78
Chromium	**21**		**12**		**19**		**13**		**15**		**19**		21	NA	NA	NA	NA	NA	NA	690	230
Cobalt	**14**		**9.9**		**12**		**10**		**8.5**		**11**		20	NA	NA	NA	NA	NA	NA	12,000	4,700
Copper	**23**	B	**17**	B	**18**	B	**18**	B	**17**	B	**25**	B	2,900	NA	NA	NA	NA	NA	NA	8,200	2,900
Iron	**22000**	1,4,7,B	**14000**	B	**20000**	1,4,7,B	**14000**	B	**16000**	1,4,7,B	**21000**	1,4,7,B	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Lead	**17**		**11**		**23**		**12**		**20**		**12**		107	NA	NA	NA	NA	NA	NA	700	400
Manganese	**320**		**1000**	1,4,7	**390**		**460**		**280**		**350**		630	NA	NA	636	NA	NA	630	4,100	1,600
Mercury	**0.026**		**0.014**	J	**0.023**		**0.011**	J	**0.032**		**0.015**	J	0.89	NA	NA	NA	NA	NA	NA	0.1	10
Nickel	**31**		**21**		**25**		**23**		**18**		**32**		100	NA	NA	NA	NA	NA	NA	4,100	1,600
Selenium	**0.89**	B	**0.62**	B	**0.82**	B	**0.77**	B	**0.79**	B	**0.41**	J B	1.3	NA	NA	NA	NA	NA	NA	1,000	390
Silver	**4.5**	1	**2.4**		**3.7**		**2.2**		**2.6**		**3.5**		4.4	NA	NA	NA	NA	NA	NA	1,000	390
Thallium	**1.1**		<0.56		**0.95**		<0.56		**0.40**	J	**0.76**		2.6	NA	NA	NA	NA	NA	NA	160	6.3
Vanadium	**29**		**19**		**28**		**17**		**26**		**26**		550	NA	NA	NA	NA	NA	NA	1,400	550
Zinc	**70**		**32**		**69**		**36**		**52**		**60**		5,100	NA	NA	NA	NA	NA	NA	61,000	23,000
Other Parameters (mg/Kg)																					
Cyanide, Total	**0.36**	J H	<0.50	H	**0.19**	J H	**0.39**	J H	**0.20**	J H	<0.55	H	40	NA	NA	0.51	NA	NA	0.5	4,100	1,600
Chloride	**13000**	1	**5200**	1	**8600**	1	**6200**	1	**6500**	1	**4300**	1	4,000	NA	NA	NA	NA	NA	NA	NA	NA
TCLP Metals (mg/L)																					
Antimony	<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		<0.0060		--	--	--	--	--	--	--	--	0.006
Arsenic	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		--	--	--	--	--	--	--	--	0.05
Barium	**0.37**	J	**0.91**		**0.52**		**0.59**		**0.59**		**0.46**	J	--	--	--	--	--	--	--	--	2
Beryllium	<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		<0.0040		--	--	--	--	--	--	--	--	0.004
Cadmium	<0.0050		**0.0022**	J	<0.0050		<0.0050		<0.0050		**0.0021**	J	--	--	--	--	--	--	--	--	0.005
Chromium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.1
Cobalt	**0.032**		**0.017**	J	**0.036**		**0.019**	J	**0.027**		**0.016**	J	--	--	--	--	--	--	--	--	1
Copper	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.65
Iron	**1.2**		<0.40		**0.77**		<0.40		**1.4**		<0.40		--	--	--	--	--	--	--	--	5
Lead	<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		<0.0075		--	--	--	--	--	--	--	--	0.0075
Mercury	<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		--	--	--	--	--	--	--	--	0.002
Nickel	**0.017**	J	**0.018**	J	**0.021**	J	**0.016**	J	<0.025		**0.026**		--	--	--	--	--	--	--	--	0.1
Selenium	<0.050		<0.050		<0.050		<0.050		<0.050		<0.050		--	--	--	--	--	--	--	--	0.05
Silver	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.05
Thallium	<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		<0.0020		--	--	--	--	--	--	--	--	0.002
Vanadium	<0.025		<0.025		<0.025		<0.025		<0.025		<0.025		--	--	--	--	--	--	--	--	0.049
Zinc	**0.10**	J	**0.25**	J	**0.090**	J	**0.14**	J	**0.039**	J	**0.35**	J	--	--	--	--	--	--	--	--	5

Notes:

NA= Not available
ND= Not detected above laboratory reporting limit
NT= Not tested
mg/kg= Milligrams per kilogram
mg/L= Milligrams per liter
TCLP= Toxicity Characteristic Leaching Procedure
SPLP= Synthetic Precipitation Leaching Procedure
MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).
TACO = Tiered Approach to Corrective Action Objectives

*= Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits.
^= Instrument related QC is outside acceptance limits.
B= Compound was found in the blank and sample.
J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.
F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.
F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.
CCDD = Clean Construction Demolition Debris
**= cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both
CCDD Eligible- metals exceed TCLP and SPLP but not Totals
CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability
Greater than TACO Construction Worker Exposure Objectives
pH outside of the acceptable range (6.25 to 9.0); PID exceeds background
Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

Table 4-2. Detected Groundwater Analytes and Comparison to Applicable Criteria
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Sample ID	OPT-1-7 GW		OPT-2-1 GW		TACO Remediation Objectives
Screened Interval (ft)	0-8		0-6		
Sample Date	06/26/2019		06/26/2019		TACO Tier 1 Residential Groundwater [11]
Matrix	Groundwater		Groundwater		
IDOT 669 Designation	(d)		(d)		
VOCs (mg/L)					
Acetone	**0.0078**	J	<0.010		6.3
Toluene	**0.00017**	J	<0.00050		1.0
SVOCs (mg/L)					
Benzo[a]anthracene	**0.0027**	11	<0.00012		0.00013
Benzo[a]pyrene	**0.0024**	11	<0.00015		0.0002
Benzo[b]fluoranthene	**0.0032**	11	<0.00015		0.00018
Benzo[k]fluoranthene	**0.0019**	11	<0.00015		0.00017
Chrysene	**0.0036**	11	<0.00015		0.0015
Fluoranthene	**0.0068**	J	<0.00076		0.28
Indeno[1,2,3-cd]pyrene	**0.0011**	11, J	<0.00015		0.00043
2-Methylnaphthalene	**0.00057**	J	<0.00015		NA
Phenanthrene	**0.0047**	J	<0.00076		NA
Pyrene	**0.0067**	J	<0.00076		0.21
Other Parameters (mg/L)					
Cyanide, Total	<0.010		**0.16**		0.2
Chloride	**150**		**8100**	11	200
Inorganics (mg/L)					
Antimony	<0.0030		<0.0030		
Antimony,Diss	<0.0030		<0.0030		0.006
Arsenic	**0.025**		**0.024**		
Arsenic,Diss	**0.0024**		**0.0039**		0.05
Barium	**0.081**		**0.35**		
Barium,Diss	**0.02**		**0.27**		2.0
Beryllium	**0.00077**	J ^	<0.0050		
Beryllium,Diss	<0.0010	^	<0.0010	^	0.004
Cadmium	**0.00044**	J	**0.002**		
Cadmium,Diss	<0.00050		**0.00056**		0.005
Chromium	**0.018**		**0.039**		
Chromium,Diss	<0.0050		<0.0050		0.1
Cobalt	**0.012**		**0.018**		
Cobalt,Diss	**0.00069**	J	**0.0058**		1
Copper	**0.1**	B	**0.073**	B	
Copper,Diss	**0.0091**	B	**0.0052**	B	0.65
Iron	**32**	11	**40**	11	
Iron,Diss	**0.61**		**0.22**		5
Lead	**0.047**	11	**0.02**	11	
Lead,Diss	**0.00095**		<0.00050		0.0075
Manganese	**0.61**	11	**3.8**	11	
Manganese,Diss	**0.1**		**3.6**	11	0.15
Mercury	**0.00021**		<0.00033	F1	
Mercury,Diss	<0.00020		<0.00020		0.002
Nickel	**0.032**		**0.059**		
Nickel,Diss	**0.0025**		**0.02**		0.1
Selenium	<0.0025		**0.0026**		
Selenium,Diss	<0.0025		**0.0022**	J	0.05
Silver	<0.00050		**0.0002**	J	
Silver,Diss	<0.00050		<0.00050		0.05
Thallium	**0.00061**	J	**0.0011**	J	
Thallium,Diss	<0.0020		<0.0020		0.002
Vanadium	**0.026**		**0.057**	11	
Vanadium,Diss	<0.0050		**0.0026**	J	0.049
Zinc	**0.36**	B	**0.14**	B	
Zinc,Diss	**0.018**	J B	**0.036**	B	5

Notes:

NA= Not available **ND=** Not detected above laboratory reporting limit

mg/kg= Milligrams per kilogram **mg/L**= Milligrams per liter

NT= Not tested **TCLP**= Toxicity Charactersitic Leaching Procedure

SPLP= Synthetic Precipitation Leaching Procedure

MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).

TACO = Tiered Approach to Corrective Action Objectives

Exceeds TACO Tier 1 Groundwater Remediation Objectives for the Groundwater Component

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))

[11] Exceeds the Most Stringent TACO Tier 1 Class 1 Groundwater Objective

*= Laboratory Control Sample (LCS) or Laboratory Cotrol Sample Duplicate (LCSD) is outside acceptance limits.

^= Instrument related QC is outside acceptance limits.

B= Compound was found in the blank and sample.

J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.

Notes:

NA= Not available
ND= Not detected above laboratory reporting limit
NT= Not tested
mg/kg= Milligrams per kilogram
mg/L= Milligrams per liter
TCLP= Toxicity Charactersitic Leaching Procedure
SPLP= Synthetic Precipitation Leaching Procedure
MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).

*= Laboratory Control Sample (LCS) or Laboratory Cotrol Sample Duplicate (LCSD) is outside acceptance limits.
^= Instrument related QC is outside acceptance limits.
B= Compound was found in the blank and sample.
J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.
F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.
F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective
[11] Exceeds the Most Stringent TACO Tier 1 Class 1 Groundwater Objective

	Unrestrictive- metals exceed Totals but not TCLP and SPLP or metals exceed TCLP or SPLP but not both
	CCDD Eligible- metals exceed TCLP and SPLP but not Totals
	CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability
	Non-special Waste- greater than MAC, greater than most stringent TACO Tier 1 Criteria; metals exceed Totals, TCLP, and SPLP; pH outside of the acceptable range (6.25 to 9.0)
	Groundwater exceeds the Most Stringent TACO Tier 1 Objective
	Exceeds Construction Worker Exposure Objectives

Table 4-3. Summary of Soil and Groundwater Impacts and Contaminants of Concern
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Boring ID	pH	PID Reading	Contaminants of Concern Above TCLP and SPLP Criteria	Contaminants of Concern Above Total Metal, TCLP, and SPLP Criteria	Contaminants of Concern Above Select Location Specific MACs [a,c]	Contaminants of Concern Above All Location Specific MACs [a]	Off-Site Management		
							Eligible for CCDD or Uncontaminated Soil Fill Operation?[c]	Classification	IDOT 669 Designation
ISGS PESA Site 2562V-312 (approximate N. Barron Boulevard station 307+00 RT)									
OPT-1-1 (0-1')	7.50	0.0	- -	- -	- -	Iron	Yes	Unrestrictive	Unrestrictive
OPT-1-1 (1-6')	8.60	1.8	- -	- -	- -	Iron, Manganese	No	Uncontaminated	(b)(2)
OPT-1-2 (0-1')	7.90	0.0	- -	Iron	- -	Cadmium, Silver	Yes	Uncontaminated	(a)(3)
OPT-1-2 (1-6')	8.20	0.0	- -	- -	Benzo(a)pyrene, Naphthalene, Phenanthrene,	Iron, Manganese	Yes	Uncontaminated	(a)(4)
OPT-1-3 (0-1')	7.70	0.0	- -	- -	- -	Iron, Manganese	No	Uncontaminated	(c)
OPT-1-3 (1-6')	8.40	0.0	- -	- -	- -	Iron	Yes	Unrestrictive	Unrestrictive
OPT-1-4 (0-1')	7.90	0.0	- -	- -	- -	Iron, Naphthalene	No	Non-Special	(a)(1)
OPT-1-4 (1-6')	8.20	0.0	- -	- -	Naphthalene	Iron	Yes	Uncontaminated	(a)(4)
OPT-1-5 (0-1')	7.50	0.0	- -	- -	- -	Iron	Yes	Unrestrictive	Unrestrictive
OPT-1-5 (1-6')	8.40	4.1	- -	- -	Naphthalene	Iron, Silver	No	Non-Special	(a)(1)
OPT-1-6 (0-1')	7.70	0.0	- -	- -	Naphthalene	Iron	No	Non-Special	(a)(1)
OPT-1-6 (1-6')	7.40	0.0	- -	- -	Naphthalene	Iron, Selenium	Yes	Uncontaminated	(a)(4)
OPT-1-7 (0-3')	8.20	0.0	- -	- -	- -	Chromium, Iron, Silver	Yes	Uncontaminated	(a)(3)
OPT-1-7 (3-8')	9.30	0.0	- -	- -	- -	Iron	No	Uncontaminated	(b)(1)
OPT-1-7 GW	- -	- -	- -	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Indeno(1,2,3-cd)pyrene, Iron, Lead, Manganese, Mercury	- -	- -	- -	- -	(d)
OPT-1-8 (0-3')	7.50	0.0	- -	- -	- -	Iron, Manganese	No	Uncontaminated	(c)
OPT-1-8 (3-8')	8.70	0.0	- -	- -	- -	Chromium, Iron	Yes	Uncontaminated	(a)(3)
OPT-2-1 (0-1')	7.20	0.0	- -	- -	Chloride	Chromium, Iron, Selenium, Cyanide	No	Non-Special	(a)(1)
OPT-2-1 (1-6')	7.50	0.0	- -	- -		Iron	Yes	Unrestrictive	Unrestrictive
OPT-2-1 GW	- -	- -	- -	Chloride, Iron, Lead, Manganese, Dis. Manganese, Vanadium	- -	- -	- -	- -	(d)
OPT-2-2 (0-1')	7.70	0.0	- -	- -	- -	Iron	No	Unrestrictive	Unrestrictive
OPT-2-2 (1-6')	8.40	0.0	- -	- -	Chloride	Iron	Yes	Non-Special	(a)(1)
OPT-2-3 (0-1')	8.40	0.0	- -	- -	- -	Chromium, Iron	Yes	Uncontaminated	(a)(3)
OPT-2-3 (1-6')	8.60	0.0	- -	- -	- -	Iron	No	Unrestrictive	Unrestrictive
OPT-2-4 (0-3')	8.80	0.0	- -	- -	- -	Iron, Manganese	No	Uncontaminated	(c)
OPT-2-4 (3-8')	9.50	0.0	- -	- -	- -	Iron	No	Uncontaminated	(b)(1)
OPT-2-5 (0-3')	7.90	0.0	- -	- -	Chloride	Iron, Manganese, Cyanide	No	Non-Special	(a)(1)
OPT-2-5 (3-8')	8.30	0.0	- -	- -	Chloride	Iron, Cyanide	No	Non-Special	(a)(1)
OPT-2-6 (0-1')	7.60	0.0	- -	- -	Chloride	Iron, Silver	No	Non-Special	(a)(1)
OPT-2-6 (1-6')	8.20	0.0	- -	- -	Chloride	Manganese	No	Non-Special	(a)(1)
OPT-2-7 (0-1')	7.90	55.0	- -	- -	Chloride, Naphthalene	Iron	No	Non-Special	(a)(5)
OPT-2-7 (1-6')	8.20	67.4	- -	- -	Chloride, Naphthalene	- -	No	Non-Special	(a)(5)
OPT-2-8 (0-1')	8.20	0.0	- -	- -	Chloride	Iron	No	Non-Special	(a)(1)
OPT-2-8 (1-6')	8.10	0.0	- -	- -	Chloride	Iron	No	Non-Special	(a)(1)

ISGS = Illinois State Geological Society
MAC = Maximum Allowable Concentration
TCLP = Toxicity Characteristic Leaching Procedure
SPLP = Synthetic Precipitation Leaching Procedure
PID = Photo-ionization Detector

"Unrestrictive soil"- may be managed onsite as fill or off-site at a Clean Construction and Demolition Debris (CCDD) or Uncontaminated Soil Fill Operation (USFO) facility
"Uncontaminated soil"- impacted soil suitable for off-site management to a CCDD or USFO facility

[a] Site contaminants of concern are above location specific MACs. TCLP and SPLP metals results are compared to the TACO Tier 1 remediation objectives for the soil component of the groundwater ingestion exposure route. Metals (excluding arsenic) are considered eligible for off-site management to a CCDD of USFO facility unless the detected total, TCLP, and SPLP concentrations exceed applicable comparison criteria.

[b] Soils that contain constituent concentrations below the most stringent MACs may be managed off site as "uncontaminated soil" pursuant to 35 IAC 1100. Uncontaminated soil with a pH ranged of 6.25 to 9.0 and no PID readings above background levels may be managed off site to a CCDD or USFO. When a constituent exceeds a MAC based on a non-MSA, soils that contain constituents below the applicable MACS for a non-MSA, exhibit a pH within the range of 6.25 to 9.0, and do not exhibit PID readings above background levels may be managed off site as "uncontaminated soil" to a CCDD or USFO within the non-MSA county.

[c] Metals are considered eligible for off-site management to a CCDD or USFO facility if the detected total concentrations are below background or pH-specific objectives (MAC table), or if the detected TCLP or SPLP concentrations are below TACO Tier 1 Class I soil component of groundwater ingestion objectives.

[d] CCDD disposal may not meet acceptance requirements based on detectable impacts.

[e] Off-site management to a CCDD or USFO facility restricted to facilities located in a populated area or within Chicago Corporate Limits.

[f] Off-site management to a CCDD or USFO facility restricted to facilities located in a populated area (excluding Chicago)

(c) = Soil analytical results exceed most stringent MAC but do not exceed TACO residential. Excavated soil can be utilized within the right-of-way or managed and disposed off-site as "uncontaminated soil" according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or USFO.

Table 4-4 Estimated Volumes of Impacted Media
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Boring ID	Impacted Stationing Along	Contaminants of Concern: Above All Applicable Comparison Criteria	Contaminants of Concern: Above Most Stringent MAC, Chicago MAC or SCGIER Criteria Only	Construction Feature Involving Excavation of Impacted Soil	Excavation Dimension Assumption[b]	Estimated Volume and Classification of Impacted Soil (cubic yards)[a] Standard Specifications, Article 669.05: (a)(1)	(a)(2)	(a)(3)	(a)(4)	(a)(5)	(b)(1)/(2)	(c)	Unrestrictive	Estimated Volume and Classification of Impacted Groundwater (gallons) Standard Specifications, Article 669.05
ISGS PESA Site 2562V-312 (approximate N. Barron Boulevard station 307+00 RT)														
OPT-1-1 (0-1')	Sta. 00+70 to 1+38, 80'LT to 125'LT.	- -	Iron	Option 1: Excavation for New Salt Barn	Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	- -	191	- -
OPT-1-1 (1-6')		PID	Iron, Manganese		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	62.2	- -	- -	- -
OPT-1-2 (0-1')	Sta. 1+38 to 2+18, 80'LT to 125'LT.	Iron	Cadmium, Silver		Excavation dimension provided by IDOT	- -	- -	191	- -	- -	- -	- -	- -	- -
OPT-1-2 (1-6')		- -	Iron, Manganese, Benzo(a)pyrene, Naphthalene, Phenanthrene,		Excavation dimension provided by IDOT	- -	- -	- -	62.2	- -	- -	- -	- -	- -
OPT-1-3 (0-1')	Sta. 2+18 to 2+65, 80'LT to 125'LT.	- -	Iron, Manganese		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	191	- -	- -
OPT-1-3 (1-6')		- -	Iron		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	- -	62.2	- -
OPT-1-4 (0-1')	Sta. 2+65 to 3+00, 60'LT to 105'LT.	- -	Iron, Naphthalene		Excavation dimension provided by IDOT	191	- -	- -	- -	- -	- -	- -	- -	- -
OPT-1-4 (1-6')		- -	Iron, Naphthalene		Excavation dimension provided by IDOT	- -	- -	- -	62.2	- -	- -	- -	- -	- -
OPT-1-5 (0-1')	Sta. 3+00 to 3+35, 30'LT to 70'LT.	- -	Iron		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	- -	191	- -
OPT-1-5 (1-6')		PID	Iron, Silver, Naphthalene		Excavation dimension provided by IDOT	62.2	- -	- -	- -	- -	- -	- -	- -	- -
OPT-1-6 (0-1')	Sta. 2+18 to 2+65, 40'LT to 80'LT.	- -	Iron, Naphthalene		Excavation dimension provided by IDOT	191	- -	- -	- -	- -	- -	- -	- -	- -
OPT-1-6 (1-6')		- -	Iron, Selenium, Naphthalene		Excavation dimension provided by IDOT	- -	- -	- -	62.2	- -	- -	- -	- -	- -
OPT-1-7 (0-3')	Sta. 1+38 to 2+18, 40'LT to 80'LT	- -	Chromium, Iron, Silver		Excavation dimension provided by IDOT	- -	- -	191	- -	- -	- -	- -	- -	300
OPT-1-7 (3-8')		pH	Iron		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	95	- -	- -	
OPT-1-8 (0-3')	Sta. 00+70 to 1+38, 40'LT to 80'LT.	- -	Iron, Manganese		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	191	- -	
OPT-1-8 (3-8')		- -	Chromium, Iron		Excavation dimension provided by IDOT	- -	- -	95	- -	- -	- -	- -	- -	
Total Volume of Impacted Media in Construction Zone:						**444.2**	**0**	**477**	**186.6**	**0**	**157.2**	**382**	**444.2**	**300**
OPT-2-1 (0-1')	Sta. 00+05 to 0+60, 380'LT to 418'LT.	- -	Chromium, Iron, Selenium, Cyanide, Chloride	Option 2: Excavation for New Salt Barn	Excavation dimension provided by IDOT	191	- -	- -	- -	- -	- -	- -	- -	300
OPT-2-1 (1-6')		- -	Iron		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -		62.2	
OPT-2-2 (0-1')	Sta. 0+60 to 1+50, 380'LT to 418'LT.	- -	Iron		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	- -	191	- -
OPT-2-2 (1-6')		- -	Iron, Chloride		Excavation dimension provided by IDOT	62.2	- -	- -	- -	- -	- -	- -	- -	- -
OPT-2-3 (0-1')	Sta. 1+50 to 2+05, 380'LT to 418'LT.	- -	Chromium, Iron		Excavation dimension provided by IDOT	- -	- -	191	- -	- -	- -	- -	- -	- -
OPT-2-3 (1-6')		- -	Iron		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	- -	62.2	- -
OPT-2-4 (0-3')	Sta. 2+05 to 2+90, 350'LT to 400'LT.	- -	Iron, Manganese		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	- -	191	- -	- -
OPT-2-4 (3-8')		pH	Iron		Excavation dimension provided by IDOT	- -	- -	- -	- -	- -	95	- -	- -	- -
OPT-2-5 (0-3')	Sta. 2+90 to 3+75, 380'LT to 418'LT.	- -	Iron, Manganese, Cyanide, Chloride		Excavation dimension provided by IDOT	191	- -	- -	- -	- -	- -	- -	- -	- -
OPT-2-5 (3-8')		- -	Iron, Cyanide, Chloride		Excavation dimension provided by IDOT	95	- -	- -	- -	- -	- -	- -	- -	- -
OPT-2-6 (0-1')	Sta. 1+50 to 2+05, 335'LT to 380'LT.	- -	Iron, Silver, Chloride		Excavation dimension provided by IDOT	191	- -	- -	- -	- -	- -	- -	- -	- -
OPT-2-6 (1-6')		- -	Manganese, Chloride		Excavation dimension provided by IDOT	62.2	- -	- -	- -	- -	- -	- -	- -	- -
OPT-2-7 (0-1')	Sta. 0+60 to 1+50, 335'LT to 380'LT.	PID	Iron, Chloride, Naphthalene		Excavation dimension provided by IDOT	- -	- -	- -	- -	191	- -	- -	- -	- -
OPT-2-7 (1-6')		PID	Chloride, Naphthalene		Excavation dimension provided by IDOT	- -	- -	- -	- -	62.2	- -	- -	- -	- -
OPT-2-8 (0-1')	Sta. 00+05 to 0+60, 335'LT to 380'LT.	- -	Iron, Chloride		Excavation dimension provided by IDOT	191	- -	- -	- -	- -	- -	- -	- -	- -
OPT-2-8 (1-6')		- -	Iron, Chloride		Excavation dimension provided by IDOT	62.2	- -	- -	- -	- -	- -	- -	- -	- -
Total Volume of Impacted Media in Construction Zone:						**1045.6**	**0**	**191**	**0**	**253.2**	**95**	**191**	**315.4**	**300**

CCDD - Clean Construction Demolition Debris
GW = Groundwater
ISGS = Illinois State Geological Survey
Groundwater volume estimated at 100 gallons per foot of water column

"Unrestrictive soil"- may be managed onsite as fill, off-site at a CCDD or USFO facility
"Uncontaminated soil"- impacted soil may be managed onsite as fill, off-site at a CCDD or USFO facility, or to a licensed disposal facility
SCGIER = TACO Soil Component of the Groundwater Ingestion Exposure Route

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective
[11] Exceeds the Most Stringent TACO Tier 1 Class 1 Groundwater Objective

Table 5-1. Remediation Cost Associated with IDOT's Construction Project - DRAFT
Grayslake Yard Team Section Headquarters (115)
Grayslake, Lake County, Illinois

Site	Pay Item/Cost per Unit																Total Cost (Rounded to nearest dollar)
	Special Waste Plans and Reports[a]		Non-Special Waste Disposal $75.00 per cubic yard				CCDD/Non-Special Waste Disposal $75.00 per cubic yard		Non-Special Waste Disposal $75.00 per cubic yard		Non-Special Waste Disposal		CCDD/Non-Special Waste Disposal		Soil Disposal Analysis		
			669.05(a)(1)[b]		669.05(a)(5)[b]		669.05(a)(2)/(3)/(4)[c]		669.05(b)(1)/(2)[d]		669.05(c)		Unrestrictive				
	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
ISGS PESA Site 2562V-312 OPT-1 (approximate N. Barron Boulevard station 307+00 RT)	1	$ 1,600.00	444.2	$ 33,315.00		$ -	663.6	$ 49,770.00	157.2	NA	382.00	NA	442.2	NA	1	$ 1,000.00	$ 85,685
ISGS PESA Site 2562V-312 OPT-2 (approximate N. Barron Boulevard station 307+00 RT)	1	$ 1,600.00	1046	$ 78,450.00	253.2	$ 18,990.00	191	$ 14,325.00	95	NA	191.00	NA	315.4	NA	1	$ 1,000.00	$ 114,365

Notes:

[a]Special waste plans assume the following documents and costs are required - (Site health and safety plan, site contamination operation plan, erosion control plan, and one final environmental construction report. The total cost for documents described is apportioned equally between the potential waste properties listed above and assumes the activities will occur during one mobilization. This line item also includes labor, expenses and equipment for air monitoring field oversight.

[b]Material must be managed to a non-special waste disposal facility. Transportation costs are based on generic 100-mile distance facility and a truck capacity of 14 cubic yards.

[c]Although the disposal costs are estimated as a non-special waste, soil in this category may be managed at a CCDD facility or USFO as uncontaminated soil.

[e]Although the disposal costs are estimated as a non-special waste, soil in this category ma be managed as uncontaminated soil, but not at a CCDD facility or USFO due to pH outside of the acceptable range.

Disposal Analysis Methods: EPA Methods 1311, 8260B, 8270C, 8081, 8151A, 9045C, 1030 and 9095A.

Legend

Site Boundary

0 500 1,000

APPROXIMATE SCALE

FIGURE 1
SITE LOCATION MAP

DATE:6/12/2019
DRAWING–LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

DESIGNED	XXX
DRAWN	GAP
CHECKED	XXX
DATE	6/12/2019

wood.

4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

WORK ORDER 49

CDB JOB #: 630–012–004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSKLAKE, IL

(a)(1) - Analytical results exceed the most stringent MAC but are still considered within area background levels by the Engineer. Soil can be utilized within the construction limits as fill; however, if off-site disposal is required, the soils must be managed as non-special waste, special waste, or hazardous waste as applicable.

(a)(3) - Analytical results exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago or the MAC within the Chicago corporate limits. Soil can be utilized within the construction limits as fill or disposed off-site as "uncontaminated soil" at a CCDD or USFO within an MSA County provided the pH of the soil is within the range of 6.25-9.0 s.u.

(c) - Analytical results exceed most stringent MAC but do not exceed TACO residential, the excavated soil can be utilized within the right-of-way or managed and disposed off-site as "uncontaminated soil" but cannot be taken to a CCDD or USFO site.

(d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste. All groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

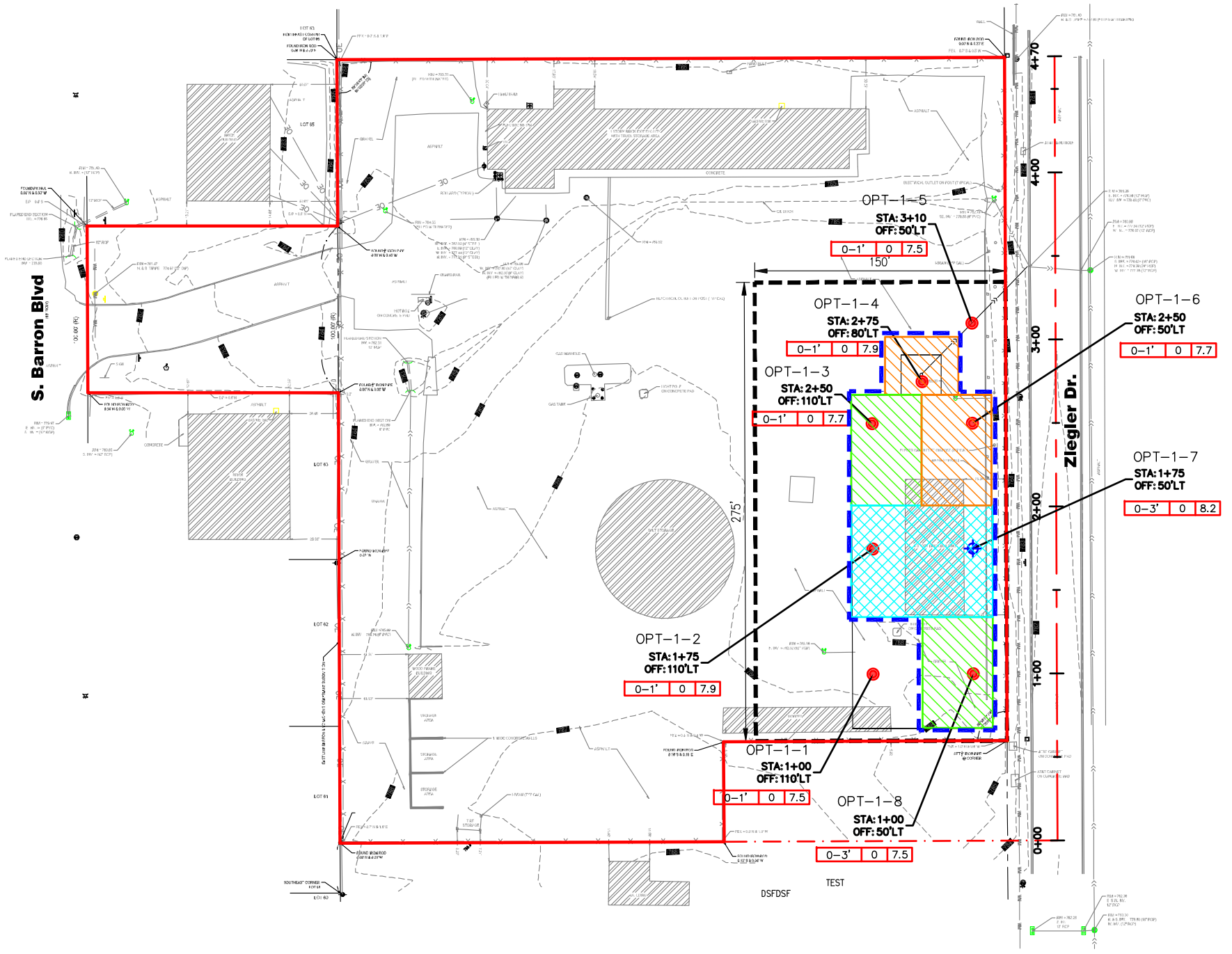
Legend

- Site Boundary
- Soil Boring Location
- Soil Boring and Groundwater Sample Location

Depth	PID	pH

pH — pH readings exceed background (6.25–9.0)

Proposed Construction excavation area where contaminants of concern in soil exceed the most stringent MAC for a metropolitan statistical area or where soil exceeds the TACO tier 1 concentration for the soil component of the groundwater ingestion exposure route.



0 80 160

APPROXIMATE SCALE

FIGURE 2a
OPTION #1 (0-1')
SAMPLE LOCATION MAP

DESIGNED	XXX
DRAWN	GAP
CHECKED	XXX
DATE	6/12/2019

wood.
4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

WORK ORDER 49

CDB JOB #: 630–012–004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSKLAKE, IL

DATE:6/12/2019
DRAWING–LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

(a)(1) - Analytical results exceed the most stringent MAC but are still considered within area background levels by the Engineer. Soil can be utilized within the construction limits as fill; however, if off-site disposal is required, the soils must be managed as non-special waste, special waste, or hazardous waste as applicable.

(a)(3) - Analytical results exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago or the MAC within the Chicago corporate limits. Soil can be utilized within in the construction limits as fill or disposed off-site as "uncontaminated soil" at a CCDD or USFO within an MSA County provided the pH of the soil is within the range of 6.25-9.0 s.u.

(a)(4) When analytical results indicate chemical constituents exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago, the excavated soil can be utilized within the construction limits as fill, when suitable, or managed and disposed of off-site as "uncontaminated soil" at a CCDD facility or an USFO within an MSA County excluding Chicago provided the pH of the soil is within the range of 6.25 - 9.0, inclusive.

(b)(1) The pH of the soil is less than 6.25 or greater than 9.0. Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the construction limits or managed and disposed off-site as "uncontaminated soil" according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.

(b)(2) The soil exhibited PID or FID readings in excess of background levels. Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the construction limits or managed and disposed off-site as "uncontaminated soil" according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.

(d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste. All groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

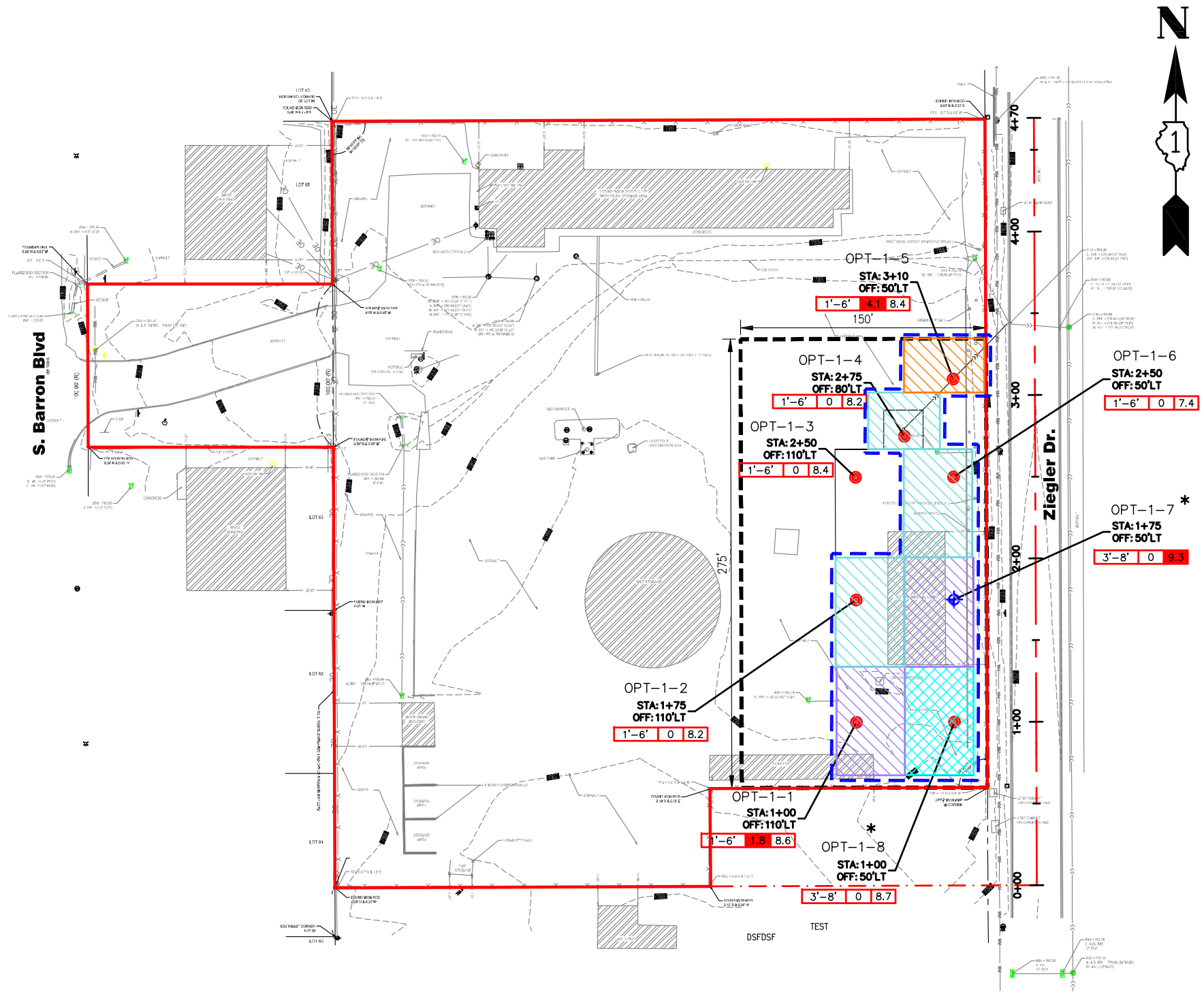
Legend

- Site Boundary
- Soil Boring Location
- Soil Boring and Groundwater Sample Location
- * Borings Drilled to 8'

Depth	PID	pH

pH — pH readings exceed background (6.25–9.0)

Proposed Construction excavation area where contaminants of concern in soil exceed the most stringent MAC for a metropolitan statistical area or where soil exceeds the TACO tier 1 concentration for the soil component of the groundwater ingestion exposure route.



0 80 160

APPROXIMATE SCALE

FIGURE 2b
OPTION #1 (1'-6')
SAMPLE LOCATION MAP

DESIGNED	XXX
DRAWN	GAP
CHECKED	XXX
DATE	6/12/2019

wood.
4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

WORK ORDER 49

CDB JOB #: 630–012–004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSLAKE, IL

DATE:6/12/2019
DRAWING–LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria

Grayslake Yard Team Section Headquarters (115)

Grayslake, Lake County, Illinois

Sample ID	OPT-1-1 (0-1')		OPT-1-1 (1-6')		OPT-1-2 (0-1')		OPT-1-2 (1-6')		OPT-1-3 (0-1')		OPT-1-3 (1-6')		OPT-1-4 (0-1')		OPT-1-4 (1-6')		OPT-1-5 (0-1')		OPT-1-5 (1-6')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-1		1-6		0-1		1-6		0-1		1-6		0-1		1-6										
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		1.8		0.0		0.0		0.0		0.0		0.0		0.0		0.0		4.1										
Sample pH	7.5		8.6		7.9		8.2		7.7		8.4		7.9		8.2		7.5		8.4										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	Unrestrictive		(b)(2)		(a)(3)		(a)(4)		(c)		Unrestrictive		(a)(1)		(a)(4)		Unrestrictive		(a)(1)		Most Stringent Maximum Allowable Concentration [1]	Within Chicago Corporate Limits [2]	Within a Populated Area in a MSA (excluding Chicago) [3]	Within a MSA County [4]	Within a Populated Area in a non-MSA County [5]	Outside a Populated Area [6]	Within a non-MSA County [7]	Most Stringent TACO Tier 1 Construction Worker Exposure Objective [8]	Most Stringent TACO Tier 1 Residential Objective [9] and Groundwater Protection (TCLP/SPLP) [10]
SVOCs (mg/kg)																													
Benzo[a]pyrene	0.021	J	0.018	J	0.048		0.29	1,6,9	<0.038		0.015	J	0.012	J	<0.040		0.016	J	0.066		0.09	1.3	2.1	NA	0.98	0.09	NA	17	0.09
Naphthalene	<0.040		<0.038		0.021	J	0.19	2,6	0.031	J	0.029	J	2.9	1,2,3,6,8	0.069	2	0.034	J	0.082	2	1.8	0.04	0.2	NA	NA	0.17	NA	1.8	170
Phenanthrene	0.017	J	0.015	J	0.17		1.3	1,6	0.026	J	0.035	J	0.0077	J	0.0061	J	0.055		0.37		0.99	1.3	2.5	NA	2.5	0.99	NA	NA	NA
Inorganics (mg/kg)																													
Chromium	19		21		25	1	17		16		17		19		21		19		23		21	NA	NA	NA	NA	NA	NA	690	230
Iron	21000	1,4,7	22000	1,4,7	28000	1,4,7	19000	1,4,7	19000	1,4,7	21000	1,4,7	19000	1,4,7	26000	1,4,7	18000	1,4,7	26000	1,4,7	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Manganese	480	F2	710	1,4,7	520		880	1,4,7	690	1,4,7	560		210		220		340		510		630	NA	NA	636	NA	NA	630	4,100	1,600
Silver	4		3.8		4.9	1	3.2		3.7		3.4		3.9		4.3		3.9		4.9	1	4.4	NA	NA	NA	NA	NA	NA	1,000	390
TCLP Metals (mg/L)																													
Iron	2.8		<0.40		5.2	10	<0.40		1.3		<0.40		<0.40		1.2		2.1		0.65		--	--	--	--	--	--	--	--	5
SPLP Metals (mg/L)																													
Iron	NA		NA		260	10	NA		NA		NA		NA		NA		NA		NA		--	--	--	--	--	--	--	--	5

Notes:

NA= Not available
ND= Not detected above laboratory reporting limit
NT= Not tested
mg/kg= Milligrams per kilogram
mg/L= Milligrams per liter
TCLP= Toxicity Characteristic Leaching Procedure
SPLP= Synthetic Precipitation Leaching Procedure
MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).
TACO = Tiered Approach to Corrective Action Objectives

*= Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits.
^= Instrument related QC is outside acceptance limits.
B= Compound was found in the blank and sample.
J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.
F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.
F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.
CCDD = Clean Construction Demolition Debris
**=cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both
CCDD Eligible- metals exceed TCLP and SPLP but not Totals
CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability
Greater than TACO Construction Worker Exposure Objectives
pH outside of the acceptable range (6.25 to 9.0); PID exceeds background
Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

	WORK ORDER 49	**FIGURE 2c CONTAMINANTS OF CONCERN**
DESIGNED XXX DRAWN GAP CHECKED XXX DATE 4/10/2018	wood.	4232 N. BRANDYWINE DR. SUITE A PEORIA, ILLINOIS 61614 PH (309) 692-4422 FX (309) 692-9364	CDB JOB #: 630-012-004 DISTRICT 1 33300 N. ZEIGLER DRIVE GRAYSKLAKE, IL

DATE:6/12/2019 DRAWING-LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria

Grayslake Yard Team Section Headquarters (115)

Grayslake, Lake County, Illinois

Sample ID	OPT-1-6 (0-1')		OPT-1-6 (1-6')		OPT-1-7 (0-3')		OPT-1-7 (3-8')		OPT-1-8 (0-3')		OPT-1-8 (3-8')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-3		3-8		0-3		3-8										
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		0.0		0.0		0.0		0.0		0.0										
Sample pH	7.7		7.4		8.2		9.3		7.5		8.7										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	(a)(1)		(a)(4)		(a)(3)		(b)(1)		(c)		(a)(3)		Most Stringent Maximum Allowable Concentration [1]	Within Chicago Corporate Limits [2]	Within a Populated Area in a MSA (excluding Chicago) [3]	Within a MSA County [4]	Within a Populated Area in a non-MSA County [5]	Outside a Populated Area [6]	Within a non-MSA County [7]	Most Stringent TACO Tier 1 Construction Worker Exposure Objective [8]	Most Stringent TACO Tier 1 Residential Objective [9] and Groundwater Protection (TCLP/SPLP) [10]
SVOCs (mg/kg)																					
Naphthalene	**1.6**	2,3,6	**0.1**	2	**0.012**	J	<0.038		**0.013**	J	<0.041		1.8	0.04	0.2	NA	NA	0.17	NA	1.8	170
Inorganics (mg/kg)																					
Chromium	**17**		**19**		**23**	1	**18**		**20**		**22**	1	21	NA	NA	NA	NA	NA	NA	690	230
Iron	**18000**	1,4,7	**18000**	1,4,7	**25000**	1,4,7	**21000**	1,4,7	**23000**	1,4,7	**24000**	1,4,7	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Manganese	**420**		**200**		**380**		**420**		**870**	1,4,7	**540**		630	NA	NA	636	NA	NA	630	4,100	1,600
Selenium	**1.1**	B	**1.4**	1, B	**1**	B	**0.97**	B	**1.3**	B	**0.96**	B	1.3	NA	NA	NA	NA	NA	NA	1,000	390
Silver	**3.7**		**3.9**		**4.5**	1	**3.5**		**4.2**		**4.4**		4.4	NA	NA	NA	NA	NA	NA	1,000	390

Notes:

NA= Not available

ND= Not detected above laboratory reporting limit

NT= Not tested

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mg/L= Milligrams per liter

TCLP= Toxicity Characteristic Leaching Procedure

SPLP= Synthetic Precipitation Leaching Procedure

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F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.

F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.

CCDD = Clean Construction Demolition Debris

**= cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

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[2] Exceeds the Chicago Corporate Limits MAC values

[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value

[4] Exceeds the Within a MSA County MAC value

[5] Exceeds the Within a Populated Area in a non-MSA County MAC value

[6] Exceeds the Outside a Populated Area MAC value

[7] Exceeds the Within a non-MSA County MAC value

[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective

[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective

[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both

CCDD Eligible- metals exceed TCLP and SPLP but not Totals

CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability

Greater than TACO Construction Worker Exposure Objectives

pH outside of the acceptable range (6.25 to 9.0); PID exceeds background

Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

WORK ORDER 49

FIGURE 2d
CONTAMINANTS OF CONCERN

DESIGNED XXX
DRAWN GAP
CHECKED XXX
DATE 4/10/2018

wood.

4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

CDB JOB #: 630-012-004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSKLAKE, IL

DATE:6/12/2019 DRAWING-LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

(c) - Analytical results exceed most stringent MAC but do not exceed TACO residential, the excavated soil can be utilized within the right-of-way or managed and disposed off-site as "uncontaminated soil" but cannot be taken to a CCDD or USFO site.

(a)(3) - Analytical results exceed the most stringent MAC but do not exceed the MAC for an MSA County excluding Chicago or the MAC within the Chicago corporate limits. Soil can be utilized within in the construction limits as fill or disposed off-site as "uncontaminated soil" at a CCDD or USFO within an MSA County provided the pH of the soil is within the range of 6.25-9.0 s.u.

(a)(5) - When the engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4), soil shall be managed and disposed off-site as non-special waste, special waste, or hazardous waste as applicable.

(a)(1) - Analytical results exceed the most stringent MAC but are still considered within area background levels by the Engineer. Soil can be utilized within the construction limits as fill; however, if off-site disposal is required, the soils must be managed as non-special waste, special waste, or hazardous waste as applicable.

(d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste. All groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

Legend

- Site Boundary
- Soil Boring Location
- Soil Boring and Groundwater Sample Location

Depth	PID	pH

pH — pH readings exceed background (6.25–9.0)

Proposed Construction excavation area where contaminants of concern in soil exceed the most stringent MAC for a metropolitan statistical area or where soil exceeds the TACO tier 1 concentration for the soil component of the groundwater ingestion exposure route.

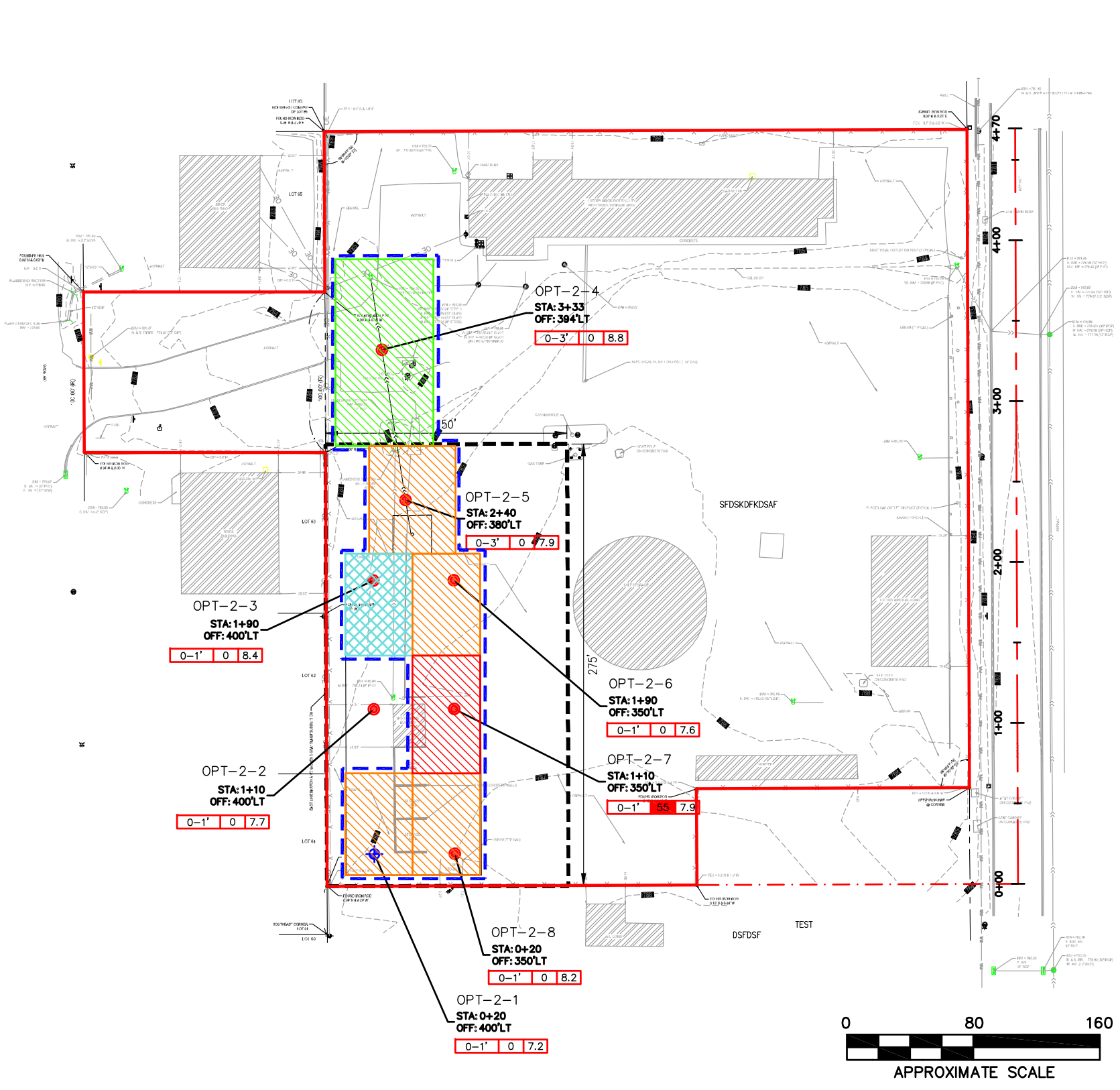

FIGURE 3a
OPTION #2 (0-1')
SAMPLE LOCATION MAP

DESIGNED	XXX
DRAWN	GAP
CHECKED	XXX
DATE	6/12/2019

wood.

4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

WORK ORDER 49

CDB JOB #: 630–012–004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSLAKE, IL

DATE:6/12/2019
DRAWING–LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

(a)(1) - Analytical results exceed the most stringent MAC but are still considered within area background levels by the Engineer. Soil can be utilized within the construction limits as fill; however, if off-site disposal is required, the soils must be managed as non-special waste, special waste, or hazardous waste as applicable.

(a)(5) - When the engineer determines soil cannot be managed according to Articles 669.05(a)(1) through (a)(4), soil shall be managed and disposed off-site as non-special waste, special waste, or hazardous waste as applicable.

(b)(1) The pH of the soil is less than 6.25 or greater than 9.0. Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the construction limits or managed and disposed off-site as "uncontaminated soil" according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.

(b)(2) The soil exhibited PID or FID readings in excess of background levels. Soil Analytical Results Do Not Exceed Most Stringent MAC. When the soil analytical results indicate that detected levels do not exceed the most stringent MAC, the excavated soil can be utilized within the construction limits or managed and disposed off-site as "uncontaminated soil" according to Article 202.03. However, the excavated soil cannot be taken to a CCDD facility or an USFO for any of the following reasons.

(d) Groundwater. When groundwater analytical results indicate the detected levels are above Appendix B, Table E of 35 Illinois Administrative Code 742, the most stringent Tier 1 Groundwater Remediation Objectives for Groundwater Component of the Groundwater Ingestion Route for Class 1 groundwater, the groundwater shall be managed off-site as a special waste. All groundwater encountered within trenches may be managed within the trench and allowed to infiltrate back into the ground. If the groundwater cannot be managed within the trench it must be removed as a special or hazardous waste. The Contractor is prohibited from managing groundwater within the trench by discharging it through any existing or new storm sewer. The Contractor shall install backfill plugs within the area of groundwater contamination.

Legend

- Site Boundary
- Soil Boring Location
- Soil Boring and Groundwater Sample Location
- * Borings Drilled to 8'

Depth	PID	pH

pH — pH readings exceed background (6.25–9.0)

Proposed Construction excavation area where contaminants of concern in soil exceed the most stringent MAC for a metropolitan statistical area or where soil exceeds the TACO tier 1 concentration for the soil component of the groundwater ingestion exposure route.

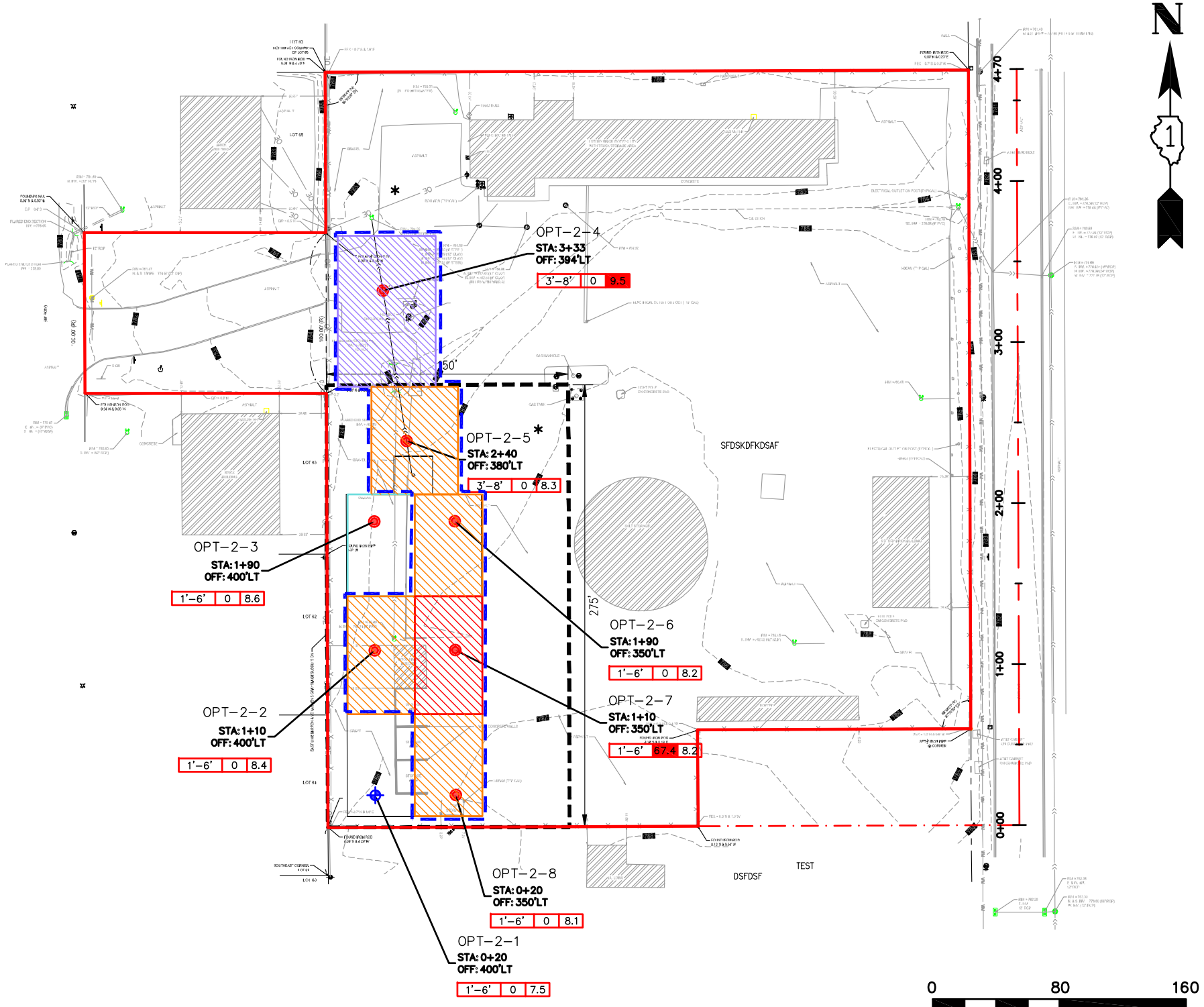

FIGURE 3b
OPTION #2 (1'-6')
SAMPLE LOCATION MAP

DESIGNED	XXX
DRAWN	GAP
CHECKED	XXX
DATE	6/12/2019

wood.
4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

WORK ORDER 49

CDB JOB #: 630–012–004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSKLAKE, IL

DATE:6/12/2019
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Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria

Grayslake Yard Team Section Headquarters (115)

Grayslake, Lake County, Illinois

Sample ID	OPT-2-1 (0-1')		OPT-2-1 (1-6')		OPT-2-2 (0-1')		OPT-2-2 (1-6')		OPT-2-3 (0-1')		OPT-2-3 (1-6')		OPT-2-4 (0-3')		OPT-2-4 (3-8')		OPT-2-5 (0-3')		OPT-2-5 (3-8')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-1		1-6		0-1		1-6		0-3		3-8		0-3		3-8										
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0										
Sample pH	7.2		7.5		7.7		8.4		8.4		8.6		8.8		9.5		7.9		8.3										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	(a)(1)		Unrestrictive		Unrestrictive		(a)(1)		(a)(3)		Unrestrictive		(c)		(b)(1)		(a)(1)		(a)(1)										
Inorganics (mg/kg)																													
Chromium	23	1	21		21		15		22	1	15		14		13		21		14		21	NA	NA	NA	NA	NA	NA	690	230
Iron	23000	1,4,7,B	24000	1,4,7,B	23000	1,4,7,B	18000	1,4,7,B	23000	1,4,7,B	23000	1,4,7,B	19000	1,4,7,B	18000	1,4,7,B	24000	1,4,7,B	20000	1,4,7,B	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Manganese	620		580		560		540		590		580		870	1,4,7	480		770	1,4,7	560		630	NA	NA	636	NA	NA	630	4,100	1,600
Selenium	1.4	1,B	0.71	B	0.86	B	0.64	B	1.1	B	0.41	J B	0.36	J B	0.71	B	0.81	B	0.68	F1 B	1.3	NA	NA	NA	NA	NA	NA	1,000	390
Other Parameters (mg/Kg)																													
Cyanide, Total	0.57	4,7,J H	0.22	J H	<0.52	H	0.22	J H	<0.46	H	<0.50	H	<0.52	H	0.26	J H	0.98	4,7,H	1.6	4,7,H	40	NA	NA	0.51	NA	NA	0.5	4,100	1,600
Chloride	7100	1	2300		1600		5700	1	490		430		2300		470		9400	1	5200	1	4,000	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

NA= Not available
ND= Not detected above laboratory reporting limit
NT= Not tested
mg/kg= Milligrams per kilogram
mg/L= Milligrams per liter
TCLP= Toxicity Characteristic Leaching Procedure
SPLP= Synthetic Precipitation Leaching Procedure
MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).
TACO = Tiered Approach to Corrective Action Objectives

*= Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits.
^= Instrument related QC is outside acceptance limits.
B= Compound was found in the blank and sample.
J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.
F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.
F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.
CCDD = Clean Construction Demolition Debris
**=cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))
[2] Exceeds the Chicago Corporate Limits MAC values
[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value
[4] Exceeds the Within a MSA County MAC value
[5] Exceeds the Within a Populated Area in a non-MSA County MAC value
[6] Exceeds the Outside a Populated Area MAC value
[7] Exceeds the Within a non-MSA County MAC value
[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective
[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective
[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both
CCDD Eligible- metals exceed TCLP and SPLP but not Totals
CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability
Greater than TACO Construction Worker Exposure Objectives
pH outside of the acceptable range (6.25 to 9.0); PID exceeds background
Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

DATE:6/12/2019 DRAWING–LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

WORK ORDER 49

FIGURE 3c
CONTAMINANTS OF CONCERN

DESIGNED XXX
DRAWN GAP
CHECKED XXX
DATE 4/10/2018

wood.
4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

CDB JOB #: 630–012–004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSKLAKE, IL

Table 4-2. Detected Soil Analytes and Comparison to Applicable Criteria

Grayslake Yard Team Section Headquarters (115)

Grayslake, Lake County, Illinois

Sample ID	OPT-2-6 (0-1')		OPT-2-6 (1-6')		OPT-2-7 (0-1')		OPT-2-7 (1-6')		OPT-2-8 (0-1')		OPT-2-8 (1-6')		Maximum Allowable Concentrations							TACO Remediation Objectives	
Sample Depth (ft)	0-1		1-6		0-1		1-6		0-1		1-6										
Sample Date	06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019		06/26/2019										
PID	0.0		0.0		55.0		67.4		0.0		0.0										
Sample pH	7.6		8.2		7.9		8.2		8.2		8.1										
Matrix	Soil		Soil		Soil		Soil		Soil		Soil										
IDOT 669 Designation	(a)(1)		(a)(1)		(a)(5)		(a)(5)		(a)(1)		(a)(1)		Most Stringent Maximum Allowable Concentration [1]	Within Chicago Corporate Limits [2]	Within a Populated Area in a MSA (excluding Chicago) [3]	Within a MSA County [4]	Within a Populated Area in a non-MSA County [5]	Outside a Populated Area [6]	Within a non-MSA County [7]	Most Stringent TACO Tier 1 Construction Worker Exposure Objective [8]	Most Stringent TACO Tier 1 Residential Objective [9] and Groundwater Protection (TCLP/SPLP) [10]
SVOCs (mg/kg)																					
Naphthalene	<0.042		0.014	J	0.26	2,3,7	1.8	2,3,7	0.0083	J	<0.037		1.8	0.04	0.2	NA	NA	0.17	NA	1.8	170
Inorganics (mg/kg)																					
Iron	22000	1,4,7,B	14000	B	20000	1,4,7,B	14000	B	16000	1,4,7,B	21000	1,4,7,B	15,000	NA	NA	15,900	NA	NA	15,000	NA	NA
Manganese	320		1000	1,4,7	390		460		280		350		630	NA	NA	636	NA	NA	630	4,100	1,600
Silver	4.5	1	2.4		3.7		2.2		2.6		3.5		4.4	NA	NA	NA	NA	NA	NA	1,000	390
Other Parameters (mg/Kg)																					
Chloride	13000	1	5200	1	8600	1	6200	1	6500	1	4300	1	4,000	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

NA= Not available

ND= Not detected above laboratory reporting limit

NT= Not tested

mg/kg= Milligrams per kilogram

mg/L= Milligrams per liter

TCLP= Toxicity Characteristic Leaching Procedure

SPLP= Synthetic Precipitation Leaching Procedure

MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).

TACO = Tiered Approach to Corrective Action Objectives

*= Laboratory Control Sample (LCS) or Laboratory Control Sample Duplicate (LCSD) is outside acceptance limits.

^= Instrument related QC is outside acceptance limits.

B= Compound was found in the blank and sample.

J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.

F1= Matrix spike or matrix spike duplicate recovery is outside acceptance limits.

F2= Matrix spike or matrix spike duplicate relative percent difference exceeds control limits.

CCDD = Clean Construction Demolition Debris

**= cis-Chlordane and trans-Chlordane were combined to compare result with TACO Chlordane criteria.

Applicable Screening Criteria

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))

[2] Exceeds the Chicago Corporate Limits MAC values

[3] Exceeds the Within a Populated Area in a MSA (excluding Chicago) MAC value

[4] Exceeds the Within a MSA County MAC value

[5] Exceeds the Within a Populated Area in a non-MSA County MAC value

[6] Exceeds the Outside a Populated Area MAC value

[7] Exceeds the Within a non-MSA County MAC value

[8] Exceeds the Most Stringent TACO Tier 1 Construction Worker Exposure Objective

[9] Exceeds the Most Stringent TACO Tier 1 Residential Objective

[10] Exceeds the TACO Tier 1 Soil to Groundwater TCLP/SPLP Objective

Unrestrictive- metals exceed Totals but not TCLP and SPLP; or metals exceed TCLP or SPLP but not both

CCDD Eligible- metals exceed TCLP and SPLP but not Totals

CCDD Eligible- VOCs or SVOCs exceedances; limited CCDD disposal availability

Greater than TACO Construction Worker Exposure Objectives

pH outside of the acceptable range (6.25 to 9.0); PID exceeds background

Non-special Waste- Greater than all MACs, Greater than most stringent TACO Tier 1 Criteria; Metals exceed Totals, TCLP, and SPLP; Metals exceed TACO Residential and not considered background

WORK ORDER 49

FIGURE 3d
CONTAMINANTS OF CONCERN

DESIGNED XXX
DRAWN GAP
CHECKED XXX
DATE 4/10/2018

wood.
4232 N. BRANDYWINE DR.
SUITE A
PEORIA, ILLINOIS 61614
PH (309) 692-4422
FX (309) 692-9364

CDB JOB #: 630-012-004
DISTRICT 1
33300 N. ZEIGLER DRIVE
GRAYSKLAKE, IL

DATE:6/12/2019 DRAWING-LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

Table 4-2. Detected Groundwater Analytes and Comparison to Applicable Criteria

Grayslake Yard Team Section Headquarters (115)

Grayslake, Lake County, Illinois

Sample ID	OPT-1-7 GW		OPT-2-1 GW		TACO Remediation Objectives
Screened Interval (ft)	0-8		0-6		
Sample Date	06/26/2019		06/26/2019		TACO Tier 1 Residential Groundwater [11]
Matrix	Groundwater		Groundwater		
IDOT 669 Designation	(d)		(d)		
SVOCs (mg/L)					
Benzo[a]anthracene	**0.0027**	**11**	<0.00012		0.00013
Benzo[a]pyrene	**0.0024**	**11**	<0.00015		0.0002
Benzo[b]fluoranthene	**0.0032**	**11**	<0.00015		0.00018
Benzo[k]fluoranthene	**0.0019**	**11**	<0.00015		0.00017
Chrysene	**0.0036**	**11**	<0.00015		0.0015
Indeno[1,2,3-cd]pyrene	**0.0011**	**11, J**	<0.00015		0.00043
Other Parameters (mg/L)					
Chloride	**150**		**8100**	**11**	200
Inorganics (mg/L)					
Iron	**32**	**11**	**40**	**11**	
Iron,Diss	**0.61**		**0.22**		5
Lead	**0.047**	**11**	**0.02**	**11**	
Lead,Diss	**0.00095**		<0.00050		0.0075
Manganese	**0.61**	**11**	**3.8**	**11**	
Manganese,Diss	**0.1**		**3.6**	**11**	0.15
Mercury	**0.00021**		<0.00033	F1	
Mercury,Diss	<0.00020		<0.00020		0.002
Vanadium	**0.026**		**0.057**	**11**	
Vanadium,Diss	<0.0050		**0.0026**	**J**	0.049

Notes:

NA= Not available **ND**= Not detected above laboratory reporting limit

mg/kg= Milligrams per kilogram **mg/L**= Milligrams per liter

NT= Not tested **TCLP**= Toxicity Charactersitic Leaching Procedure

SPLP= Synthetic Precipitation Leaching Procedure

MAC= Maximum Allowable Concentrations of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations (35 Ill. Adm. Code 110. Subpart F).

^= Instrument related QC is outside acceptance limits.

J= Result is less than the reporting limit but greater than or equal to the method detection limit, concentration reported as an approximate value.

[1] Exceeds the most stringent MAC value (35 IAC (1100.605(e))

[11] Exceeds the Most Stringent TACO Tier 1 Class 1 Groundwater Objective

*= Laboratory Control Sample (LCS) or Laboratory Cotrol Sample Duplicate (LCSD) is outside acceptance limits.

TACO = Tiered Approach to Corrective Action Objectives

Exceeds TACO Tier 1 Groundwater Remediation Objectives for the Groundwater Component

	WORK ORDER 49		FIGURE 4 CONTAMINANTS OF CONCERN (GW)
DESIGNED XXX DRAWN GAP CHECKED XXX DATE 4/10/2018	wood.	4232 N. BRANDYWINE DR. SUITE A PEORIA, ILLINOIS 61614 PH (309) 692-4422 FX (309) 692-9364	CDB JOB #: 630-012-004 DISTRICT 1 33300 N. ZEIGLER DRIVE GRAYSKLAKE, IL

DATE:6/12/2019 DRAWING–LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

Appendix A

Preliminary Environmental Site Assessment

May 22, 2017

James Curtis
Chief, Geologic & Special Waste Unit
Environment Section, Bureau of Design and Environment
Illinois Department of Transportation
2300 Dirksen Parkway, Rm. 330
Springfield, IL 62764

Dear Mr. Curtis,

Information in this letter pertains to the following project:

Project name:	FAP 866/FAP 352 (IL 83/IL 137), IL 132 to US 45
County:	Lake
Sequence #:	17101A
Job No.:	P91-159-10
ISGS Project:	2562V
Survey Target Date:	September 15, 2017
Design Date:	February 28, 2018

This Site Assessment Letter Report is submitted in response to your request, received by the ISGS on July 29, 2016, to conduct such an assessment for IL 83/IL 137 from IL 132 to US 45, Grayslake, Lake Villa, Libertyville, Round Lake Beach, and Venetian Village, Lake County (Attachment 1). **This letter contains the findings of the site inspection and records search as noted, and will constitute the Final Report for this project. A site inspection has been conducted, and regulatory databases have been checked as noted, but no historical research, interviews, or regulatory file reviews were conducted.** The proposed project is expected to involve acquisition of new ROW or easement, in-stream work, and excavation or subsurface utility relocation. The project may involve railroad ROW. Stationing information was provided by IDOT in feet, and is presented as such in this report. Stationing information refers to the approximate midpoint of the site's frontage.

This review was performed in compliance with the IDOT-ISGS PESA Manual (Erdmann et al., 2014) and not with the All Appropriate Inquiries environmental assessment standard (40 CFR Part 312) that took effect on November 1, 2006.

Geology

Bedrock geology. The topmost bedrock unit in the project area has been mapped as

undifferentiated rocks of Silurian age, which in this area consist primarily of limestones and dolomites.

Surficial geology. Along N. IL 83, between W. Morton Drive and Brighton Lane, surficial deposits are between 90 and 120 m (300 and 400 ft) thick. At the eastern project limit near N. Butterfield Road, surficial deposits are between 30 and 60 m (100 and 200 ft) thick. In the remainder of the project area, surficial deposits are between 60 and 90 m (200 and 300 ft) thick. Within 15 m (50 ft) of the surface, these deposits consist of greater than 6 m (20 ft) of the Wedron Group. Along Grand Avenue from the western project limit to McKinley Avenue, the Wedron Group is overlain by less than 6 m (20 ft) of the Grayslake Peat, which in turn overlies less than 6 m (20 ft) of the Equality Formation. Along E. Rollins Road from the western project limit to N. IL 83, at the eastern W. Rollins Road project limit, and along the entire project limits between Lexington Lane and Berry Avenue, less than 6 m (20 ft) of the Henry Formation overlies the Wedron Group. The Wedron Group consists of grey clayey glacial deposits with various amounts of silt, sand, and gravel. The Grayslake Peat is composed of peat, muck, and marl interbedded with silt and clay. The Equality Formation is composed of grey to red silt and clay. The Henry Formation is composed of stratified sand and gravel. The Grayslake Peat, the Equality Formation, and the Henry Formation are discontinuous within the project area.

Soils. Along the project ROW, the NRCS has classified the Ashkum silty clay loam, 0-2% slopes; the Peotone silty clay loam, 0-2% slopes; the Pella silty clay loam, 0-2% slopes; the Houghton muck, 0-2% slopes; the Houghton muck, undrained, 0-2% slopes; and the Kish loam, 0-2% slopes as containing 33% to 100% hydric components. None of the other soils in the project area have been classified by NRCS as containing more than 33% hydric components. The NRCS has classified the Orthents, loamy, undulating; the Zurich silt loam, 4-6% slopes, eroded; the Zurich and Ozaukee silt loams, 4-6% slopes, eroded; the Orthents, clayey, undulating; the Ozaukee silt loam, 6-12% slopes; the Houghton muck, undrained, 0-2% slopes; the Ozaukee silty clay loam, 4-6% slopes, severely eroded; the Ozaukee silt loam, 20-30% slopes; and the Landfills as non-prime farmland.

Hydrogeology

Drainage direction. At the northern end of the project area, surficial drainage is generally toward the northwest or northeast, in the directions of Cedar Lake and Deep Lake respectively. Between Grand Avenue and Monaville Road, surficial drainage is generally toward the west, in the direction of Eagle Creek. Between Monaville Road and Rollins Road, surficial drainage is generally toward the south, in the direction of wetlands along the south side of Rollins Road. Between Rollins Road and W. Washington Street, surficial drainage is generally toward the south, in the direction of wetlands near the N. Barron Boulevard and W. Washington Street intersection. Between W. Washington Street and W. Buckley Road, surficial drainage is generally toward the north, in the direction of Mill Creek and its tributaries. In the remainder of the project area, surficial drainage is generally toward the south, in the direction of Bull Creek. However, since the project area is partially urbanized and storm drains, sewers, and ditches are present, most surficial runoff will be controlled by the storm sewer and ditch systems; such systems typically are designed to follow natural drainage patterns.

Neither the near-surface nor the shallow unconfined groundwater flow direction was specifically

determined for this project, but they generally mimic local topography.

Wellhead protection areas. This project crosses wellhead protection recharge areas for fourteen public wells for the communities of Lake Villa, Grayslake, Round Lake Beach, and Libertyville. Five wellhead protection areas are crossed by Grand Avenue from the western project limit to approximately 305 m (1,000 ft) east of Milwaukee Avenue. Two wellhead protection areas are crossed by E. Rollins Road between approximately E. Rollins Road stations 3515+00 and 3529+00; these wellhead protection areas are also crossed by N. Barron Boulevard between approximately N. Barron Boulevard stations 445+00 and 463+00. One wellhead protection area is crossed by E. Center Street between approximately E. Center Street stations 1920+00 and 1930+00. Two wellhead protection areas are crossed by Milwaukee Avenue between approximately Milwaukee Avenue stations 520+00 and 553+00. One wellhead protection area is crossed by E. Belvidere Road between E. Belvidere Road stations 1811+00 and 1828+00; this wellhead protection area is also crossed by S. Barron Boulevard between approximately S. Barron Boulevard stations 256+00 and 275+00. Three wellhead protection areas are crossed by W. Buckley Road between approximately W. Buckley Road stations 156+00 and 179+00; these wellhead protection areas are also crossed by N. US 45 over the entire N. US 45 project limits.

Surficial public water supplies. The proposed project is not likely to impact surficial public water supplies.

Groundwater recharge. The project area is located in two zones for groundwater recharge potential. Between approximately W. Shorewood Road and W. Washington Street the project area is in Zone 6. The remainder of the project area is in Zone 5, where Zone 1 indicates the highest potential for groundwater recharge and Zone 7 indicates the lowest potential as mapped by Keefer and Berg (1990). Groundwater recharge potential information is provided for a general regional perspective only, as this map was prepared at a scale of 1:1,000,000 and is not applicable on a site-specific basis.

The project area does not fall within the Mahomet aquifer sole-source boundaries as defined by USEPA, the only sole-source aquifer in Illinois according to the USEPA's list of designated sole-source aquifers as defined by Section 1424(E) of the Safe Drinking Water Act, and so the proposed project will not affect any such aquifers in Illinois.

Groundwater protection areas. Fourteen public water wells serving the communities of Grayslake, Lake Villa, Libertyville, and Round Lake Beach are located within 305 m (1,000 ft) of the project ROW (refer to the wellhead protection areas paragraph above for locations). However, since no IDOT facilities exist or are planned for this project, there should be no impact on the 305-meter (1,000-foot) setback zones around these wells as determined by the IEPA Division of Public Water Supplies.

Potential for contamination of shallow aquifers. The project area is located in three different zones, according to the map "Potential for contamination of shallow aquifers from land burial of municipal wastes" (Berg et al., 1984). The northern end of the project area (north of Grand Avenue) is located in Zone AX. Between approximately W. Shorewood Road and W. Washington Street, the project area is located in Zone B1. The remainder of the project area is located in Zone E. Zone AX is described as alluvium, a mixture of sand, gravel, silt and clay along streams, variable in composition and thickness. Zone B1 is described as sand and gravel less than 6 m (20 ft) thick

over relatively impermeable glacial deposits or bedrock. Zone E is described as uniform, relatively impermeable silty or clayey glacial deposits at least 15 m (50 ft) thick, with no evidence of interbedded sand and gravel. Zones A indicate the highest potential for contamination and Zone G the lowest. This information is provided for a general regional perspective only, as the map was prepared at a scale of 1:500,000 and is not applicable on a site-specific basis. No borings were made to a depth of 15 m (50 ft) to verify the geology of this site.

Well information. ISGS well records indicate that water in the project area is obtained from three distinct aquifers: from sandstone at a depth of approximately 305 m (1,000 ft) below the surface; from limestone at depths ranging from 64 m (210 ft) to 102 m (335 ft) below the surface; and from unconsolidated sand and gravel deposits at depths ranging from 19 m (63 ft) to 86 m (281 ft) below the surface.

One hundred and sixteen wells were identified in the ISGS database within 61 m (200 ft) of the project ROW, as follows:

Within T46N, R10E, Section 33, three water wells are present within 61 m (200 ft).
Within T45N, R10E, Section 4, ten water wells are present within 61 m (200 ft).
Within T45N, R10E, Section 9, forty-five water wells are present within 61 m (200 ft).
Within T45N, R10E, Section 10, two water wells are present within 61 m (200 ft).
Within T45N, R10E, Section 15, five water wells are present within 61 m (200 ft).
Within T45N, R10E, Section 22, six water wells are present within 61 m (200 ft).
Within T45N, R10E, Section 23, one water well was present within 61 m (200 ft).
Within T45N, R10E, Section 26, four water wells are present within 61 m (200 ft).
Within T45N, R10E, Section 35, six water wells are present within 61 m (200 ft).
Within T44N, R10E, Section 1, two water wells are present within 61 m (200 ft).
Within T44N, R11E, Section 7, thirty-two water wells are present within 61 m (200 ft).

Other wells not in the ISGS database may be present near the project area.

Natural Features and Hazards

No observed or known natural hazards were identified for this project.

Project Sites

Project sites will be described from north to south along IL 83/Barron Boulevard and W. Buckley Road below, and from west to east along cross-streets. Attachment 1 contains a project location map. Attachment 2 contains maps of all sites discussed in this report. Fieldwork for this project was conducted on March 31, 2017 (Sites 2562V-1 through 2562V-60 only), April 3, 2017 (Sites 2562V-61 through 2562V-121 only), April 4, 2017 (Sites 2562V-122 through 2562V-175 only), April 7, 2017 (Sites 2562V-176 through 2562V-230 only), April 10, 2017 (Sites 2562V-231 through 2562V-294 only), April 11, 2017 (Sites 2562V-295 through 2562V-349 only), April 12, 2017 (Sites 2562V-350 through 2562V-407 only), and April 14, 2017 (Sites 2562V-408 through 2562V-469 only).

This project intersects previous ISGS PESAs and PSIs as follows:

ISGS PESA #	Date submitted to IDOT	Intersects	PSI
244	April 8, 1991	At N. US 45 and W. Buckley Road	None
315/F	July 25, 1995	At W. Buckley Road and Ivanhoe Road	None
315A	November 19, 1991	At Sites 2562V-421 and 2562V-428	None
315C	November 5, 1992	At Sites 2562V-421, 2562V-422, 2562V-424, and 2562V-F	None
315G	October 3, 1996	At Site 2562V-A	None
387/A	August 29, 1995	At N. US 45 and W. Buckley Road	Weston #2, work order #26
387E	May 19, 2008	At N. US 45 and W. Buckley Road	Weston #5, work order #34
529/A	May 27, 1994	At N. Lake Street and N. Barron Boulevard	None
728	April 4, 1995	At W. Buckley Road and Casey Road	None
804	July 25, 1996	At N. Barron Boulevard and W. Washington Street	None
1138	May 2, 2000	At S. Barron Boulevard and E. Belvidere Road	None
1146	June 27, 2000	At Milwaukee Avenue and E. Grand Avenue	Andrews #1, work order #51
1146V	December 18, 2009	At Milwaukee Avenue and E. Grand Avenue	E&E #5, work order #35
1225	February 21, 2001	At N. IL 83 and W. Engle Drive	Andrews #1, work order #21
1408	January 30, 2003	At E. Belvidere Road and S. Barron Boulevard	None
1408A	July 2, 2003	At E. Belvidere Road and S. Barron Boulevard	None
1408B	February 23, 2004	At E. Belvidere Road and S. Barron Boulevard	None

1408V	April 6, 2007	At E. Belvidere Road and S. Barron Boulevard	Weston #9, work order #50
1408V2	August 1, 2011	At E. Belvidere Road and S. Barron Boulevard	Andrews #4, work order #20
2209	October 4, 2010	At N. IL 83 and E. Rollins Road	None
2562	November 20, 2014	Over most of the current project area	None
2674	February 25, 2013	At E. Grand Avenue and Cedar Avenue	None
2701	April 25, 2013	At E. Belvidere Road and S. Barron Boulevard	Weston #9, work order #027
2701V	August 4, 2016	At E. Belvidere Road and S. Barron Boulevard	None
2771	September 20, 2013	At Site 2562V-378	Weston #8, work order #34
2845	November 8, 2013	At S. Barron Boulevard and E. Center Street	Andrews #5, work order #56
2881	April 24, 2014	At E. Grand Avenue and Sheehan Drive	None
3079	September 11, 2015	At E. Belvidere Road and S. Barron Boulevard	Weston #9, work order #50
3185	February 25, 2016	Along N. Barron Boulevard from Frederick Road to Highland Road	None

Information from these earlier PESAs and PSIs will be summarized in geographic order below. No sites in this project were covered in PSI Weston #2, work order #26 or in Weston #8, work order #34.

Site 2562V-1 (2562-1). Cedar Village Apartments, 310 N. Milwaukee Avenue, Lake Villa (northwest quadrant of N. Milwaukee Avenue and Cedar Avenue; no stationing provided; Attachment 2, page 1). This site is occupied by an apartment building with a small storage building to the north. A pad-mounted transformer was observed on the northeast side of the main building. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-2 (2562-2). One Hope United, 215 N. Milwaukee Avenue, Lake Villa (northeast and southeast corners of N. Milwaukee Avenue and Cedar Avenue; no stationing provided; Attachment 2, page 1). This site is occupied by a children's charity with several buildings including residential dormitories, offices, and small outbuildings. A pole-mounted transformer was observed

Barron Boulevard station 309+50 RT; Attachment 2, page 30). This site is occupied by two single-family residences. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-307 (2562-263, 2845-6). Mixed-use building, 240 N. Barron Boulevard, Grayslake (west side of N. Barron Boulevard between Library Lane and E. Center Street; approximate N. Barron Boulevard station 309+00 LT; Attachment 2, page 30). This site is occupied by a shoe repair shop that appeared to operating out of a residence. A metal pipe was observed protruding from the ground on the east side of the building. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-308 (2562-264). Residences, 219-225 Banbury Lane, Grayslake (northwest quadrant of Banbury Lane and York Drive; no stationing provided; Attachment 2, page 30). This site is occupied by two single-family residences. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-309 (2562-265, 2845-7). Residence, 230 N. Barron Boulevard, Grayslake (west side of N. Barron Boulevard between Library Lane and E. Center Street; approximate N. Barron Boulevard station 308+00 LT; Attachment 2, page 30). This site is occupied by a single-family residence with a garage to the rear. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-310 (2562-266, 2845-8). Commercial building, 225-229 N. Barron Boulevard, Grayslake (east side of N. Barron Boulevard between Library Lane and E. Center Street; approximate N. Barron Boulevard station 308+00 RT; Attachment 2, page 30). This site is occupied by a commercial building housing two home health care services and a pizzeria (see address table for listings). No potential hazards were noted in association with any of the current occupants.

Under the name “Grayslake Cleaners” and the address “225 N Barron Rd”, this site appears on the active RCRA list (USEPA #ILR000011023) and the BOL list (IEPA #0970255058).

Site 2562V-311 (2562-267, 2845-9). Residence, 226 N. Barron Boulevard, Grayslake (west side of N. Barron Boulevard between Library Lane and E. Center Street; approximate N. Barron Boulevard station 307+25 LT; Attachment 2, page 30). This site is occupied by a single-family residence. A pole-mounted transformer was observed at the southeast corner of the site. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-312 (2562-268, 2845-11). IDOT Maintenance Facility #115, 219 N. Barron Boulevard, Grayslake (northeast quadrant of N. Barron Boulevard and E. Center Street; approximate N. Barron Boulevard station 307+00 RT; Attachment 2, page 30). This site is occupied by an IDOT maintenance facility. A vehicle maintenance building with bay doors was present on the north side of the site. The following items were observed: two pole-mounted transformers (east side of the site near the entrance gate); an UST yard with one diesel UST (approximately 98 m (320 ft) east of the eastern edge of N. Barron Boulevard and 168 m (550 ft) north of the northern edge of E. Center Street); one fuel dispenser (near the UST yard); mounds of sand and gravel (south side of the site); more than 10 waste tires in piles (southeast corner of the site); a salt dome (south side of the site); a 208-liter (55-gallon) drum (south side of the main

building); two ASTs (northeast side of the salt dome). One of the ASTs was marked as containing beet juice, and the other was unmarked. Due to trucks and equipment throughout the site, the entire site could not be observed.

Under the name “ILDOT Grayslake Team Section” and the address “219 N Baron Blvd [*sic*]”, this site appears on the inactive RCRA list (USEPA #ILD097272744). Under the name “IDOT Grayslake Headquarters” and the address “219 N Baron Blvd [*sic*]”, this site appears on the BOL list (IEPA #0970255037). Under the name “ILDOT” and the address “217 N Barron”, this site appears on the inactive RCRA list (USEPA #ILD984813667). Under the name “IDOT” and the address “217 Baron [*sic*]”, this site appears on the BOL list (IEPA #0970255026). Under the name “Illinois Dept. of Transportation” and the address “217 North Baron [*sic*]”, this site appears on the LUST list (IEMA #902603). Under the name “IDOT” and the address “219 Barron Blvd”, this site appears on the IEMA non-LUST list (IEMA #970358). Under the name “IL. Dept. Of Transportati [sic]” and the address “219 Barron Blvd”, this site appears on the ERNS list (ERNS #378487). Under the name “Team Section Headquarters District 1” and the address “219 N. Barron Blvd.”, this site appears on the UST list (OSFM #2012039).

Two soil borings were completed at this site in 2014 in connection with PSI Andrews #5, work order #56. Two soil samples were analyzed for VOCs, SVOCs, and metals. VOCs, SVOCs, and/or metals were detected in both of these samples. Refer to PSI Andrews #5, work order #56, for details.

Site 2562V-313 (2562-269). Agricultural land, 200 block of Ziegler Drive, Grayslake (northeast quadrant of Ziegler Drive and E. Center Street; no stationing provided; Attachment 2, page 30). This site is occupied by agricultural land. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-314 (2562-270). Vacant land, northeast quadrant of Ziegler Drive and E. Center Street, Grayslake (northeast quadrant of Ziegler Drive and E. Center Street; no stationing provided; Attachment 2, page 30). This site is occupied by vacant wooded land with a paved path along the eastern side. Due to dense trees, most of the site could not be adequately viewed.

According to Lake County Health Department records compiled by the Illinois Department of Natural Resources, a landfill known as “Old Center Street” may have existed at or near this site.

Site 2562V-315 (2562-271, 2845-10). Commercial building, 218-222 N. Barron Boulevard, Grayslake (northwest quadrant of N. Barron Boulevard and E. Center Street; approximate N. Barron Boulevard station 306+50 LT; Attachment 2, page 30). This site is occupied by a commercial building housing a real estate and property management business and two vacant units (see address table for listings). This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-316 (2562-272, 2845-12). Commercial building, 206-210 N. Barron Boulevard, Grayslake (northwest quadrant of N. Barron Boulevard and E. Center Street; approximate N. Barron Boulevard station 305+00 LT; Attachment 2, page 30). This site is occupied by a multi-tenant commercial building housing a truck sales business, a salon, and a vacant unit (see address table for listings). This site did not appear on any of the regulatory lists checked for this project.

checked for this project.

Site 2562V-467 (2562-405). Residences, 1501-1508 Old Peterson Road, Libertyville (northwest quadrant of Peterson Road and N. Butterfield Road; approximate W. Buckley Road station 91+00 RT; Attachment 2, page 46). This site is occupied by three single-family residences. A natural gas pipeline marker was observed in the Old Peterson Road ROW near 1503 Old Peterson Road. This site did not appear on any of the regulatory lists checked for this project.

Site 2562V-468 (2562-406). Residence, 1433 Braxton Road, Libertyville (southeast corner of Braxton Road and N. Butterfield Road; approximate W. Buckley Road station 86+25 RT; Attachment 2, page 46). This site is occupied by a single-family residence. A natural gas pipeline marker was observed at the southwest corner of the site.

Under the name “Leesley Nurseries” and the address “17970 W Old Peterson Rd”, this site appears on the BOL list (IEPA #0970905133). Under the name “Leesley Nurseries” and the address “17970 West Old Peterson Rd.”, this site appears on the LUST list (IEMA #932110). Under the name “Leesleys Nurseries” and the address “17970 W Old Peterson Rd”, this site appears on the UST list (OSFM #2032225).

Site 2562V-469 (2562-407). Butterfield Square, 1413-1451 Peterson Road, Libertyville (southeast corner of Peterson Road and N. Butterfield Road; approximate W. Buckley Road station 85+00 LT; Attachment 2, page 46). This site is occupied by a multi-tenant commercial building. Occupants included businesses typical of commercial plazas (see address table for listings). No potential hazards were noted in association with any of the current occupants. A pole-mounted transformer was observed in the N. Butterfield Road ROW near the middle of the site’s frontage. Three pad-mounted transformers were observed to the rear of the units at 1419-1421B, 1429, and 1451 Peterson Road. This site did not appear on any of the regulatory lists checked for this project.

Adjoining Sites

The ISGS conducted a search of federal, state, and other environmental databases for reported environmental concerns on sites adjoining the project. For certain resources, the search distances may have been expanded when deemed applicable in the judgment of the project manager. Refer to the Appendix for complete citations for these databases and the date of update of each database. Sites along the project are listed in the preceding section. Sites adjoining the project that do not appear on regulatory databases are not included. The following sites adjoining, but not along, the project were identified.

Federal records

SEMS: NPL, Active, and Archived

Site 2562V-A (315G-16, 1408-K, 1408A-5, 1408V-17, 2237-1, 2562-B, 3079-62). Waste Management Landfill, 31725 N. IL 83, Grayslake. USEPA #ILD084741875; IEPA #0970250003 and #0970250006; UIC #ILEA351; IEMA #820709 and #992572; ERNS #214902 and #506051. (Archived SEMS site.) Adjoining property to the west of Sites 2562V-351 and 2562V-427 (Attachment 2, page 40).

RCRA sites subject to corrective action (CORRACTS)

None.

RCRA sites – non-CORRACTS TSD

None.

RCRA sites – other

Site 2562V-A (315G-16, 1408-K, 1408A-5, 1408V-17, 2237-1, 2562-B, 3079-62). Waste Management Landfill, 31725 N. IL 83, Grayslake. USEPA #ILD084741875; IEPA #0970250003 and #0970250006; UIC #ILEA351; IEMA #820709 and #992572; ERNS #214902 and #506051. (Archived SEMS site.) Adjoining property to the west of Sites 2562V-351 and 2562V-427 (Attachment 2, page 40).

Site 2562V-B (2562-D). Meecher's Auto Trim, 485 Park Avenue, Lake Villa. USEPA #ILR000048421; IEPA #0970845036. Adjoining property to the southwest of Site 2562V-74 and to the north of Site 2562V-79 (Attachment 2, page 6).

Site 2562V-C. Residence, 625 E. London Court, Round Lake Beach. USEPA #ILR000181917; IEPA #0971555052. Adjoining property to the south of Site 2562V-115 (Attachment 2, page 8).

Site 2562V-D (2562-G). Renwood Golf Course, 1413 Hainesville Road, Round Lake. USEPA #ILD984917260; IEPA #0971555015; OSFM #2005372. Adjoining property to the south of Site 2562V-163 and to the southwest of Site 2562V-167 (Attachment 2, page 15).

Site 2562V-E (2562-H). Commercial building, 1725 Wood St., Round Lake Beach. USEPA #ILD062407333, #ILD984774901, and #ILD092542893; IEPA #0971555003, #0971555005, and #0971555002. Adjoining property to the east of Site 2562V-169, to the southeast of Site 2562V-172, and to the south of Site 2562V-175 (Attachment 2, page 13).

Site 2562V-F (315C-no site number, 315/F-no site number, 1408-I, 1408A-P, 1408B-1, 1408V-H, 1408V2-22, 2562-J, 3079-57). Vulcan Construction Materials, 875 S. IL 83, Grayslake. USEPA #ILR000113233; IEPA #0970255090; IEMA #H 2014 0299. Adjoining property to the west of Site 2562V-351 (Attachment 2, page 40).

Site 2562V-G (2562-K). Nuwave Outlet Store, 1755 N. Butterfield Rd., Libertyville. USEPA #ILD043302819; IEPA #0970905002; OSFM #2027197. Adjoining property to the south of Site 2562V-466 and to the west of Site 2562V-469 (Attachment 2, page 46).

Brownfields pilot sites

None.

Non-LUST releases

Site 2562V-A (315G-16, 1408-K, 1408A-5, 1408V-17, 2237-1, 2562-B, 3079-62). Waste Management Landfill, 31725 N. IL 83, Grayslake. USEPA #ILD084741875; IEPA #0970250003 and #0970250006; UIC #ILEA351; IEMA #820709 and #992572; ERNS #214902 and #506051. (Archived SEMS site.) Adjoining property to the west of Sites 2562V-351 and 2562V-427 (Attachment 2, page 40).

State records

Leaking underground storage tanks (LUST)

None.

Registered underground storage tanks (UST)

Site 2562V-D (2562-G). Renwood Golf Course, 1413 Hainesville Road, Round Lake. USEPA #ILD984917260; IEPA #0971555015; OSFM #2005372. Adjoining property to the south of Site 2562V-163 and to the southwest of Site 2562V-167 (Attachment 2, page 15).

Site 2562V-G (2562-K). Nuwave Outlet Store, 1755 N. Butterfield Rd., Libertyville. USEPA #ILD043302819; IEPA #0970905002; OSFM #2027197. Adjoining property to the south of Site 2562V-466 and to the west of Site 2562V-469 (Attachment 2, page 46).

Site 2562V-H (2562-N). Lake Villa Police Department, 65 Cedar Avenue, Lake Villa. OSFM #2003049. Adjoining property to the north of Sites 2562V-21 and 2562V-22 (Attachment 2, page 2).

Activity and Use Limitations (including institutional controls, engineered barriers, and Highway Authority Agreements)

None.

Brownfields

None.

IEPA Bureau of Land Inventory

Site 2562V-A (315G-16, 1408-K, 1408A-5, 1408V-17, 2237-1, 2562-B, 3079-62). Waste Management Landfill, 31725 N. IL 83, Grayslake. USEPA #ILD084741875; IEPA #0970250003 and #0970250006; UIC #ILEA351; IEMA #820709 and #992572; ERNS #214902 and #506051. (Archived SEMS site.) Adjoining property to the west of Sites 2562V-351 and 2562V-427 (Attachment 2, page 40).

Site 2562V-B (2562-D). Meecher's Auto Trim, 485 Park Avenue, Lake Villa. USEPA #ILR000048421; IEPA #0970845036. Adjoining property to the southwest of Site 2562V-74 and to the north of Site 2562V-79 (Attachment 2, page 6).

Site 2562V-C. Residence, 625 E. London Court, Round Lake Beach. USEPA #ILR000181917; IEPA #0971555052. Adjoining property to the south of Site 2562V-115 (Attachment 2, page 8).

Site 2562V-D (2562-G). Renwood Golf Course, 1413 Hainesville Road, Round Lake. USEPA #ILD984917260; IEPA #0971555015; OSFM #2005372. Adjoining property to the south of Site 2562V-163 and to the southwest of Site 2562V-167 (Attachment 2, page 15).

Site 2562V-E (2562-H). Commercial building, 1725 Wood St., Round Lake Beach. USEPA #ILD062407333, #ILD984774901, and #ILD092542893; IEPA #0971555003, #0971555005, and #0971555002. Adjoining property to the east of Site 2562V-169, to the southeast of Site 2562V-172, and to the south of Site 2562V-175 (Attachment 2, page 13).

Site 2562V-F (315C-no site number, 315/F-no site number, 1408-I, 1408A-P, 1408B-1, 1408V-H, 1408V2-22, 2562-J, 3079-57). Vulcan Construction Materials, 875 S. IL 83, Grayslake. USEPA #ILR000113233; IEPA #0970255090; IEMA #H 2014 0299. Adjoining property to the west of Site 2562V-351 (Attachment 2, page 40).

Site 2562V-G (2562-K). Nuwave Outlet Store, 1755 N. Butterfield Rd., Libertyville. USEPA #ILD043302819; IEPA #0970905002; OSFM #2027197. Adjoining property to the south of Site 2562V-466 and to the west of Site 2562V-469 (Attachment 2, page 46).

Site 2562V-I (2209-9, 2562-O). Round Lake Civic and Cultural Center, 2007 Civic Center Way, Round Lake Beach. IEPA #0971550006. Adjoining property to the west of Site 2562V-140 and to the north of Site 2562V-145 (Attachment 2, page 10).

Site 2562V-J (2562-R). North Shore Gas, 30925 US 45, Libertyville. IEPA #0970905220. Adjoining property to the west of Site 2562V-427 and to the south of Site 2562V-451 (Attachment 2, page 43).

Site 2562V-K (2562-S). Libertyville Sports Complex, 1950 N. US 45, Libertyville. IEPA #0970905236. Adjoining property to the southwest of Site 2562V-427 (Attachment 2, page 44).

IEPA Site Remediation Program

None.

Non-LUST releases

Site 2562V-A (315G-16, 1408-K, 1408A-5, 1408V-17, 2237-1, 2562-B, 3079-62). Waste Management Landfill, 31725 N. IL 83, Grayslake. USEPA #ILD084741875; IEPA #0970250003 and #0970250006; UIC #ILEA351; IEMA #820709 and #992572; ERNS #214902 and #506051. (Archived SEMS site.) Adjoining property to the west of Sites 2562V-351 and 2562V-427 (Attachment 2, page 40).

Site 2562V-F (315C-no site number, 315/F-no site number, 1408-I, 1408A-P, 1408B-1, 1408V-H, 1408V2-22, 2562-J, 3079-57). Vulcan Construction Materials, 875 S. IL 83, Grayslake. USEPA #ILR000113233; IEPA #0970255090; IEMA #H 2014 0299. Adjoining property to the west of Site 2562V-351 (Attachment 2, page 40).

Municipal records

None.

Tribal records

There are no tribally owned lands in the state of Illinois; therefore, the checking of tribal records is not applicable for this report.

Orphan Sites

The following sites that may be in the project area appear on regulatory databases. Regulatory file information was not reviewed for these sites, and they may be on the project, adjoining the project,

or elsewhere. Other orphan sites, not listed below, may be present in the project area as well.

Name	Address	Data source
Midgley Estate Property	25776 Rte 83, Lake Villa	RCRA, BOL (USEPA #ILR000111625 and #MNR000110239; IEPA #0970845055)
Acme Burgess Inc	Rte 83, Grayslake	BOL (IEPA #0970255002)
Martin, Homer	North Side of Peterson Rd, Libertyville	BOL (IEPA #0970900002)
Basic Electronics	Rollins Rd, Round Lake Beach	IEMA (IEMA #800257)
Commonwealth Edison	Peterson Road East Of Rt. 45, Libertyville	IEMA (IEMA #830238)
S and S Transport	Peterson Road, Mundelein and Libertyville	IEMA (IEMA #880462)

This letter serves as the final Site Assessment Letter Report for ISGS #2562V. If you need further information concerning this project, please contact me at the telephone number or e-mail address below.

Sincerely,

Matthew Spaeth
Environmental Site Assessments Section
(217) 265-6578
spaeth@illinois.edu

Approved: _____ **Date:** 05/22/17

Anne Ellison, P.G., State of Illinois
License #196-000546

ADDRESS LISTINGS

The following addresses along the project were evaluated for this project. Addresses of sites, if any, adjoining but not along the project are not listed here; see text and following table for these sites.

Property name and address	ISGS site #	Land use
Cedar Village Apartments 310 N. Milwaukee Avenue, Lake Villa	2562V-1	Residential
One Hope United 215 N. Milwaukee Avenue, Lake Villa	2562V-2	Commercial
J.B. De Los Reyes Dental 300 N. Milwaukee Avenue, unit A, Lake Villa	2562V-3	Commercial
David's Cave 300 N. Milwaukee Avenue, unit B, Lake Villa	2562V-3	Commercial
Chicago Title 300 N. Milwaukee Avenue, unit C, Lake Villa	2562V-3	Commercial
Massage Green Spa 300 N. Milwaukee Avenue, unit D, Lake Villa	2562V-3	Commercial
Applied Technologies 300 N. Milwaukee Avenue, unit E, Lake Villa	2562V-3	Commercial
Todd's Pawn Shop 300 N. Milwaukee Avenue, unit G, Lake Villa	2562V-3	Commercial
Paws for Applause Dog Grooming 300 N. Milwaukee Avenue, unit H, Lake Villa	2562V-3	Commercial
Judy's Slots and Poker 300 N. Milwaukee Avenue, unit I, Lake Villa	2562V-3	Commercial
The Tax Place 300 N. Milwaukee Avenue, unit J, Lake Villa	2562V-3	Commercial
Outland Collectibles and Toys 300 N. Milwaukee Avenue, unit K, Lake Villa	2562V-3	Commercial
Jackson Eye 300 N. Milwaukee Avenue, unit L, Lake Villa	2562V-3	Commercial
Paradise Salon 300 N. Milwaukee Avenue, unit N, Lake Villa	2562V-3	Commercial
Vacant unit 300 N. Milwaukee Avenue, units O and P, Lake Villa	2562V-3	Commercial

Parking lot 400 block of N. Ziegler Drive, Grayslake	2562V-294	Vacant
Parking lot 400 block of N. Ziegler Drive, Grayslake	2562V-294	Vacant
Jewelry Repair 420 N. Barron Boulevard, Grayslake	2562V-295	Commercial
Bejeweled Jewelry Design 422 N. Barron Boulevard, Grayslake	2562V-295	Commercial
Nails Under the Sun 410 N. Barron Boulevard, Grayslake	2562V-296	Commercial
Nikki's Place 410 N. Barron Boulevard, Grayslake	2562V-296	Commercial
Residence 350 N. Barron Boulevard, Grayslake	2562V-297	Residential
Residence 380 N. Barron Boulevard, Grayslake	2562V-297	Residential
GFX International 333 N. Barron Boulevard, Grayslake	2562V-298	Industrial
Residence 340 N. Barron Boulevard, Grayslake	2562V-299	Residential
Congregation Or Tikvah 330 N. Barron Boulevard, Grayslake	2562V-300	Commercial
Commercial building 320 N. Barron Boulevard, Grayslake	2562V-301	Commercial
Central Park 250 Library Lane, Grayslake	2562V-302	Recreational
Harger Lightning Protection 301 Ziegler Drive, Grayslake	2562V-303	Industrial
Mill Creek 100 block of S. Barron Boulevard, Grayslake	2562V-304	Stream
Grayslake Family Dental Center 310 N. Barron Boulevard, Grayslake	2562V-305	Commercial
Residence 239 N. Barron Boulevard, Grayslake	2562V-306	Residential
Residence 309 N. Barron Boulevard, Grayslake	2562V-306	Residential

Henry's Shoe Repair 240 N. Barron Boulevard, Grayslake	2562V-307	Commercial
Residential space 240 N. Barron Boulevard, Grayslake	2562V-307	Residential
Residence 219 Banbury Lane, Grayslake	2562V-308	Residential
Residence 225 Banbury Lane, Grayslake	2562V-308	Residential
Residence 230 N. Barron Boulevard, Grayslake	2562V-309	Residential
Ageless Spirit Day Service 225 N. Barron Boulevard, Grayslake	2562V-310	Commercial
European Service at Home 227 N. Barron Boulevard, Grayslake	2562V-310	Commercial
Domino's Pizza 229 N. Barron Boulevard, Grayslake	2562V-310	Commercial
Residence 226 N. Barron Boulevard, Grayslake	2562V-311	Residential
IDOT Maintenance Facility #115 219 N. Barron Boulevard, Grayslake	2562V-312	Governmental
Agricultural land 200 block of Ziegler Drive, Grayslake	2562V-313	Agricultural
Vacant land Northeast quadrant of Ziegler Drive and E. Center Street, Grayslake	2562V-314	Vacant
Vacant unit 218 N. Barron Boulevard, Grayslake	2562V-315	Commercial
Horizon Real Estate and Property Management Company 220 N. Barron Boulevard, Grayslake	2562V-315	Commercial
Vacant unit 222 N. Barron Boulevard, Grayslake	2562V-315	Commercial
Vacant unit 206 N. Barron Boulevard, Grayslake	2562V-316	Commercial
Chips Trucks 208 N. Barron Boulevard, Grayslake	2562V-316	Commercial

Snowbird Ski 1439 Peterson Road, Libertyville	2562V-469	Commercial
Sunset Foods 1451 Peterson Road, Libertyville	2562V-469	Commercial
The following site has easement access from Grand Avenue, and has an address on Grand Avenue, but does not adjoin the Grand Avenue ROW:		
VFW Hall 130 E. Grand Avenue, Lake Villa	NA	Commercial
The following site has easement access from Rollins Road, and has an address on Rollins Road, but does not adjoin the Rollins Road ROW:		
Commercial building 400-540 E. Rollins Road, Round Lake Beach	NA	Commercial
The following site has easement access from IL 83, and has an address on IL 83, but does not adjoin the IL 83 ROW:		
Farmstead 36180 N. IL 83, Round Lake Beach	NA	Farmstead

The following additional sites, adjoining but not on the project, were identified on environmental databases:

Property name	ISGS site #	Regulatory database(s)	Land use
Waste Management Landfill	2562V-A	Archived SEMS, RCRA, ERNS, BOL, UIC, IEMA	Landfill
Meecher's Auto Trim	2562V-B	RCRA, BOL	Commercial
Residence	2562V-C	RCRA, BOL	Residential
Renwood Golf Course	2562V-D	RCRA, BOL, UST	Recreational
Commercial building	2562V-E	RCRA, BOL	Commercial
Vulcan Construction Materials	2562V-F	RCRA, BOL, IEMA	Industrial
Nuwave Outlet Store	2562V-G	RCRA, BOL, UST	Commercial
Lake Villa Police Department	2562V-H	UST	Governmental
Round Lake Civic and Cultural Center	2562V-I	BOL	Recreational
North Shore Gas	2562V-J	BOL	Utility
Libertyville Sports Complex	2562V-K	BOL	Recreational

Information Sources

Website addresses listed below were accurate and active as of the date viewed or cited in the Appendix; however, websites change frequently and web addresses may be different in the future or may cease to exist entirely.

Berg, R.C., and Kempton, J.P. (1988). Stack-unit mapping of geologic materials in Illinois to a depth of 15 meters. Illinois State Geological Survey Circular 542. GIS data produced from publication plates (1995, revised 1998).

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APPENDIX

ISGS PRELIMINARY ENVIRONMENTAL SITE ASSESSMENT CHECKLIST

IDOT: P91-159-10 ISGS: 2562V
City: Grayslake, Lake Villa, Libertyville, Round Lake Beach, Venetian Village
County: Lake
Location Coordinates: T44N, R10E, Sections 1, 2, and 12
T44N, R11E, Sections 6-8
T45N, R10E, Sections 4, 5, 9, 10, 15, 16, 22-24, 26, 35, and 36
T46N, R10E, Sections 32 and 33
IDOT District Contact: ISGS Lead: Matthew Spaeth
Name: Sam Mead
Phone: (847) 705-4101

Task	Status*	Date	By
Original Material Copied	MF	07/29/16	ALE
IDOT Project Location Database – (All other projects/IDOT sites in the vicinity of the project)			
▸ Other Preliminary Environmental Site Assessments	MF	05/08/17	MPS
▸ Preliminary Site Investigations/Phase II Reports	MF	05/08/17	MPS
▸ Maintenance Facilities	MF	05/08/17	MPS
▸ Permit-Access Agreements	NF	05/08/17	MPS
▸ Draft Highway Authority Agreements/Highway Authority Agreements	MF	05/08/17	MPS
▸ Miscellaneous Sites	MF	05/08/17	MPS
Local Collections			
▸ County	NA	01/30/17	MPS
▸ City	NA	01/30/17	MPS
Geologic Information			
▸ ISGS Stack-Unit Map (GIS)	MF	12/21/16	MPS
▸ ISGS Glacial Drift in Illinois (GIS)	MF	12/21/16	MPS
▸ ISGS Bedrock Geology of Illinois (GIS)	MF	12/21/16	MPS
▸ USDA NRCS Soil Survey Maps	MF	12/21/16	MPS
▸ USDA NRCS Hydric Soils	MF	12/21/16	MPS
▸ USDA NRCS Prime Farmland Soils	MF	12/21/16	MPS
Hydrogeologic Information (non-CE projects only)			
▸ IEPA Restricted Status List	NF	01/30/17	MPS
▸ USGS-IEPA SWAP-IL Public Water Supplies	MF	01/30/17	MPS
▸ ISGS Wells (GIS)	MF	01/30/17	MPS
▸ ISWS Public Water Supply Surface Water Intakes in Illinois (GIS)	NF	01/30/17	MPS
▸ Potential for Aquifer Contamination Map	MF	12/21/16	MPS
▸ Potential for Aquifer Recharge Map	MF	12/21/16	MPS
▸ Sole Source Aquifer Protection Program	NF	12/21/16	MPS
Hydrogeologic Information (all projects)			
▸ USGS-IEPA SWAP Wellhead Protection	MF	02/03/17	MPS
▸ USGS-IEPA SWAP Fact Sheets /IEPA Well Site Survey Reports	MF	02/03/17	MPS
Historical Records			
▸ Aerial Photographs	NA	02/03/17	MPS
▸ USGS Topographic Maps	NA	02/03/17	MPS
▸ Plat Maps	NA	02/03/17	MPS
▸ Sanborn Fire Insurance Maps: Chadwyck-Healey Inc.	NA	02/03/17	MPS
▸ Sanborn Fire Insurance Maps: University Publications of America	NA	02/03/17	MPS
▸ Sanborn Fire Insurance Maps: Rascher Publishing Company	NA	02/03/17	MPS
▸ City Directories	NA	02/03/17	MPS
▸ Industrial Directories (optional)	NA	02/03/17	MPS
▸ IEPA-ISGS Summary of Former Manufactured Gas Plant Sites (GIS)	NA	02/03/17	MPS
▸ ISGS Draft SEMS Site Coverage (GIS)	MF	02/03/17	MPS
▸ ISGS Draft LUST Site Coverage (GIS)	MF	02/03/17	MPS
▸ ISGS Draft Landfill Site Coverage (GIS)	NA	02/03/17	MPS

Task	Status*	Date	By
Federal Records			
▸ SEMS (NPL, Active, Archived)	MF	05/08/17	MPS
▸ Mercury Site Lists	MF	03/23/17	MPS
▸ RCRA CORRACTS	NF	05/08/17	MPS
▸ RCRA Non-CORRACTS TSD Facilities	NF	05/08/17	MPS
▸ RCRA (Other)	MF	05/08/17	MPS
▸ ERNS	MF	05/08/17	MPS
▸ Brownfields Pilot Sites	NF	05/08/17	MPS
▸ Toxics Release Inventory	MF	03/23/17	MPS
▸ SSTS	NF	05/08/17	MPS
▸ PCB Transformer Registration Database/PCB Activity Quarterly Reports	NF	03/23/17	MPS
USEPA Information Request			
▸ Sent	NA	03/23/17	MPS
▸ Received	NA	03/23/17	MPS
State Records			
▸ IEPA Brownfields	NF	05/08/17	MPS
▸ IEPA Bureau of Land Inventory	MF	05/08/17	MPS
▸ IEPA Illinois Water Quality Reports	NA	03/23/17	MPS
▸ IEPA LUST	MF	05/08/17	MPS
▸ IEPA Site Remediation Program	MF	05/08/17	MPS
▸ OSFM UST	MF	05/09/17	MPS
▸ IEMA non-LUST Incidents/IEPA OER lists	MF	05/08/17	MPS
▸ Activity and Use Limitations (AULs)	MF	05/08/17	MPS
▸ Groundwater Ordinances	NF	05/08/17	MPS
▸ Cook County Bridge List	NA	03/27/17	MPS
▸ IDOT Bridge List	NA	03/27/17	MPS
▸ Landfills (GIS)	NA	03/27/17	MPS
▸ State Underground Injection Control Inventory	MF	03/27/17	MPS
IEPA BOL Information Request			
▸ Sent	NA	03/27/17	MPS
▸ Received	NA	03/27/17	MPS
OSFM Information Request			
▸ Sent	NA	03/27/17	MPS
▸ Received	NA	03/27/17	MPS
Local Records			
▸ Fire Department Records (optional)	NA	03/27/17	MPS
Mining Maps and Publications			
▸ ISGS Quadrangle/County On-Line Coal Maps and Directories	NF	03/27/17	MPS
▸ ISGS Non-Coal Underground Mines	NF	03/27/17	MPS
▸ Lead Mining	NA	03/27/17	MPS
Oil and Gas Information			
▸ ISGS Oil and Gas Fields/Oil Wells (ILOIL GIS)	NA	03/27/17	MPS
▸ USDOT OPS Pipeline Integrity Management Mapping Application	NA	03/27/17	MPS
Natural Hazards			
▸ USGS Seismic Risk Map	NF	03/27/17	MPS
▸ ISGS Landslide Inventory (GIS)	NF	03/27/17	MPS
▸ Karst Terrains and Carbonate Rocks of Illinois Maps	MF	03/27/17	MPS

* MF = Material found within search radius; NF = Nothing found within search radius; NA = Not applicable

Date of Records Review Completion: May 9, 2017

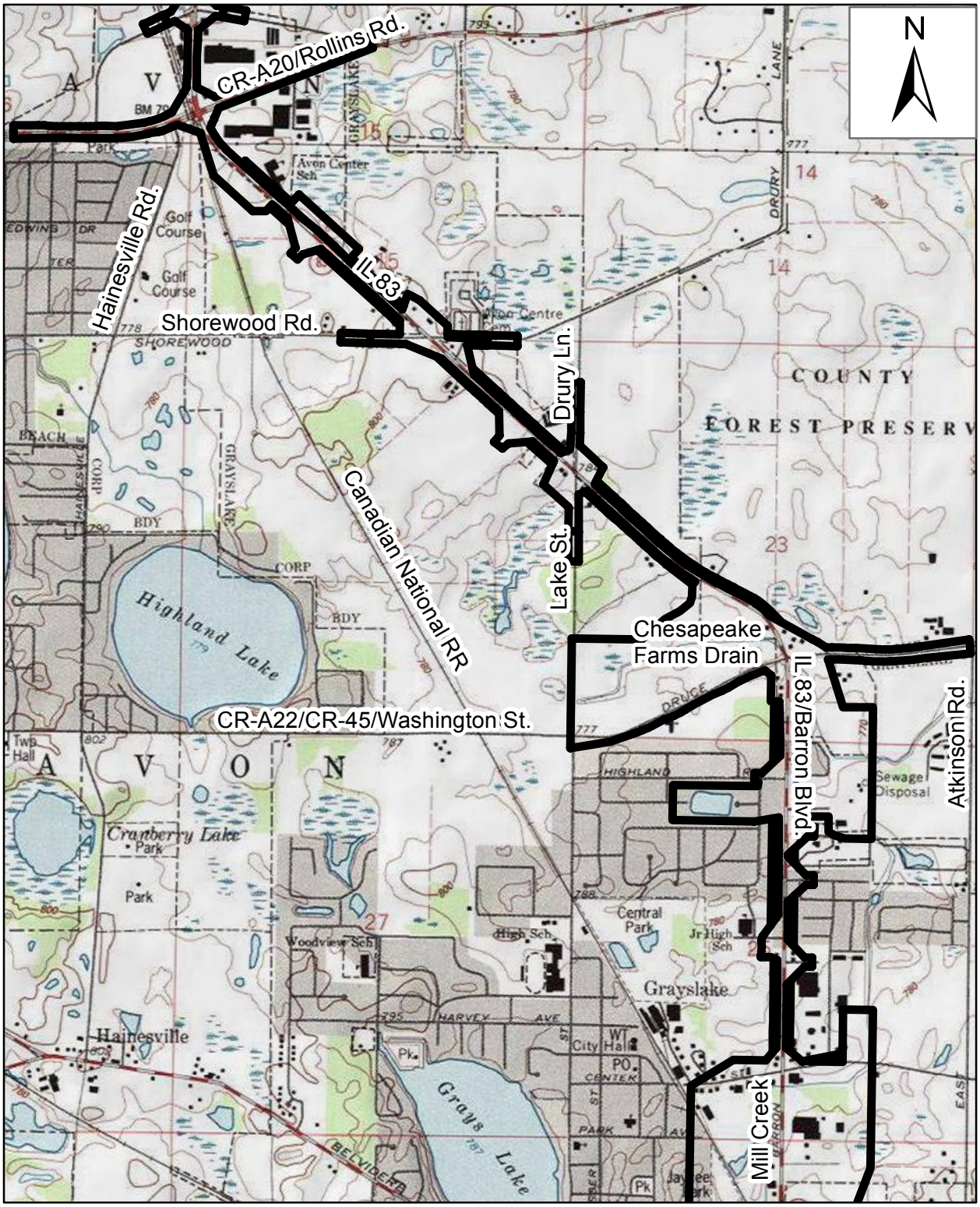
List of Attachments

1. Project location map, ISGS #2562V (4 pages).

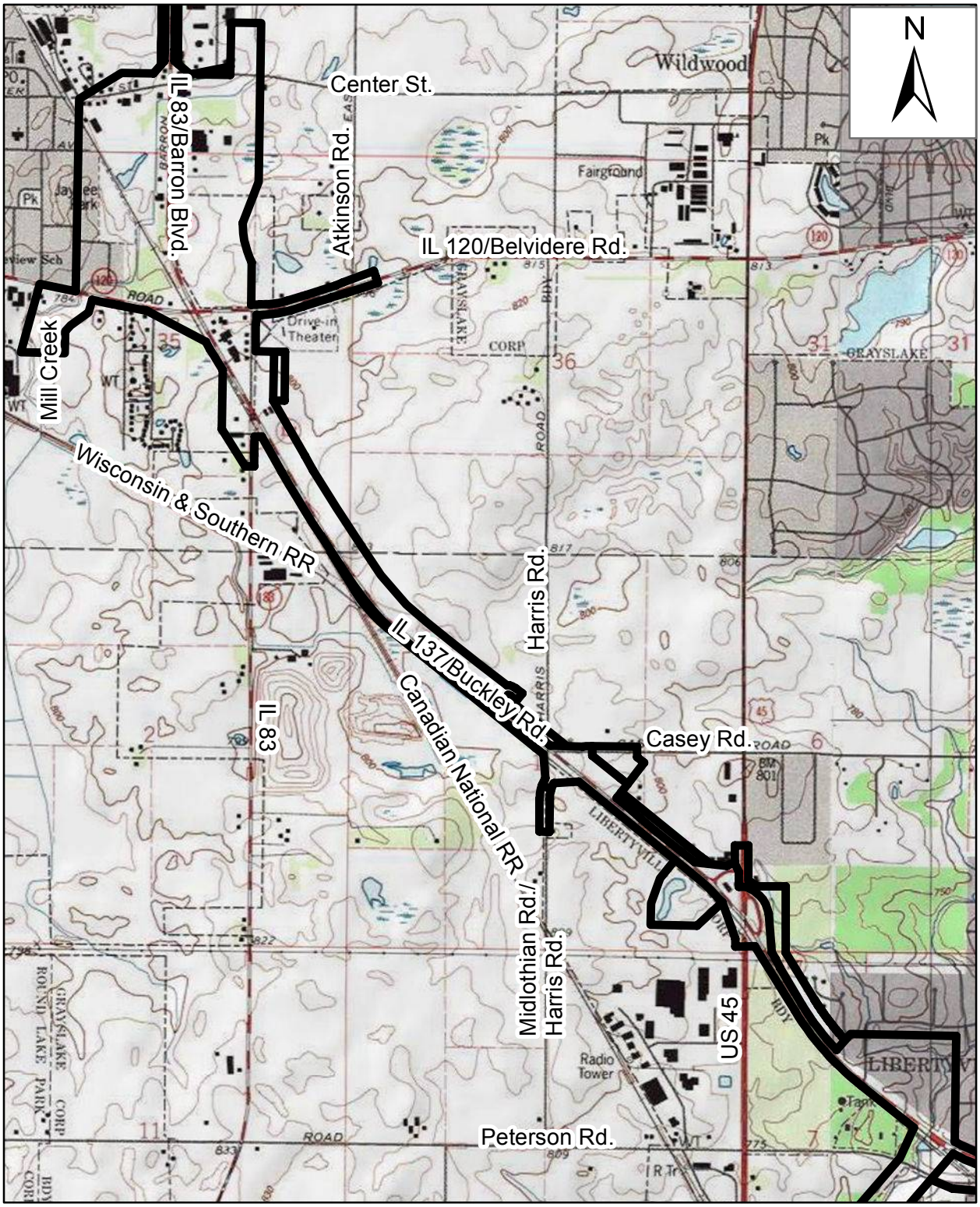
2. Site location maps (46 pages).

Attachment 1, page 1. Project location map.
Project area indicated by heavy black lines.

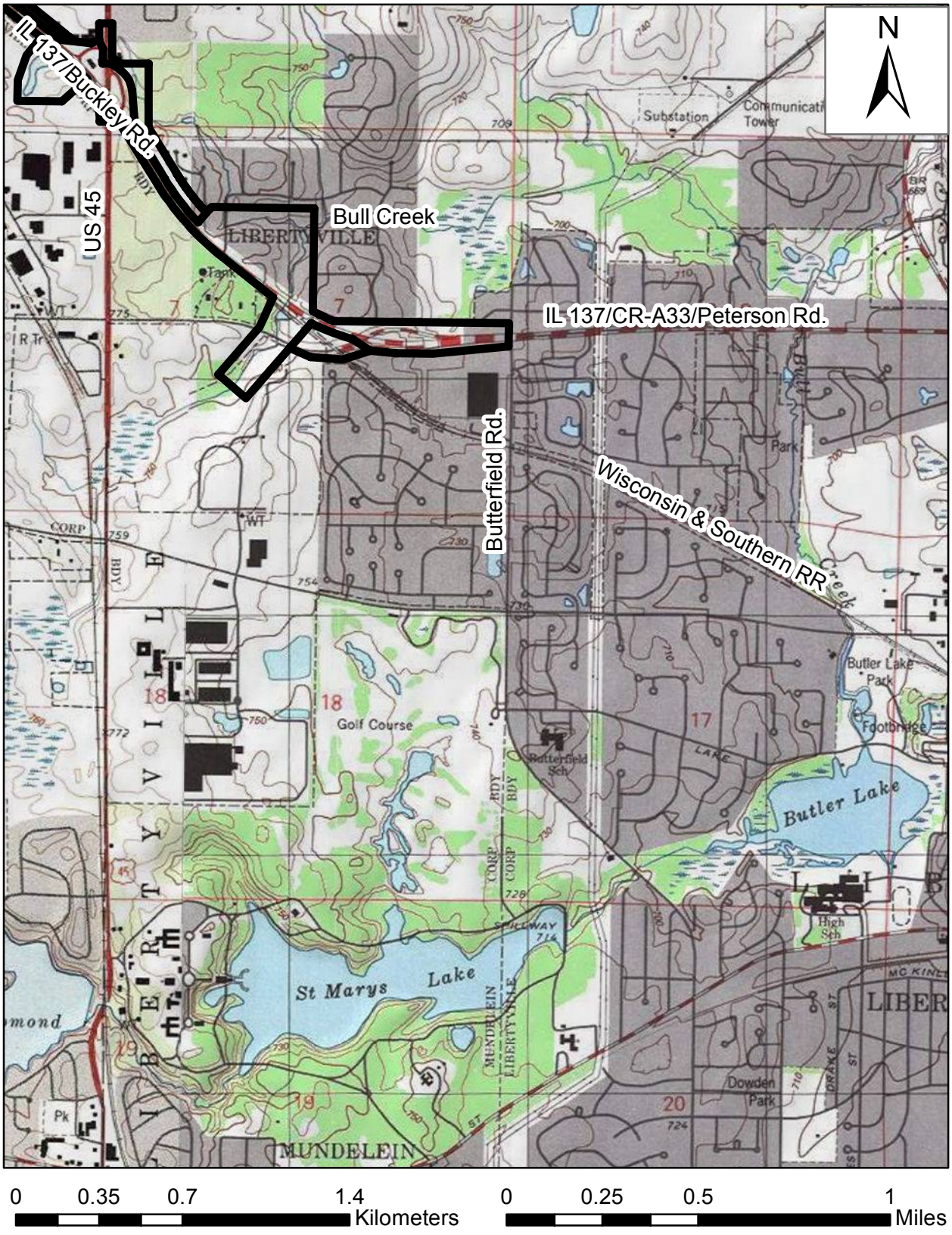
Attachment 1, page 2. Project location map.
Project area indicated by heavy black lines.



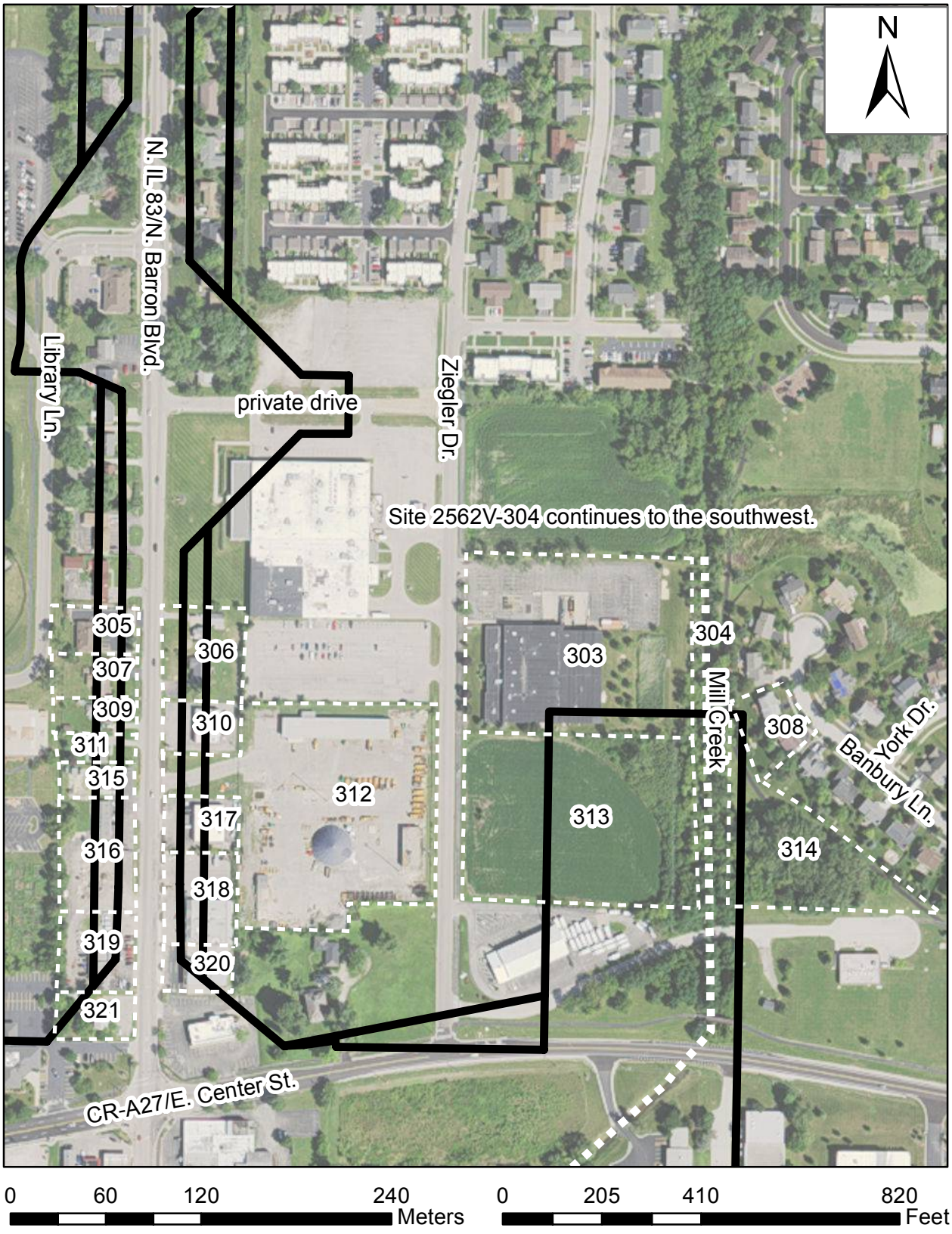
Attachment 1, page 3. Project location map.
Project area indicated by heavy black lines.



Attachment 1, page 4. Project location map.
Project area indicated by heavy black lines.



Attachment 2, page 30. Site location map, Sites 2562V-303 through 2562V-321.
All site boundaries are approximate and should not be used as actual parcel boundaries.



Appendix B

Soil Boring Logs

Wood Environment & Infrastructure Solutions, Inc.
4232 N Brandywine Drive, Suite A
Peoria, IL 61614
Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-1-1

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-1-1 (0-1')	1	0.0		BLACK SILTY CLAY, SOME SAND AND GRAVEL, HARD, DRY	
			0.0		2.0	
	OPT-1-1 (1-6')	5	1.8		MOTTLED BROWN AND GRAY CLAY WITH SOME SAND, GRAVEL, AND SILT, HARD, DRY	
5			0.0			
		4	8.1			
10			0.0		10.0 Bottom of Boring	

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BORING NUMBER OPT-1-2

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-1-2 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, HARD, DRY	
			0.0			
	OPT-1-2 (1-6')	5	0.0			
					4.0	
5			0.0		MOTTLED BROWN AND GRAY CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, WET AT 5'	
			0.0			
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

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BORING NUMBER OPT-1-3

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-1-3 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, HARD, DRY	
			0.0			
	OPT-1-3 (1-6')	5	0.0		4.0	
5					MOTTLED BROWN AND GRAY CLAY WITH SOME SILT AND SAND, LITTLE GRAVEL, HARD, DRY	
			0.0			
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

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BORING NUMBER OPT-1-4

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-1-4 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, HARD, DRY	
			0.0			
	OPT-1-4 (1-6')	5	0.0			
4.0						
5			0.0		MOTTLED CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, MOIST AT 5'	
			0.0			
		4	0.0			
10						
10.0			0.0		Bottom of Boring	

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Fax: 248-926-4009

BORING NUMBER OPT-1-5

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-1-5 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, HARD, DRY	
			4.1			
	OPT-1-5 (1-6')	5	0.0			
5					6.0	
			0.0		MOTTLED BROWN AND GRAY CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, MOIST AT 8'	
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

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BORING NUMBER OPT-1-6

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-1-6 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, HARD, DRY	
			0.0			
	OPT-1-6 (1-6')	5	0.0			
5					6.0	
			0.0		MOTTLED BROWN AND GRAY CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, MOIST AT 8'	
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

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Fax: 248-926-4009

BORING NUMBER OPT-1-7

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
	OPT-1-7 (0-3')	3	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, HARD, DRY	PVC SLOTTED SCREEN
			0.0		3.0	
			0.0		MOTTLED LIGHT BROWN AND GRAYCLAY WITH SOME SILT, LITTLE SAND AND GRAVEL, HARD, DRY	
5					5.0	
	OPT-1-7 (3-8')	5			LIGHT BROWN CLAY WITH SOME GRAVEL AND SAND, WET	
			0.0		6.0	
					MOTTLED LIGHT BROWN CLAY WITH SOME SILT, LITTLE SAND AND GRAVEL, HARD, MOIST	
	OPT-1-7 GW	2	0.0			
10					10.0	
			0.0		Bottom of Boring	

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Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-1-8

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-1-8 (0-3')	3	0.0 0.0		BLACK SILTY CLAY WITH SOME SAND AND GRAVEL, HARD, DRY	
5	OPT-1-8 (3-8')	5	0.0 0.0		5.5 6.0 BLACK SAND WITH SOME GRAVEL, WELL GRADED, LOOSE, MOIST MOTTLED CLAY WITH SOME SILT, LITTLE SAND AND GRAVEL, HARD, DAMP 8.0	
10		2	0.0 0.0		Bottom of Boring	

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Peoria, IL 61614
Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-2-1

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-1 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, DRY	PVC SLOTTED SCREEN
			0.0		2.0 MOTTLED CLAY WITH SOME SILT AND SAND, DRY	
	OPT-2-1 (1-6')	5	0.0			
5					5.0 MOTTLED CLAY WITH SAND AND SOME GRAVEL, WET	
			0.0		6.0 LIGHT BROWN CLAY, LITTLE SAND, MOIST, HARD	
	OPT-2-1 GW	4	0.0			
10					10.0	
			0.0		Bottom of Boring	

Wood Environment & Infrastructure Solutions, Inc.
4232 N Brandywine Drive, Suite A
Peoria, IL 61614
Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-2-2

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-2 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, DRY	
			0.0		2.0 MOTTLED CLAY WITH SOME SAND AND SILT, DRY	
	OPT-2-2 (1-6')	5	0.0		4.0 MOTTLED CLAY WITH SOME SAND AND SILT, DAMP	
5					5.0 MOTTLED CLAY WITH SAND, SOME GRAVEL, WET	
			0.0		6.0 LIGHT BROWN CLAY, LITTLE SAND, MOIST, HARD	
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

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4232 N Brandywine Drive, Suite A
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Fax: 248-926-4009

BORING NUMBER OPT-2-3

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-3 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, DRY	
			0.0		3.0	
	OPT-2-3 (1-6')	5	0.0		MOTTLED CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, DRY	
5						
			0.0			
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

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Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-2-4

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-4 (0-3')	3	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, HARD, DRY	
			0.0		2.0 MOTTLED CLAY WITH SOME SAND AND GRAVEL, DRY, HARD	
5	OPT-2-4 (3-8')	5	0.0		3.0 LIGHT BROWN CLAY WITH SOME SILT, LITTLE SAND AND GRAVEL, HARD, DRY	
			0.0			
10		2	0.0		10.0	
			0.0		Bottom of Boring	

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4232 N Brandywine Drive, Suite A
Peoria, IL 61614
Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-2-5

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-5 (0-3')	3	0.0		BLACK SILTY CLAY WITH SOME SAND AND GRAVEL, DRY	
			0.0		2.0 MOTTLED CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, DRY	
5	OPT-2-5 (3-8')	5	0.0		5.0	
					5.5 LIGHT BROWN SAND, POORLY GRADED, WET	
			0.0		MOTTLED CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, DRY	
10		2	0.0		10.0	
			0.0		Bottom of Boring	

Wood Environment & Infrastructure Solutions, Inc.
4232 N Brandywine Drive, Suite A
Peoria, IL 61614
Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-2-6

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-6 (0-1')	1	0.0		BLACK SILTY CLAY WITH LITTLE SAND AND GRAVEL, DRY	
			0.0		3.0	
	OPT-2-6 (1-6')	5	0.0		MOTTLED CLAY WITH SOME SAND AND SILT, LITTLE GRAVEL, HARD, DRY	
5						
			0.0			
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

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4232 N Brandywine Drive, Suite A
Peoria, IL 61614
Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-2-7

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-7 (0-1')	1	55		BLACK SILTY CLAY WITH LITTLE SAND, DRY	
			37			
	OPT-2-7 (1-6')	5				
			35.3			
5					3.0 MOTTLED CLAY WITH SOME SAND AND GRAVEL, DRY	
					5.0 LIGHT BROWN SILTY CLAY WITH SOME SAND AND GRAVEL, STIFF, MOIST AT 9'	
			67.4			
		4	0.0			
10					10.0	
			0.0		Bottom of Boring	

Wood Environment & Infrastructure Solutions, Inc.
4232 N Brandywine Drive, Suite A
Peoria, IL 61614
Telephone: (309) 692-4422
Fax: 248-926-4009

BORING NUMBER OPT-2-8

CLIENT IDOT
PROJECT NAME GRAYSLAKE YARD TEAM SECTION (115)
PROJECT NUMBER 3160150049.49
PROJECT LOCATION GRAYSLAKE, IL
DATE STARTED 6/26/19 **COMPLETED** 6/26/19
GROUND SURFACE ELEVATION ____ **HOLE SIZE** 2
DRILLING CONTRACTOR Cabeno
GROUND WATER LEVELS:
DRILLING METHOD Geoprobe
AT TIME OF DRILLING ---
LOGGED BY CF **CHECKED BY** JMS
AT END OF DRILLING ---
NOTES
AFTER DRILLING ---

DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft.)	PID (ppm)	USCS	MATERIAL DESCRIPTION	WELL DIAGRAM
0	OPT-2-8 (0-1')	1	0.0		BLACK SILTY CLAY, LITTLE SAND, DRY. PETROLEUM ODOR AT 1-2'	
			0.0		3.0	
	OPT-2-8 (1-6')	5	0.0		MOTTLED CLAY WITH SOME SILT, SAND AND GRAVEL, DRY	
5					5.0	
					GRAY CLAY WITH LITTLE SAND, MOIST, HARD, WET AT 5'	
		4	0.0			
			0.0			
10					10.0	
			0.0		Bottom of Boring	

Appendix C

Analytical Data

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-165828-1
Client Project/Site: IDOT - Grayslake - WO 049

For:
Wood E&I Solutions Inc
4232 Brandywine Drive
Suite A
Peoria, Illinois 61614

Attn: Mr. Terry Dixon

Jodie Bracken

Authorized for release by:
7/12/2019 5:35:04 PM
Jodie Bracken, Project Management Assistant II
jodie.bracken@testamericainc.com

Designee for

Richard Wright, Senior Project Manager
(708)534-5200
richard.wright@testamericainc.com

Table of Contents

Case Narrative

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Job ID: 500-165828-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-165828-1

Receipt
The samples were received on 6/27/2019 11:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.5º C, 2.1º C, 2.7º C, 2.8º C and 3.1º C.

Receipt Exceptions
A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). Added to COC and logged in.

GC/MS VOA
The following sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: OPT-1-7 GW (500-165828-17).

Acetone was detected in the following samples: OPT-1-7 GW (500-165828-17) and Trip Blank (500-165828-18). The method blank associated with these samples were non-detect for Acetone. Acetone is known lab contaminant; therefore all low level detects for this compound should be suspected as lab contamination.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 500-493444 and analytical batch 500-494131 were outside control limits. The following analytes recovered at 0%: 4,6-Dinitro-2-methylphenol, 2,4-Dinitrophenol and Hexachlorocyclopentadiene. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recoveries were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6010B: The method blank for preparation batch 500-492873 and analytical batch 500-493192 contained Copper above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method(s) 6020A: The low level continuing calibration verification (CCVL) at line 41, associated with batch 500-492835 recovered above the upper control limit for Beryllium. The samples associated with this CCVL were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3510C: 3510_LVI 8270: Due to the matrix, the initial volume(s) used for the following sample(s) deviated from the standard procedure: 500-165828-17. The reporting limits (RLs) have been adjusted proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-1 (0-1')

Lab Sample ID: 500-165828-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.073		0.018	0.0077	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.020		0.0044	0.0020	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.019	J	0.040	0.0055	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.021	J	0.040	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.026	J	0.040	0.0088	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.013	J	0.040	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.021	J	0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.030	J	0.040	0.0075	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.011	J F1	0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.017	J	0.040	0.0057	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.027	J	0.040	0.0081	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.35	J B F1	1.2	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	8.0		0.59	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	88		0.59	0.067	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.78		0.24	0.055	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.25	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	14		0.30	0.078	mg/Kg	1	☼	6010B	Total/NA
Copper	21	B	0.59	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	21000		12	6.2	mg/Kg	1	☼	6010B	Total/NA
Lead	27		0.30	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	480	F2	0.59	0.086	mg/Kg	1	☼	6010B	Total/NA
Nickel	23		0.59	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.3	B F1	0.59	0.35	mg/Kg	1	☼	6010B	Total/NA
Silver	4.0		0.30	0.076	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.92		0.59	0.30	mg/Kg	1	☼	6010B	Total/NA
Vanadium	30		0.30	0.070	mg/Kg	1	☼	6010B	Total/NA
Zinc	73		1.2	0.52	mg/Kg	1	☼	6010B	Total/NA
Barium	0.31	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0023	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.038		0.025	0.010	mg/L	1		6010B	TCLP
Iron	2.8		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.018	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.031	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.13	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.029	B	0.020	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	7.5		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-1 (1-6')

Lab Sample ID: 500-165828-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.028		0.018	0.0077	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.016	J	0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.018	J	0.038	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.020	J	0.038	0.0082	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.011	J	0.038	0.011	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.016	J	0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.026	J	0.038	0.0070	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.015	J	0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.024	J	0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.37	J B	1.2	0.22	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Chicago

Client Sample ID: OPT-1-1 (1-6') (Continued)

Lab Sample ID: 500-165828-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.8		0.58	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	90		0.58	0.066	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.86		0.23	0.054	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.29	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	21		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.29	0.076	mg/Kg	1	☼	6010B	Total/NA
Copper	26	B	0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	22000		12	6.0	mg/Kg	1	☼	6010B	Total/NA
Lead	16		0.29	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	710		0.58	0.084	mg/Kg	1	☼	6010B	Total/NA
Nickel	32		0.58	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.67	B	0.58	0.34	mg/Kg	1	☼	6010B	Total/NA
Silver	3.8		0.29	0.074	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.88		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	27		0.29	0.068	mg/Kg	1	☼	6010B	Total/NA
Zinc	75		1.2	0.51	mg/Kg	1	☼	6010B	Total/NA
Barium	0.61		0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0036	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.027		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.022	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.035	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.27	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.023	B	0.017	0.0057	mg/Kg	1	☼	7471B	Total/NA
pH	8.6		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-2 (0-1')

Lab Sample ID: 500-165828-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.093		0.017	0.0072	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.019		0.0042	0.0018	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.010	J	0.040	0.0073	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.010	J	0.040	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.040		0.040	0.0068	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.061		0.040	0.0055	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.048		0.040	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.062		0.040	0.0088	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.021	J	0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.025	J	0.040	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.061		0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.14		0.040	0.0076	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.035	J	0.040	0.0057	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.022	J	0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.0093	J	0.082	0.0075	mg/Kg	1	☼	8270D	Total/NA
3 & 4 Methylphenol	0.60		0.20	0.068	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.021	J	0.040	0.0063	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.17		0.040	0.0057	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.11		0.040	0.0081	mg/Kg	1	☼	8270D	Total/NA
Arsenic	8.3		0.59	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	77		0.59	0.067	mg/Kg	1	☼	6010B	Total/NA
Beryllium	1.0		0.23	0.055	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.23	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-2 (0-1') (Continued)

Lab Sample ID: 500-165828-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	25		0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.29	0.077	mg/Kg	1	☼	6010B	Total/NA
Copper	27	B	0.59	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	28000		12	6.1	mg/Kg	1	☼	6010B	Total/NA
Lead	18		0.29	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	520		0.59	0.085	mg/Kg	1	☼	6010B	Total/NA
Nickel	38		0.59	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.77	B	0.59	0.34	mg/Kg	1	☼	6010B	Total/NA
Silver	4.9		0.29	0.075	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.4		0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	34		0.29	0.069	mg/Kg	1	☼	6010B	Total/NA
Zinc	85		1.2	0.51	mg/Kg	1	☼	6010B	Total/NA
Barium	0.23	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0027	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.035		0.025	0.010	mg/L	1		6010B	TCLP
Iron	5.2		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.029		0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.028	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.055	J	0.50	0.020	mg/L	1		6010B	TCLP
Iron	260		0.40	0.20	mg/L	1		6010B	SPLP East
Mercury	0.035	B	0.018	0.0060	mg/Kg	1	☼	7471B	Total/NA
pH	7.9		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-2 (1-6')

Lab Sample ID: 500-165828-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.023		0.021	0.0090	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.086		0.040	0.0072	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.10		0.040	0.0052	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.33		0.040	0.0067	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.37		0.040	0.0054	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.29		0.040	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.39		0.040	0.0086	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.079		0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.13		0.040	0.012	mg/Kg	1	☼	8270D	Total/NA
Carbazole	0.15	J	0.20	0.099	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.35		0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.028	J	0.040	0.0077	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.22		0.20	0.047	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.96		0.040	0.0074	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.32		0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.14		0.080	0.0073	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.19		0.040	0.0061	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	1.3		0.040	0.0055	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.69		0.040	0.0079	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.23	J B	1.2	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	5.9		0.60	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	71		0.60	0.068	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.66		0.24	0.056	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.30	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	17		0.60	0.30	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-2 (1-6') (Continued)

Lab Sample ID: 500-165828-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	11		0.30	0.078	mg/Kg	1	☼	6010B	Total/NA
Copper	23	B	0.60	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	19000		12	6.2	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.30	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	880		0.60	0.087	mg/Kg	1	☼	6010B	Total/NA
Nickel	28		0.60	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.66	B	0.60	0.35	mg/Kg	1	☼	6010B	Total/NA
Silver	3.2		0.30	0.077	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.37	J	0.60	0.30	mg/Kg	1	☼	6010B	Total/NA
Vanadium	27		0.30	0.070	mg/Kg	1	☼	6010B	Total/NA
Zinc	50		1.2	0.52	mg/Kg	1	☼	6010B	Total/NA
Barium	0.54		0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0035	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.042		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.037		0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.033	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.20	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.028	B	0.019	0.0065	mg/Kg	1	☼	7471B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-3 (0-1')

Lab Sample ID: 500-165828-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.034		0.019	0.0081	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.0011	J	0.0019	0.00047	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.012	J	0.038	0.0052	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.024	J	0.038	0.0083	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.014	J	0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.024	J	0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.0075	J	0.038	0.0054	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.031	J	0.038	0.0059	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.026	J	0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.021	J	0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
Arsenic	7.5		0.57	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	65		0.57	0.064	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.66		0.23	0.053	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.36	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	16		0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.28	0.074	mg/Kg	1	☼	6010B	Total/NA
Copper	19	B	0.57	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	19000		11	5.9	mg/Kg	1	☼	6010B	Total/NA
Lead	20		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	690		0.57	0.082	mg/Kg	1	☼	6010B	Total/NA
Nickel	27		0.57	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.3	B	0.57	0.33	mg/Kg	1	☼	6010B	Total/NA
Silver	3.7		0.28	0.073	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.93		0.57	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	25		0.28	0.067	mg/Kg	1	☼	6010B	Total/NA
Zinc	58		1.1	0.50	mg/Kg	1	☼	6010B	Total/NA
Barium	0.41	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0031	J B	0.0050	0.0020	mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-3 (0-1') (Continued)

Lab Sample ID: 500-165828-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.040		0.025	0.010	mg/L	1		6010B	TCLP
Iron	1.3		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.031		0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.022	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.060	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.026	B	0.020	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	7.7		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-3 (1-6')

Lab Sample ID: 500-165828-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.044		0.020	0.0088	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.00068	J	0.0020	0.00051	mg/Kg	1	☼	8260B	Total/NA
Anthracene	0.010	J	0.038	0.0063	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.0099	J	0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.015	J	0.038	0.0073	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.015	J	0.038	0.0082	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.015	J	0.038	0.0070	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.015	J	0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.011	J	0.077	0.0070	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.029	J	0.038	0.0058	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.035	J	0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.014	J	0.038	0.0075	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.30	J B	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.7		0.56	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	42		0.56	0.064	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.70		0.23	0.053	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.32	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	17		0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Cobalt	15		0.28	0.074	mg/Kg	1	☼	6010B	Total/NA
Copper	21	B	0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	21000		11	5.9	mg/Kg	1	☼	6010B	Total/NA
Lead	13		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	560		0.56	0.082	mg/Kg	1	☼	6010B	Total/NA
Nickel	34		0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.53	J B	0.56	0.33	mg/Kg	1	☼	6010B	Total/NA
Silver	3.4		0.28	0.073	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.91		0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	25		0.28	0.066	mg/Kg	1	☼	6010B	Total/NA
Zinc	57		1.1	0.49	mg/Kg	1	☼	6010B	Total/NA
Barium	0.35	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0034	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.016	J	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.019	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.030	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.57		0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.027	B	0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
pH	8.4		0.2	0.2	SU	1		9045D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-4 (0-1')

Lab Sample ID: 500-165828-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.048		0.021	0.0092	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.015		0.0053	0.0023	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.00060	J	0.0021	0.00053	mg/Kg	1	☼	8260B	Total/NA
Xylenes, Total	0.0021	J	0.0042	0.00068	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.0078	J	0.041	0.0074	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.012	J	0.041	0.0055	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.012	J	0.041	0.0080	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.018	J	0.041	0.0089	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.013	J	0.041	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.017	J	0.041	0.0076	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.0078	J	0.083	0.0076	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	2.9		0.041	0.0063	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.0077	J	0.041	0.0057	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.016	J	0.041	0.0082	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.43	J B	1.2	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.2		0.61	0.21	mg/Kg	1	☼	6010B	Total/NA
Barium	67		0.61	0.070	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.77		0.25	0.057	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.27	B	0.12	0.022	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		0.61	0.30	mg/Kg	1	☼	6010B	Total/NA
Cobalt	14		0.31	0.080	mg/Kg	1	☼	6010B	Total/NA
Copper	18	B	0.61	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	19000		12	6.4	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.31	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	210		0.61	0.089	mg/Kg	1	☼	6010B	Total/NA
Nickel	27		0.61	0.18	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.81	B	0.61	0.36	mg/Kg	1	☼	6010B	Total/NA
Silver	3.9		0.31	0.079	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.0		0.61	0.31	mg/Kg	1	☼	6010B	Total/NA
Vanadium	29		0.31	0.072	mg/Kg	1	☼	6010B	Total/NA
Zinc	57		1.2	0.54	mg/Kg	1	☼	6010B	Total/NA
Barium	0.32	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0027	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.026		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.018	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.033	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.050	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.025	B	0.020	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	7.9		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-4 (1-6')

Lab Sample ID: 500-165828-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.079		0.019	0.0085	mg/Kg	1	☼	8260B	Total/NA
Benzene	0.00053	J	0.0019	0.00050	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.017		0.0049	0.0022	mg/Kg	1	☼	8260B	Total/NA
Carbon disulfide	0.0015	J	0.0049	0.0010	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.00098	J	0.0019	0.00049	mg/Kg	1	☼	8260B	Total/NA
Xylenes, Total	0.0066		0.0039	0.00062	mg/Kg	1	☼	8260B	Total/NA
Fluoranthene	0.0080	J	0.040	0.0075	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.069		0.040	0.0062	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-4 (1-6') (Continued)

Lab Sample ID: 500-165828-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	0.0061	J	0.040	0.0057	mg/Kg	1	☼	8270D	Total/NA
Arsenic	8.8		0.59	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	58		0.59	0.067	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.72		0.24	0.055	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.42	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	21		0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.30	0.078	mg/Kg	1	☼	6010B	Total/NA
Copper	24	B	0.59	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	26000		12	6.2	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.30	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	220		0.59	0.086	mg/Kg	1	☼	6010B	Total/NA
Nickel	38		0.59	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.0	B	0.59	0.35	mg/Kg	1	☼	6010B	Total/NA
Silver	4.3		0.30	0.076	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.4		0.59	0.30	mg/Kg	1	☼	6010B	Total/NA
Vanadium	28		0.30	0.070	mg/Kg	1	☼	6010B	Total/NA
Zinc	70		1.2	0.52	mg/Kg	1	☼	6010B	Total/NA
Barium	0.22	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0029	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.041		0.025	0.010	mg/L	1		6010B	TCLP
Iron	1.2		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.035		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.87		0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.028	B	0.019	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-5 (0-1')

Lab Sample ID: 500-165828-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.052		0.020	0.0085	mg/Kg	1	☼	8260B	Total/NA
Benzene	0.00093	J	0.0020	0.00050	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0092		0.0049	0.0022	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.00074	J	0.0020	0.00049	mg/Kg	1	☼	8260B	Total/NA
Anthracene	0.013	J	0.039	0.0065	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.022	J	0.039	0.0053	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.016	J	0.039	0.0076	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.022	J	0.039	0.0084	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.020	J	0.039	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.048		0.039	0.0072	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.012	J	0.039	0.0055	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.034	J	0.039	0.0060	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.055		0.039	0.0054	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.036	J	0.039	0.0078	mg/Kg	1	☼	8270D	Total/NA
Arsenic	5.5		0.60	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	73		0.60	0.068	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.75		0.24	0.056	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.25	B	0.12	0.022	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		0.60	0.30	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.30	0.078	mg/Kg	1	☼	6010B	Total/NA
Copper	18	B	0.60	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	18000		12	6.2	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-5 (0-1') (Continued)

Lab Sample ID: 500-165828-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	16		0.30	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	340		0.60	0.087	mg/Kg	1	☼	6010B	Total/NA
Nickel	26		0.60	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.72	B	0.60	0.35	mg/Kg	1	☼	6010B	Total/NA
Silver	3.9		0.30	0.077	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.97		0.60	0.30	mg/Kg	1	☼	6010B	Total/NA
Vanadium	28		0.30	0.071	mg/Kg	1	☼	6010B	Total/NA
Zinc	60		1.2	0.53	mg/Kg	1	☼	6010B	Total/NA
Barium	0.23	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0026	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.044		0.025	0.010	mg/L	1		6010B	TCLP
Iron	2.1		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.027		0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.028	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.089	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.031	B	0.019	0.0065	mg/Kg	1	☼	7471B	Total/NA
pH	7.5		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-5 (1-6')

Lab Sample ID: 500-165828-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.081		0.021	0.0090	mg/Kg	1	☼	8260B	Total/NA
Benzene	0.00058	J	0.0021	0.00053	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.018		0.0052	0.0023	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.00054	J	0.0021	0.00052	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.036	J	0.041	0.0074	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.027	J	0.041	0.0054	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.083		0.041	0.0068	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.091		0.041	0.0055	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.066		0.041	0.0079	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.093		0.041	0.0088	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.015	J	0.041	0.013	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.034	J	0.041	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.076		0.041	0.011	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.0082	J	0.041	0.0079	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.074	J	0.21	0.048	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.24		0.041	0.0076	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.11		0.041	0.0058	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.020	J	0.041	0.011	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.051	J	0.083	0.0075	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.082		0.041	0.0063	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.37		0.041	0.0057	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.18		0.041	0.0081	mg/Kg	1	☼	8270D	Total/NA
Arsenic	6.8		0.58	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	91		0.58	0.066	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.82		0.23	0.054	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.45	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	23		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.29	0.076	mg/Kg	1	☼	6010B	Total/NA
Copper	26	B	0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	26000		12	6.0	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-5 (1-6') (Continued)

Lab Sample ID: 500-165828-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	15		0.29	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	510		0.58	0.084	mg/Kg	1	☼	6010B	Total/NA
Nickel	42		0.58	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.82	B	0.58	0.34	mg/Kg	1	☼	6010B	Total/NA
Silver	4.9		0.29	0.075	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.4		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	30		0.29	0.069	mg/Kg	1	☼	6010B	Total/NA
Zinc	76		1.2	0.51	mg/Kg	1	☼	6010B	Total/NA
Barium	0.34	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0031	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.029		0.025	0.010	mg/L	1		6010B	TCLP
Iron	0.65		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.024	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.031	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.45	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.035	B	0.020	0.0066	mg/Kg	1	☼	7471B	Total/NA
pH	8.4		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-6 (0-1')

Lab Sample ID: 500-165828-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.055		0.019	0.0084	mg/Kg	1	☼	8260B	Total/NA
4-Methyl-2-pentanone (MIBK)	0.0062		0.0048	0.0014	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.0029		0.0019	0.00048	mg/Kg	1	☼	8260B	Total/NA
Xylenes, Total	0.0048		0.0038	0.00061	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.012	J	0.040	0.0072	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.016	J	0.040	0.0053	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.043		0.040	0.0067	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.049		0.040	0.0054	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.045		0.040	0.0077	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.064		0.040	0.0086	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.028	J	0.040	0.013	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.018	J	0.040	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.051		0.040	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.12		0.040	0.0074	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.046		0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.026	J	0.040	0.010	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.028	J	0.081	0.0074	mg/Kg	1	☼	8270D	Total/NA
2-Methylphenol	0.24		0.20	0.064	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	1.6		0.040	0.0062	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.17		0.040	0.0056	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.089		0.040	0.0079	mg/Kg	1	☼	8270D	Total/NA
3 & 4 Methylphenol - DL	3.7		1.0	0.33	mg/Kg	5	☼	8270D	Total/NA
Arsenic	6.2		0.59	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	61		0.59	0.068	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.71		0.24	0.055	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.30	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	17		0.59	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.30	0.078	mg/Kg	1	☼	6010B	Total/NA
Copper	18	B	0.59	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	18000		12	6.2	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-6 (0-1') (Continued) — Lab Sample ID: 500-165828-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	20		0.30	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	420		0.59	0.086	mg/Kg	1	☼	6010B	Total/NA
Nickel	23		0.59	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.1	B	0.59	0.35	mg/Kg	1	☼	6010B	Total/NA
Silver	3.7		0.30	0.077	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.2		0.59	0.30	mg/Kg	1	☼	6010B	Total/NA
Vanadium	26		0.30	0.070	mg/Kg	1	☼	6010B	Total/NA
Zinc	59		1.2	0.52	mg/Kg	1	☼	6010B	Total/NA
Barium	0.24	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0028	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.026		0.025	0.010	mg/L	1		6010B	TCLP
Iron	1.3		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.018	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.031	J	0.050	0.020	mg/L	1		6010B	TCLP
Mercury	0.00020		0.00020	0.00020	mg/L	1		7470A	TCLP
Mercury	0.025	B	0.019	0.0062	mg/Kg	1	☼	7471B	Total/NA
pH	7.7		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-6 (1-6') — Lab Sample ID: 500-165828-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.11		0.020	0.0088	mg/Kg	1	☼	8260B	Total/NA
Benzene	0.0016	J	0.0020	0.00052	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.031		0.0051	0.0022	mg/Kg	1	☼	8260B	Total/NA
2-Hexanone	0.011		0.0051	0.0016	mg/Kg	1	☼	8260B	Total/NA
4-Methyl-2-pentanone (MIBK)	0.027		0.0051	0.0015	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.0025		0.0020	0.00051	mg/Kg	1	☼	8260B	Total/NA
Xylenes, Total	0.0010	J	0.0040	0.00065	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.017	J	0.042	0.0075	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.029	J	0.042	0.0055	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.089		0.042	0.0070	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.097		0.042	0.0056	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.076		0.042	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.10		0.042	0.0090	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.038	J	0.042	0.013	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.029	J	0.042	0.012	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.085		0.042	0.011	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.014	J	0.042	0.0081	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.052	J	0.21	0.049	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.26		0.042	0.0078	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.085		0.042	0.0059	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.040	J	0.042	0.011	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.032	J	0.085	0.0077	mg/Kg	1	☼	8270D	Total/NA
2-Methylphenol	1.9		0.21	0.067	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.10		0.042	0.0064	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.39		0.042	0.0058	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.18		0.042	0.0083	mg/Kg	1	☼	8270D	Total/NA
3 & 4 Methylphenol - DL	4.3		0.42	0.14	mg/Kg	2	☼	8270D	Total/NA
Arsenic	4.0		0.62	0.21	mg/Kg	1	☼	6010B	Total/NA
Barium	110		0.62	0.071	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.78		0.25	0.058	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-6 (1-6') (Continued) — Lab Sample ID: 500-165828-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.34	B	0.12	0.022	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		0.62	0.31	mg/Kg	1	☼	6010B	Total/NA
Cobalt	10		0.31	0.082	mg/Kg	1	☼	6010B	Total/NA
Copper	23	B	0.62	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	18000		12	6.5	mg/Kg	1	☼	6010B	Total/NA
Lead	15		0.31	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	200		0.62	0.090	mg/Kg	1	☼	6010B	Total/NA
Nickel	22		0.62	0.18	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.4	B	0.62	0.37	mg/Kg	1	☼	6010B	Total/NA
Silver	3.9		0.31	0.080	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.0		0.62	0.31	mg/Kg	1	☼	6010B	Total/NA
Vanadium	27		0.31	0.074	mg/Kg	1	☼	6010B	Total/NA
Zinc	76		1.2	0.55	mg/Kg	1	☼	6010B	Total/NA
Barium	0.19	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0021	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.011	J	0.025	0.010	mg/L	1		6010B	TCLP
Copper	0.010	J	0.025	0.010	mg/L	1		6010B	TCLP
Iron	2.0		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.011	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.025	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.43	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.025	B	0.021	0.0069	mg/Kg	1	☼	7471B	Total/NA
pH	7.4		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-7 (0-3') — Lab Sample ID: 500-165828-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.062		0.022	0.0098	mg/Kg	1	☼	8260B	Total/NA
Toluene	0.0010	J	0.0022	0.00057	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.0099	J	0.047	0.0063	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.0098	J	0.047	0.0091	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.013	J	0.047	0.010	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.014	J	0.047	0.013	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.022	J	0.047	0.0087	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.015	J	0.095	0.0086	mg/Kg	1	☼	8270D	Total/NA
3 & 4 Methylphenol	0.078	J	0.24	0.078	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.012	J	0.047	0.0072	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.020	J	0.047	0.0065	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.023	J	0.047	0.0093	mg/Kg	1	☼	8270D	Total/NA
Arsenic	7.6		0.68	0.23	mg/Kg	1	☼	6010B	Total/NA
Barium	86		0.68	0.078	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.86		0.27	0.064	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.24	B	0.14	0.025	mg/Kg	1	☼	6010B	Total/NA
Chromium	23		0.68	0.34	mg/Kg	1	☼	6010B	Total/NA
Cobalt	15		0.34	0.089	mg/Kg	1	☼	6010B	Total/NA
Copper	24	B	0.68	0.19	mg/Kg	1	☼	6010B	Total/NA
Iron	25000		14	7.1	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.34	0.16	mg/Kg	1	☼	6010B	Total/NA
Manganese	380		0.68	0.099	mg/Kg	1	☼	6010B	Total/NA
Nickel	35		0.68	0.20	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.0	B	0.68	0.40	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-7 (0-3') (Continued) — Lab Sample ID: 500-165828-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	4.5		0.34	0.088	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.5		0.68	0.34	mg/Kg	1	☼	6010B	Total/NA
Vanadium	33		0.34	0.080	mg/Kg	1	☼	6010B	Total/NA
Zinc	67		1.4	0.60	mg/Kg	1	☼	6010B	Total/NA
Barium	0.30	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0023	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.035		0.025	0.010	mg/L	1		6010B	TCLP
Iron	4.1		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.023	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.025	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.044	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.035	B	0.023	0.0076	mg/Kg	1	☼	7471B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-7 (3-8') — Lab Sample ID: 500-165828-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.016	J	0.019	0.0084	mg/Kg	1	☼	8260B	Total/NA
Arsenic	7.8		0.55	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	57		0.55	0.063	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.70		0.22	0.052	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.29	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	18		0.55	0.27	mg/Kg	1	☼	6010B	Total/NA
Cobalt	14		0.28	0.072	mg/Kg	1	☼	6010B	Total/NA
Copper	25	B	0.55	0.15	mg/Kg	1	☼	6010B	Total/NA
Iron	21000		11	5.7	mg/Kg	1	☼	6010B	Total/NA
Lead	13		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	420		0.55	0.080	mg/Kg	1	☼	6010B	Total/NA
Nickel	35		0.55	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.97	B	0.55	0.32	mg/Kg	1	☼	6010B	Total/NA
Silver	3.5		0.28	0.071	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.88		0.55	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	25		0.28	0.065	mg/Kg	1	☼	6010B	Total/NA
Zinc	57		1.1	0.49	mg/Kg	1	☼	6010B	Total/NA
Barium	0.44	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0033	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.020	J	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.020	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.028	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.13	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.032	B	0.018	0.0059	mg/Kg	1	☼	7471B	Total/NA
pH	9.3		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-8 (0-3') — Lab Sample ID: 500-165828-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.043		0.018	0.0080	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.011		0.0046	0.0020	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.013	J	0.042	0.0057	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.016	J	0.042	0.0082	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.023	J	0.042	0.0091	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.014	J	0.042	0.014	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-8 (0-3') (Continued)

Lab Sample ID: 500-165828-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	0.015	J	0.042	0.012	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.017	J	0.042	0.0079	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.011	J	0.042	0.011	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.015	J	0.085	0.0078	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.013	J	0.042	0.0065	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.015	J	0.042	0.0059	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.016	J	0.042	0.0084	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.32	J B	1.2	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.3		0.62	0.21	mg/Kg	1	☼	6010B	Total/NA
Barium	120		0.62	0.070	mg/Kg	1	☼	6010B	Total/NA
Beryllium	1.0		0.25	0.058	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.34	B	0.12	0.022	mg/Kg	1	☼	6010B	Total/NA
Chromium	20		0.62	0.30	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.31	0.081	mg/Kg	1	☼	6010B	Total/NA
Copper	44	B	0.62	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	23000		12	6.4	mg/Kg	1	☼	6010B	Total/NA
Lead	33		0.31	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	870		0.62	0.089	mg/Kg	1	☼	6010B	Total/NA
Nickel	28		0.62	0.18	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.3	B	0.62	0.36	mg/Kg	1	☼	6010B	Total/NA
Silver	4.2		0.31	0.079	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.81		0.62	0.31	mg/Kg	1	☼	6010B	Total/NA
Vanadium	31		0.31	0.073	mg/Kg	1	☼	6010B	Total/NA
Zinc	270		1.2	0.54	mg/Kg	1	☼	6010B	Total/NA
Barium	0.34	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0024	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.035		0.025	0.010	mg/L	1		6010B	TCLP
Iron	1.0		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.023	J	0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.031	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.10	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.032	B	0.021	0.0069	mg/Kg	1	☼	7471B	Total/NA
pH	7.5		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-8 (3-8')

Lab Sample ID: 500-165828-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.026		0.021	0.0092	mg/Kg	1	☼	8260B	Total/NA
Antimony	0.35	J B	1.3	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.7		0.63	0.22	mg/Kg	1	☼	6010B	Total/NA
Barium	95		0.63	0.072	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.98		0.25	0.059	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.27	B	0.13	0.023	mg/Kg	1	☼	6010B	Total/NA
Chromium	22		0.63	0.31	mg/Kg	1	☼	6010B	Total/NA
Cobalt	15		0.31	0.082	mg/Kg	1	☼	6010B	Total/NA
Copper	29	B	0.63	0.18	mg/Kg	1	☼	6010B	Total/NA
Iron	24000		13	6.5	mg/Kg	1	☼	6010B	Total/NA
Lead	18		0.31	0.15	mg/Kg	1	☼	6010B	Total/NA
Manganese	540		0.63	0.091	mg/Kg	1	☼	6010B	Total/NA
Nickel	37		0.63	0.18	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.96	B	0.63	0.37	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-8 (3-8') (Continued)

Lab Sample ID: 500-165828-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	4.4		0.31	0.081	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.1		0.63	0.31	mg/Kg	1	☼	6010B	Total/NA
Vanadium	31		0.31	0.074	mg/Kg	1	☼	6010B	Total/NA
Zinc	110		1.3	0.55	mg/Kg	1	☼	6010B	Total/NA
Barium	0.50		0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0035	J B	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.033		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.030		0.025	0.010	mg/L	1		6010B	TCLP
Selenium	0.038	J	0.050	0.020	mg/L	1		6010B	TCLP
Zinc	0.028	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.023	B	0.021	0.0070	mg/Kg	1	☼	7471B	Total/NA
pH	8.7		0.2	0.2	SU	1		9045D	Total/NA

Client Sample ID: OPT-1-7 GW

Lab Sample ID: 500-165828-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0078	J	0.010	0.0017	mg/L	1		8260B	Total/NA
Toluene	0.00017	J	0.00050	0.00015	mg/L	1		8260B	Total/NA
Benzo[a]anthracene	0.0027		0.0013	0.00045	mg/L	1		8270D	Total/NA
Benzo[a]pyrene	0.0024		0.0016	0.00079	mg/L	1		8270D	Total/NA
Benzo[b]fluoranthene	0.0032		0.0016	0.00065	mg/L	1		8270D	Total/NA
Benzo[k]fluoranthene	0.0019		0.0016	0.00051	mg/L	1		8270D	Total/NA
Chrysene	0.0036		0.0016	0.00055	mg/L	1		8270D	Total/NA
Fluoranthene	0.0068	J	0.0080	0.0036	mg/L	1		8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.0011	J	0.0016	0.00060	mg/L	1		8270D	Total/NA
2-Methylnaphthalene	0.00057	J	0.016	0.00052	mg/L	1		8270D	Total/NA
Phenanthrene	0.0047	J	0.0080	0.0024	mg/L	1		8270D	Total/NA
Pyrene	0.0067	J	0.0080	0.0034	mg/L	1		8270D	Total/NA
Arsenic	0.025		0.0010	0.00023	mg/L	1		6020A	Total Recoverable
Barium	0.081		0.0025	0.00073	mg/L	1		6020A	Total Recoverable
Beryllium	0.00077	J ^	0.0010	0.00053	mg/L	1		6020A	Total Recoverable
Cadmium	0.00044	J	0.00050	0.00017	mg/L	1		6020A	Total Recoverable
Chromium	0.018		0.0050	0.0011	mg/L	1		6020A	Total Recoverable
Cobalt	0.012		0.0010	0.00040	mg/L	1		6020A	Total Recoverable
Copper	0.10	B	0.0020	0.00050	mg/L	1		6020A	Total Recoverable
Iron	32		0.10	0.047	mg/L	1		6020A	Total Recoverable
Lead	0.047		0.00050	0.00019	mg/L	1		6020A	Total Recoverable
Manganese	0.61		0.0025	0.00079	mg/L	1		6020A	Total Recoverable
Nickel	0.032		0.0020	0.00063	mg/L	1		6020A	Total Recoverable
Thallium	0.00061	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Vanadium	0.026		0.0050	0.0022	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-1-7 GW (Continued) — Lab Sample ID: 500-165828-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Zinc	0.36	B	0.020	0.0069	mg/L	1		6020A	Total Recoverable
Arsenic	0.0024		0.0010	0.00023	mg/L	1		6020A	Dissolved
Barium	0.020		0.0025	0.00073	mg/L	1		6020A	Dissolved
Cobalt	0.00069	J	0.0010	0.00040	mg/L	1		6020A	Dissolved
Copper	0.0091	B	0.0020	0.00050	mg/L	1		6020A	Dissolved
Iron	0.61		0.10	0.047	mg/L	1		6020A	Dissolved
Manganese	0.10		0.0025	0.00079	mg/L	1		6020A	Dissolved
Nickel	0.0025		0.0020	0.00063	mg/L	1		6020A	Dissolved
Lead	0.00095		0.00050	0.00019	mg/L	1		6020A	Dissolved
Zinc	0.018	J B	0.020	0.0069	mg/L	1		6020A	Dissolved
Mercury	0.00021		0.00020	0.000098	mg/L	1		7470A	Total/NA
Chloride	150		10	8.5	mg/L	50		9056A	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 500-165828-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0033	J	0.010	0.0017	mg/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-165828-1	OPT-1-1 (0-1')	Solid	06/26/19 14:45	06/27/19 11:35	
500-165828-2	OPT-1-1 (1-6')	Solid	06/26/19 14:45	06/27/19 11:35	
500-165828-3	OPT-1-2 (0-1')	Solid	06/26/19 14:20	06/27/19 11:35	
500-165828-4	OPT-1-2 (1-6')	Solid	06/26/19 14:20	06/27/19 11:35	
500-165828-5	OPT-1-3 (0-1')	Solid	06/26/19 16:30	06/27/19 11:35	
500-165828-6	OPT-1-3 (1-6')	Solid	06/26/19 16:30	06/27/19 11:35	
500-165828-7	OPT-1-4 (0-1')	Solid	06/26/19 13:30	06/27/19 11:35	
500-165828-8	OPT-1-4 (1-6')	Solid	06/26/19 13:30	06/27/19 11:35	
500-165828-9	OPT-1-5 (0-1')	Solid	06/26/19 14:00	06/27/19 11:35	
500-165828-10	OPT-1-5 (1-6')	Solid	06/26/19 14:00	06/27/19 11:35	
500-165828-11	OPT-1-6 (0-1')	Solid	06/26/19 16:00	06/27/19 11:35	
500-165828-12	OPT-1-6 (1-6')	Solid	06/26/19 16:00	06/27/19 11:35	
500-165828-13	OPT-1-7 (0-3')	Solid	06/26/19 15:30	06/27/19 11:35	
500-165828-14	OPT-1-7 (3-8')	Solid	06/26/19 15:30	06/27/19 11:35	
500-165828-15	OPT-1-8 (0-3')	Solid	06/26/19 15:10	06/27/19 11:35	
500-165828-16	OPT-1-8 (3-8')	Solid	06/26/19 15:10	06/27/19 11:35	
500-165828-17	OPT-1-7 GW	Water	06/26/19 16:00	06/27/19 11:35	
500-165828-18	Trip Blank	Water	06/26/19 00:00	06/27/19 11:35	

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-1 (0-1')
Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-1
Matrix: Solid
Percent Solids: 81.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.073**		0.018	0.0077	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Benzene	<0.0018		0.0018	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Bromodichloromethane	<0.0018		0.0018	0.00036	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Bromoform	<0.0018		0.0018	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Bromomethane	<0.0044		0.0044	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
2-Butanone (MEK)	**0.020**		0.0044	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Carbon disulfide	<0.0044		0.0044	0.00092	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Carbon tetrachloride	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Chlorobenzene	<0.0018		0.0018	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Chloroethane	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Chloroform	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Chloromethane	<0.0044		0.0044	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
cis-1,2-Dichloroethene	<0.0018		0.0018	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
cis-1,3-Dichloropropene	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Dibromochloromethane	<0.0018		0.0018	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,1-Dichloroethane	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,2-Dichloroethane	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,1-Dichloroethene	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,2-Dichloropropane	<0.0018		0.0018	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,3-Dichloropropene, Total	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Ethylbenzene	<0.0018		0.0018	0.00085	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
2-Hexanone	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Methylene Chloride	<0.0044		0.0044	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
4-Methyl-2-pentanone (MIBK)	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Methyl tert-butyl ether	<0.0018		0.0018	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Styrene	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,1,2,2-Tetrachloroethane	<0.0018		0.0018	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Tetrachloroethene	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Toluene	<0.0018		0.0018	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
trans-1,2-Dichloroethene	<0.0018		0.0018	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
trans-1,3-Dichloropropene	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,1,1-Trichloroethane	<0.0018		0.0018	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
1,1,2-Trichloroethane	<0.0018		0.0018	0.00076	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Trichloroethene	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Vinyl acetate	<0.0044		0.0044	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Vinyl chloride	<0.0018		0.0018	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1
Xylenes, Total	<0.0035		0.0035	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*75 - 131*	*06/27/19 17:21*	*07/09/19 01:40*	*1*
Dibromofluoromethane	*97*		*75 - 126*	*06/27/19 17:21*	*07/09/19 01:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 134*	*06/27/19 17:21*	*07/09/19 01:40*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*	*06/27/19 17:21*	*07/09/19 01:40*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.040		0.040	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Acenaphthylene	<0.040		0.040	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Anthracene	<0.040		0.040	0.0068	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Benzo[a]anthracene	**0.019**	**J**	0.040	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1

Client Sample ID: OPT-1-1 (0-1')
Lab Sample ID: 500-165828-1

Date Collected: 06/26/19 14:45
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 81.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.021**	**J**	0.040	0.0079	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Benzo[b]fluoranthene	**0.026**	**J**	0.040	0.0088	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Benzo[g,h,i]perylene	<0.040	F1	0.040	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Benzo[k]fluoranthene	**0.013**	**J**	0.040	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.074	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Butyl benzyl phthalate	<0.20		0.20	0.077	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
4-Chloroaniline	<0.82		0.82	0.19	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2-Chloronaphthalene	<0.20	F1	0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2-Chlorophenol	<0.20		0.20	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Chrysene	**0.021**	**J**	0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Dibenz(a,h)anthracene	<0.040	F1	0.040	0.0078	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
1,2-Dichlorobenzene	<0.20	F1	0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
1,3-Dichlorobenzene	<0.20	F1	0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
1,4-Dichlorobenzene	<0.20	F1	0.20	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.057	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,4-Dichlorophenol	<0.40		0.40	0.096	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Diethyl phthalate	<0.20		0.20	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Dimethyl phthalate	<0.20		0.20	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Di-n-butyl phthalate	<0.20		0.20	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
4,6-Dinitro-2-methylphenol	<0.82	F1	0.82	0.33	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,4-Dinitrophenol	<0.82	F1	0.82	0.71	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,4-Dinitrotoluene	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,6-Dinitrotoluene	<0.20		0.20	0.080	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Di-n-octyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Fluoranthene	**0.030**	**J**	0.040	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Fluorene	<0.040		0.040	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Hexachlorobenzene	<0.082		0.082	0.0094	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Hexachlorobutadiene	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Hexachlorocyclopentadiene	<0.82	F1	0.82	0.23	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Hexachloroethane	<0.20	F1	0.20	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Indeno[1,2,3-cd]pyrene	**0.011**	**J F1**	0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Isophorone	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2-Methylnaphthalene	<0.082	F1	0.082	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2-Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
3 & 4 Methylphenol	<0.20		0.20	0.068	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Naphthalene	<0.040		0.040	0.0062	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2-Nitroaniline	<0.20		0.20	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
3-Nitroaniline	<0.40		0.40	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2-Nitrophenol	<0.40		0.40	0.096	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1

Client Sample ID: OPT-1-1 (0-1')

Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-1

Matrix: Solid
Percent Solids: 81.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.82		0.82	0.39	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
N-Nitrosodi-n-propylamine	<0.082		0.082	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
N-Nitrosodiphenylamine	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Pentachlorophenol	<0.82		0.82	0.65	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Phenanthrene	**0.017**	**J**	0.040	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Phenol	<0.20		0.20	0.090	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
Pyrene	**0.027**	**J**	0.040	0.0081	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
1,2,4-Trichlorobenzene	<0.20	F1	0.20	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,4,5-Trichlorophenol	<0.40		0.40	0.093	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*43 - 145*	*07/05/19 07:39*	*07/09/19 15:17*	*1*
2-Fluorophenol	*94*		*31 - 166*	*07/05/19 07:39*	*07/09/19 15:17*	*1*
Nitrobenzene-d5	*87*		*37 - 147*	*07/05/19 07:39*	*07/09/19 15:17*	*1*
Phenol-d5	*93*		*30 - 153*	*07/05/19 07:39*	*07/09/19 15:17*	*1*
Terphenyl-d14	*91*		*42 - 157*	*07/05/19 07:39*	*07/09/19 15:17*	*1*
2,4,6-Tribromophenol	*85*		*31 - 143*	*07/05/19 07:39*	*07/09/19 15:17*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.35**	**J B F1**	1.2	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Arsenic	**8.0**		0.59	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Barium	**88**		0.59	0.067	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Beryllium	**0.78**		0.24	0.055	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Cadmium	**0.25**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Chromium	**19**		0.59	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Cobalt	**14**		0.30	0.078	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Copper	**21**	**B**	0.59	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Iron	**21000**		12	6.2	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Lead	**27**		0.30	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Manganese	**480**	**F2**	0.59	0.086	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Nickel	**23**		0.59	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Selenium	**1.3**	**B F1**	0.59	0.35	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Silver	**4.0**		0.30	0.076	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Thallium	**0.92**		0.59	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Vanadium	**30**		0.30	0.070	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1
Zinc	**73**		1.2	0.52	mg/Kg	☼	07/02/19 07:45	07/02/19 14:39	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:23	1
Barium	**0.31**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:23	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:23	1
Cadmium	**0.0023**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:23	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:23	1
Cobalt	**0.038**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:23	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:23	1
Iron	**2.8**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:23	1

Client Sample ID: OPT-1-1 (0-1')

Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-1

Matrix: Solid
Percent Solids: 81.8

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:23	1
Nickel	**0.018**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:23	1
Selenium	**0.031**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:23	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:23	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:23	1
Zinc	**0.13**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:23	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:29	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:29	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:51	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.029**	**B**	0.020	0.0066	mg/Kg	☼	07/02/19 14:25	07/03/19 10:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.5**		0.2	0.2	SU			07/02/19 15:24	1

Client Sample ID: OPT-1-1 (1-6')
Lab Sample ID: 500-165828-2

Date Collected: 06/26/19 14:45
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 83.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.028**		0.018	0.0077	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Benzene	<0.0018		0.0018	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Bromodichloromethane	<0.0018		0.0018	0.00036	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Bromoform	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Bromomethane	<0.0044		0.0044	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
2-Butanone (MEK)	<0.0044		0.0044	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Carbon disulfide	<0.0044		0.0044	0.00092	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Carbon tetrachloride	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Chlorobenzene	<0.0018		0.0018	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Chloroethane	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Chloroform	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Chloromethane	<0.0044		0.0044	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
cis-1,2-Dichloroethene	<0.0018		0.0018	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
cis-1,3-Dichloropropene	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Dibromochloromethane	<0.0018		0.0018	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,1-Dichloroethane	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,2-Dichloroethane	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,1-Dichloroethene	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,2-Dichloropropane	<0.0018		0.0018	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,3-Dichloropropene, Total	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Ethylbenzene	<0.0018		0.0018	0.00084	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
2-Hexanone	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Methylene Chloride	<0.0044		0.0044	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
4-Methyl-2-pentanone (MIBK)	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Methyl tert-butyl ether	<0.0018		0.0018	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Styrene	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,1,2,2-Tetrachloroethane	<0.0018		0.0018	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Tetrachloroethene	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Toluene	<0.0018		0.0018	0.00044	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
trans-1,2-Dichloroethene	<0.0018		0.0018	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
trans-1,3-Dichloropropene	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,1,1-Trichloroethane	<0.0018		0.0018	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
1,1,2-Trichloroethane	<0.0018		0.0018	0.00076	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Trichloroethene	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Vinyl acetate	<0.0044		0.0044	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Vinyl chloride	<0.0018		0.0018	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1
Xylenes, Total	<0.0035		0.0035	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*75 - 131*	*06/27/19 17:21*	*07/09/19 02:06*	*1*
Dibromofluoromethane	*95*		*75 - 126*	*06/27/19 17:21*	*07/09/19 02:06*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 134*	*06/27/19 17:21*	*07/09/19 02:06*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*	*06/27/19 17:21*	*07/09/19 02:06*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038	0.0068	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Acenaphthylene	<0.038		0.038	0.0050	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Anthracene	<0.038		0.038	0.0063	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Benzo[a]anthracene	**0.016**	**J**	0.038	0.0051	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1

Client Sample ID: OPT-1-1 (1-6')
Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-2
Matrix: Solid
Percent Solids: 83.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.018**	**J**	0.038	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Benzo[b]fluoranthene	**0.020**	**J**	0.038	0.0082	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Benzo[g,h,i]perylene	<0.038		0.038	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Benzo[k]fluoranthene	**0.011**	**J**	0.038	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Butyl benzyl phthalate	<0.19		0.19	0.072	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Carbazole	<0.19		0.19	0.095	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2-Chlorophenol	<0.19		0.19	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Chrysene	**0.016**	**J**	0.038	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,4-Dichlorophenol	<0.38		0.38	0.090	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,4-Dimethylphenol	<0.38		0.38	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
4,6-Dinitro-2-methylphenol	<0.76		0.76	0.30	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,4-Dinitrophenol	<0.76		0.76	0.67	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Fluoranthene	**0.026**	**J**	0.038	0.0070	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Fluorene	<0.038		0.038	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Hexachlorobenzene	<0.076		0.076	0.0088	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Hexachlorocyclopentadiene	<0.76		0.76	0.22	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.0098	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2-Methylnaphthalene	<0.076		0.076	0.0070	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Naphthalene	<0.038		0.038	0.0058	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Nitrobenzene	<0.038		0.038	0.0094	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2-Nitrophenol	<0.38		0.38	0.089	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1

Client Sample ID: OPT-1-1 (1-6')
Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-2
Matrix: Solid
Percent Solids: 83.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
N-Nitrosodi-n-propylamine	<0.076		0.076	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Pentachlorophenol	<0.76		0.76	0.61	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Phenanthrene	**0.015**	**J**	0.038	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Phenol	<0.19		0.19	0.084	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
Pyrene	**0.024**	**J**	0.038	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,4,5-Trichlorophenol	<0.38		0.38	0.086	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*43 - 145*	*07/05/19 07:39*	*07/09/19 15:44*	*1*
2-Fluorophenol	*101*		*31 - 166*	*07/05/19 07:39*	*07/09/19 15:44*	*1*
Nitrobenzene-d5	*94*		*37 - 147*	*07/05/19 07:39*	*07/09/19 15:44*	*1*
Phenol-d5	*96*		*30 - 153*	*07/05/19 07:39*	*07/09/19 15:44*	*1*
Terphenyl-d14	*91*		*42 - 157*	*07/05/19 07:39*	*07/09/19 15:44*	*1*
2,4,6-Tribromophenol	*47*		*31 - 143*	*07/05/19 07:39*	*07/09/19 15:44*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.37**	**J B**	1.2	0.22	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Arsenic	**5.8**		0.58	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Barium	**90**		0.58	0.066	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Beryllium	**0.86**		0.23	0.054	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Cadmium	**0.29**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Chromium	**21**		0.58	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Cobalt	**11**		0.29	0.076	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Copper	**26**	**B**	0.58	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Iron	**22000**		12	6.0	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Lead	**16**		0.29	0.13	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Manganese	**710**		0.58	0.084	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Nickel	**32**		0.58	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Selenium	**0.67**	**B**	0.58	0.34	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Silver	**3.8**		0.29	0.074	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Thallium	**0.88**		0.58	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Vanadium	**27**		0.29	0.068	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1
Zinc	**75**		1.2	0.51	mg/Kg	☼	07/02/19 07:45	07/02/19 14:59	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:27	1
Barium	**0.61**		0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:27	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:27	1
Cadmium	**0.0036**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:27	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:27	1
Cobalt	**0.027**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:27	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:27	1
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:27	1

Client Sample ID: OPT-1-1 (1-6')

Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-2

Matrix: Solid
Percent Solids: 83.2

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:27	1
Nickel	**0.022**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:27	1
Selenium	**0.035**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:27	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:27	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:27	1
Zinc	**0.27**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:27	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:33	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:33	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:53	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.023**	**B**	0.017	0.0057	mg/Kg	☼	07/02/19 14:25	07/03/19 10:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.6**		0.2	0.2	SU			07/02/19 15:26	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-2 (0-1')
Date Collected: 06/26/19 14:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-3
Matrix: Solid
Percent Solids: 80.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.093**		0.017	0.0072	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Benzene	<0.0017		0.0017	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Bromodichloromethane	<0.0017		0.0017	0.00034	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Bromoform	<0.0017		0.0017	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Bromomethane	<0.0042		0.0042	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
2-Butanone (MEK)	**0.019**		0.0042	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Carbon disulfide	<0.0042		0.0042	0.00087	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Carbon tetrachloride	<0.0017		0.0017	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Chlorobenzene	<0.0017		0.0017	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Chloroethane	<0.0042		0.0042	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Chloroform	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Chloromethane	<0.0042		0.0042	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
cis-1,2-Dichloroethene	<0.0017		0.0017	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
cis-1,3-Dichloropropene	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Dibromochloromethane	<0.0017		0.0017	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,1-Dichloroethane	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,2-Dichloroethane	<0.0042		0.0042	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,1-Dichloroethene	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,2-Dichloropropane	<0.0017		0.0017	0.00043	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,3-Dichloropropene, Total	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Ethylbenzene	<0.0017		0.0017	0.00080	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
2-Hexanone	<0.0042		0.0042	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Methylene Chloride	<0.0042		0.0042	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
4-Methyl-2-pentanone (MIBK)	<0.0042		0.0042	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Methyl tert-butyl ether	<0.0017		0.0017	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Styrene	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,1,2,2-Tetrachloroethane	<0.0017		0.0017	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Tetrachloroethene	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Toluene	<0.0017		0.0017	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
trans-1,2-Dichloroethene	<0.0017		0.0017	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
trans-1,3-Dichloropropene	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,1,1-Trichloroethane	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
1,1,2-Trichloroethane	<0.0017		0.0017	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Trichloroethene	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Vinyl acetate	<0.0042		0.0042	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Vinyl chloride	<0.0017		0.0017	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1
Xylenes, Total	<0.0033		0.0033	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 02:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*75 - 131*	*06/27/19 17:21*	*07/09/19 02:31*	*1*
Dibromofluoromethane	*102*		*75 - 126*	*06/27/19 17:21*	*07/09/19 02:31*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 134*	*06/27/19 17:21*	*07/09/19 02:31*	*1*
Toluene-d8 (Surr)	*97*		*75 - 124*	*06/27/19 17:21*	*07/09/19 02:31*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.010**	**J**	0.040	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Acenaphthylene	**0.010**	**J**	0.040	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Anthracene	**0.040**		0.040	0.0068	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Benzo[a]anthracene	**0.061**		0.040	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1

Client Sample ID: OPT-1-2 (0-1')
Lab Sample ID: 500-165828-3

Date Collected: 06/26/19 14:20
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 80.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.048**		0.040	0.0079	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Benzo[b]fluoranthene	**0.062**		0.040	0.0088	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Benzo[g,h,i]perylene	**0.021**	**J**	0.040	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Benzo[k]fluoranthene	**0.025**	**J**	0.040	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.074	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.054	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Butyl benzyl phthalate	<0.20		0.20	0.078	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
4-Chloroaniline	<0.82		0.82	0.19	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2-Chloronaphthalene	<0.20		0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2-Chlorophenol	<0.20		0.20	0.070	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Chrysene	**0.061**		0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Dibenz(a,h)anthracene	<0.040		0.040	0.0079	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Dibenzofuran	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
1,2-Dichlorobenzene	<0.20		0.20	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
1,3-Dichlorobenzene	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
1,4-Dichlorobenzene	<0.20		0.20	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.057	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,4-Dichlorophenol	<0.40		0.40	0.097	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Diethyl phthalate	<0.20		0.20	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Dimethyl phthalate	<0.20		0.20	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Di-n-butyl phthalate	<0.20		0.20	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
4,6-Dinitro-2-methylphenol	<0.82		0.82	0.33	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,4-Dinitrophenol	<0.82		0.82	0.72	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,4-Dinitrotoluene	<0.20		0.20	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,6-Dinitrotoluene	<0.20		0.20	0.080	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Di-n-octyl phthalate	<0.20		0.20	0.067	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Fluoranthene	**0.14**		0.040	0.0076	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Fluorene	**0.035**	**J**	0.040	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Hexachlorobenzene	<0.082		0.082	0.0094	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Hexachlorobutadiene	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Hexachlorocyclopentadiene	<0.82		0.82	0.23	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Hexachloroethane	<0.20		0.20	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Indeno[1,2,3-cd]pyrene	**0.022**	**J**	0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Isophorone	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2-Methylnaphthalene	**0.0093**	**J**	0.082	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2-Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
3 & 4 Methylphenol	**0.60**		0.20	0.068	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Naphthalene	**0.021**	**J**	0.040	0.0063	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2-Nitroaniline	<0.20		0.20	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
3-Nitroaniline	<0.40		0.40	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2-Nitrophenol	<0.40		0.40	0.096	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1

Client Sample ID: OPT-1-2 (0-1')

Date Collected: 06/26/19 14:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-3

Matrix: Solid
Percent Solids: 80.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.82		0.82	0.39	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
N-Nitrosodi-n-propylamine	<0.082		0.082	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
N-Nitrosodiphenylamine	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Pentachlorophenol	<0.82		0.82	0.65	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Phenanthrene	**0.17**		0.040	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Phenol	<0.20		0.20	0.091	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
Pyrene	**0.11**		0.040	0.0081	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,4,5-Trichlorophenol	<0.40		0.40	0.093	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 16:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*43 - 145*	*07/05/19 07:39*	*07/09/19 16:12*	*1*
2-Fluorophenol	*107*		*31 - 166*	*07/05/19 07:39*	*07/09/19 16:12*	*1*
Nitrobenzene-d5	*96*		*37 - 147*	*07/05/19 07:39*	*07/09/19 16:12*	*1*
Phenol-d5	*109*		*30 - 153*	*07/05/19 07:39*	*07/09/19 16:12*	*1*
Terphenyl-d14	*98*		*42 - 157*	*07/05/19 07:39*	*07/09/19 16:12*	*1*
2,4,6-Tribromophenol	*84*		*31 - 143*	*07/05/19 07:39*	*07/09/19 16:12*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Arsenic	**8.3**		0.59	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Barium	**77**		0.59	0.067	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Beryllium	**1.0**		0.23	0.055	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Cadmium	**0.23**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Chromium	**25**		0.59	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Cobalt	**16**		0.29	0.077	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Copper	**27**	**B**	0.59	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Iron	**28000**		12	6.1	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Lead	**18**		0.29	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Manganese	**520**		0.59	0.085	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Nickel	**38**		0.59	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Selenium	**0.77**	**B**	0.59	0.34	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Silver	**4.9**		0.29	0.075	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Thallium	**1.4**		0.59	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Vanadium	**34**		0.29	0.069	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1
Zinc	**85**		1.2	0.51	mg/Kg	☼	07/02/19 07:45	07/02/19 15:03	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:31	1
Barium	**0.23**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:31	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:31	1
Cadmium	**0.0027**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:31	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:31	1
Cobalt	**0.035**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:31	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:31	1
Iron	**5.2**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:31	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-2 (0-1')
Date Collected: 06/26/19 14:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-3
Matrix: Solid
Percent Solids: 80.7

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:31	1
Nickel	**0.029**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:31	1
Selenium	**0.028**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:31	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:31	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:31	1
Zinc	**0.055**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:31	1

Method: 6010B - Metals (ICP) - SPLP East

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**260**		0.40	0.20	mg/L		07/03/19 14:42	07/05/19 17:18	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:37	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:37	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:54	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.035**	**B**	0.018	0.0060	mg/Kg	☼	07/02/19 14:25	07/03/19 10:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.9**		0.2	0.2	SU			07/02/19 15:29	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-2 (1-6')
Date Collected: 06/26/19 14:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-4
Matrix: Solid
Percent Solids: 82.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.023**		0.021	0.0090	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Benzene	<0.0021		0.0021	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Bromodichloromethane	<0.0021		0.0021	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Bromoform	<0.0021		0.0021	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Bromomethane	<0.0051		0.0051	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
2-Butanone (MEK)	<0.0051		0.0051	0.0023	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Carbon disulfide	<0.0051		0.0051	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Carbon tetrachloride	<0.0021		0.0021	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Chlorobenzene	<0.0021		0.0021	0.00076	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Chloroethane	<0.0051		0.0051	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Chloroform	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Chloromethane	<0.0051		0.0051	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
cis-1,2-Dichloroethene	<0.0021		0.0021	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
cis-1,3-Dichloropropene	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Dibromochloromethane	<0.0021		0.0021	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,1-Dichloroethane	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,2-Dichloroethane	<0.0051		0.0051	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,1-Dichloroethene	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,2-Dichloropropane	<0.0021		0.0021	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,3-Dichloropropene, Total	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Ethylbenzene	<0.0021		0.0021	0.00099	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
2-Hexanone	<0.0051		0.0051	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Methylene Chloride	<0.0051		0.0051	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
4-Methyl-2-pentanone (MIBK)	<0.0051		0.0051	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Methyl tert-butyl ether	<0.0021		0.0021	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Styrene	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,1,2,2-Tetrachloroethane	<0.0021		0.0021	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Tetrachloroethene	<0.0021		0.0021	0.00070	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Toluene	<0.0021		0.0021	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
trans-1,2-Dichloroethene	<0.0021		0.0021	0.00091	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
trans-1,3-Dichloropropene	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,1,1-Trichloroethane	<0.0021		0.0021	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
1,1,2-Trichloroethane	<0.0021		0.0021	0.00088	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Trichloroethene	<0.0021		0.0021	0.00070	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Vinyl acetate	<0.0051		0.0051	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Vinyl chloride	<0.0021		0.0021	0.00091	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1
Xylenes, Total	<0.0041		0.0041	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 02:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*75 - 131*	*06/27/19 17:21*	*07/09/19 02:57*	*1*
Dibromofluoromethane	*97*		*75 - 126*	*06/27/19 17:21*	*07/09/19 02:57*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 134*	*06/27/19 17:21*	*07/09/19 02:57*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*	*06/27/19 17:21*	*07/09/19 02:57*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.086**		0.040	0.0072	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Acenaphthylene	**0.10**		0.040	0.0052	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Anthracene	**0.33**		0.040	0.0067	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Benzo[a]anthracene	**0.37**		0.040	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1

Client Sample ID: OPT-1-2 (1-6')
Lab Sample ID: 500-165828-4

Date Collected: 06/26/19 14:20
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 82.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.29**		0.040	0.0077	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Benzo[b]fluoranthene	**0.39**		0.040	0.0086	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Benzo[g,h,i]perylene	**0.079**		0.040	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Benzo[k]fluoranthene	**0.13**		0.040	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.060	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.073	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Butyl benzyl phthalate	<0.20		0.20	0.076	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Carbazole	**0.15**	**J**	0.20	0.099	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
4-Chloroaniline	<0.80		0.80	0.19	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2-Chlorophenol	<0.20		0.20	0.068	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Chrysene	**0.35**		0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Dibenz(a,h)anthracene	**0.028**	**J**	0.040	0.0077	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Dibenzofuran	**0.22**		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
1,3-Dichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
1,4-Dichlorobenzene	<0.20		0.20	0.051	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.056	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,4-Dichlorophenol	<0.40		0.40	0.095	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Diethyl phthalate	<0.20		0.20	0.067	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Dimethyl phthalate	<0.20		0.20	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Di-n-butyl phthalate	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
4,6-Dinitro-2-methylphenol	<0.80		0.80	0.32	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,4-Dinitrophenol	<0.80		0.80	0.70	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,4-Dinitrotoluene	<0.20		0.20	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,6-Dinitrotoluene	<0.20		0.20	0.078	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Di-n-octyl phthalate	<0.20		0.20	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Fluoranthene	**0.96**		0.040	0.0074	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Fluorene	**0.32**		0.040	0.0056	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Hexachlorobenzene	<0.080		0.080	0.0092	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Hexachlorobutadiene	<0.20		0.20	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Hexachlorocyclopentadiene	<0.80		0.80	0.23	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Hexachloroethane	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Indeno[1,2,3-cd]pyrene	<0.040		0.040	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2-Methylnaphthalene	**0.14**		0.080	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2-Methylphenol	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
3 & 4 Methylphenol	<0.20		0.20	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Naphthalene	**0.19**		0.040	0.0061	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2-Nitroaniline	<0.20		0.20	0.054	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
3-Nitroaniline	<0.40		0.40	0.12	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Nitrobenzene	<0.040		0.040	0.0099	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2-Nitrophenol	<0.40		0.40	0.094	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1

Client Sample ID: OPT-1-2 (1-6')

Date Collected: 06/26/19 14:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-4

Matrix: Solid
Percent Solids: 82.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.80		0.80	0.38	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
N-Nitrosodi-n-propylamine	<0.080		0.080	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
N-Nitrosodiphenylamine	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Pentachlorophenol	<0.80		0.80	0.64	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Phenanthrene	**1.3**		0.040	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Phenol	<0.20		0.20	0.088	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
Pyrene	**0.69**		0.040	0.0079	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,4,5-Trichlorophenol	<0.40		0.40	0.091	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 19:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*43 - 145*	*07/05/19 07:39*	*07/09/19 19:49*	*1*
2-Fluorophenol	*100*		*31 - 166*	*07/05/19 07:39*	*07/09/19 19:49*	*1*
Nitrobenzene-d5	*87*		*37 - 147*	*07/05/19 07:39*	*07/09/19 19:49*	*1*
Phenol-d5	*84*		*30 - 153*	*07/05/19 07:39*	*07/09/19 19:49*	*1*
Terphenyl-d14	*98*		*42 - 157*	*07/05/19 07:39*	*07/09/19 19:49*	*1*
2,4,6-Tribromophenol	*53*		*31 - 143*	*07/05/19 07:39*	*07/09/19 19:49*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.23**	**J B**	1.2	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Arsenic	**5.9**		0.60	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Barium	**71**		0.60	0.068	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Beryllium	**0.66**		0.24	0.056	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Cadmium	**0.30**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Chromium	**17**		0.60	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Cobalt	**11**		0.30	0.078	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Copper	**23**	**B**	0.60	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Iron	**19000**		12	6.2	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Lead	**12**		0.30	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Manganese	**880**		0.60	0.087	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Nickel	**28**		0.60	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Selenium	**0.66**	**B**	0.60	0.35	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Silver	**3.2**		0.30	0.077	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Thallium	**0.37**	**J**	0.60	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Vanadium	**27**		0.30	0.070	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1
Zinc	**50**		1.2	0.52	mg/Kg	☼	07/02/19 07:45	07/02/19 15:07	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:35	1
Barium	**0.54**		0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:35	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:35	1
Cadmium	**0.0035**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:35	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:35	1
Cobalt	**0.042**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:35	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:35	1
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:35	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-2 (1-6')
Date Collected: 06/26/19 14:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-4
Matrix: Solid
Percent Solids: 82.6

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:35	1
Nickel	**0.037**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:35	1
Selenium	**0.033**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:35	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:35	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:35	1
Zinc	**0.20**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:35	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:41	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:41	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:56	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.028**	**B**	0.019	0.0065	mg/Kg	☼	07/02/19 14:25	07/03/19 10:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.2**		0.2	0.2	SU			07/02/19 15:31	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-3 (0-1')
Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-5
Matrix: Solid
Percent Solids: 83.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.034**		0.019	0.0081	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Benzene	<0.0019		0.0019	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Bromodichloromethane	<0.0019		0.0019	0.00038	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Bromoform	<0.0019		0.0019	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Bromomethane	<0.0047		0.0047	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
2-Butanone (MEK)	<0.0047		0.0047	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Carbon disulfide	<0.0047		0.0047	0.00097	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Carbon tetrachloride	<0.0019		0.0019	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Chlorobenzene	<0.0019		0.0019	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Chloroethane	<0.0047		0.0047	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Chloroform	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Chloromethane	<0.0047		0.0047	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
cis-1,2-Dichloroethene	<0.0019		0.0019	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
cis-1,3-Dichloropropene	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Dibromochloromethane	<0.0019		0.0019	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,1-Dichloroethane	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,2-Dichloroethane	<0.0047		0.0047	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,1-Dichloroethene	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,2-Dichloropropane	<0.0019		0.0019	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,3-Dichloropropene, Total	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Ethylbenzene	<0.0019		0.0019	0.00090	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
2-Hexanone	<0.0047		0.0047	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Methylene Chloride	<0.0047		0.0047	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
4-Methyl-2-pentanone (MIBK)	<0.0047		0.0047	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Methyl tert-butyl ether	<0.0019		0.0019	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Styrene	<0.0019		0.0019	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,1,2,2-Tetrachloroethane	<0.0019		0.0019	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Tetrachloroethene	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Toluene	**0.0011**	**J**	0.0019	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
trans-1,2-Dichloroethene	<0.0019		0.0019	0.00083	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
trans-1,3-Dichloropropene	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,1,1-Trichloroethane	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
1,1,2-Trichloroethane	<0.0019		0.0019	0.00080	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Trichloroethene	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Vinyl acetate	<0.0047		0.0047	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Vinyl chloride	<0.0019		0.0019	0.00083	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1
Xylenes, Total	<0.0037		0.0037	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*75 - 131*	*06/27/19 17:21*	*07/09/19 03:22*	*1*
Dibromofluoromethane	*98*		*75 - 126*	*06/27/19 17:21*	*07/09/19 03:22*	*1*
1,2-Dichloroethane-d4 (Surr)	*120*		*70 - 134*	*06/27/19 17:21*	*07/09/19 03:22*	*1*
Toluene-d8 (Surr)	*97*		*75 - 124*	*06/27/19 17:21*	*07/09/19 03:22*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038	0.0069	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Acenaphthylene	<0.038		0.038	0.0050	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Anthracene	<0.038		0.038	0.0064	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Benzo[a]anthracene	**0.012**	**J**	0.038	0.0052	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1

Client Sample ID: OPT-1-3 (0-1')

Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-5

Matrix: Solid
Percent Solids: 83.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.038		0.038	0.0074	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Benzo[b]fluoranthene	**0.024**	**J**	0.038	0.0083	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Benzo[g,h,i]perylene	<0.038		0.038	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Benzo[k]fluoranthene	<0.038		0.038	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.070	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Butyl benzyl phthalate	<0.19		0.19	0.073	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Carbazole	<0.19		0.19	0.096	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
4-Chloroaniline	<0.77		0.77	0.18	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2-Chlorophenol	<0.19		0.19	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Chrysene	**0.014**	**J**	0.038	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0074	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,4-Dichlorophenol	<0.38		0.38	0.091	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
4,6-Dinitro-2-methylphenol	<0.77		0.77	0.31	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,4-Dinitrophenol	<0.77		0.77	0.67	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,6-Dinitrotoluene	<0.19		0.19	0.075	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Fluoranthene	**0.024**	**J**	0.038	0.0071	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Fluorene	**0.0075**	**J**	0.038	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Hexachlorobenzene	<0.077		0.077	0.0089	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Hexachlorocyclopentadiene	<0.77		0.77	0.22	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.0099	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2-Methylnaphthalene	<0.077		0.077	0.0070	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Naphthalene	**0.031**	**J**	0.038	0.0059	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2-Nitrophenol	<0.38		0.38	0.090	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1

Client Sample ID: OPT-1-3 (0-1')

Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-5

Matrix: Solid
Percent Solids: 83.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.77		0.77	0.36	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
N-Nitrosodi-n-propylamine	<0.077		0.077	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Pentachlorophenol	<0.77		0.77	0.61	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Phenanthrene	**0.026**	**J**	0.038	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Phenol	<0.19		0.19	0.085	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
Pyrene	**0.021**	**J**	0.038	0.0076	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,4,5-Trichlorophenol	<0.38		0.38	0.087	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*43 - 145*	*07/05/19 07:39*	*07/09/19 16:39*	*1*
2-Fluorophenol	*79*		*31 - 166*	*07/05/19 07:39*	*07/09/19 16:39*	*1*
Nitrobenzene-d5	*72*		*37 - 147*	*07/05/19 07:39*	*07/09/19 16:39*	*1*
Phenol-d5	*80*		*30 - 153*	*07/05/19 07:39*	*07/09/19 16:39*	*1*
Terphenyl-d14	*88*		*42 - 157*	*07/05/19 07:39*	*07/09/19 16:39*	*1*
2,4,6-Tribromophenol	*83*		*31 - 143*	*07/05/19 07:39*	*07/09/19 16:39*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.22	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Arsenic	**7.5**		0.57	0.19	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Barium	**65**		0.57	0.064	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Beryllium	**0.66**		0.23	0.053	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Cadmium	**0.36**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Chromium	**16**		0.57	0.28	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Cobalt	**16**		0.28	0.074	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Copper	**19**	**B**	0.57	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Iron	**19000**		11	5.9	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Lead	**20**		0.28	0.13	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Manganese	**690**		0.57	0.082	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Nickel	**27**		0.57	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Selenium	**1.3**	**B**	0.57	0.33	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Silver	**3.7**		0.28	0.073	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Thallium	**0.93**		0.57	0.28	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Vanadium	**25**		0.28	0.067	mg/Kg	☼	07/02/19 07:45	07/02/19 15:19	1
Zinc	**58**		1.1	0.50	mg/Kg	☼	07/02/19 07:45	07/03/19 17:12	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:39	1
Barium	**0.41**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:39	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:39	1
Cadmium	**0.0031**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:39	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:39	1
Cobalt	**0.040**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:39	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:39	1
Iron	**1.3**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:39	1

Client Sample ID: OPT-1-3 (0-1')

Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-5

Matrix: Solid
Percent Solids: 83.2

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:39	1
Nickel	**0.031**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:39	1
Selenium	**0.022**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:39	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:39	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:39	1
Zinc	**0.060**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:39	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:45	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:45	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:58	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.026**	**B**	0.020	0.0066	mg/Kg	☼	07/02/19 14:25	07/03/19 10:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.7**		0.2	0.2	SU			07/02/19 15:33	1

Client Sample ID: OPT-1-3 (1-6')
Lab Sample ID: 500-165828-6

Date Collected: 06/26/19 16:30
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 85.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.044**		0.020	0.0088	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Benzene	<0.0020		0.0020	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Bromodichloromethane	<0.0020		0.0020	0.00041	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Bromoform	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Bromomethane	<0.0050		0.0050	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
2-Butanone (MEK)	<0.0050		0.0050	0.0022	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Carbon disulfide	<0.0050		0.0050	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Carbon tetrachloride	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Chlorobenzene	<0.0020		0.0020	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Chloroethane	<0.0050		0.0050	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Chloroform	<0.0020		0.0020	0.00070	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Chloromethane	<0.0050		0.0050	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
cis-1,2-Dichloroethene	<0.0020		0.0020	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
cis-1,3-Dichloropropene	<0.0020		0.0020	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Dibromochloromethane	<0.0020		0.0020	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,1-Dichloroethane	<0.0020		0.0020	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,2-Dichloroethane	<0.0050		0.0050	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,1-Dichloroethene	<0.0020		0.0020	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,2-Dichloropropane	<0.0020		0.0020	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,3-Dichloropropene, Total	<0.0020		0.0020	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Ethylbenzene	<0.0020		0.0020	0.00097	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Methylene Chloride	<0.0050		0.0050	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Methyl tert-butyl ether	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Styrene	<0.0020		0.0020	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,1,2,2-Tetrachloroethane	<0.0020		0.0020	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Tetrachloroethene	<0.0020		0.0020	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Toluene	**0.00068**	**J**	0.0020	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
trans-1,2-Dichloroethene	<0.0020		0.0020	0.00089	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
trans-1,3-Dichloropropene	<0.0020		0.0020	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,1,1-Trichloroethane	<0.0020		0.0020	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
1,1,2-Trichloroethane	<0.0020		0.0020	0.00087	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Trichloroethene	<0.0020		0.0020	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Vinyl acetate	<0.0050		0.0050	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Vinyl chloride	<0.0020		0.0020	0.00089	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1
Xylenes, Total	<0.0040		0.0040	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 03:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*75 - 131*	*06/27/19 17:21*	*07/09/19 03:47*	*1*
Dibromofluoromethane	*97*		*75 - 126*	*06/27/19 17:21*	*07/09/19 03:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 134*	*06/27/19 17:21*	*07/09/19 03:47*	*1*
Toluene-d8 (Surr)	*96*		*75 - 124*	*06/27/19 17:21*	*07/09/19 03:47*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038	0.0068	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Acenaphthylene	<0.038		0.038	0.0050	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Anthracene	**0.010**	**J**	0.038	0.0063	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Benzo[a]anthracene	**0.0099**	**J**	0.038	0.0051	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1

Client Sample ID: OPT-1-3 (1-6')
Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-6
Matrix: Solid
Percent Solids: 85.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.015**	**J**	0.038	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Benzo[b]fluoranthene	**0.015**	**J**	0.038	0.0082	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Benzo[g,h,i]perylene	<0.038		0.038	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Benzo[k]fluoranthene	<0.038		0.038	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Butyl benzyl phthalate	<0.19		0.19	0.072	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Carbazole	<0.19		0.19	0.095	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
4-Chloroaniline	<0.77		0.77	0.18	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2-Chlorophenol	<0.19		0.19	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Chrysene	<0.038		0.038	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,4-Dichlorophenol	<0.38		0.38	0.090	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,4-Dimethylphenol	<0.38		0.38	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
4,6-Dinitro-2-methylphenol	<0.77		0.77	0.31	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,4-Dinitrophenol	<0.77		0.77	0.67	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,6-Dinitrotoluene	<0.19		0.19	0.075	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Fluoranthene	**0.015**	**J**	0.038	0.0070	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Fluorene	**0.015**	**J**	0.038	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Hexachlorobenzene	<0.077		0.077	0.0088	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Hexachlorocyclopentadiene	<0.77		0.77	0.22	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.0098	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2-Methylnaphthalene	**0.011**	**J**	0.077	0.0070	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Naphthalene	**0.029**	**J**	0.038	0.0058	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Nitrobenzene	<0.038		0.038	0.0095	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2-Nitrophenol	<0.38		0.38	0.090	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1

Client Sample ID: OPT-1-3 (1-6')

Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-6

Matrix: Solid
Percent Solids: 85.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.77		0.77	0.36	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
N-Nitrosodi-n-propylamine	<0.077		0.077	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Pentachlorophenol	<0.77		0.77	0.61	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Phenanthrene	**0.035**	**J**	0.038	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Phenol	<0.19		0.19	0.084	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
Pyrene	**0.014**	**J**	0.038	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,4,5-Trichlorophenol	<0.38		0.38	0.087	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*87*		*43 - 145*	*07/05/19 07:39*	*07/09/19 17:06*	*1*
2-Fluorophenol	*97*		*31 - 166*	*07/05/19 07:39*	*07/09/19 17:06*	*1*
Nitrobenzene-d5	*87*		*37 - 147*	*07/05/19 07:39*	*07/09/19 17:06*	*1*
Phenol-d5	*97*		*30 - 153*	*07/05/19 07:39*	*07/09/19 17:06*	*1*
Terphenyl-d14	*95*		*42 - 157*	*07/05/19 07:39*	*07/09/19 17:06*	*1*
2,4,6-Tribromophenol	*72*		*31 - 143*	*07/05/19 07:39*	*07/09/19 17:06*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.30**	**J B**	1.1	0.22	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Arsenic	**7.7**		0.56	0.19	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Barium	**42**		0.56	0.064	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Beryllium	**0.70**		0.23	0.053	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Cadmium	**0.32**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Chromium	**17**		0.56	0.28	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Cobalt	**15**		0.28	0.074	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Copper	**21**	**B**	0.56	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Iron	**21000**		11	5.9	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Lead	**13**		0.28	0.13	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Manganese	**560**		0.56	0.082	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Nickel	**34**		0.56	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Selenium	**0.53**	**J B**	0.56	0.33	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Silver	**3.4**		0.28	0.073	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Thallium	**0.91**		0.56	0.28	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Vanadium	**25**		0.28	0.066	mg/Kg	☼	07/02/19 07:45	07/02/19 15:23	1
Zinc	**57**		1.1	0.49	mg/Kg	☼	07/02/19 07:45	07/03/19 17:16	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:55	1
Barium	**0.35**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:55	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:55	1
Cadmium	**0.0034**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:55	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:55	1
Cobalt	**0.016**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:55	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:55	1
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:55	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-3 (1-6')
Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-6
Matrix: Solid
Percent Solids: 85.9

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:55	1
Nickel	**0.019**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:55	1
Selenium	**0.030**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:55	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:55	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:55	1
Zinc	**0.57**		0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:55	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:50	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:50	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:59	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.027**	**B**	0.018	0.0061	mg/Kg	☼	07/02/19 14:25	07/03/19 10:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.4**		0.2	0.2	SU			07/02/19 15:36	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-4 (0-1')
Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-7
Matrix: Solid
Percent Solids: 80.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.048**		0.021	0.0092	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Benzene	<0.0021		0.0021	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Bromodichloromethane	<0.0021		0.0021	0.00043	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Bromoform	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Bromomethane	<0.0053		0.0053	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
2-Butanone (MEK)	**0.015**		0.0053	0.0023	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Carbon disulfide	<0.0053		0.0053	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Carbon tetrachloride	<0.0021		0.0021	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Chlorobenzene	<0.0021		0.0021	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Chloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Chloroform	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Chloromethane	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
cis-1,2-Dichloroethene	<0.0021		0.0021	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
cis-1,3-Dichloropropene	<0.0021		0.0021	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Dibromochloromethane	<0.0021		0.0021	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,1-Dichloroethane	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,2-Dichloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,1-Dichloroethene	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,2-Dichloropropane	<0.0021		0.0021	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,3-Dichloropropene, Total	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Ethylbenzene	<0.0021		0.0021	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
2-Hexanone	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Methylene Chloride	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
4-Methyl-2-pentanone (MIBK)	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Methyl tert-butyl ether	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Styrene	<0.0021		0.0021	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,1,2,2-Tetrachloroethane	<0.0021		0.0021	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Tetrachloroethene	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Toluene	**0.00060**	**J**	0.0021	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
trans-1,2-Dichloroethene	<0.0021		0.0021	0.00094	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
trans-1,3-Dichloropropene	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,1,1-Trichloroethane	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
1,1,2-Trichloroethane	<0.0021		0.0021	0.00091	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Trichloroethene	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Vinyl acetate	<0.0053		0.0053	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Vinyl chloride	<0.0021		0.0021	0.00094	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1
Xylenes, Total	**0.0021**	**J**	0.0042	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 04:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*75 - 131*	*06/27/19 17:21*	*07/09/19 04:12*	*1*
Dibromofluoromethane	*98*		*75 - 126*	*06/27/19 17:21*	*07/09/19 04:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 134*	*06/27/19 17:21*	*07/09/19 04:12*	*1*
Toluene-d8 (Surr)	*96*		*75 - 124*	*06/27/19 17:21*	*07/09/19 04:12*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0078**	**J**	0.041	0.0074	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Acenaphthylene	<0.041		0.041	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Anthracene	<0.041		0.041	0.0069	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Benzo[a]anthracene	**0.012**	**J**	0.041	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1

Client Sample ID: OPT-1-4 (0-1')

Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-7

Matrix: Solid
Percent Solids: 80.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.012**	**J**	0.041	0.0080	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Benzo[b]fluoranthene	**0.018**	**J**	0.041	0.0089	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Benzo[g,h,i]perylene	<0.041		0.041	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Benzo[k]fluoranthene	<0.041		0.041	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.075	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.054	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Butyl benzyl phthalate	<0.21		0.21	0.078	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Carbazole	<0.21		0.21	0.10	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
4-Chloroaniline	<0.83		0.83	0.19	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
4-Chloro-3-methylphenol	<0.41		0.41	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2-Chloronaphthalene	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2-Chlorophenol	<0.21		0.21	0.070	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Chrysene	**0.013**	**J**	0.041	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Dibenz(a,h)anthracene	<0.041		0.041	0.0080	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Dibenzofuran	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
1,2-Dichlorobenzene	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
1,3-Dichlorobenzene	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
1,4-Dichlorobenzene	<0.21		0.21	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,4-Dichlorophenol	<0.41		0.41	0.098	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Diethyl phthalate	<0.21		0.21	0.070	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,4-Dimethylphenol	<0.41		0.41	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Dimethyl phthalate	<0.21		0.21	0.054	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Di-n-butyl phthalate	<0.21		0.21	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
4,6-Dinitro-2-methylphenol	<0.83		0.83	0.33	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,4-Dinitrophenol	<0.83		0.83	0.73	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,4-Dinitrotoluene	<0.21		0.21	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,6-Dinitrotoluene	<0.21		0.21	0.081	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Di-n-octyl phthalate	<0.21		0.21	0.067	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Fluoranthene	**0.017**	**J**	0.041	0.0076	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Fluorene	<0.041		0.041	0.0058	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Hexachlorobenzene	<0.083		0.083	0.0096	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Hexachlorobutadiene	<0.21		0.21	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Hexachlorocyclopentadiene	<0.83		0.83	0.24	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Hexachloroethane	<0.21		0.21	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Indeno[1,2,3-cd]pyrene	<0.041		0.041	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Isophorone	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2-Methylnaphthalene	**0.0078**	**J**	0.083	0.0076	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2-Methylphenol	<0.21		0.21	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
3 & 4 Methylphenol	<0.21		0.21	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Naphthalene	**2.9**		0.041	0.0063	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2-Nitroaniline	<0.21		0.21	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
3-Nitroaniline	<0.41		0.41	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
4-Nitroaniline	<0.41		0.41	0.17	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Nitrobenzene	<0.041		0.041	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2-Nitrophenol	<0.41		0.41	0.097	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1

Client Sample ID: OPT-1-4 (0-1')

Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-7

Matrix: Solid
Percent Solids: 80.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.83		0.83	0.39	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
N-Nitrosodi-n-propylamine	<0.083		0.083	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
N-Nitrosodiphenylamine	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Pentachlorophenol	<0.83		0.83	0.66	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Phenanthrene	**0.0077**	**J**	0.041	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Phenol	<0.21		0.21	0.092	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
Pyrene	**0.016**	**J**	0.041	0.0082	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,4,5-Trichlorophenol	<0.41		0.41	0.094	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1
2,4,6-Trichlorophenol	<0.41		0.41	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 17:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*43 - 145*	*07/05/19 07:39*	*07/09/19 17:33*	*1*
2-Fluorophenol	*82*		*31 - 166*	*07/05/19 07:39*	*07/09/19 17:33*	*1*
Nitrobenzene-d5	*71*		*37 - 147*	*07/05/19 07:39*	*07/09/19 17:33*	*1*
Phenol-d5	*75*		*30 - 153*	*07/05/19 07:39*	*07/09/19 17:33*	*1*
Terphenyl-d14	*87*		*42 - 157*	*07/05/19 07:39*	*07/09/19 17:33*	*1*
2,4,6-Tribromophenol	*75*		*31 - 143*	*07/05/19 07:39*	*07/09/19 17:33*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.43**	**J B**	1.2	0.24	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Arsenic	**6.2**		0.61	0.21	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Barium	**67**		0.61	0.070	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Beryllium	**0.77**		0.25	0.057	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Cadmium	**0.27**	**B**	0.12	0.022	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Chromium	**19**		0.61	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Cobalt	**14**		0.31	0.080	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Copper	**18**	**B**	0.61	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Iron	**19000**		12	6.4	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Lead	**17**		0.31	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Manganese	**210**		0.61	0.089	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Nickel	**27**		0.61	0.18	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Selenium	**0.81**	**B**	0.61	0.36	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Silver	**3.9**		0.31	0.079	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Thallium	**1.0**		0.61	0.31	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Vanadium	**29**		0.31	0.072	mg/Kg	☼	07/02/19 07:45	07/02/19 15:27	1
Zinc	**57**		1.2	0.54	mg/Kg	☼	07/02/19 07:45	07/03/19 17:20	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:59	1
Barium	**0.32**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:59	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:59	1
Cadmium	**0.0027**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:59	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:59	1
Cobalt	**0.026**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:59	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:59	1
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:59	1

Client Sample ID: OPT-1-4 (0-1')

Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-7

Matrix: Solid
Percent Solids: 80.5

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:59	1
Nickel	**0.018**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:59	1
Selenium	**0.033**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:59	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:59	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:59	1
Zinc	**0.050**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:59	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:54	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:54	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:01	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.025**	**B**	0.020	0.0066	mg/Kg	☼	07/02/19 14:25	07/03/19 10:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.9**		0.2	0.2	SU			07/02/19 15:38	1

Client Sample ID: OPT-1-4 (1-6')
Lab Sample ID: 500-165828-8

Date Collected: 06/26/19 13:30
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 81.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.079**		0.019	0.0085	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Benzene	**0.00053**	**J**	0.0019	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Bromodichloromethane	<0.0019		0.0019	0.00040	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Bromoform	<0.0019		0.0019	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Bromomethane	<0.0049		0.0049	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
2-Butanone (MEK)	**0.017**		0.0049	0.0022	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Carbon disulfide	**0.0015**	**J**	0.0049	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Carbon tetrachloride	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Chlorobenzene	<0.0019		0.0019	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Chloroethane	<0.0049		0.0049	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Chloroform	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Chloromethane	<0.0049		0.0049	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
cis-1,2-Dichloroethene	<0.0019		0.0019	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
cis-1,3-Dichloropropene	<0.0019		0.0019	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Dibromochloromethane	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,1-Dichloroethane	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,2-Dichloroethane	<0.0049		0.0049	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,1-Dichloroethene	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,2-Dichloropropane	<0.0019		0.0019	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,3-Dichloropropene, Total	<0.0019		0.0019	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Ethylbenzene	<0.0019		0.0019	0.00093	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
2-Hexanone	<0.0049		0.0049	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Methylene Chloride	<0.0049		0.0049	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
4-Methyl-2-pentanone (MIBK)	<0.0049		0.0049	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Methyl tert-butyl ether	<0.0019		0.0019	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Styrene	<0.0019		0.0019	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,1,2,2-Tetrachloroethane	<0.0019		0.0019	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Tetrachloroethene	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Toluene	**0.00098**	**J**	0.0019	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
trans-1,2-Dichloroethene	<0.0019		0.0019	0.00086	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
trans-1,3-Dichloropropene	<0.0019		0.0019	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,1,1-Trichloroethane	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
1,1,2-Trichloroethane	<0.0019		0.0019	0.00083	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Trichloroethene	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Vinyl acetate	<0.0049		0.0049	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Vinyl chloride	<0.0019		0.0019	0.00086	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1
Xylenes, Total	**0.0066**		0.0039	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 04:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*75 - 131*	*06/27/19 17:21*	*07/09/19 04:38*	*1*
Dibromofluoromethane	*102*		*75 - 126*	*06/27/19 17:21*	*07/09/19 04:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*122*		*70 - 134*	*06/27/19 17:21*	*07/09/19 04:38*	*1*
Toluene-d8 (Surr)	*97*		*75 - 124*	*06/27/19 17:21*	*07/09/19 04:38*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.040		0.040	0.0073	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Acenaphthylene	<0.040		0.040	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Anthracene	<0.040		0.040	0.0068	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Benzo[a]anthracene	<0.040		0.040	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1

Client Sample ID: OPT-1-4 (1-6')
Lab Sample ID: 500-165828-8

Date Collected: 06/26/19 13:30
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 81.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.040		0.040	0.0079	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Benzo[b]fluoranthene	<0.040		0.040	0.0088	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Benzo[g,h,i]perylene	<0.040		0.040	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Benzo[k]fluoranthene	<0.040		0.040	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.074	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Butyl benzyl phthalate	<0.20		0.20	0.077	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
4-Chloroaniline	<0.82		0.82	0.19	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2-Chloronaphthalene	<0.20		0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2-Chlorophenol	<0.20		0.20	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Chrysene	<0.040		0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Dibenz(a,h)anthracene	<0.040		0.040	0.0078	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Dibenzofuran	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
1,3-Dichlorobenzene	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
1,4-Dichlorobenzene	<0.20		0.20	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.057	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,4-Dichlorophenol	<0.40		0.40	0.096	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Diethyl phthalate	<0.20		0.20	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Dimethyl phthalate	<0.20		0.20	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Di-n-butyl phthalate	<0.20		0.20	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
4,6-Dinitro-2-methylphenol	<0.82		0.82	0.33	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,4-Dinitrophenol	<0.82		0.82	0.71	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,4-Dinitrotoluene	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,6-Dinitrotoluene	<0.20		0.20	0.080	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Di-n-octyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Fluoranthene	**0.0080**	**J**	0.040	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Fluorene	<0.040		0.040	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Hexachlorobenzene	<0.082		0.082	0.0094	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Hexachlorobutadiene	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Hexachlorocyclopentadiene	<0.82		0.82	0.23	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Hexachloroethane	<0.20		0.20	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Indeno[1,2,3-cd]pyrene	<0.040		0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Isophorone	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2-Methylnaphthalene	<0.082		0.082	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2-Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
3 & 4 Methylphenol	<0.20		0.20	0.068	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Naphthalene	**0.069**		0.040	0.0062	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2-Nitroaniline	<0.20		0.20	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
3-Nitroaniline	<0.40		0.40	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2-Nitrophenol	<0.40		0.40	0.096	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1

Client Sample ID: OPT-1-4 (1-6')

Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-8

Matrix: Solid
Percent Solids: 81.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.82		0.82	0.39	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
N-Nitrosodi-n-propylamine	<0.082		0.082	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
N-Nitrosodiphenylamine	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Pentachlorophenol	<0.82		0.82	0.65	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Phenanthrene	**0.0061**	**J**	0.040	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Phenol	<0.20		0.20	0.090	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
Pyrene	<0.040		0.040	0.0081	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,4,5-Trichlorophenol	<0.40		0.40	0.093	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 18:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*43 - 145*	*07/05/19 07:39*	*07/09/19 18:01*	*1*
2-Fluorophenol	*99*		*31 - 166*	*07/05/19 07:39*	*07/09/19 18:01*	*1*
Nitrobenzene-d5	*87*		*37 - 147*	*07/05/19 07:39*	*07/09/19 18:01*	*1*
Phenol-d5	*89*		*30 - 153*	*07/05/19 07:39*	*07/09/19 18:01*	*1*
Terphenyl-d14	*94*		*42 - 157*	*07/05/19 07:39*	*07/09/19 18:01*	*1*
2,4,6-Tribromophenol	*90*		*31 - 143*	*07/05/19 07:39*	*07/09/19 18:01*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Arsenic	**8.8**		0.59	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Barium	**58**		0.59	0.067	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Beryllium	**0.72**		0.24	0.055	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Cadmium	**0.42**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Chromium	**21**		0.59	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Cobalt	**16**		0.30	0.078	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Copper	**24**	**B**	0.59	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Iron	**26000**		12	6.2	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Lead	**17**		0.30	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Manganese	**220**		0.59	0.086	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Nickel	**38**		0.59	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Selenium	**1.0**	**B**	0.59	0.35	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Silver	**4.3**		0.30	0.076	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Thallium	**1.4**		0.59	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Vanadium	**28**		0.30	0.070	mg/Kg	☼	07/02/19 07:45	07/02/19 15:31	1
Zinc	**70**		1.2	0.52	mg/Kg	☼	07/02/19 07:45	07/03/19 17:24	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:03	1
Barium	**0.22**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:03	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:03	1
Cadmium	**0.0029**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:03	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:03	1
Cobalt	**0.041**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:03	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:03	1
Iron	**1.2**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:03	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-4 (1-6')
Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-8
Matrix: Solid
Percent Solids: 81.3

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:03	1
Nickel	**0.035**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:03	1
Selenium	<0.050		0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:03	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:03	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:03	1
Zinc	**0.87**		0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:03	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:06	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:06	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:02	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.028**	**B**	0.019	0.0062	mg/Kg	☼	07/02/19 14:25	07/03/19 10:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.2**		0.2	0.2	SU			07/02/19 15:41	1

Client Sample ID: OPT-1-5 (0-1')
Lab Sample ID: 500-165828-9

Date Collected: 06/26/19 14:00
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 80.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.052**		0.020	0.0085	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Benzene	**0.00093**	**J**	0.0020	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Bromodichloromethane	<0.0020		0.0020	0.00040	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Bromoform	<0.0020		0.0020	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Bromomethane	<0.0049		0.0049	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
2-Butanone (MEK)	**0.0092**		0.0049	0.0022	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Carbon disulfide	<0.0049		0.0049	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Carbon tetrachloride	<0.0020		0.0020	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Chlorobenzene	<0.0020		0.0020	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Chloroethane	<0.0049		0.0049	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Chloroform	<0.0020		0.0020	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Chloromethane	<0.0049		0.0049	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
cis-1,2-Dichloroethene	<0.0020		0.0020	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
cis-1,3-Dichloropropene	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Dibromochloromethane	<0.0020		0.0020	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,1-Dichloroethane	<0.0020		0.0020	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,2-Dichloroethane	<0.0049		0.0049	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,1-Dichloroethene	<0.0020		0.0020	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,2-Dichloropropane	<0.0020		0.0020	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,3-Dichloropropene, Total	<0.0020		0.0020	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Ethylbenzene	<0.0020		0.0020	0.00093	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
2-Hexanone	<0.0049		0.0049	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Methylene Chloride	<0.0049		0.0049	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
4-Methyl-2-pentanone (MIBK)	<0.0049		0.0049	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Methyl tert-butyl ether	<0.0020		0.0020	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Styrene	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,1,2,2-Tetrachloroethane	<0.0020		0.0020	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Tetrachloroethene	<0.0020		0.0020	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Toluene	**0.00074**	**J**	0.0020	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
trans-1,2-Dichloroethene	<0.0020		0.0020	0.00086	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
trans-1,3-Dichloropropene	<0.0020		0.0020	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,1,1-Trichloroethane	<0.0020		0.0020	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
1,1,2-Trichloroethane	<0.0020		0.0020	0.00084	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Trichloroethene	<0.0020		0.0020	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Vinyl acetate	<0.0049		0.0049	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Vinyl chloride	<0.0020		0.0020	0.00086	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1
Xylenes, Total	<0.0039		0.0039	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 05:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*75 - 131*	*06/27/19 17:21*	*07/09/19 05:03*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*06/27/19 17:21*	*07/09/19 05:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 134*	*06/27/19 17:21*	*07/09/19 05:03*	*1*
Toluene-d8 (Surr)	*97*		*75 - 124*	*06/27/19 17:21*	*07/09/19 05:03*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.039		0.039	0.0070	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Acenaphthylene	<0.039		0.039	0.0052	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Anthracene	**0.013**	**J**	0.039	0.0065	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Benzo[a]anthracene	**0.022**	**J**	0.039	0.0053	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1

Client Sample ID: OPT-1-5 (0-1')

Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-9

Matrix: Solid
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.016**	**J**	0.039	0.0076	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Benzo[b]fluoranthene	**0.022**	**J**	0.039	0.0084	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Benzo[g,h,i]perylene	<0.039		0.039	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Benzo[k]fluoranthene	<0.039		0.039	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.040	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.059	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.071	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Butyl benzyl phthalate	<0.20		0.20	0.074	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Carbazole	<0.20		0.20	0.098	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
4-Chloroaniline	<0.79		0.79	0.18	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
4-Chloro-3-methylphenol	<0.39		0.39	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2-Chloronaphthalene	<0.20		0.20	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2-Chlorophenol	<0.20		0.20	0.067	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Chrysene	**0.020**	**J**	0.039	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Dibenz(a,h)anthracene	<0.039		0.039	0.0076	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Dibenzofuran	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
1,2-Dichlorobenzene	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
1,3-Dichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
1,4-Dichlorobenzene	<0.20		0.20	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,4-Dichlorophenol	<0.39		0.39	0.093	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Diethyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,4-Dimethylphenol	<0.39		0.39	0.15	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Dimethyl phthalate	<0.20		0.20	0.051	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Di-n-butyl phthalate	<0.20		0.20	0.060	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
4,6-Dinitro-2-methylphenol	<0.79		0.79	0.31	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,4-Dinitrophenol	<0.79		0.79	0.69	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,4-Dinitrotoluene	<0.20		0.20	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,6-Dinitrotoluene	<0.20		0.20	0.077	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Di-n-octyl phthalate	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Fluoranthene	**0.048**		0.039	0.0072	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Fluorene	**0.012**	**J**	0.039	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Hexachlorobenzene	<0.079		0.079	0.0091	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Hexachlorobutadiene	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Hexachlorocyclopentadiene	<0.79		0.79	0.22	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Hexachloroethane	<0.20		0.20	0.059	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Indeno[1,2,3-cd]pyrene	<0.039		0.039	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Isophorone	<0.20		0.20	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2-Methylnaphthalene	<0.079		0.079	0.0072	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2-Methylphenol	<0.20		0.20	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
3 & 4 Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Naphthalene	**0.034**	**J**	0.039	0.0060	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2-Nitroaniline	<0.20		0.20	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
3-Nitroaniline	<0.39		0.39	0.12	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
4-Nitroaniline	<0.39		0.39	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Nitrobenzene	<0.039		0.039	0.0098	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2-Nitrophenol	<0.39		0.39	0.092	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1

Client Sample ID: OPT-1-5 (0-1')

Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-9

Matrix: Solid
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.79		0.79	0.37	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
N-Nitrosodi-n-propylamine	<0.079		0.079	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
N-Nitrosodiphenylamine	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Pentachlorophenol	<0.79		0.79	0.63	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Phenanthrene	**0.055**		0.039	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Phenol	<0.20		0.20	0.087	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
Pyrene	**0.036**	**J**	0.039	0.0078	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,4,5-Trichlorophenol	<0.39		0.39	0.089	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1
2,4,6-Trichlorophenol	<0.39		0.39	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*43 - 145*	*07/05/19 07:39*	*07/09/19 18:28*	*1*
2-Fluorophenol	*88*		*31 - 166*	*07/05/19 07:39*	*07/09/19 18:28*	*1*
Nitrobenzene-d5	*78*		*37 - 147*	*07/05/19 07:39*	*07/09/19 18:28*	*1*
Phenol-d5	*84*		*30 - 153*	*07/05/19 07:39*	*07/09/19 18:28*	*1*
Terphenyl-d14	*92*		*42 - 157*	*07/05/19 07:39*	*07/09/19 18:28*	*1*
2,4,6-Tribromophenol	*88*		*31 - 143*	*07/05/19 07:39*	*07/09/19 18:28*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Arsenic	**5.5**		0.60	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Barium	**73**		0.60	0.068	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Beryllium	**0.75**		0.24	0.056	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Cadmium	**0.25**	**B**	0.12	0.022	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Chromium	**19**		0.60	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Cobalt	**12**		0.30	0.078	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Copper	**18**	**B**	0.60	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Iron	**18000**		12	6.2	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Lead	**16**		0.30	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Manganese	**340**		0.60	0.087	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Nickel	**26**		0.60	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Selenium	**0.72**	**B**	0.60	0.35	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Silver	**3.9**		0.30	0.077	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Thallium	**0.97**		0.60	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Vanadium	**28**		0.30	0.071	mg/Kg	☼	07/02/19 07:45	07/02/19 15:35	1
Zinc	**60**		1.2	0.53	mg/Kg	☼	07/02/19 07:45	07/03/19 17:28	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:07	1
Barium	**0.23**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:07	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:07	1
Cadmium	**0.0026**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:07	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:07	1
Cobalt	**0.044**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:07	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:07	1
Iron	**2.1**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:07	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-5 (0-1')
Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-9
Matrix: Solid
Percent Solids: 80.8

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:07	1
Nickel	**0.027**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:07	1
Selenium	**0.028**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:07	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:07	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:07	1
Zinc	**0.089**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:07	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:11	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:11	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:04	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.031**	**B**	0.019	0.0065	mg/Kg	☼	07/02/19 14:25	07/03/19 10:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.5**		0.2	0.2	SU			07/02/19 15:45	1

Client Sample ID: OPT-1-5 (1-6')

Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-10

Matrix: Solid
Percent Solids: 80.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.081**		0.021	0.0090	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Benzene	**0.00058**	**J**	0.0021	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Bromodichloromethane	<0.0021		0.0021	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Bromoform	<0.0021		0.0021	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Bromomethane	<0.0052		0.0052	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
2-Butanone (MEK)	**0.018**		0.0052	0.0023	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Carbon disulfide	<0.0052		0.0052	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Carbon tetrachloride	<0.0021		0.0021	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Chlorobenzene	<0.0021		0.0021	0.00076	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Chloroethane	<0.0052		0.0052	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Chloroform	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Chloromethane	<0.0052		0.0052	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
cis-1,2-Dichloroethene	<0.0021		0.0021	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
cis-1,3-Dichloropropene	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Dibromochloromethane	<0.0021		0.0021	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,1-Dichloroethane	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,2-Dichloroethane	<0.0052		0.0052	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,1-Dichloroethene	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,2-Dichloropropane	<0.0021		0.0021	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,3-Dichloropropene, Total	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Ethylbenzene	<0.0021		0.0021	0.00099	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
2-Hexanone	<0.0052		0.0052	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Methylene Chloride	<0.0052		0.0052	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
4-Methyl-2-pentanone (MIBK)	<0.0052		0.0052	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Methyl tert-butyl ether	<0.0021		0.0021	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Styrene	<0.0021		0.0021	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,1,2,2-Tetrachloroethane	<0.0021		0.0021	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Tetrachloroethene	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Toluene	**0.00054**	**J**	0.0021	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
trans-1,2-Dichloroethene	<0.0021		0.0021	0.00092	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
trans-1,3-Dichloropropene	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,1,1-Trichloroethane	<0.0021		0.0021	0.00070	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
1,1,2-Trichloroethane	<0.0021		0.0021	0.00089	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Trichloroethene	<0.0021		0.0021	0.00070	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Vinyl acetate	<0.0052		0.0052	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Vinyl chloride	<0.0021		0.0021	0.00092	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1
Xylenes, Total	<0.0041		0.0041	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 05:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*75 - 131*	*06/27/19 17:21*	*07/09/19 05:29*	*1*
Dibromofluoromethane	*96*		*75 - 126*	*06/27/19 17:21*	*07/09/19 05:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 134*	*06/27/19 17:21*	*07/09/19 05:29*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*	*06/27/19 17:21*	*07/09/19 05:29*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.036**	**J**	0.041	0.0074	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Acenaphthylene	**0.027**	**J**	0.041	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Anthracene	**0.083**		0.041	0.0068	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Benzo[a]anthracene	**0.091**		0.041	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1

Client Sample ID: OPT-1-5 (1-6')
Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-10
Matrix: Solid
Percent Solids: 80.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.066**		0.041	0.0079	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Benzo[b]fluoranthene	**0.093**		0.041	0.0088	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Benzo[g,h,i]perylene	**0.015**	**J**	0.041	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Benzo[k]fluoranthene	**0.034**	**J**	0.041	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.075	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.054	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Butyl benzyl phthalate	<0.21		0.21	0.078	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Carbazole	<0.21		0.21	0.10	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
4-Chloroaniline	<0.83		0.83	0.19	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
4-Chloro-3-methylphenol	<0.41		0.41	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2-Chloronaphthalene	<0.21		0.21	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2-Chlorophenol	<0.21		0.21	0.070	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Chrysene	**0.076**		0.041	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Dibenz(a,h)anthracene	**0.0082**	**J**	0.041	0.0079	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Dibenzofuran	**0.074**	**J**	0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
1,2-Dichlorobenzene	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
1,3-Dichlorobenzene	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
1,4-Dichlorobenzene	<0.21		0.21	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.057	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,4-Dichlorophenol	<0.41		0.41	0.097	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Diethyl phthalate	<0.21		0.21	0.069	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,4-Dimethylphenol	<0.41		0.41	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Dimethyl phthalate	<0.21		0.21	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Di-n-butyl phthalate	<0.21		0.21	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
4,6-Dinitro-2-methylphenol	<0.83		0.83	0.33	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,4-Dinitrophenol	<0.83		0.83	0.72	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,4-Dinitrotoluene	<0.21		0.21	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,6-Dinitrotoluene	<0.21		0.21	0.080	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Di-n-octyl phthalate	<0.21		0.21	0.067	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Fluoranthene	**0.24**		0.041	0.0076	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Fluorene	**0.11**		0.041	0.0058	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Hexachlorobenzene	<0.083		0.083	0.0095	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Hexachlorobutadiene	<0.21		0.21	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Hexachlorocyclopentadiene	<0.83		0.83	0.24	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Hexachloroethane	<0.21		0.21	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Indeno[1,2,3-cd]pyrene	**0.020**	**J**	0.041	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Isophorone	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2-Methylnaphthalene	**0.051**	**J**	0.083	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2-Methylphenol	<0.21		0.21	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
3 & 4 Methylphenol	<0.21		0.21	0.068	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Naphthalene	**0.082**		0.041	0.0063	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2-Nitroaniline	<0.21		0.21	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
3-Nitroaniline	<0.41		0.41	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
4-Nitroaniline	<0.41		0.41	0.17	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Nitrobenzene	<0.041		0.041	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2-Nitrophenol	<0.41		0.41	0.097	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1

Client Sample ID: OPT-1-5 (1-6')

Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-10

Matrix: Solid
Percent Solids: 80.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.83		0.83	0.39	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
N-Nitrosodi-n-propylamine	<0.083		0.083	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
N-Nitrosodiphenylamine	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Pentachlorophenol	<0.83		0.83	0.66	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Phenanthrene	**0.37**		0.041	0.0057	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Phenol	<0.21		0.21	0.091	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
Pyrene	**0.18**		0.041	0.0081	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.044	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,4,5-Trichlorophenol	<0.41		0.41	0.093	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1
2,4,6-Trichlorophenol	<0.41		0.41	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 20:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*43 - 145*	*07/05/19 07:39*	*07/09/19 20:16*	*1*
2-Fluorophenol	*87*		*31 - 166*	*07/05/19 07:39*	*07/09/19 20:16*	*1*
Nitrobenzene-d5	*75*		*37 - 147*	*07/05/19 07:39*	*07/09/19 20:16*	*1*
Phenol-d5	*70*		*30 - 153*	*07/05/19 07:39*	*07/09/19 20:16*	*1*
Terphenyl-d14	*91*		*42 - 157*	*07/05/19 07:39*	*07/09/19 20:16*	*1*
2,4,6-Tribromophenol	*66*		*31 - 143*	*07/05/19 07:39*	*07/09/19 20:16*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Arsenic	**6.8**		0.58	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Barium	**91**		0.58	0.066	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Beryllium	**0.82**		0.23	0.054	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Cadmium	**0.45**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Chromium	**23**		0.58	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Cobalt	**16**		0.29	0.076	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Copper	**26**	**B**	0.58	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Iron	**26000**		12	6.0	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Lead	**15**		0.29	0.13	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Manganese	**510**		0.58	0.084	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Nickel	**42**		0.58	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Selenium	**0.82**	**B**	0.58	0.34	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Silver	**4.9**		0.29	0.075	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Thallium	**1.4**		0.58	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Vanadium	**30**		0.29	0.069	mg/Kg	☼	07/02/19 07:45	07/02/19 15:39	1
Zinc	**76**		1.2	0.51	mg/Kg	☼	07/02/19 07:45	07/03/19 17:32	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:11	1
Barium	**0.34**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:11	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:11	1
Cadmium	**0.0031**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:11	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:11	1
Cobalt	**0.029**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:11	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:11	1
Iron	**0.65**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:11	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-5 (1-6')
Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-10
Matrix: Solid
Percent Solids: 80.4

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:11	1
Nickel	**0.024**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:11	1
Selenium	**0.031**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:11	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:11	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:11	1
Zinc	**0.45**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:11	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:15	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:15	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:12	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.035**	**B**	0.020	0.0066	mg/Kg	☼	07/02/19 14:25	07/03/19 11:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.4**		0.2	0.2	SU			07/02/19 15:48	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-6 (0-1')
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-11
Matrix: Solid
Percent Solids: 81.4

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.055**		0.019	0.0084	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Benzene	<0.0019		0.0019	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Bromodichloromethane	<0.0019		0.0019	0.00039	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Bromoform	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Bromomethane	<0.0048		0.0048	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
2-Butanone (MEK)	<0.0048		0.0048	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Carbon disulfide	<0.0048		0.0048	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Carbon tetrachloride	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Chlorobenzene	<0.0019		0.0019	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Chloroethane	<0.0048		0.0048	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Chloroform	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Chloromethane	<0.0048		0.0048	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
cis-1,2-Dichloroethene	<0.0019		0.0019	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
cis-1,3-Dichloropropene	<0.0019		0.0019	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Dibromochloromethane	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,1-Dichloroethane	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,2-Dichloroethane	<0.0048		0.0048	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,1-Dichloroethene	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,2-Dichloropropane	<0.0019		0.0019	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,3-Dichloropropene, Total	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Ethylbenzene	<0.0019		0.0019	0.00092	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
2-Hexanone	<0.0048		0.0048	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Methylene Chloride	<0.0048		0.0048	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
4-Methyl-2-pentanone (MIBK)	**0.0062**		0.0048	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Methyl tert-butyl ether	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Styrene	<0.0019		0.0019	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,1,2,2-Tetrachloroethane	<0.0019		0.0019	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Tetrachloroethene	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Toluene	**0.0029**		0.0019	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
trans-1,2-Dichloroethene	<0.0019		0.0019	0.00085	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
trans-1,3-Dichloropropene	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,1,1-Trichloroethane	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
1,1,2-Trichloroethane	<0.0019		0.0019	0.00082	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Trichloroethene	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Vinyl acetate	<0.0048		0.0048	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Vinyl chloride	<0.0019		0.0019	0.00085	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1
Xylenes, Total	**0.0048**		0.0038	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 05:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*75 - 131*	*06/27/19 17:21*	*07/09/19 05:54*	*1*
Dibromofluoromethane	*101*		*75 - 126*	*06/27/19 17:21*	*07/09/19 05:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 134*	*06/27/19 17:21*	*07/09/19 05:54*	*1*
Toluene-d8 (Surr)	*94*		*75 - 124*	*06/27/19 17:21*	*07/09/19 05:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.012**	**J**	0.040	0.0072	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Acenaphthylene	**0.016**	**J**	0.040	0.0053	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Anthracene	**0.043**		0.040	0.0067	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Benzo[a]anthracene	**0.049**		0.040	0.0054	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1

Client Sample ID: OPT-1-6 (0-1')
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-11
Matrix: Solid
Percent Solids: 81.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.045**		0.040	0.0077	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Benzo[b]fluoranthene	**0.064**		0.040	0.0086	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Benzo[g,h,i]perylene	**0.028**	**J**	0.040	0.013	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Benzo[k]fluoranthene	**0.018**	**J**	0.040	0.012	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.060	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.073	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Butyl benzyl phthalate	<0.20		0.20	0.076	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
4-Chloroaniline	<0.81		0.81	0.19	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2-Chlorophenol	<0.20		0.20	0.068	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Chrysene	**0.051**		0.040	0.011	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Dibenz(a,h)anthracene	<0.040		0.040	0.0077	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
1,3-Dichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
1,4-Dichlorobenzene	<0.20		0.20	0.051	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.056	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,4-Dichlorophenol	<0.40		0.40	0.095	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Diethyl phthalate	<0.20		0.20	0.068	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Dimethyl phthalate	<0.20		0.20	0.052	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Di-n-butyl phthalate	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
4,6-Dinitro-2-methylphenol	<0.81		0.81	0.32	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,4-Dinitrophenol	<0.81		0.81	0.70	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,4-Dinitrotoluene	<0.20		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,6-Dinitrotoluene	<0.20		0.20	0.079	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Di-n-octyl phthalate	<0.20		0.20	0.065	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Fluoranthene	**0.12**		0.040	0.0074	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Fluorene	**0.046**		0.040	0.0056	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Hexachlorobenzene	<0.081		0.081	0.0093	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Hexachlorobutadiene	<0.20		0.20	0.063	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Hexachlorocyclopentadiene	<0.81		0.81	0.23	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Hexachloroethane	<0.20		0.20	0.061	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Indeno[1,2,3-cd]pyrene	**0.026**	**J**	0.040	0.010	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2-Methylnaphthalene	**0.028**	**J**	0.081	0.0074	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2-Methylphenol	**0.24**		0.20	0.064	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Naphthalene	**1.6**		0.040	0.0062	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2-Nitroaniline	<0.20		0.20	0.054	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
3-Nitroaniline	<0.40		0.40	0.12	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2-Nitrophenol	<0.40		0.40	0.094	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
4-Nitrophenol	<0.81		0.81	0.38	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1

Client Sample ID: OPT-1-6 (0-1')

Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-11

Matrix: Solid
Percent Solids: 81.4

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	<0.081		0.081	0.049	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
N-Nitrosodiphenylamine	<0.20		0.20	0.047	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.046	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Pentachlorophenol	<0.81		0.81	0.64	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Phenanthrene	**0.17**		0.040	0.0056	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Phenol	<0.20		0.20	0.089	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
Pyrene	**0.089**		0.040	0.0079	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.043	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,4,5-Trichlorophenol	<0.40		0.40	0.091	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	07/05/19 07:39	07/10/19 11:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*43 - 145*	*07/05/19 07:39*	*07/10/19 11:29*	*1*
2-Fluorophenol	*92*		*31 - 166*	*07/05/19 07:39*	*07/10/19 11:29*	*1*
Nitrobenzene-d5	*77*		*37 - 147*	*07/05/19 07:39*	*07/10/19 11:29*	*1*
Phenol-d5	*95*		*30 - 153*	*07/05/19 07:39*	*07/10/19 11:29*	*1*
Terphenyl-d14	*88*		*42 - 157*	*07/05/19 07:39*	*07/10/19 11:29*	*1*
2,4,6-Tribromophenol	*94*		*31 - 143*	*07/05/19 07:39*	*07/10/19 11:29*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	**3.7**		1.0	0.33	mg/Kg	☼	07/05/19 07:39	07/10/19 16:37	5

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Arsenic	**6.2**		0.59	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Barium	**61**		0.59	0.068	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Beryllium	**0.71**		0.24	0.055	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Cadmium	**0.30**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Chromium	**17**		0.59	0.29	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Cobalt	**13**		0.30	0.078	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Copper	**18**	**B**	0.59	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Iron	**18000**		12	6.2	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Lead	**20**		0.30	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Manganese	**420**		0.59	0.086	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Nickel	**23**		0.59	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Selenium	**1.1**	**B**	0.59	0.35	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Silver	**3.7**		0.30	0.077	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Thallium	**1.2**		0.59	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Vanadium	**26**		0.30	0.070	mg/Kg	☼	07/02/19 07:45	07/02/19 15:43	1
Zinc	**59**		1.2	0.52	mg/Kg	☼	07/02/19 07:45	07/03/19 17:37	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:15	1
Barium	**0.24**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:15	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:15	1
Cadmium	**0.0028**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:15	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:15	1

Client Sample ID: OPT-1-6 (0-1')

Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-11

Matrix: Solid
Percent Solids: 81.4

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.026**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:15	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:15	1
Iron	**1.3**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:15	1
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:15	1
Nickel	**0.018**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:15	1
Selenium	**0.031**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:15	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:15	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:15	1
Zinc	<0.50		0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:15	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:19	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:19	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00020**		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:14	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.025**	**B**	0.019	0.0062	mg/Kg	☼	07/02/19 14:25	07/03/19 11:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.7**		0.2	0.2	SU			07/02/19 15:50	1

Client Sample ID: OPT-1-6 (1-6')
Lab Sample ID: 500-165828-12

Date Collected: 06/26/19 16:00
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 77.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.11**		0.020	0.0088	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Benzene	**0.0016**	**J**	0.0020	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Bromodichloromethane	<0.0020		0.0020	0.00041	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Bromoform	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Bromomethane	<0.0051		0.0051	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
2-Butanone (MEK)	**0.031**		0.0051	0.0022	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Carbon disulfide	<0.0051		0.0051	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Carbon tetrachloride	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Chlorobenzene	<0.0020		0.0020	0.00075	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Chloroethane	<0.0051		0.0051	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Chloroform	<0.0020		0.0020	0.00070	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Chloromethane	<0.0051		0.0051	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
cis-1,2-Dichloroethene	<0.0020		0.0020	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
cis-1,3-Dichloropropene	<0.0020		0.0020	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Dibromochloromethane	<0.0020		0.0020	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,1-Dichloroethane	<0.0020		0.0020	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,2-Dichloroethane	<0.0051		0.0051	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,1-Dichloroethene	<0.0020		0.0020	0.00070	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,2-Dichloropropane	<0.0020		0.0020	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,3-Dichloropropene, Total	<0.0020		0.0020	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Ethylbenzene	<0.0020		0.0020	0.00097	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
2-Hexanone	**0.011**		0.0051	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Methylene Chloride	<0.0051		0.0051	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
4-Methyl-2-pentanone (MIBK)	**0.027**		0.0051	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Methyl tert-butyl ether	<0.0020		0.0020	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Styrene	<0.0020		0.0020	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,1,2,2-Tetrachloroethane	<0.0020		0.0020	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Tetrachloroethene	<0.0020		0.0020	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Toluene	**0.0025**		0.0020	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
trans-1,2-Dichloroethene	<0.0020		0.0020	0.00090	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
trans-1,3-Dichloropropene	<0.0020		0.0020	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,1,1-Trichloroethane	<0.0020		0.0020	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
1,1,2-Trichloroethane	<0.0020		0.0020	0.00087	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Trichloroethene	<0.0020		0.0020	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Vinyl acetate	<0.0051		0.0051	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Vinyl chloride	<0.0020		0.0020	0.00090	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1
Xylenes, Total	**0.0010**	**J**	0.0040	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 06:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*75 - 131*	*06/27/19 17:21*	*07/09/19 06:19*	*1*
Dibromofluoromethane	*102*		*75 - 126*	*06/27/19 17:21*	*07/09/19 06:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 134*	*06/27/19 17:21*	*07/09/19 06:19*	*1*
Toluene-d8 (Surr)	*95*		*75 - 124*	*06/27/19 17:21*	*07/09/19 06:19*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.017**	**J**	0.042	0.0075	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Acenaphthylene	**0.029**	**J**	0.042	0.0055	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Anthracene	**0.089**		0.042	0.0070	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Benzo[a]anthracene	**0.097**		0.042	0.0056	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1

Client Sample ID: OPT-1-6 (1-6')
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-12
Matrix: Solid
Percent Solids: 77.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.076**		0.042	0.0081	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Benzo[b]fluoranthene	**0.10**		0.042	0.0090	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Benzo[g,h,i]perylene	**0.038**	**J**	0.042	0.013	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Benzo[k]fluoranthene	**0.029**	**J**	0.042	0.012	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.043	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.063	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.077	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.055	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Butyl benzyl phthalate	<0.21		0.21	0.080	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Carbazole	<0.21		0.21	0.10	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
4-Chloroaniline	<0.85		0.85	0.20	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
4-Chloro-3-methylphenol	<0.42		0.42	0.14	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2-Chloronaphthalene	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2-Chlorophenol	<0.21		0.21	0.072	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Chrysene	**0.085**		0.042	0.011	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Dibenz(a,h)anthracene	**0.014**	**J**	0.042	0.0081	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Dibenzofuran	**0.052**	**J**	0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
1,2-Dichlorobenzene	<0.21		0.21	0.050	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
1,3-Dichlorobenzene	<0.21		0.21	0.047	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
1,4-Dichlorobenzene	<0.21		0.21	0.054	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.059	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,4-Dichlorophenol	<0.42		0.42	0.10	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Diethyl phthalate	<0.21		0.21	0.071	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,4-Dimethylphenol	<0.42		0.42	0.16	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Dimethyl phthalate	<0.21		0.21	0.055	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Di-n-butyl phthalate	<0.21		0.21	0.064	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
4,6-Dinitro-2-methylphenol	<0.85		0.85	0.34	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,4-Dinitrophenol	<0.85		0.85	0.74	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,4-Dinitrotoluene	<0.21		0.21	0.067	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,6-Dinitrotoluene	<0.21		0.21	0.082	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Di-n-octyl phthalate	<0.21		0.21	0.068	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Fluoranthene	**0.26**		0.042	0.0078	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Fluorene	**0.085**		0.042	0.0059	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Hexachlorobenzene	<0.085		0.085	0.0097	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Hexachlorobutadiene	<0.21		0.21	0.066	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Hexachlorocyclopentadiene	<0.85		0.85	0.24	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Hexachloroethane	<0.21		0.21	0.064	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Indeno[1,2,3-cd]pyrene	**0.040**	**J**	0.042	0.011	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Isophorone	<0.21		0.21	0.047	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2-Methylnaphthalene	**0.032**	**J**	0.085	0.0077	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2-Methylphenol	**1.9**		0.21	0.067	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Naphthalene	**0.10**		0.042	0.0064	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2-Nitroaniline	<0.21		0.21	0.056	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
3-Nitroaniline	<0.42		0.42	0.13	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
4-Nitroaniline	<0.42		0.42	0.18	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Nitrobenzene	<0.042		0.042	0.010	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2-Nitrophenol	<0.42		0.42	0.099	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
4-Nitrophenol	<0.85		0.85	0.40	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1

Client Sample ID: OPT-1-6 (1-6')

Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-12

Matrix: Solid
Percent Solids: 77.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	<0.085		0.085	0.051	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
N-Nitrosodiphenylamine	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Pentachlorophenol	<0.85		0.85	0.67	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Phenanthrene	**0.39**		0.042	0.0058	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Phenol	<0.21		0.21	0.093	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
Pyrene	**0.18**		0.042	0.0083	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.045	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,4,5-Trichlorophenol	<0.42		0.42	0.096	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1
2,4,6-Trichlorophenol	<0.42		0.42	0.14	mg/Kg	☼	07/05/19 07:39	07/10/19 11:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*43 - 145*	*07/05/19 07:39*	*07/10/19 11:56*	*1*
2-Fluorophenol	*63*		*31 - 166*	*07/05/19 07:39*	*07/10/19 11:56*	*1*
Nitrobenzene-d5	*82*		*37 - 147*	*07/05/19 07:39*	*07/10/19 11:56*	*1*
Phenol-d5	*55*		*30 - 153*	*07/05/19 07:39*	*07/10/19 11:56*	*1*
Terphenyl-d14	*94*		*42 - 157*	*07/05/19 07:39*	*07/10/19 11:56*	*1*
2,4,6-Tribromophenol	*85*		*31 - 143*	*07/05/19 07:39*	*07/10/19 11:56*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	**4.3**		0.42	0.14	mg/Kg	☼	07/05/19 07:39	07/10/19 17:07	2

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.24	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Arsenic	**4.0**		0.62	0.21	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Barium	**110**		0.62	0.071	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Beryllium	**0.78**		0.25	0.058	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Cadmium	**0.34**	**B**	0.12	0.022	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Chromium	**19**		0.62	0.31	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Cobalt	**10**		0.31	0.082	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Copper	**23**	**B**	0.62	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Iron	**18000**		12	6.5	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Lead	**15**		0.31	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Manganese	**200**		0.62	0.090	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Nickel	**22**		0.62	0.18	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Selenium	**1.4**	**B**	0.62	0.37	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Silver	**3.9**		0.31	0.080	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Thallium	**1.0**		0.62	0.31	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Vanadium	**27**		0.31	0.074	mg/Kg	☼	07/02/19 07:45	07/02/19 15:47	1
Zinc	**76**		1.2	0.55	mg/Kg	☼	07/02/19 07:45	07/03/19 17:41	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:19	1
Barium	**0.19**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:19	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:19	1
Cadmium	**0.0021**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:19	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:19	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-6 (1-6')
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-12
Matrix: Solid
Percent Solids: 77.1

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.011**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:19	1
Copper	**0.010**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:19	1
Iron	**2.0**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:19	1
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:19	1
Nickel	**0.011**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:19	1
Selenium	**0.025**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:19	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:19	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:19	1
Zinc	**0.43**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:19	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:23	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:23	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:16	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.025**	**B**	0.021	0.0069	mg/Kg	☼	07/02/19 14:25	07/03/19 11:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.4**		0.2	0.2	SU			07/02/19 15:53	1

Client Sample ID: OPT-1-7 (0-3')
Lab Sample ID: 500-165828-13

Date Collected: 06/26/19 15:30
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 69.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.062**		0.022	0.0098	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Benzene	<0.0022		0.0022	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Bromodichloromethane	<0.0022		0.0022	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Bromoform	<0.0022		0.0022	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Bromomethane	<0.0056		0.0056	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
2-Butanone (MEK)	<0.0056		0.0056	0.0025	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Carbon disulfide	<0.0056		0.0056	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Carbon tetrachloride	<0.0022		0.0022	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Chlorobenzene	<0.0022		0.0022	0.00083	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Chloroethane	<0.0056		0.0056	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Chloroform	<0.0022		0.0022	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Chloromethane	<0.0056		0.0056	0.0023	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
cis-1,2-Dichloroethene	<0.0022		0.0022	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
cis-1,3-Dichloropropene	<0.0022		0.0022	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Dibromochloromethane	<0.0022		0.0022	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,1-Dichloroethane	<0.0022		0.0022	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,2-Dichloroethane	<0.0056		0.0056	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,1-Dichloroethene	<0.0022		0.0022	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,2-Dichloropropane	<0.0022		0.0022	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,3-Dichloropropene, Total	<0.0022		0.0022	0.00079	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Ethylbenzene	<0.0022		0.0022	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
2-Hexanone	<0.0056		0.0056	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Methylene Chloride	<0.0056		0.0056	0.0022	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
4-Methyl-2-pentanone (MIBK)	<0.0056		0.0056	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Methyl tert-butyl ether	<0.0022		0.0022	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Styrene	<0.0022		0.0022	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,1,2,2-Tetrachloroethane	<0.0022		0.0022	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Tetrachloroethene	<0.0022		0.0022	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Toluene	**0.0010**	**J**	0.0022	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
trans-1,2-Dichloroethene	<0.0022		0.0022	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
trans-1,3-Dichloropropene	<0.0022		0.0022	0.00079	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,1,1-Trichloroethane	<0.0022		0.0022	0.00075	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
1,1,2-Trichloroethane	<0.0022		0.0022	0.00096	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Trichloroethene	<0.0022		0.0022	0.00076	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Vinyl acetate	<0.0056		0.0056	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Vinyl chloride	<0.0022		0.0022	0.00099	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1
Xylenes, Total	<0.0045		0.0045	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 06:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*75 - 131*	*06/27/19 17:21*	*07/09/19 06:45*	*1*
Dibromofluoromethane	*98*		*75 - 126*	*06/27/19 17:21*	*07/09/19 06:45*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*70 - 134*	*06/27/19 17:21*	*07/09/19 06:45*	*1*
Toluene-d8 (Surr)	*96*		*75 - 124*	*06/27/19 17:21*	*07/09/19 06:45*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.047		0.047	0.0084	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Acenaphthylene	<0.047		0.047	0.0062	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Anthracene	<0.047		0.047	0.0078	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Benzo[a]anthracene	**0.0099**	**J**	0.047	0.0063	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1

Client Sample ID: OPT-1-7 (0-3')
Date Collected: 06/26/19 15:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-13
Matrix: Solid
Percent Solids: 69.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.0098**	**J**	0.047	0.0091	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Benzo[b]fluoranthene	**0.013**	**J**	0.047	0.010	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Benzo[g,h,i]perylene	<0.047		0.047	0.015	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Benzo[k]fluoranthene	<0.047		0.047	0.014	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Bis(2-chloroethoxy)methane	<0.24		0.24	0.048	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Bis(2-chloroethyl)ether	<0.24		0.24	0.070	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Bis(2-ethylhexyl) phthalate	<0.24		0.24	0.086	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
4-Bromophenyl phenyl ether	<0.24		0.24	0.062	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Butyl benzyl phthalate	<0.24		0.24	0.089	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Carbazole	<0.24		0.24	0.12	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
4-Chloroaniline	<0.95		0.95	0.22	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
4-Chloro-3-methylphenol	<0.47		0.47	0.16	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2-Chloronaphthalene	<0.24		0.24	0.052	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2-Chlorophenol	<0.24		0.24	0.080	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
4-Chlorophenyl phenyl ether	<0.24		0.24	0.055	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Chrysene	**0.014**	**J**	0.047	0.013	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Dibenz(a,h)anthracene	<0.047		0.047	0.0091	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Dibenzofuran	<0.24		0.24	0.055	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
1,2-Dichlorobenzene	<0.24		0.24	0.056	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
1,3-Dichlorobenzene	<0.24		0.24	0.053	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
1,4-Dichlorobenzene	<0.24		0.24	0.060	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
3,3'-Dichlorobenzidine	<0.24		0.24	0.066	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,4-Dichlorophenol	<0.47		0.47	0.11	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Diethyl phthalate	<0.24		0.24	0.080	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,4-Dimethylphenol	<0.47		0.47	0.18	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Dimethyl phthalate	<0.24		0.24	0.061	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Di-n-butyl phthalate	<0.24		0.24	0.072	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
4,6-Dinitro-2-methylphenol	<0.95		0.95	0.38	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,4-Dinitrophenol	<0.95		0.95	0.83	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,4-Dinitrotoluene	<0.24		0.24	0.075	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,6-Dinitrotoluene	<0.24		0.24	0.092	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Di-n-octyl phthalate	<0.24		0.24	0.077	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Fluoranthene	**0.022**	**J**	0.047	0.0087	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Fluorene	<0.047		0.047	0.0066	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Hexachlorobenzene	<0.095		0.095	0.011	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Hexachlorobutadiene	<0.24		0.24	0.074	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Hexachlorocyclopentadiene	<0.95		0.95	0.27	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Hexachloroethane	<0.24		0.24	0.071	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Indeno[1,2,3-cd]pyrene	<0.047		0.047	0.012	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Isophorone	<0.24		0.24	0.053	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2-Methylnaphthalene	**0.015**	**J**	0.095	0.0086	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2-Methylphenol	<0.24		0.24	0.075	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
3 & 4 Methylphenol	**0.078**	**J**	0.24	0.078	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Naphthalene	**0.012**	**J**	0.047	0.0072	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2-Nitroaniline	<0.24		0.24	0.063	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
3-Nitroaniline	<0.47		0.47	0.15	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
4-Nitroaniline	<0.47		0.47	0.20	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Nitrobenzene	<0.047		0.047	0.012	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2-Nitrophenol	<0.47		0.47	0.11	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1

Client Sample ID: OPT-1-7 (0-3')

Date Collected: 06/26/19 15:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-13

Matrix: Solid
Percent Solids: 69.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.95		0.95	0.45	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
N-Nitrosodi-n-propylamine	<0.095		0.095	0.057	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
N-Nitrosodiphenylamine	<0.24		0.24	0.055	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,2'-oxybis[1-chloropropane]	<0.24		0.24	0.054	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Pentachlorophenol	<0.95		0.95	0.75	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Phenanthrene	**0.020**	**J**	0.047	0.0065	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Phenol	<0.24		0.24	0.10	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
Pyrene	**0.023**	**J**	0.047	0.0093	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
1,2,4-Trichlorobenzene	<0.24		0.24	0.051	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,4,5-Trichlorophenol	<0.47		0.47	0.11	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1
2,4,6-Trichlorophenol	<0.47		0.47	0.16	mg/Kg	☼	07/05/19 07:39	07/10/19 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*43 - 145*	*07/05/19 07:39*	*07/10/19 12:24*	*1*
2-Fluorophenol	*98*		*31 - 166*	*07/05/19 07:39*	*07/10/19 12:24*	*1*
Nitrobenzene-d5	*81*		*37 - 147*	*07/05/19 07:39*	*07/10/19 12:24*	*1*
Phenol-d5	*104*		*30 - 153*	*07/05/19 07:39*	*07/10/19 12:24*	*1*
Terphenyl-d14	*97*		*42 - 157*	*07/05/19 07:39*	*07/10/19 12:24*	*1*
2,4,6-Tribromophenol	*114*		*31 - 143*	*07/05/19 07:39*	*07/10/19 12:24*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.4		1.4	0.26	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Arsenic	**7.6**		0.68	0.23	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Barium	**86**		0.68	0.078	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Beryllium	**0.86**		0.27	0.064	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Cadmium	**0.24**	**B**	0.14	0.025	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Chromium	**23**		0.68	0.34	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Cobalt	**15**		0.34	0.089	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Copper	**24**	**B**	0.68	0.19	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Iron	**25000**		14	7.1	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Lead	**17**		0.34	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Manganese	**380**		0.68	0.099	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Nickel	**35**		0.68	0.20	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Selenium	**1.0**	**B**	0.68	0.40	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Silver	**4.5**		0.34	0.088	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Thallium	**1.5**		0.68	0.34	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Vanadium	**33**		0.34	0.080	mg/Kg	☼	07/02/19 07:45	07/02/19 15:51	1
Zinc	**67**		1.4	0.60	mg/Kg	☼	07/02/19 07:45	07/03/19 17:45	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:23	1
Barium	**0.30**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:23	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:23	1
Cadmium	**0.0023**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:23	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:23	1
Cobalt	**0.035**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:23	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:23	1
Iron	**4.1**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:23	1

Client Sample ID: OPT-1-7 (0-3')

Date Collected: 06/26/19 15:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-13

Matrix: Solid
Percent Solids: 69.8

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:23	1
Nickel	**0.023**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:23	1
Selenium	**0.025**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:23	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:23	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:23	1
Zinc	**0.044**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:23	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:27	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:27	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:18	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.035**	**B**	0.023	0.0076	mg/Kg	☼	07/02/19 14:25	07/03/19 11:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.2**		0.2	0.2	SU			07/02/19 15:55	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-7 (3-8')
Date Collected: 06/26/19 15:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-14
Matrix: Solid
Percent Solids: 83.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.016**	**J**	0.019	0.0084	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Benzene	<0.0019		0.0019	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Bromodichloromethane	<0.0019		0.0019	0.00039	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Bromoform	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Bromomethane	<0.0048		0.0048	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
2-Butanone (MEK)	<0.0048		0.0048	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Carbon disulfide	<0.0048		0.0048	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Carbon tetrachloride	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Chlorobenzene	<0.0019		0.0019	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Chloroethane	<0.0048		0.0048	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Chloroform	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Chloromethane	<0.0048		0.0048	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
cis-1,2-Dichloroethene	<0.0019		0.0019	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
cis-1,3-Dichloropropene	<0.0019		0.0019	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Dibromochloromethane	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,1-Dichloroethane	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,2-Dichloroethane	<0.0048		0.0048	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,1-Dichloroethene	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,2-Dichloropropane	<0.0019		0.0019	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,3-Dichloropropene, Total	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Ethylbenzene	<0.0019		0.0019	0.00092	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
2-Hexanone	<0.0048		0.0048	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Methylene Chloride	<0.0048		0.0048	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
4-Methyl-2-pentanone (MIBK)	<0.0048		0.0048	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Methyl tert-butyl ether	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Styrene	<0.0019		0.0019	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,1,2,2-Tetrachloroethane	<0.0019		0.0019	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Tetrachloroethene	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Toluene	<0.0019		0.0019	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
trans-1,2-Dichloroethene	<0.0019		0.0019	0.00085	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
trans-1,3-Dichloropropene	<0.0019		0.0019	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,1,1-Trichloroethane	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
1,1,2-Trichloroethane	<0.0019		0.0019	0.00082	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Trichloroethene	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Vinyl acetate	<0.0048		0.0048	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Vinyl chloride	<0.0019		0.0019	0.00085	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1
Xylenes, Total	<0.0038		0.0038	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 07:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*75 - 131*	*06/27/19 17:21*	*07/09/19 07:10*	*1*
Dibromofluoromethane	*101*		*75 - 126*	*06/27/19 17:21*	*07/09/19 07:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 134*	*06/27/19 17:21*	*07/09/19 07:10*	*1*
Toluene-d8 (Surr)	*94*		*75 - 124*	*06/27/19 17:21*	*07/09/19 07:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038	0.0069	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Acenaphthylene	<0.038		0.038	0.0051	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Anthracene	<0.038		0.038	0.0064	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Benzo[a]anthracene	<0.038		0.038	0.0052	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1

Client Sample ID: OPT-1-7 (3-8')
Date Collected: 06/26/19 15:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-14
Matrix: Solid
Percent Solids: 83.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.038		0.038	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Benzo[b]fluoranthene	<0.038		0.038	0.0083	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Benzo[g,h,i]perylene	<0.038		0.038	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Benzo[k]fluoranthene	<0.038		0.038	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.071	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.051	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Butyl benzyl phthalate	<0.19		0.19	0.073	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Carbazole	<0.19		0.19	0.096	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
4-Chloroaniline	<0.78		0.78	0.18	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2-Chloronaphthalene	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2-Chlorophenol	<0.19		0.19	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Chrysene	<0.038		0.038	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
1,2-Dichlorobenzene	<0.19		0.19	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.054	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,4-Dichlorophenol	<0.38		0.38	0.092	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Diethyl phthalate	<0.19		0.19	0.065	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,4-Dimethylphenol	<0.38		0.38	0.15	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Di-n-butyl phthalate	<0.19		0.19	0.059	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
4,6-Dinitro-2-methylphenol	<0.78		0.78	0.31	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,4-Dinitrophenol	<0.78		0.78	0.68	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,4-Dinitrotoluene	<0.19		0.19	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,6-Dinitrotoluene	<0.19		0.19	0.076	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Di-n-octyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Fluoranthene	<0.038		0.038	0.0072	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Fluorene	<0.038		0.038	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Hexachlorobenzene	<0.078		0.078	0.0089	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Hexachlorobutadiene	<0.19		0.19	0.061	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Hexachlorocyclopentadiene	<0.78		0.78	0.22	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Hexachloroethane	<0.19		0.19	0.059	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2-Methylnaphthalene	<0.078		0.078	0.0071	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2-Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
3 & 4 Methylphenol	<0.19		0.19	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Naphthalene	<0.038		0.038	0.0059	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2-Nitroaniline	<0.19		0.19	0.052	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Nitrobenzene	<0.038		0.038	0.0096	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2-Nitrophenol	<0.38		0.38	0.091	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1

Client Sample ID: OPT-1-7 (3-8')

Date Collected: 06/26/19 15:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-14

Matrix: Solid
Percent Solids: 83.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.78		0.78	0.37	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
N-Nitrosodi-n-propylamine	<0.078		0.078	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
N-Nitrosodiphenylamine	<0.19		0.19	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Pentachlorophenol	<0.78		0.78	0.62	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Phenanthrene	<0.038		0.038	0.0054	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Phenol	<0.19		0.19	0.086	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
Pyrene	<0.038		0.038	0.0077	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,4,5-Trichlorophenol	<0.38		0.38	0.088	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*43 - 145*	*07/05/19 07:39*	*07/09/19 13:54*	*1*
2-Fluorophenol	*88*		*31 - 166*	*07/05/19 07:39*	*07/09/19 13:54*	*1*
Nitrobenzene-d5	*75*		*37 - 147*	*07/05/19 07:39*	*07/09/19 13:54*	*1*
Phenol-d5	*90*		*30 - 153*	*07/05/19 07:39*	*07/09/19 13:54*	*1*
Terphenyl-d14	*94*		*42 - 157*	*07/05/19 07:39*	*07/09/19 13:54*	*1*
2,4,6-Tribromophenol	*76*		*31 - 143*	*07/05/19 07:39*	*07/09/19 13:54*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.1		1.1	0.21	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Arsenic	**7.8**		0.55	0.19	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Barium	**57**		0.55	0.063	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Beryllium	**0.70**		0.22	0.052	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Cadmium	**0.29**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Chromium	**18**		0.55	0.27	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Cobalt	**14**		0.28	0.072	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Copper	**25**	**B**	0.55	0.15	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Iron	**21000**		11	5.7	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Lead	**13**		0.28	0.13	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Manganese	**420**		0.55	0.080	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Nickel	**35**		0.55	0.16	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Selenium	**0.97**	**B**	0.55	0.32	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Silver	**3.5**		0.28	0.071	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Thallium	**0.88**		0.55	0.28	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Vanadium	**25**		0.28	0.065	mg/Kg	☼	07/02/19 07:45	07/02/19 15:55	1
Zinc	**57**		1.1	0.49	mg/Kg	☼	07/02/19 07:45	07/03/19 17:57	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:27	1
Barium	**0.44**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:27	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:27	1
Cadmium	**0.0033**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:27	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:27	1
Cobalt	**0.020**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:27	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:27	1
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:27	1

Client Sample ID: OPT-1-7 (3-8')

Date Collected: 06/26/19 15:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-14

Matrix: Solid
Percent Solids: 83.3

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:27	1
Nickel	**0.020**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:27	1
Selenium	**0.028**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:27	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:27	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:27	1
Zinc	**0.13**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:27	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:31	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:31	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:19	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.032**	**B**	0.018	0.0059	mg/Kg	☼	07/02/19 14:25	07/03/19 11:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**9.3**		0.2	0.2	SU			07/02/19 15:57	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-8 (0-3')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-15
Matrix: Solid
Percent Solids: 78.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.043**		0.018	0.0080	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Benzene	<0.0018		0.0018	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Bromodichloromethane	<0.0018		0.0018	0.00037	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Bromoform	<0.0018		0.0018	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Bromomethane	<0.0046		0.0046	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
2-Butanone (MEK)	**0.011**		0.0046	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Carbon disulfide	<0.0046		0.0046	0.00096	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Carbon tetrachloride	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Chlorobenzene	<0.0018		0.0018	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Chloroethane	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Chloroform	<0.0018		0.0018	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Chloromethane	<0.0046		0.0046	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
cis-1,2-Dichloroethene	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
cis-1,3-Dichloropropene	<0.0018		0.0018	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Dibromochloromethane	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,1-Dichloroethane	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,2-Dichloroethane	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,1-Dichloroethene	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,2-Dichloropropane	<0.0018		0.0018	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,3-Dichloropropene, Total	<0.0018		0.0018	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Ethylbenzene	<0.0018		0.0018	0.00088	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
2-Hexanone	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Methylene Chloride	<0.0046		0.0046	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
4-Methyl-2-pentanone (MIBK)	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Methyl tert-butyl ether	<0.0018		0.0018	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Styrene	<0.0018		0.0018	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,1,2,2-Tetrachloroethane	<0.0018		0.0018	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Tetrachloroethene	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Toluene	<0.0018		0.0018	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
trans-1,2-Dichloroethene	<0.0018		0.0018	0.00082	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
trans-1,3-Dichloropropene	<0.0018		0.0018	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,1,1-Trichloroethane	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
1,1,2-Trichloroethane	<0.0018		0.0018	0.00079	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Trichloroethene	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Vinyl acetate	<0.0046		0.0046	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Vinyl chloride	<0.0018		0.0018	0.00081	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1
Xylenes, Total	<0.0037		0.0037	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 07:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*75 - 131*	*06/27/19 17:21*	*07/09/19 07:35*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*06/27/19 17:21*	*07/09/19 07:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 134*	*06/27/19 17:21*	*07/09/19 07:35*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*	*06/27/19 17:21*	*07/09/19 07:35*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.042		0.042	0.0076	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Acenaphthylene	<0.042		0.042	0.0056	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Anthracene	<0.042		0.042	0.0071	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Benzo[a]anthracene	**0.013**	**J**	0.042	0.0057	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1

Client Sample ID: OPT-1-8 (0-3')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-15
Matrix: Solid
Percent Solids: 78.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.016**	**J**	0.042	0.0082	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Benzo[b]fluoranthene	**0.023**	**J**	0.042	0.0091	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Benzo[g,h,i]perylene	**0.014**	**J**	0.042	0.014	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Benzo[k]fluoranthene	<0.042		0.042	0.012	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.043	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.063	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.077	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.056	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Butyl benzyl phthalate	<0.21		0.21	0.081	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Carbazole	<0.21		0.21	0.11	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
4-Chloroaniline	<0.85		0.85	0.20	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
4-Chloro-3-methylphenol	<0.42		0.42	0.14	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2-Chloronaphthalene	<0.21		0.21	0.047	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2-Chlorophenol	<0.21		0.21	0.072	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Chrysene	**0.015**	**J**	0.042	0.012	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Dibenz(a,h)anthracene	<0.042		0.042	0.0082	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Dibenzofuran	<0.21		0.21	0.050	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
1,2-Dichlorobenzene	<0.21		0.21	0.051	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
1,3-Dichlorobenzene	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
1,4-Dichlorobenzene	<0.21		0.21	0.054	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.059	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,4-Dichlorophenol	<0.42		0.42	0.10	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Diethyl phthalate	<0.21		0.21	0.072	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,4-Dimethylphenol	<0.42		0.42	0.16	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Dimethyl phthalate	<0.21		0.21	0.055	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Di-n-butyl phthalate	<0.21		0.21	0.064	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
4,6-Dinitro-2-methylphenol	<0.85		0.85	0.34	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,4-Dinitrophenol	<0.85		0.85	0.75	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,4-Dinitrotoluene	<0.21		0.21	0.067	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,6-Dinitrotoluene	<0.21		0.21	0.083	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Di-n-octyl phthalate	<0.21		0.21	0.069	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Fluoranthene	**0.017**	**J**	0.042	0.0079	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Fluorene	<0.042		0.042	0.0060	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Hexachlorobenzene	<0.085		0.085	0.0098	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Hexachlorobutadiene	<0.21		0.21	0.067	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Hexachlorocyclopentadiene	<0.85		0.85	0.24	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Hexachloroethane	<0.21		0.21	0.064	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Indeno[1,2,3-cd]pyrene	**0.011**	**J**	0.042	0.011	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Isophorone	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2-Methylnaphthalene	**0.015**	**J**	0.085	0.0078	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2-Methylphenol	<0.21		0.21	0.068	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
3 & 4 Methylphenol	<0.21		0.21	0.071	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Naphthalene	**0.013**	**J**	0.042	0.0065	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2-Nitroaniline	<0.21		0.21	0.057	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
3-Nitroaniline	<0.42		0.42	0.13	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
4-Nitroaniline	<0.42		0.42	0.18	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Nitrobenzene	<0.042		0.042	0.011	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2-Nitrophenol	<0.42		0.42	0.10	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1

Client Sample ID: OPT-1-8 (0-3')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-15
Matrix: Solid
Percent Solids: 78.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.85		0.85	0.40	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
N-Nitrosodi-n-propylamine	<0.085		0.085	0.052	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
N-Nitrosodiphenylamine	<0.21		0.21	0.050	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Pentachlorophenol	<0.85		0.85	0.68	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Phenanthrene	**0.015**	**J**	0.042	0.0059	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Phenol	<0.21		0.21	0.094	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
Pyrene	**0.016**	**J**	0.042	0.0084	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,4,5-Trichlorophenol	<0.42		0.42	0.097	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1
2,4,6-Trichlorophenol	<0.42		0.42	0.15	mg/Kg	☼	07/05/19 07:39	07/10/19 11:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*43 - 145*	*07/05/19 07:39*	*07/10/19 11:02*	*1*
2-Fluorophenol	*66*		*31 - 166*	*07/05/19 07:39*	*07/10/19 11:02*	*1*
Nitrobenzene-d5	*61*		*37 - 147*	*07/05/19 07:39*	*07/10/19 11:02*	*1*
Phenol-d5	*68*		*30 - 153*	*07/05/19 07:39*	*07/10/19 11:02*	*1*
Terphenyl-d14	*65*		*42 - 157*	*07/05/19 07:39*	*07/10/19 11:02*	*1*
2,4,6-Tribromophenol	*64*		*31 - 143*	*07/05/19 07:39*	*07/10/19 11:02*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.32**	**J B**	1.2	0.24	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Arsenic	**6.3**		0.62	0.21	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Barium	**120**		0.62	0.070	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Beryllium	**1.0**		0.25	0.058	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Cadmium	**0.34**	**B**	0.12	0.022	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Chromium	**20**		0.62	0.30	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Cobalt	**12**		0.31	0.081	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Copper	**44**	**B**	0.62	0.17	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Iron	**23000**		12	6.4	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Lead	**33**		0.31	0.14	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Manganese	**870**		0.62	0.089	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Nickel	**28**		0.62	0.18	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Selenium	**1.3**	**B**	0.62	0.36	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Silver	**4.2**		0.31	0.079	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Thallium	**0.81**		0.62	0.31	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Vanadium	**31**		0.31	0.073	mg/Kg	☼	07/02/19 07:45	07/02/19 16:07	1
Zinc	**270**		1.2	0.54	mg/Kg	☼	07/02/19 07:45	07/03/19 18:01	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:31	1
Barium	**0.34**	**J**	0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:31	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:31	1
Cadmium	**0.0024**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:31	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:31	1
Cobalt	**0.035**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:31	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:31	1
Iron	**1.0**		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:31	1

Client Sample ID: OPT-1-8 (0-3')

Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-15

Matrix: Solid
Percent Solids: 78.2

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:31	1
Nickel	**0.023**	**J**	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:31	1
Selenium	**0.031**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:31	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:31	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:31	1
Zinc	**0.10**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:31	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:36	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:36	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:21	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.032**	**B**	0.021	0.0069	mg/Kg	☼	07/02/19 14:25	07/03/19 11:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.5**		0.2	0.2	SU			07/02/19 16:12	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-8 (3-8')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-16
Matrix: Solid
Percent Solids: 77.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.026**		0.021	0.0092	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Benzene	<0.0021		0.0021	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Bromodichloromethane	<0.0021		0.0021	0.00043	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Bromoform	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Bromomethane	<0.0053		0.0053	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
2-Butanone (MEK)	<0.0053		0.0053	0.0023	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Carbon disulfide	<0.0053		0.0053	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Carbon tetrachloride	<0.0021		0.0021	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Chlorobenzene	<0.0021		0.0021	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Chloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Chloroform	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Chloromethane	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
cis-1,2-Dichloroethene	<0.0021		0.0021	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
cis-1,3-Dichloropropene	<0.0021		0.0021	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Dibromochloromethane	<0.0021		0.0021	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,1-Dichloroethane	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,2-Dichloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,1-Dichloroethene	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,2-Dichloropropane	<0.0021		0.0021	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,3-Dichloropropene, Total	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Ethylbenzene	<0.0021		0.0021	0.0010	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
2-Hexanone	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Methylene Chloride	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
4-Methyl-2-pentanone (MIBK)	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Methyl tert-butyl ether	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Styrene	<0.0021		0.0021	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,1,2,2-Tetrachloroethane	<0.0021		0.0021	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Tetrachloroethene	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Toluene	<0.0021		0.0021	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
trans-1,2-Dichloroethene	<0.0021		0.0021	0.00094	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
trans-1,3-Dichloropropene	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,1,1-Trichloroethane	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
1,1,2-Trichloroethane	<0.0021		0.0021	0.00091	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Trichloroethene	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Vinyl acetate	<0.0053		0.0053	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Vinyl chloride	<0.0021		0.0021	0.00094	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1
Xylenes, Total	<0.0042		0.0042	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 08:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*75 - 131*	*06/27/19 17:21*	*07/09/19 08:01*	*1*
Dibromofluoromethane	*95*		*75 - 126*	*06/27/19 17:21*	*07/09/19 08:01*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 134*	*06/27/19 17:21*	*07/09/19 08:01*	*1*
Toluene-d8 (Surr)	*97*		*75 - 124*	*06/27/19 17:21*	*07/09/19 08:01*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.041		0.041	0.0075	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Acenaphthylene	<0.041		0.041	0.0055	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Anthracene	<0.041		0.041	0.0070	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Benzo[a]anthracene	<0.041		0.041	0.0056	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-8 (3-8')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-16
Matrix: Solid
Percent Solids: 77.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.041		0.041	0.0081	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Benzo[b]fluoranthene	<0.041		0.041	0.0090	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Benzo[g,h,i]perylene	<0.041		0.041	0.013	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Benzo[k]fluoranthene	<0.041		0.041	0.012	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.043	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.076	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Butyl benzyl phthalate	<0.21		0.21	0.079	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Carbazole	<0.21		0.21	0.10	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
4-Chloroaniline	<0.84		0.84	0.20	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
4-Chloro-3-methylphenol	<0.41		0.41	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2-Chloronaphthalene	<0.21		0.21	0.046	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2-Chlorophenol	<0.21		0.21	0.071	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Chrysene	<0.041		0.041	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Dibenz(a,h)anthracene	<0.041		0.041	0.0081	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Dibenzofuran	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
1,2-Dichlorobenzene	<0.21		0.21	0.050	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
1,3-Dichlorobenzene	<0.21		0.21	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
1,4-Dichlorobenzene	<0.21		0.21	0.053	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.058	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,4-Dichlorophenol	<0.41		0.41	0.099	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Diethyl phthalate	<0.21		0.21	0.071	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,4-Dimethylphenol	<0.41		0.41	0.16	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Dimethyl phthalate	<0.21		0.21	0.055	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Di-n-butyl phthalate	<0.21		0.21	0.064	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
4,6-Dinitro-2-methylphenol	<0.84		0.84	0.34	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,4-Dinitrophenol	<0.84		0.84	0.73	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,4-Dinitrotoluene	<0.21		0.21	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,6-Dinitrotoluene	<0.21		0.21	0.082	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Di-n-octyl phthalate	<0.21		0.21	0.068	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Fluoranthene	<0.041		0.041	0.0077	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Fluorene	<0.041		0.041	0.0059	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Hexachlorobenzene	<0.084		0.084	0.0097	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Hexachlorobutadiene	<0.21		0.21	0.066	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Hexachlorocyclopentadiene	<0.84		0.84	0.24	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Hexachloroethane	<0.21		0.21	0.063	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Indeno[1,2,3-cd]pyrene	<0.041		0.041	0.011	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Isophorone	<0.21		0.21	0.047	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2-Methylnaphthalene	<0.084		0.084	0.0077	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2-Methylphenol	<0.21		0.21	0.067	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
3 & 4 Methylphenol	<0.21		0.21	0.070	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Naphthalene	<0.041		0.041	0.0064	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2-Nitroaniline	<0.21		0.21	0.056	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
3-Nitroaniline	<0.41		0.41	0.13	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
4-Nitroaniline	<0.41		0.41	0.17	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Nitrobenzene	<0.041		0.041	0.010	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2-Nitrophenol	<0.41		0.41	0.099	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1

Client Sample ID: OPT-1-8 (3-8')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-16
Matrix: Solid
Percent Solids: 77.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.84		0.84	0.40	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
N-Nitrosodi-n-propylamine	<0.084		0.084	0.051	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
N-Nitrosodiphenylamine	<0.21		0.21	0.049	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.048	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Pentachlorophenol	<0.84		0.84	0.67	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Phenanthrene	<0.041		0.041	0.0058	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Phenol	<0.21		0.21	0.093	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
Pyrene	<0.041		0.041	0.0083	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.045	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,4,5-Trichlorophenol	<0.41		0.41	0.095	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1
2,4,6-Trichlorophenol	<0.41		0.41	0.14	mg/Kg	☼	07/05/19 07:39	07/09/19 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*57*		*43 - 145*	*07/05/19 07:39*	*07/09/19 14:50*	*1*
2-Fluorophenol	*75*		*31 - 166*	*07/05/19 07:39*	*07/09/19 14:50*	*1*
Nitrobenzene-d5	*60*		*37 - 147*	*07/05/19 07:39*	*07/09/19 14:50*	*1*
Phenol-d5	*72*		*30 - 153*	*07/05/19 07:39*	*07/09/19 14:50*	*1*
Terphenyl-d14	*91*		*42 - 157*	*07/05/19 07:39*	*07/09/19 14:50*	*1*
2,4,6-Tribromophenol	*64*		*31 - 143*	*07/05/19 07:39*	*07/09/19 14:50*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.35**	**J B**	1.3	0.24	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Arsenic	**6.7**		0.63	0.22	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Barium	**95**		0.63	0.072	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Beryllium	**0.98**		0.25	0.059	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Cadmium	**0.27**	**B**	0.13	0.023	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Chromium	**22**		0.63	0.31	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Cobalt	**15**		0.31	0.082	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Copper	**29**	**B**	0.63	0.18	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Iron	**24000**		13	6.5	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Lead	**18**		0.31	0.15	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Manganese	**540**		0.63	0.091	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Nickel	**37**		0.63	0.18	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Selenium	**0.96**	**B**	0.63	0.37	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Silver	**4.4**		0.31	0.081	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Thallium	**1.1**		0.63	0.31	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Vanadium	**31**		0.31	0.074	mg/Kg	☼	07/02/19 07:45	07/02/19 16:11	1
Zinc	**110**		1.3	0.55	mg/Kg	☼	07/02/19 07:45	07/03/19 18:04	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 16:43	1
Barium	**0.50**		0.50	0.050	mg/L		07/03/19 14:45	07/05/19 16:43	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 16:43	1
Cadmium	**0.0035**	**J B**	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 16:43	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:43	1
Cobalt	**0.033**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:43	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:43	1
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 16:43	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-8 (3-8')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-16
Matrix: Solid
Percent Solids: 77.7

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 16:43	1
Nickel	**0.030**		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:43	1
Selenium	**0.038**	**J**	0.050	0.020	mg/L		07/03/19 14:45	07/05/19 16:43	1
Silver	<0.025	F1	0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:43	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 16:43	1
Zinc	**0.028**	**J**	0.50	0.020	mg/L		07/03/19 14:45	07/05/19 16:43	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 14:40	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 14:40	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 10:22	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.023**	**B**	0.021	0.0070	mg/Kg	☼	07/02/19 14:25	07/03/19 11:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	**8.7**		0.2	0.2	SU			07/02/19 16:16	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-7 GW

Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-17

Matrix: Water

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.0078**	**J**	0.010	0.0017	mg/L			07/09/19 15:37	1
Benzene	<0.00050		0.00050	0.00015	mg/L			07/09/19 15:37	1
Bromodichloromethane	<0.0010		0.0010	0.00037	mg/L			07/09/19 15:37	1
Bromoform	<0.0010		0.0010	0.00048	mg/L			07/09/19 15:37	1
Bromomethane	<0.0030		0.0030	0.00080	mg/L			07/09/19 15:37	1
Carbon disulfide	<0.0020		0.0020	0.00045	mg/L			07/09/19 15:37	1
Carbon tetrachloride	<0.0010		0.0010	0.00038	mg/L			07/09/19 15:37	1
Chlorobenzene	<0.0010		0.0010	0.00039	mg/L			07/09/19 15:37	1
Chloroethane	<0.0010		0.0010	0.00051	mg/L			07/09/19 15:37	1
Chloroform	<0.0020		0.0020	0.00037	mg/L			07/09/19 15:37	1
Chloromethane	<0.0010		0.0010	0.00032	mg/L			07/09/19 15:37	1
cis-1,2-Dichloroethene	<0.0010		0.0010	0.00041	mg/L			07/09/19 15:37	1
cis-1,3-Dichloropropene	<0.0010		0.0010	0.00042	mg/L			07/09/19 15:37	1
Dibromochloromethane	<0.0010		0.0010	0.00049	mg/L			07/09/19 15:37	1
1,1-Dichloroethane	<0.0010		0.0010	0.00041	mg/L			07/09/19 15:37	1
1,2-Dichloroethane	<0.0010		0.0010	0.00039	mg/L			07/09/19 15:37	1
1,1-Dichloroethene	<0.0010		0.0010	0.00039	mg/L			07/09/19 15:37	1
1,2-Dichloropropane	<0.0010		0.0010	0.00043	mg/L			07/09/19 15:37	1
1,3-Dichloropropene, Total	<0.0010		0.0010	0.00042	mg/L			07/09/19 15:37	1
Ethylbenzene	<0.00050		0.00050	0.00018	mg/L			07/09/19 15:37	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/L			07/09/19 15:37	1
Methylene Chloride	<0.0050		0.0050	0.0016	mg/L			07/09/19 15:37	1
Methyl Ethyl Ketone	<0.0050		0.0050	0.0021	mg/L			07/09/19 15:37	1
methyl isobutyl ketone	<0.0050		0.0050	0.0022	mg/L			07/09/19 15:37	1
Methyl tert-butyl ether	<0.0010		0.0010	0.00039	mg/L			07/09/19 15:37	1
Styrene	<0.0010		0.0010	0.00039	mg/L			07/09/19 15:37	1
1,1,2,2-Tetrachloroethane	<0.0010		0.0010	0.00040	mg/L			07/09/19 15:37	1
Tetrachloroethene	<0.0010		0.0010	0.00037	mg/L			07/09/19 15:37	1
Toluene	**0.00017**	**J**	0.00050	0.00015	mg/L			07/09/19 15:37	1
trans-1,2-Dichloroethene	<0.0010		0.0010	0.00035	mg/L			07/09/19 15:37	1
trans-1,3-Dichloropropene	<0.0010		0.0010	0.00036	mg/L			07/09/19 15:37	1
1,1,1-Trichloroethane	<0.0010		0.0010	0.00038	mg/L			07/09/19 15:37	1
1,1,2-Trichloroethane	<0.0010		0.0010	0.00035	mg/L			07/09/19 15:37	1
Trichloroethene	<0.00050		0.00050	0.00016	mg/L			07/09/19 15:37	1
Vinyl acetate	<0.0020		0.0020	0.00091	mg/L			07/09/19 15:37	1
Vinyl chloride	<0.0010		0.0010	0.00020	mg/L			07/09/19 15:37	1
Xylenes, Total	<0.0010		0.0010	0.00022	mg/L			07/09/19 15:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*72 - 124*		*07/09/19 15:37*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*07/09/19 15:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*		*07/09/19 15:37*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/09/19 15:37*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0080		0.0080	0.0025	mg/L		06/28/19 07:39	07/01/19 18:40	1
Acenaphthylene	<0.0080		0.0080	0.0021	mg/L		06/28/19 07:39	07/01/19 18:40	1
Anthracene	<0.0080		0.0080	0.0027	mg/L		06/28/19 07:39	07/01/19 18:40	1
Benzo[a]anthracene	**0.0027**		0.0013	0.00045	mg/L		06/28/19 07:39	07/01/19 18:40	1

Client Sample ID: OPT-1-7 GW
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-17
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.0024**		0.0016	0.00079	mg/L		06/28/19 07:39	07/01/19 18:40	1
Benzo[b]fluoranthene	**0.0032**		0.0016	0.00065	mg/L		06/28/19 07:39	07/01/19 18:40	1
Benzo[g,h,i]perylene	<0.0080		0.0080	0.0030	mg/L		06/28/19 07:39	07/01/19 18:40	1
Benzo[k]fluoranthene	**0.0019**		0.0016	0.00051	mg/L		06/28/19 07:39	07/01/19 18:40	1
Bis(2-chloroethoxy)methane	<0.016		0.016	0.0023	mg/L		06/28/19 07:39	07/01/19 18:40	1
Bis(2-chloroethyl)ether	<0.016		0.016	0.0023	mg/L		06/28/19 07:39	07/01/19 18:40	1
Bis(2-ethylhexyl) phthalate	<0.080		0.080	0.014	mg/L		06/28/19 07:39	07/01/19 18:40	1
4-Bromophenyl phenyl ether	<0.040		0.040	0.0043	mg/L		06/28/19 07:39	07/01/19 18:40	1
Butyl benzyl phthalate	<0.016		0.016	0.0038	mg/L		06/28/19 07:39	07/01/19 18:40	1
Carbazole	<0.040		0.040	0.0028	mg/L		06/28/19 07:39	07/01/19 18:40	1
4-Chloroaniline	<0.080		0.080	0.016	mg/L		06/28/19 07:39	07/01/19 18:40	1
4-Chloro-3-methylphenol	<0.080		0.080	0.018	mg/L		06/28/19 07:39	07/01/19 18:40	1
2-Chloronaphthalene	<0.016		0.016	0.0019	mg/L		06/28/19 07:39	07/01/19 18:40	1
2-Chlorophenol	<0.040		0.040	0.0045	mg/L		06/28/19 07:39	07/01/19 18:40	1
4-Chlorophenyl phenyl ether	<0.040		0.040	0.0051	mg/L		06/28/19 07:39	07/01/19 18:40	1
Chrysene	**0.0036**		0.0016	0.00055	mg/L		06/28/19 07:39	07/01/19 18:40	1
Dibenz(a,h)anthracene	<0.0024		0.0024	0.00041	mg/L		06/28/19 07:39	07/01/19 18:40	1
Dibenzofuran	<0.016		0.016	0.0021	mg/L		06/28/19 07:39	07/01/19 18:40	1
1,2-Dichlorobenzene	<0.016		0.016	0.0020	mg/L		06/28/19 07:39	07/01/19 18:40	1
1,3-Dichlorobenzene	<0.016		0.016	0.0017	mg/L		06/28/19 07:39	07/01/19 18:40	1
1,4-Dichlorobenzene	<0.016		0.016	0.0017	mg/L		06/28/19 07:39	07/01/19 18:40	1
3,3'-Dichlorobenzidine	<0.040		0.040	0.014	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,4-Dichlorophenol	<0.080		0.080	0.021	mg/L		06/28/19 07:39	07/01/19 18:40	1
Diethyl phthalate	<0.040		0.040	0.0029	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,4-Dimethylphenol	<0.080		0.080	0.014	mg/L		06/28/19 07:39	07/01/19 18:40	1
Dimethyl phthalate	<0.040		0.040	0.0025	mg/L		06/28/19 07:39	07/01/19 18:40	1
Di-n-butyl phthalate	<0.040		0.040	0.0058	mg/L		06/28/19 07:39	07/01/19 18:40	1
4,6-Dinitro-2-methylphenol	<0.16		0.16	0.047	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,4-Dinitrophenol	<0.16		0.16	0.069	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,4-Dinitrotoluene	<0.0080		0.0080	0.0020	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,6-Dinitrotoluene	<0.0080		0.0080	0.00059	mg/L		06/28/19 07:39	07/01/19 18:40	1
Di-n-octyl phthalate	<0.080		0.080	0.0084	mg/L		06/28/19 07:39	07/01/19 18:40	1
Fluoranthene	**0.0068**	**J**	0.0080	0.0036	mg/L		06/28/19 07:39	07/01/19 18:40	1
Fluorene	<0.0080		0.0080	0.0020	mg/L		06/28/19 07:39	07/01/19 18:40	1
Hexachlorobenzene	<0.0040		0.0040	0.00064	mg/L		06/28/19 07:39	07/01/19 18:40	1
Hexachlorobutadiene	<0.040		0.040	0.0041	mg/L		06/28/19 07:39	07/01/19 18:40	1
Hexachlorocyclopentadiene	<0.16		0.16	0.051	mg/L		06/28/19 07:39	07/01/19 18:40	1
Hexachloroethane	<0.040		0.040	0.0048	mg/L		06/28/19 07:39	07/01/19 18:40	1
Indeno[1,2,3-cd]pyrene	**0.0011**	**J**	0.0016	0.00060	mg/L		06/28/19 07:39	07/01/19 18:40	1
Isophorone	<0.016		0.016	0.0030	mg/L		06/28/19 07:39	07/01/19 18:40	1
2-Methylnaphthalene	**0.00057**	**J**	0.016	0.00052	mg/L		06/28/19 07:39	07/01/19 18:40	1
2-Methylphenol	<0.016		0.016	0.0024	mg/L		06/28/19 07:39	07/01/19 18:40	1
3 & 4 Methylphenol	<0.016		0.016	0.0036	mg/L		06/28/19 07:39	07/01/19 18:40	1
Naphthalene	<0.0080		0.0080	0.0025	mg/L		06/28/19 07:39	07/01/19 18:40	1
2-Nitroaniline	<0.040		0.040	0.010	mg/L		06/28/19 07:39	07/01/19 18:40	1
3-Nitroaniline	<0.080		0.080	0.014	mg/L		06/28/19 07:39	07/01/19 18:40	1
4-Nitroaniline	<0.080		0.080	0.013	mg/L		06/28/19 07:39	07/01/19 18:40	1
Nitrobenzene	<0.0080		0.0080	0.0036	mg/L		06/28/19 07:39	07/01/19 18:40	1
2-Nitrophenol	<0.080		0.080	0.020	mg/L		06/28/19 07:39	07/01/19 18:40	1

Client Sample ID: OPT-1-7 GW

Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-17

Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.16		0.16	0.059	mg/L		06/28/19 07:39	07/01/19 18:40	1
N-Nitrosodi-n-propylamine	<0.0040		0.0040	0.0012	mg/L		06/28/19 07:39	07/01/19 18:40	1
N-Nitrosodiphenylamine	<0.016		0.016	0.0030	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,2'-oxybis[1-chloropropane]	<0.016		0.016	0.0030	mg/L		06/28/19 07:39	07/01/19 18:40	1
Pentachlorophenol	<0.16		0.16	0.032	mg/L		06/28/19 07:39	07/01/19 18:40	1
Phenanthrene	**0.0047**	**J**	0.0080	0.0024	mg/L		06/28/19 07:39	07/01/19 18:40	1
Phenol	<0.040		0.040	0.0054	mg/L		06/28/19 07:39	07/01/19 18:40	1
Pyrene	**0.0067**	**J**	0.0080	0.0034	mg/L		06/28/19 07:39	07/01/19 18:40	1
1,2,4-Trichlorobenzene	<0.016		0.016	0.0019	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,4,5-Trichlorophenol	<0.080		0.080	0.021	mg/L		06/28/19 07:39	07/01/19 18:40	1
2,4,6-Trichlorophenol	<0.040		0.040	0.0057	mg/L		06/28/19 07:39	07/01/19 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*34 - 110*	*06/28/19 07:39*	*07/01/19 18:40*	*1*
2-Fluorophenol	*61*		*27 - 110*	*06/28/19 07:39*	*07/01/19 18:40*	*1*
Nitrobenzene-d5	*74*		*36 - 120*	*06/28/19 07:39*	*07/01/19 18:40*	*1*
Phenol-d5	*46*		*20 - 110*	*06/28/19 07:39*	*07/01/19 18:40*	*1*
Terphenyl-d14	*85*		*40 - 145*	*06/28/19 07:39*	*07/01/19 18:40*	*1*
2,4,6-Tribromophenol	*68*		*40 - 145*	*06/28/19 07:39*	*07/01/19 18:40*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030	0.0013	mg/L		06/28/19 07:48	06/28/19 17:36	1
Arsenic	**0.025**		0.0010	0.00023	mg/L		06/28/19 07:48	06/28/19 17:36	1
Barium	**0.081**		0.0025	0.00073	mg/L		06/28/19 07:48	06/28/19 17:36	1
Beryllium	**0.00077**	**J ^**	0.0010	0.00053	mg/L		06/28/19 07:48	06/28/19 17:36	1
Cadmium	**0.00044**	**J**	0.00050	0.00017	mg/L		06/28/19 07:48	06/28/19 17:36	1
Chromium	**0.018**		0.0050	0.0011	mg/L		06/28/19 07:48	07/03/19 16:26	1
Cobalt	**0.012**		0.0010	0.00040	mg/L		06/28/19 07:48	06/28/19 17:36	1
Copper	**0.10**	**B**	0.0020	0.00050	mg/L		06/28/19 07:48	06/28/19 17:36	1
Iron	**32**		0.10	0.047	mg/L		06/28/19 07:48	06/28/19 17:36	1
Lead	**0.047**		0.00050	0.00019	mg/L		06/28/19 07:48	06/28/19 17:36	1
Manganese	**0.61**		0.0025	0.00079	mg/L		06/28/19 07:48	06/28/19 17:36	1
Nickel	**0.032**		0.0020	0.00063	mg/L		06/28/19 07:48	06/28/19 17:36	1
Selenium	<0.0025		0.0025	0.00098	mg/L		06/28/19 07:48	06/28/19 17:36	1
Silver	<0.00050		0.00050	0.00012	mg/L		06/28/19 07:48	06/28/19 17:36	1
Thallium	**0.00061**	**J**	0.0020	0.00057	mg/L		06/28/19 07:48	06/28/19 17:36	1
Vanadium	**0.026**		0.0050	0.0022	mg/L		06/28/19 07:48	06/28/19 17:36	1
Zinc	**0.36**	**B**	0.020	0.0069	mg/L		06/28/19 07:48	06/28/19 17:36	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.00050		0.00050	0.00012	mg/L		06/28/19 07:48	06/28/19 17:47	1
Arsenic	**0.0024**		0.0010	0.00023	mg/L		06/28/19 07:48	06/28/19 17:47	1
Barium	**0.020**		0.0025	0.00073	mg/L		06/28/19 07:48	06/28/19 17:47	1
Beryllium	<0.0010	^	0.0010	0.00053	mg/L		06/28/19 07:48	06/28/19 17:47	1
Cadmium	<0.00050		0.00050	0.00017	mg/L		06/28/19 07:48	06/28/19 17:47	1
Cobalt	**0.00069**	**J**	0.0010	0.00040	mg/L		06/28/19 07:48	06/28/19 17:47	1
Chromium	<0.0050		0.0050	0.0011	mg/L		06/28/19 07:48	07/03/19 16:30	1
Copper	**0.0091**	**B**	0.0020	0.00050	mg/L		06/28/19 07:48	06/28/19 17:47	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-7 GW

Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-17

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.61**		0.10	0.047	mg/L		06/28/19 07:48	06/28/19 17:47	1
Manganese	**0.10**		0.0025	0.00079	mg/L		06/28/19 07:48	06/28/19 17:47	1
Nickel	**0.0025**		0.0020	0.00063	mg/L		06/28/19 07:48	06/28/19 17:47	1
Lead	**0.00095**		0.00050	0.00019	mg/L		06/28/19 07:48	06/28/19 17:47	1
Antimony	<0.0030		0.0030	0.0013	mg/L		06/28/19 07:48	06/28/19 17:47	1
Selenium	<0.0025		0.0025	0.00098	mg/L		06/28/19 07:48	06/28/19 17:47	1
Thallium	<0.0020		0.0020	0.00057	mg/L		06/28/19 07:48	06/28/19 17:47	1
Vanadium	<0.0050		0.0050	0.0022	mg/L		06/28/19 07:48	06/28/19 17:47	1
Zinc	**0.018**	**J B**	0.020	0.0069	mg/L		06/28/19 07:48	06/28/19 17:47	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00021**		0.00020	0.000098	mg/L		07/01/19 10:40	07/02/19 08:22	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000098	mg/L		07/01/19 10:40	07/02/19 08:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010	0.0035	mg/L		07/10/19 12:55	07/10/19 16:22	1
Chloride	**150**		10	8.5	mg/L			07/10/19 15:46	50

Client Sample ID: Trip Blank

Lab Sample ID: 500-165828-18

Date Collected: 06/26/19 00:00

Matrix: Water

Date Received: 06/27/19 11:35

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.0033**	**J**	0.010	0.0017	mg/L			07/09/19 16:03	1
Benzene	<0.00050		0.00050	0.00015	mg/L			07/09/19 16:03	1
Bromodichloromethane	<0.0010		0.0010	0.00037	mg/L			07/09/19 16:03	1
Bromoform	<0.0010		0.0010	0.00048	mg/L			07/09/19 16:03	1
Bromomethane	<0.0030		0.0030	0.00080	mg/L			07/09/19 16:03	1
Carbon disulfide	<0.0020		0.0020	0.00045	mg/L			07/09/19 16:03	1
Carbon tetrachloride	<0.0010		0.0010	0.00038	mg/L			07/09/19 16:03	1
Chlorobenzene	<0.0010		0.0010	0.00039	mg/L			07/09/19 16:03	1
Chloroethane	<0.0010		0.0010	0.00051	mg/L			07/09/19 16:03	1
Chloroform	<0.0020		0.0020	0.00037	mg/L			07/09/19 16:03	1
Chloromethane	<0.0010		0.0010	0.00032	mg/L			07/09/19 16:03	1
cis-1,2-Dichloroethene	<0.0010		0.0010	0.00041	mg/L			07/09/19 16:03	1
cis-1,3-Dichloropropene	<0.0010		0.0010	0.00042	mg/L			07/09/19 16:03	1
Dibromochloromethane	<0.0010		0.0010	0.00049	mg/L			07/09/19 16:03	1
1,1-Dichloroethane	<0.0010		0.0010	0.00041	mg/L			07/09/19 16:03	1
1,2-Dichloroethane	<0.0010		0.0010	0.00039	mg/L			07/09/19 16:03	1
1,1-Dichloroethene	<0.0010		0.0010	0.00039	mg/L			07/09/19 16:03	1
1,2-Dichloropropane	<0.0010		0.0010	0.00043	mg/L			07/09/19 16:03	1
1,3-Dichloropropene, Total	<0.0010		0.0010	0.00042	mg/L			07/09/19 16:03	1
Ethylbenzene	<0.00050		0.00050	0.00018	mg/L			07/09/19 16:03	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/L			07/09/19 16:03	1
Methylene Chloride	<0.0050		0.0050	0.0016	mg/L			07/09/19 16:03	1
Methyl Ethyl Ketone	<0.0050		0.0050	0.0021	mg/L			07/09/19 16:03	1
methyl isobutyl ketone	<0.0050		0.0050	0.0022	mg/L			07/09/19 16:03	1
Methyl tert-butyl ether	<0.0010		0.0010	0.00039	mg/L			07/09/19 16:03	1
Styrene	<0.0010		0.0010	0.00039	mg/L			07/09/19 16:03	1
1,1,2,2-Tetrachloroethane	<0.0010		0.0010	0.00040	mg/L			07/09/19 16:03	1
Tetrachloroethene	<0.0010		0.0010	0.00037	mg/L			07/09/19 16:03	1
Toluene	<0.00050		0.00050	0.00015	mg/L			07/09/19 16:03	1
trans-1,2-Dichloroethene	<0.0010		0.0010	0.00035	mg/L			07/09/19 16:03	1
trans-1,3-Dichloropropene	<0.0010		0.0010	0.00036	mg/L			07/09/19 16:03	1
1,1,1-Trichloroethane	<0.0010		0.0010	0.00038	mg/L			07/09/19 16:03	1
1,1,2-Trichloroethane	<0.0010		0.0010	0.00035	mg/L			07/09/19 16:03	1
Trichloroethene	<0.00050		0.00050	0.00016	mg/L			07/09/19 16:03	1
Vinyl acetate	<0.0020		0.0020	0.00091	mg/L			07/09/19 16:03	1
Vinyl chloride	<0.0010		0.0010	0.00020	mg/L			07/09/19 16:03	1
Xylenes, Total	<0.0010		0.0010	0.00022	mg/L			07/09/19 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*72 - 124*		*07/09/19 16:03*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*07/09/19 16:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 126*		*07/09/19 16:03*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*07/09/19 16:03*	*1*

Definitions/Glossary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Prep Batch: 493124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	5035	
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	5035	
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	5035	
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	5035	
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	5035	
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	5035	
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	5035	
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	5035	
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	5035	
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	5035	
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	5035	
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	5035	
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	5035	
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	5035	
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	5035	
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	5035	

Analysis Batch: 493839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	8260B	493124
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	8260B	493124
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	8260B	493124
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	8260B	493124
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	8260B	493124
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	8260B	493124
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	8260B	493124
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	8260B	493124
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	8260B	493124
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	8260B	493124
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	8260B	493124
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	8260B	493124
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	8260B	493124
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	8260B	493124
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	8260B	493124
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	8260B	493124
MB 500-493839/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-493839/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 500-493839/5	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 493914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Total/NA	Water	8260B	
500-165828-18	Trip Blank	Total/NA	Water	8260B	
MB 500-493914/7	Method Blank	Total/NA	Water	8260B	
LCS 500-493914/4	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 492489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Total/NA	Water	3510C	

GC/MS Semi VOA (Continued)

Prep Batch: 492489 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-492489/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-492489/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-492489/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 492819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Total/NA	Water	8270D	492489
MB 500-492489/1-A	Method Blank	Total/NA	Water	8270D	492489
LCS 500-492489/2-A	Lab Control Sample	Total/NA	Water	8270D	492489
LCSD 500-492489/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	492489

Prep Batch: 493444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	3541	
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	3541	
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	3541	
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	3541	
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	3541	
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	3541	
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	3541	
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	3541	
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	3541	
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	3541	
500-165828-11 - DL	OPT-1-6 (0-1')	Total/NA	Solid	3541	
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	3541	
500-165828-12 - DL	OPT-1-6 (1-6')	Total/NA	Solid	3541	
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	3541	
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	3541	
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	3541	
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	3541	
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	3541	
MB 500-493444/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-493444/2-A	Lab Control Sample	Total/NA	Solid	3541	
500-165828-1 MS	OPT-1-1 (0-1')	Total/NA	Solid	3541	
500-165828-1 MSD	OPT-1-1 (0-1')	Total/NA	Solid	3541	

Analysis Batch: 493720

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-493444/1-A	Method Blank	Total/NA	Solid	8270D	493444
LCS 500-493444/2-A	Lab Control Sample	Total/NA	Solid	8270D	493444

Analysis Batch: 493921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	8270D	493444
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	8270D	493444
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	8270D	493444
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	8270D	493444
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	8270D	493444
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	8270D	493444
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	8270D	493444
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	8270D	493444

GC/MS Semi VOA (Continued)

Analysis Batch: 493921 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	8270D	493444
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	8270D	493444
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	8270D	493444
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	8270D	493444

Analysis Batch: 494104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	8270D	493444
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	8270D	493444
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	8270D	493444
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	8270D	493444

Analysis Batch: 494131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-11 - DL	OPT-1-6 (0-1')	Total/NA	Solid	8270D	493444
500-165828-12 - DL	OPT-1-6 (1-6')	Total/NA	Solid	8270D	493444
500-165828-1 MS	OPT-1-1 (0-1')	Total/NA	Solid	8270D	493444
500-165828-1 MSD	OPT-1-1 (0-1')	Total/NA	Solid	8270D	493444

Metals

Prep Batch: 492495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Dissolved	Water	3005A	
500-165828-17	OPT-1-7 GW	Total Recoverable	Water	3005A	
MB 500-492495/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-492495/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
500-165828-17 MS	OPT-1-7 GW	Dissolved	Water	3005A	
500-165828-17 MSD	OPT-1-7 GW	Dissolved	Water	3005A	
500-165828-17 DU	OPT-1-7 GW	Dissolved	Water	3005A	

Analysis Batch: 492835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Dissolved	Water	6020A	492495
500-165828-17	OPT-1-7 GW	Total Recoverable	Water	6020A	492495
MB 500-492495/1-A	Method Blank	Total Recoverable	Water	6020A	492495
LCS 500-492495/2-A	Lab Control Sample	Total Recoverable	Water	6020A	492495
500-165828-17 MS	OPT-1-7 GW	Dissolved	Water	6020A	492495
500-165828-17 MSD	OPT-1-7 GW	Dissolved	Water	6020A	492495
500-165828-17 DU	OPT-1-7 GW	Dissolved	Water	6020A	492495

Prep Batch: 492871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Dissolved	Water	7470A	
500-165828-17	OPT-1-7 GW	Total/NA	Water	7470A	
MB 500-492871/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-492871/13-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 492873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 492873 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	3050B	
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	3050B	
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	3050B	
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	3050B	
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	3050B	
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	3050B	
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	3050B	
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	3050B	
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	3050B	
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	3050B	
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	3050B	
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	3050B	
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	3050B	
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	3050B	
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	3050B	
MB 500-492873/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-492873/2-A	Lab Control Sample	Total/NA	Solid	3050B	
500-165828-1 MS	OPT-1-1 (0-1')	Total/NA	Solid	3050B	
500-165828-1 MSD	OPT-1-1 (0-1')	Total/NA	Solid	3050B	
500-165828-1 DU	OPT-1-1 (0-1')	Total/NA	Solid	3050B	

Analysis Batch: 493045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Dissolved	Water	7470A	492871
500-165828-17	OPT-1-7 GW	Total/NA	Water	7470A	492871
MB 500-492871/12-A	Method Blank	Total/NA	Water	7470A	492871
LCS 500-492871/13-A	Lab Control Sample	Total/NA	Water	7470A	492871

Prep Batch: 493066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	7471B	
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	7471B	
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	7471B	
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	7471B	
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	7471B	
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	7471B	
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	7471B	
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	7471B	
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	7471B	
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	7471B	
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	7471B	
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	7471B	
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	7471B	
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	7471B	
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	7471B	
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	7471B	
MB 500-493066/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-493066/13-A	Lab Control Sample	Total/NA	Solid	7471B	
500-165828-8 MS	OPT-1-4 (1-6')	Total/NA	Solid	7471B	
500-165828-8 MSD	OPT-1-4 (1-6')	Total/NA	Solid	7471B	
500-165828-8 DU	OPT-1-4 (1-6')	Total/NA	Solid	7471B	

Metals

Leach Batch: 493090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-3	OPT-1-2 (0-1')	SPLP East	Solid	1312	
LB 500-493090/1-B	Method Blank	SPLP East	Solid	1312	

Leach Batch: 493096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	TCLP	Solid	1311	
500-165828-2	OPT-1-1 (1-6')	TCLP	Solid	1311	
500-165828-3	OPT-1-2 (0-1')	TCLP	Solid	1311	
500-165828-4	OPT-1-2 (1-6')	TCLP	Solid	1311	
500-165828-5	OPT-1-3 (0-1')	TCLP	Solid	1311	
500-165828-6	OPT-1-3 (1-6')	TCLP	Solid	1311	
500-165828-7	OPT-1-4 (0-1')	TCLP	Solid	1311	
500-165828-8	OPT-1-4 (1-6')	TCLP	Solid	1311	
500-165828-9	OPT-1-5 (0-1')	TCLP	Solid	1311	
500-165828-10	OPT-1-5 (1-6')	TCLP	Solid	1311	
500-165828-11	OPT-1-6 (0-1')	TCLP	Solid	1311	
500-165828-12	OPT-1-6 (1-6')	TCLP	Solid	1311	
500-165828-13	OPT-1-7 (0-3')	TCLP	Solid	1311	
500-165828-14	OPT-1-7 (3-8')	TCLP	Solid	1311	
500-165828-15	OPT-1-8 (0-3')	TCLP	Solid	1311	
500-165828-16	OPT-1-8 (3-8')	TCLP	Solid	1311	
LB 500-493096/1-B	Method Blank	TCLP	Solid	1311	
LB 500-493096/1-C	Method Blank	TCLP	Solid	1311	
500-165828-9 MS	OPT-1-5 (0-1')	TCLP	Solid	1311	
500-165828-16 MS	OPT-1-8 (3-8')	TCLP	Solid	1311	
500-165828-9 DU	OPT-1-5 (0-1')	TCLP	Solid	1311	
500-165828-16 DU	OPT-1-8 (3-8')	TCLP	Solid	1311	

Analysis Batch: 493192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	6010B	492873
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	6010B	492873
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	6010B	492873
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	6010B	492873
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	6010B	492873
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	6010B	492873
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	6010B	492873
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	6010B	492873
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	6010B	492873
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	6010B	492873
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	6010B	492873
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	6010B	492873
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	6010B	492873
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	6010B	492873
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	6010B	492873
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	6010B	492873
MB 500-492873/1-A	Method Blank	Total/NA	Solid	6010B	492873
LCS 500-492873/2-A	Lab Control Sample	Total/NA	Solid	6010B	492873
500-165828-1 MS	OPT-1-1 (0-1')	Total/NA	Solid	6010B	492873
500-165828-1 MSD	OPT-1-1 (0-1')	Total/NA	Solid	6010B	492873
500-165828-1 DU	OPT-1-1 (0-1')	Total/NA	Solid	6010B	492873

Metals

Analysis Batch: 493285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	7471B	493066
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	7471B	493066
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	7471B	493066
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	7471B	493066
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	7471B	493066
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	7471B	493066
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	7471B	493066
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	7471B	493066
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	7471B	493066
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	7471B	493066
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	7471B	493066
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	7471B	493066
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	7471B	493066
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	7471B	493066
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	7471B	493066
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	7471B	493066
MB 500-493066/12-A	Method Blank	Total/NA	Solid	7471B	493066
LCS 500-493066/13-A	Lab Control Sample	Total/NA	Solid	7471B	493066
500-165828-8 MS	OPT-1-4 (1-6')	Total/NA	Solid	7471B	493066
500-165828-8 MSD	OPT-1-4 (1-6')	Total/NA	Solid	7471B	493066
500-165828-8 DU	OPT-1-4 (1-6')	Total/NA	Solid	7471B	493066

Prep Batch: 493329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-3	OPT-1-2 (0-1')	SPLP East	Solid	3010A	493090
LB 500-493090/1-B	Method Blank	SPLP East	Solid	3010A	493090
LCS 500-493329/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 493331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	TCLP	Solid	3010A	493096
500-165828-2	OPT-1-1 (1-6')	TCLP	Solid	3010A	493096
500-165828-3	OPT-1-2 (0-1')	TCLP	Solid	3010A	493096
500-165828-4	OPT-1-2 (1-6')	TCLP	Solid	3010A	493096
500-165828-5	OPT-1-3 (0-1')	TCLP	Solid	3010A	493096
500-165828-6	OPT-1-3 (1-6')	TCLP	Solid	3010A	493096
500-165828-7	OPT-1-4 (0-1')	TCLP	Solid	3010A	493096
500-165828-8	OPT-1-4 (1-6')	TCLP	Solid	3010A	493096
500-165828-9	OPT-1-5 (0-1')	TCLP	Solid	3010A	493096
500-165828-10	OPT-1-5 (1-6')	TCLP	Solid	3010A	493096
500-165828-11	OPT-1-6 (0-1')	TCLP	Solid	3010A	493096
500-165828-12	OPT-1-6 (1-6')	TCLP	Solid	3010A	493096
500-165828-13	OPT-1-7 (0-3')	TCLP	Solid	3010A	493096
500-165828-14	OPT-1-7 (3-8')	TCLP	Solid	3010A	493096
500-165828-15	OPT-1-8 (0-3')	TCLP	Solid	3010A	493096
500-165828-16	OPT-1-8 (3-8')	TCLP	Solid	3010A	493096
LB 500-493096/1-B	Method Blank	TCLP	Solid	3010A	493096
LCS 500-493331/2-A	Lab Control Sample	Total/NA	Solid	3010A	
500-165828-16 MS	OPT-1-8 (3-8')	TCLP	Solid	3010A	493096
500-165828-16 DU	OPT-1-8 (3-8')	TCLP	Solid	3010A	493096

Metals

Prep Batch: 493347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	TCLP	Solid	7470A	493096
500-165828-2	OPT-1-1 (1-6')	TCLP	Solid	7470A	493096
500-165828-3	OPT-1-2 (0-1')	TCLP	Solid	7470A	493096
500-165828-4	OPT-1-2 (1-6')	TCLP	Solid	7470A	493096
500-165828-5	OPT-1-3 (0-1')	TCLP	Solid	7470A	493096
500-165828-6	OPT-1-3 (1-6')	TCLP	Solid	7470A	493096
500-165828-7	OPT-1-4 (0-1')	TCLP	Solid	7470A	493096
500-165828-8	OPT-1-4 (1-6')	TCLP	Solid	7470A	493096
500-165828-9	OPT-1-5 (0-1')	TCLP	Solid	7470A	493096
500-165828-10	OPT-1-5 (1-6')	TCLP	Solid	7470A	493096
500-165828-11	OPT-1-6 (0-1')	TCLP	Solid	7470A	493096
500-165828-12	OPT-1-6 (1-6')	TCLP	Solid	7470A	493096
500-165828-13	OPT-1-7 (0-3')	TCLP	Solid	7470A	493096
500-165828-14	OPT-1-7 (3-8')	TCLP	Solid	7470A	493096
500-165828-15	OPT-1-8 (0-3')	TCLP	Solid	7470A	493096
500-165828-16	OPT-1-8 (3-8')	TCLP	Solid	7470A	493096
LB 500-493096/1-C	Method Blank	TCLP	Solid	7470A	493096
MB 500-493347/12-A	Method Blank	Total/NA	Solid	7470A	
LCS 500-493347/13-A	Lab Control Sample	Total/NA	Solid	7470A	
500-165828-9 MS	OPT-1-5 (0-1')	TCLP	Solid	7470A	493096
500-165828-9 DU	OPT-1-5 (0-1')	TCLP	Solid	7470A	493096

Analysis Batch: 493440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	6010B	492873
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	6010B	492873
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	6010B	492873
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	6010B	492873
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	6010B	492873
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	6010B	492873
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	6010B	492873
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	6010B	492873
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	6010B	492873
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	6010B	492873
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	6010B	492873
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	6010B	492873

Analysis Batch: 493500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Dissolved	Water	6020A	492495
500-165828-17	OPT-1-7 GW	Total Recoverable	Water	6020A	492495
MB 500-492495/1-A	Method Blank	Total Recoverable	Water	6020A	492495
LCS 500-492495/2-A	Lab Control Sample	Total Recoverable	Water	6020A	492495
500-165828-17 MS	OPT-1-7 GW	Dissolved	Water	6020A	492495
500-165828-17 MSD	OPT-1-7 GW	Dissolved	Water	6020A	492495
500-165828-17 DU	OPT-1-7 GW	Dissolved	Water	6020A	492495

Analysis Batch: 493513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	TCLP	Solid	7470A	493347
500-165828-2	OPT-1-1 (1-6')	TCLP	Solid	7470A	493347

Metals (Continued)

Analysis Batch: 493513 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-3	OPT-1-2 (0-1')	TCLP	Solid	7470A	493347
500-165828-4	OPT-1-2 (1-6')	TCLP	Solid	7470A	493347
500-165828-5	OPT-1-3 (0-1')	TCLP	Solid	7470A	493347
500-165828-6	OPT-1-3 (1-6')	TCLP	Solid	7470A	493347
500-165828-7	OPT-1-4 (0-1')	TCLP	Solid	7470A	493347
500-165828-8	OPT-1-4 (1-6')	TCLP	Solid	7470A	493347
500-165828-9	OPT-1-5 (0-1')	TCLP	Solid	7470A	493347
500-165828-10	OPT-1-5 (1-6')	TCLP	Solid	7470A	493347
500-165828-11	OPT-1-6 (0-1')	TCLP	Solid	7470A	493347
500-165828-12	OPT-1-6 (1-6')	TCLP	Solid	7470A	493347
500-165828-13	OPT-1-7 (0-3')	TCLP	Solid	7470A	493347
500-165828-14	OPT-1-7 (3-8')	TCLP	Solid	7470A	493347
500-165828-15	OPT-1-8 (0-3')	TCLP	Solid	7470A	493347
500-165828-16	OPT-1-8 (3-8')	TCLP	Solid	7470A	493347
LB 500-493096/1-C	Method Blank	TCLP	Solid	7470A	493347
MB 500-493347/12-A	Method Blank	Total/NA	Solid	7470A	493347
LCS 500-493347/13-A	Lab Control Sample	Total/NA	Solid	7470A	493347
500-165828-9 MS	OPT-1-5 (0-1')	TCLP	Solid	7470A	493347
500-165828-9 DU	OPT-1-5 (0-1')	TCLP	Solid	7470A	493347

Analysis Batch: 493671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	TCLP	Solid	6010B	493331
500-165828-2	OPT-1-1 (1-6')	TCLP	Solid	6010B	493331
500-165828-3	OPT-1-2 (0-1')	SPLP East	Solid	6010B	493329
500-165828-3	OPT-1-2 (0-1')	TCLP	Solid	6010B	493331
500-165828-4	OPT-1-2 (1-6')	TCLP	Solid	6010B	493331
500-165828-5	OPT-1-3 (0-1')	TCLP	Solid	6010B	493331
500-165828-6	OPT-1-3 (1-6')	TCLP	Solid	6010B	493331
500-165828-7	OPT-1-4 (0-1')	TCLP	Solid	6010B	493331
500-165828-8	OPT-1-4 (1-6')	TCLP	Solid	6010B	493331
500-165828-9	OPT-1-5 (0-1')	TCLP	Solid	6010B	493331
500-165828-10	OPT-1-5 (1-6')	TCLP	Solid	6010B	493331
500-165828-11	OPT-1-6 (0-1')	TCLP	Solid	6010B	493331
500-165828-12	OPT-1-6 (1-6')	TCLP	Solid	6010B	493331
500-165828-13	OPT-1-7 (0-3')	TCLP	Solid	6010B	493331
500-165828-14	OPT-1-7 (3-8')	TCLP	Solid	6010B	493331
500-165828-15	OPT-1-8 (0-3')	TCLP	Solid	6010B	493331
500-165828-16	OPT-1-8 (3-8')	TCLP	Solid	6010B	493331
LB 500-493090/1-B	Method Blank	SPLP East	Solid	6010B	493329
LB 500-493096/1-B	Method Blank	TCLP	Solid	6010B	493331
LCS 500-493329/2-A	Lab Control Sample	Total/NA	Solid	6010B	493329
LCS 500-493331/2-A	Lab Control Sample	Total/NA	Solid	6010B	493331
500-165828-16 MS	OPT-1-8 (3-8')	TCLP	Solid	6010B	493331
500-165828-16 DU	OPT-1-8 (3-8')	TCLP	Solid	6010B	493331

Analysis Batch: 493828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	TCLP	Solid	6020A	493331
500-165828-2	OPT-1-1 (1-6')	TCLP	Solid	6020A	493331
500-165828-3	OPT-1-2 (0-1')	TCLP	Solid	6020A	493331

Metals (Continued)

Analysis Batch: 493828 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-4	OPT-1-2 (1-6')	TCLP	Solid	6020A	493331
500-165828-5	OPT-1-3 (0-1')	TCLP	Solid	6020A	493331
500-165828-6	OPT-1-3 (1-6')	TCLP	Solid	6020A	493331
500-165828-7	OPT-1-4 (0-1')	TCLP	Solid	6020A	493331
500-165828-8	OPT-1-4 (1-6')	TCLP	Solid	6020A	493331
500-165828-9	OPT-1-5 (0-1')	TCLP	Solid	6020A	493331
500-165828-10	OPT-1-5 (1-6')	TCLP	Solid	6020A	493331
500-165828-11	OPT-1-6 (0-1')	TCLP	Solid	6020A	493331
500-165828-12	OPT-1-6 (1-6')	TCLP	Solid	6020A	493331
500-165828-13	OPT-1-7 (0-3')	TCLP	Solid	6020A	493331
500-165828-14	OPT-1-7 (3-8')	TCLP	Solid	6020A	493331
500-165828-15	OPT-1-8 (0-3')	TCLP	Solid	6020A	493331
500-165828-16	OPT-1-8 (3-8')	TCLP	Solid	6020A	493331
LB 500-493096/1-B	Method Blank	TCLP	Solid	6020A	493331
LCS 500-493331/2-A	Lab Control Sample	Total/NA	Solid	6020A	493331
500-165828-16 MS	OPT-1-8 (3-8')	TCLP	Solid	6020A	493331
500-165828-16 DU	OPT-1-8 (3-8')	TCLP	Solid	6020A	493331

General Chemistry

Analysis Batch: 492919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	Moisture	
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	Moisture	
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	Moisture	
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	Moisture	
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	Moisture	
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	Moisture	
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	Moisture	
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	Moisture	
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	Moisture	
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	Moisture	
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	Moisture	
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	Moisture	
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	Moisture	
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	Moisture	
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	Moisture	
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	Moisture	
500-165828-1 DU	OPT-1-1 (0-1')	Total/NA	Solid	Moisture	

Analysis Batch: 493099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-1	OPT-1-1 (0-1')	Total/NA	Solid	9045D	
500-165828-2	OPT-1-1 (1-6')	Total/NA	Solid	9045D	
500-165828-3	OPT-1-2 (0-1')	Total/NA	Solid	9045D	
500-165828-4	OPT-1-2 (1-6')	Total/NA	Solid	9045D	
500-165828-5	OPT-1-3 (0-1')	Total/NA	Solid	9045D	
500-165828-6	OPT-1-3 (1-6')	Total/NA	Solid	9045D	
500-165828-7	OPT-1-4 (0-1')	Total/NA	Solid	9045D	
500-165828-8	OPT-1-4 (1-6')	Total/NA	Solid	9045D	
500-165828-9	OPT-1-5 (0-1')	Total/NA	Solid	9045D	

General Chemistry (Continued)

Analysis Batch: 493099 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-10	OPT-1-5 (1-6')	Total/NA	Solid	9045D	
500-165828-11	OPT-1-6 (0-1')	Total/NA	Solid	9045D	
500-165828-12	OPT-1-6 (1-6')	Total/NA	Solid	9045D	
500-165828-13	OPT-1-7 (0-3')	Total/NA	Solid	9045D	
500-165828-14	OPT-1-7 (3-8')	Total/NA	Solid	9045D	
500-165828-15	OPT-1-8 (0-3')	Total/NA	Solid	9045D	
500-165828-16	OPT-1-8 (3-8')	Total/NA	Solid	9045D	
LCS 500-493099/5	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-493099/6	Lab Control Sample Dup	Total/NA	Solid	9045D	
500-165828-15 DU	OPT-1-8 (0-3')	Total/NA	Solid	9045D	

Analysis Batch: 494058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Total/NA	Water	9056A	
MB 500-494058/9	Method Blank	Total/NA	Water	9056A	
LCS 500-494058/10	Lab Control Sample	Total/NA	Water	9056A	

Prep Batch: 494196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Total/NA	Water	9010B	
MB 500-494196/1-A	Method Blank	Total/NA	Water	9010B	
LCS 500-494196/2-A	Lab Control Sample	Total/NA	Water	9010B	

Analysis Batch: 494275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165828-17	OPT-1-7 GW	Total/NA	Water	9014	494196
MB 500-494196/1-A	Method Blank	Total/NA	Water	9014	494196
LCS 500-494196/2-A	Lab Control Sample	Total/NA	Water	9014	494196

Surrogate Summary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Method: 8260B - VOC

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-165828-17	OPT-1-7 GW	105	101	108	97
500-165828-18	Trip Blank	105	100	109	98
LCS 500-493914/4	Lab Control Sample	107	102	106	97
MB 500-493914/7	Method Blank	106	101	108	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-165828-1	OPT-1-1 (0-1')	96	97	118	98
500-165828-2	OPT-1-1 (1-6')	93	95	116	98
500-165828-3	OPT-1-2 (0-1')	94	102	119	97
500-165828-4	OPT-1-2 (1-6')	95	97	113	98
500-165828-5	OPT-1-3 (0-1')	93	98	120	97
500-165828-6	OPT-1-3 (1-6')	93	97	114	96
500-165828-7	OPT-1-4 (0-1')	91	98	112	96
500-165828-8	OPT-1-4 (1-6')	94	102	122	97
500-165828-9	OPT-1-5 (0-1')	95	99	116	97
500-165828-10	OPT-1-5 (1-6')	97	96	115	98
500-165828-11	OPT-1-6 (0-1')	93	101	119	94
500-165828-12	OPT-1-6 (1-6')	94	102	118	95
500-165828-13	OPT-1-7 (0-3')	95	98	118	96
500-165828-14	OPT-1-7 (3-8')	96	101	114	94
500-165828-15	OPT-1-8 (0-3')	98	99	119	98
500-165828-16	OPT-1-8 (3-8')	92	95	112	97
LCS 500-493839/4	Lab Control Sample	90	99	109	93
LCSD 500-493839/5	Lab Control Sample Dup	92	96	110	96
MB 500-493839/7	Method Blank	93	96	106	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-165828-1	OPT-1-1 (0-1')	84	94	87	93	91	85
500-165828-1 MS	OPT-1-1 (0-1')	67	104	66	83	93	79

Surrogate Summary

Client: Wood E&I Solutions Inc
Job ID: 500-165828-1
Project/Site: IDOT - Grayslake - WO 049

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-165828-1 MSD	OPT-1-1 (0-1')	64	112	65	89	90	76
500-165828-2	OPT-1-1 (1-6')	88	101	94	96	91	47
500-165828-3	OPT-1-2 (0-1')	88	107	96	109	98	84
500-165828-4	OPT-1-2 (1-6')	84	100	87	84	98	53
500-165828-5	OPT-1-3 (0-1')	69	79	72	80	88	83
500-165828-6	OPT-1-3 (1-6')	87	97	87	97	95	72
500-165828-7	OPT-1-4 (0-1')	72	82	71	75	87	75
500-165828-8	OPT-1-4 (1-6')	82	99	87	89	94	90
500-165828-9	OPT-1-5 (0-1')	75	88	78	84	92	88
500-165828-10	OPT-1-5 (1-6')	71	87	75	70	91	66
500-165828-11	OPT-1-6 (0-1')	75	92	77	95	88	94
500-165828-11 - DL	OPT-1-6 (0-1')	72	98	63	89	105	78
500-165828-12	OPT-1-6 (1-6')	80	63	82	55	94	85
500-165828-12 - DL	OPT-1-6 (1-6')	73	113	73	81	106	86
500-165828-13	OPT-1-7 (0-3')	77	98	81	104	97	114
500-165828-14	OPT-1-7 (3-8')	75	88	75	90	94	76
500-165828-15	OPT-1-8 (0-3')	57	66	61	68	65	64
500-165828-16	OPT-1-8 (3-8')	57	75	60	72	91	64
LCS 500-493444/2-A	Lab Control Sample	75	116	80	91	81	65
MB 500-493444/1-A	Method Blank	80	124	75	98	83	60

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-110)	(27-110)	(36-120)	(20-110)	(40-145)	(40-145)
500-165828-17	OPT-1-7 GW	76	61	74	46	85	68
LCS 500-492489/2-A	Lab Control Sample	70	71	82	56	85	65
LCSD 500-492489/3-A	Lab Control Sample Dup	76	79	85	60	84	68
MB 500-492489/1-A	Method Blank	73	75	80	48	93	56

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Method: 8260B - VOC

Lab Sample ID: MB 500-493914/7
Matrix: Water
Analysis Batch: 493914

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.010		0.010	0.0017	mg/L			07/09/19 12:29	1
Benzene	<0.00050		0.00050	0.00015	mg/L			07/09/19 12:29	1
Bromodichloromethane	<0.0010		0.0010	0.00037	mg/L			07/09/19 12:29	1
Bromoform	<0.0010		0.0010	0.00048	mg/L			07/09/19 12:29	1
Bromomethane	<0.0030		0.0030	0.00080	mg/L			07/09/19 12:29	1
Carbon disulfide	<0.0020		0.0020	0.00045	mg/L			07/09/19 12:29	1
Carbon tetrachloride	<0.0010		0.0010	0.00038	mg/L			07/09/19 12:29	1
Chlorobenzene	<0.0010		0.0010	0.00039	mg/L			07/09/19 12:29	1
Chloroethane	<0.0010		0.0010	0.00051	mg/L			07/09/19 12:29	1
Chloroform	<0.0020		0.0020	0.00037	mg/L			07/09/19 12:29	1
Chloromethane	<0.0010		0.0010	0.00032	mg/L			07/09/19 12:29	1
cis-1,2-Dichloroethene	<0.0010		0.0010	0.00041	mg/L			07/09/19 12:29	1
cis-1,3-Dichloropropene	<0.0010		0.0010	0.00042	mg/L			07/09/19 12:29	1
Dibromochloromethane	<0.0010		0.0010	0.00049	mg/L			07/09/19 12:29	1
1,1-Dichloroethane	<0.0010		0.0010	0.00041	mg/L			07/09/19 12:29	1
1,2-Dichloroethane	<0.0010		0.0010	0.00039	mg/L			07/09/19 12:29	1
1,1-Dichloroethene	<0.0010		0.0010	0.00039	mg/L			07/09/19 12:29	1
1,2-Dichloropropane	<0.0010		0.0010	0.00043	mg/L			07/09/19 12:29	1
1,3-Dichloropropene, Total	<0.0010		0.0010	0.00042	mg/L			07/09/19 12:29	1
Ethylbenzene	<0.00050		0.00050	0.00018	mg/L			07/09/19 12:29	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/L			07/09/19 12:29	1
Methyl Ethyl Ketone	<0.0050		0.0050	0.0021	mg/L			07/09/19 12:29	1
Methylene Chloride	<0.0050		0.0050	0.0016	mg/L			07/09/19 12:29	1
methyl isobutyl ketone	<0.0050		0.0050	0.0022	mg/L			07/09/19 12:29	1
Methyl tert-butyl ether	<0.0010		0.0010	0.00039	mg/L			07/09/19 12:29	1
Styrene	<0.0010		0.0010	0.00039	mg/L			07/09/19 12:29	1
1,1,2,2-Tetrachloroethane	<0.0010		0.0010	0.00040	mg/L			07/09/19 12:29	1
Tetrachloroethene	<0.0010		0.0010	0.00037	mg/L			07/09/19 12:29	1
Toluene	<0.00050		0.00050	0.00015	mg/L			07/09/19 12:29	1
trans-1,2-Dichloroethene	<0.0010		0.0010	0.00035	mg/L			07/09/19 12:29	1
trans-1,3-Dichloropropene	<0.0010		0.0010	0.00036	mg/L			07/09/19 12:29	1
1,1,1-Trichloroethane	<0.0010		0.0010	0.00038	mg/L			07/09/19 12:29	1
1,1,2-Trichloroethane	<0.0010		0.0010	0.00035	mg/L			07/09/19 12:29	1
Trichloroethene	<0.00050		0.00050	0.00016	mg/L			07/09/19 12:29	1
Vinyl acetate	<0.0020		0.0020	0.00091	mg/L			07/09/19 12:29	1
Vinyl chloride	<0.0010		0.0010	0.00020	mg/L			07/09/19 12:29	1
Xylenes, Total	<0.0010		0.0010	0.00022	mg/L			07/09/19 12:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*72 - 124*		*07/09/19 12:29*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*07/09/19 12:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*		*07/09/19 12:29*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/09/19 12:29*	*1*

Method: 8260B - VOC (Continued)

Lab Sample ID: LCS 500-493914/4
Matrix: Water
Analysis Batch: 493914

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0359		mg/L		72	40 - 143
Benzene	0.0500	0.0530		mg/L		106	70 - 120
Bromodichloromethane	0.0500	0.0515		mg/L		103	69 - 120
Bromoform	0.0500	0.0453		mg/L		91	56 - 132
Bromomethane	0.0500	0.0428		mg/L		86	40 - 152
Carbon disulfide	0.0500	0.0551		mg/L		110	66 - 120
Carbon tetrachloride	0.0500	0.0537		mg/L		107	59 - 133
Chlorobenzene	0.0500	0.0500		mg/L		100	70 - 120
Chloroethane	0.0500	0.0510		mg/L		102	48 - 136
Chloroform	0.0500	0.0535		mg/L		107	70 - 120
Chloromethane	0.0500	0.0551		mg/L		110	56 - 152
cis-1,2-Dichloroethene	0.0500	0.0541		mg/L		108	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0500		mg/L		100	64 - 127
Dibromochloromethane	0.0500	0.0474		mg/L		95	68 - 125
1,1-Dichloroethane	0.0500	0.0568		mg/L		114	70 - 125
1,2-Dichloroethane	0.0500	0.0547		mg/L		109	68 - 127
1,1-Dichloroethene	0.0500	0.0544		mg/L		109	67 - 122
1,2-Dichloropropane	0.0500	0.0557		mg/L		111	67 - 130
Ethylbenzene	0.0500	0.0497		mg/L		99	70 - 123
2-Hexanone	0.0500	0.0346		mg/L		69	54 - 146
Methyl Ethyl Ketone	0.0500	0.0343		mg/L		69	46 - 144
Methylene Chloride	0.0500	0.0511		mg/L		102	69 - 125
methyl isobutyl ketone	0.0500	0.0351		mg/L		70	55 - 139
Methyl tert-butyl ether	0.0500	0.0543		mg/L		109	55 - 123
Styrene	0.0500	0.0485		mg/L		97	70 - 120
1,1,2,2-Tetrachloroethane	0.0500	0.0516		mg/L		103	62 - 140
Tetrachloroethene	0.0500	0.0507		mg/L		101	70 - 128
Toluene	0.0500	0.0480		mg/L		96	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0547		mg/L		109	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0489		mg/L		98	62 - 128
1,1,1-Trichloroethane	0.0500	0.0539		mg/L		108	70 - 125
1,1,2-Trichloroethane	0.0500	0.0482		mg/L		96	71 - 130
Trichloroethene	0.0500	0.0511		mg/L		102	70 - 125
Vinyl acetate	0.0500	0.0514		mg/L		103	43 - 133
Vinyl chloride	0.0500	0.0481		mg/L		96	64 - 126
Xylenes, Total	0.100	0.0982		mg/L		98	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*72 - 124*
Dibromofluoromethane	*102*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*
Toluene-d8 (Surr)	*97*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-493839/7
Matrix: Solid
Analysis Batch: 493839

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.020		0.020	0.0087	mg/Kg			07/09/19 01:15	1
Benzene	<0.0020		0.0020	0.00051	mg/Kg			07/09/19 01:15	1
Bromodichloromethane	<0.0020		0.0020	0.00041	mg/Kg			07/09/19 01:15	1
Bromoform	<0.0020		0.0020	0.00058	mg/Kg			07/09/19 01:15	1
Bromomethane	<0.0050		0.0050	0.0019	mg/Kg			07/09/19 01:15	1
Carbon disulfide	<0.0050		0.0050	0.0010	mg/Kg			07/09/19 01:15	1
Carbon tetrachloride	<0.0020		0.0020	0.00058	mg/Kg			07/09/19 01:15	1
Chlorobenzene	<0.0020		0.0020	0.00074	mg/Kg			07/09/19 01:15	1
Chloroethane	<0.0050		0.0050	0.0015	mg/Kg			07/09/19 01:15	1
Chloroform	<0.0020		0.0020	0.00069	mg/Kg			07/09/19 01:15	1
Chloromethane	<0.0050		0.0050	0.0020	mg/Kg			07/09/19 01:15	1
cis-1,2-Dichloroethene	<0.0020		0.0020	0.00056	mg/Kg			07/09/19 01:15	1
cis-1,3-Dichloropropene	<0.0020		0.0020	0.00060	mg/Kg			07/09/19 01:15	1
Dibromochloromethane	<0.0020		0.0020	0.00065	mg/Kg			07/09/19 01:15	1
1,1-Dichloroethane	<0.0020		0.0020	0.00069	mg/Kg			07/09/19 01:15	1
1,2-Dichloroethane	<0.0050		0.0050	0.0016	mg/Kg			07/09/19 01:15	1
1,1-Dichloroethene	<0.0020		0.0020	0.00069	mg/Kg			07/09/19 01:15	1
1,2-Dichloropropane	<0.0020		0.0020	0.00052	mg/Kg			07/09/19 01:15	1
1,3-Dichloropropene, Total	<0.0020		0.0020	0.00070	mg/Kg			07/09/19 01:15	1
Ethylbenzene	<0.0020		0.0020	0.00096	mg/Kg			07/09/19 01:15	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/Kg			07/09/19 01:15	1
2-Butanone (MEK)	<0.0050		0.0050	0.0022	mg/Kg			07/09/19 01:15	1
Methylene Chloride	<0.0050		0.0050	0.0020	mg/Kg			07/09/19 01:15	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050	0.0015	mg/Kg			07/09/19 01:15	1
Methyl tert-butyl ether	<0.0020		0.0020	0.00059	mg/Kg			07/09/19 01:15	1
Styrene	<0.0020		0.0020	0.00060	mg/Kg			07/09/19 01:15	1
1,1,2,2-Tetrachloroethane	<0.0020		0.0020	0.00064	mg/Kg			07/09/19 01:15	1
Tetrachloroethene	<0.0020		0.0020	0.00068	mg/Kg			07/09/19 01:15	1
Toluene	<0.0020		0.0020	0.00051	mg/Kg			07/09/19 01:15	1
trans-1,2-Dichloroethene	<0.0020		0.0020	0.00089	mg/Kg			07/09/19 01:15	1
trans-1,3-Dichloropropene	<0.0020		0.0020	0.00070	mg/Kg			07/09/19 01:15	1
1,1,1-Trichloroethane	<0.0020		0.0020	0.00067	mg/Kg			07/09/19 01:15	1
1,1,2-Trichloroethane	<0.0020		0.0020	0.00086	mg/Kg			07/09/19 01:15	1
Trichloroethene	<0.0020		0.0020	0.00068	mg/Kg			07/09/19 01:15	1
Vinyl acetate	<0.0050		0.0050	0.0017	mg/Kg			07/09/19 01:15	1
Vinyl chloride	<0.0020		0.0020	0.00089	mg/Kg			07/09/19 01:15	1
Xylenes, Total	<0.0040		0.0040	0.00064	mg/Kg			07/09/19 01:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*75 - 131*		*07/09/19 01:15*	*1*
Dibromofluoromethane	*96*		*75 - 126*		*07/09/19 01:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 134*		*07/09/19 01:15*	*1*
Toluene-d8 (Surr)	*98*		*75 - 124*		*07/09/19 01:15*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-493839/4
Matrix: Solid
Analysis Batch: 493839

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0484		mg/Kg		97	40 - 150
Benzene	0.0500	0.0425		mg/Kg		85	70 - 125
Bromodichloromethane	0.0500	0.0430		mg/Kg		86	67 - 129
Bromoform	0.0500	0.0447		mg/Kg		89	68 - 136
Bromomethane	0.0500	0.0452		mg/Kg		90	70 - 130
Carbon disulfide	0.0500	0.0478		mg/Kg		96	70 - 129
Carbon tetrachloride	0.0500	0.0433		mg/Kg		87	75 - 125
Chlorobenzene	0.0500	0.0399		mg/Kg		80	50 - 150
Chloroethane	0.0500	0.0525		mg/Kg		105	75 - 125
Chloroform	0.0500	0.0452		mg/Kg		90	57 - 135
Chloromethane	0.0500	0.0415		mg/Kg		83	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0442		mg/Kg		88	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0398		mg/Kg		80	70 - 125
Dibromochloromethane	0.0500	0.0411		mg/Kg		82	69 - 125
1,1-Dichloroethane	0.0500	0.0472		mg/Kg		94	70 - 125
1,2-Dichloroethane	0.0500	0.0503		mg/Kg		101	70 - 130
1,1-Dichloroethene	0.0500	0.0448		mg/Kg		90	70 - 120
1,2-Dichloropropane	0.0500	0.0427		mg/Kg		85	70 - 125
Ethylbenzene	0.0500	0.0410		mg/Kg		82	61 - 136
2-Hexanone	0.0500	0.0355		mg/Kg		71	48 - 146
2-Butanone (MEK)	0.0500	0.0370		mg/Kg		74	47 - 138
Methylene Chloride	0.0500	0.0418		mg/Kg		84	70 - 126
4-Methyl-2-pentanone (MIBK)	0.0500	0.0398		mg/Kg		80	50 - 148
Methyl tert-butyl ether	0.0500	0.0446		mg/Kg		89	50 - 140
Styrene	0.0500	0.0406		mg/Kg		81	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0407		mg/Kg		81	70 - 122
Tetrachloroethene	0.0500	0.0430		mg/Kg		86	70 - 124
Toluene	0.0500	0.0409		mg/Kg		82	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0444		mg/Kg		89	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0406		mg/Kg		81	70 - 125
1,1,1-Trichloroethane	0.0500	0.0458		mg/Kg		92	70 - 128
1,1,2-Trichloroethane	0.0500	0.0424		mg/Kg		85	70 - 125
Trichloroethene	0.0500	0.0390		mg/Kg		78	70 - 125
Vinyl acetate	0.0500	0.0217		mg/Kg		43	40 - 153
Vinyl chloride	0.0500	0.0436		mg/Kg		87	70 - 125
Xylenes, Total	0.100	0.0822		mg/Kg		82	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*90*		*75 - 131*
Dibromofluoromethane	*99*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 134*
Toluene-d8 (Surr)	*93*		*75 - 124*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-493839/5
Matrix: Solid
Analysis Batch: 493839

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			0.0500	0.0524		mg/Kg		105	40 - 150	8	30
Benzene			0.0500	0.0434		mg/Kg		87	70 - 125	2	30
Bromodichloromethane			0.0500	0.0446		mg/Kg		89	67 - 129	4	30
Bromoform			0.0500	0.0494		mg/Kg		99	68 - 136	10	30
Bromomethane			0.0500	0.0493		mg/Kg		99	70 - 130	9	30
Carbon disulfide			0.0500	0.0483		mg/Kg		97	70 - 129	1	30
Carbon tetrachloride			0.0500	0.0443		mg/Kg		89	75 - 125	2	30
Chlorobenzene			0.0500	0.0412		mg/Kg		82	50 - 150	3	30
Chloroethane			0.0500	0.0606		mg/Kg		121	75 - 125	14	30
Chloroform			0.0500	0.0465		mg/Kg		93	57 - 135	3	30
Chloromethane			0.0500	0.0457		mg/Kg		91	70 - 125	10	30
cis-1,2-Dichloroethene			0.0500	0.0440		mg/Kg		88	70 - 125	0	30
cis-1,3-Dichloropropene			0.0500	0.0419		mg/Kg		84	70 - 125	5	30
Dibromochloromethane			0.0500	0.0426		mg/Kg		85	69 - 125	4	30
1,1-Dichloroethane			0.0500	0.0476		mg/Kg		95	70 - 125	1	30
1,2-Dichloroethane			0.0500	0.0532		mg/Kg		106	70 - 130	6	30
1,1-Dichloroethene			0.0500	0.0445		mg/Kg		89	70 - 120	1	30
1,2-Dichloropropane			0.0500	0.0446		mg/Kg		89	70 - 125	4	30
Ethylbenzene			0.0500	0.0421		mg/Kg		84	61 - 136	3	30
2-Hexanone			0.0500	0.0437		mg/Kg		87	48 - 146	21	30
2-Butanone (MEK)			0.0500	0.0420		mg/Kg		84	47 - 138	13	30
Methylene Chloride			0.0500	0.0424		mg/Kg		85	70 - 126	1	30
4-Methyl-2-pentanone (MIBK)			0.0500	0.0448		mg/Kg		90	50 - 148	12	30
Methyl tert-butyl ether			0.0500	0.0469		mg/Kg		94	50 - 140	5	30
Styrene			0.0500	0.0412		mg/Kg		82	70 - 125	1	30
1,1,2,2-Tetrachloroethane			0.0500	0.0460		mg/Kg		92	70 - 122	12	30
Tetrachloroethene			0.0500	0.0437		mg/Kg		87	70 - 124	1	30
Toluene			0.0500	0.0426		mg/Kg		85	70 - 125	4	30
trans-1,2-Dichloroethene			0.0500	0.0450		mg/Kg		90	70 - 125	1	30
trans-1,3-Dichloropropene			0.0500	0.0422		mg/Kg		84	70 - 125	4	30
1,1,1-Trichloroethane			0.0500	0.0459		mg/Kg		92	70 - 128	0	30
1,1,2-Trichloroethane			0.0500	0.0457		mg/Kg		91	70 - 125	7	30
Trichloroethene			0.0500	0.0404		mg/Kg		81	70 - 125	4	30
Vinyl acetate			0.0500	0.0224		mg/Kg		45	40 - 153	3	30
Vinyl chloride			0.0500	0.0481		mg/Kg		96	70 - 125	10	30
Xylenes, Total			0.100	0.0846		mg/Kg		85	53 - 147	3	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*75 - 131*
Dibromofluoromethane	*96*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 134*
Toluene-d8 (Surr)	*96*		*75 - 124*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-492489/1-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492489

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.00080		0.00080	0.00025	mg/L		06/28/19 07:39	07/01/19 14:06	1
Acenaphthylene	<0.00080		0.00080	0.00021	mg/L		06/28/19 07:39	07/01/19 14:06	1
Anthracene	<0.00080		0.00080	0.00027	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[a]anthracene	<0.00013		0.00013	0.000045	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[a]pyrene	<0.00016		0.00016	0.000079	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[b]fluoranthene	<0.00016		0.00016	0.000065	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[g,h,i]perylene	<0.00080		0.00080	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[k]fluoranthene	<0.00016		0.00016	0.000051	mg/L		06/28/19 07:39	07/01/19 14:06	1
Bis(2-chloroethoxy)methane	<0.0016		0.0016	0.00023	mg/L		06/28/19 07:39	07/01/19 14:06	1
Bis(2-chloroethyl)ether	<0.0016		0.0016	0.00023	mg/L		06/28/19 07:39	07/01/19 14:06	1
Bis(2-ethylhexyl) phthalate	<0.0080		0.0080	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Bromophenyl phenyl ether	<0.0040		0.0040	0.00043	mg/L		06/28/19 07:39	07/01/19 14:06	1
Butyl benzyl phthalate	<0.0016		0.0016	0.00038	mg/L		06/28/19 07:39	07/01/19 14:06	1
Carbazole	<0.0040		0.0040	0.00028	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Chloroaniline	<0.0080		0.0080	0.0016	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Chloro-3-methylphenol	<0.0080		0.0080	0.0018	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Chloronaphthalene	<0.0016		0.0016	0.00019	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Chlorophenol	<0.0040		0.0040	0.00045	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Chlorophenyl phenyl ether	<0.0040		0.0040	0.00051	mg/L		06/28/19 07:39	07/01/19 14:06	1
Chrysene	<0.00016		0.00016	0.000055	mg/L		06/28/19 07:39	07/01/19 14:06	1
Dibenz(a,h)anthracene	<0.00024		0.00024	0.000041	mg/L		06/28/19 07:39	07/01/19 14:06	1
Dibenzofuran	<0.0016		0.0016	0.00021	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,2-Dichlorobenzene	<0.0016		0.0016	0.00020	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,3-Dichlorobenzene	<0.0016		0.0016	0.00017	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,4-Dichlorobenzene	<0.0016		0.0016	0.00017	mg/L		06/28/19 07:39	07/01/19 14:06	1
3,3'-Dichlorobenzidine	<0.0040		0.0040	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dichlorophenol	<0.0080		0.0080	0.0021	mg/L		06/28/19 07:39	07/01/19 14:06	1
Diethyl phthalate	<0.0040		0.0040	0.00029	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dimethylphenol	<0.0080		0.0080	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
Dimethyl phthalate	<0.0040		0.0040	0.00025	mg/L		06/28/19 07:39	07/01/19 14:06	1
Di-n-butyl phthalate	<0.0040		0.0040	0.00058	mg/L		06/28/19 07:39	07/01/19 14:06	1
4,6-Dinitro-2-methylphenol	<0.016		0.016	0.0047	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dinitrophenol	<0.016		0.016	0.0069	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dinitrotoluene	<0.00080		0.00080	0.00020	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,6-Dinitrotoluene	<0.00080		0.00080	0.000059	mg/L		06/28/19 07:39	07/01/19 14:06	1
Di-n-octyl phthalate	<0.0080		0.0080	0.00084	mg/L		06/28/19 07:39	07/01/19 14:06	1
Fluoranthene	<0.00080		0.00080	0.00036	mg/L		06/28/19 07:39	07/01/19 14:06	1
Fluorene	<0.00080		0.00080	0.00020	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachlorobenzene	<0.00040		0.00040	0.000064	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachlorobutadiene	<0.0040		0.0040	0.00041	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachlorocyclopentadiene	<0.016		0.016	0.0051	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachloroethane	<0.0040		0.0040	0.00048	mg/L		06/28/19 07:39	07/01/19 14:06	1
Indeno[1,2,3-cd]pyrene	<0.00016		0.00016	0.000060	mg/L		06/28/19 07:39	07/01/19 14:06	1
Isophorone	<0.0016		0.0016	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Methylnaphthalene	<0.0016		0.0016	0.000052	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Methylphenol	<0.0016		0.0016	0.00024	mg/L		06/28/19 07:39	07/01/19 14:06	1
3 & 4 Methylphenol	<0.0016		0.0016	0.00036	mg/L		06/28/19 07:39	07/01/19 14:06	1
Naphthalene	<0.00080		0.00080	0.00025	mg/L		06/28/19 07:39	07/01/19 14:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-492489/1-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492489

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	<0.0040		0.0040	0.0010	mg/L		06/28/19 07:39	07/01/19 14:06	1
3-Nitroaniline	<0.0080		0.0080	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Nitroaniline	<0.0080		0.0080	0.0013	mg/L		06/28/19 07:39	07/01/19 14:06	1
Nitrobenzene	<0.00080		0.00080	0.00036	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Nitrophenol	<0.0080		0.0080	0.0020	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Nitrophenol	<0.016		0.016	0.0059	mg/L		06/28/19 07:39	07/01/19 14:06	1
N-Nitrosodi-n-propylamine	<0.00040		0.00040	0.00012	mg/L		06/28/19 07:39	07/01/19 14:06	1
N-Nitrosodiphenylamine	<0.0016		0.0016	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,2'-oxybis[1-chloropropane]	<0.0016		0.0016	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
Pentachlorophenol	<0.016		0.016	0.0032	mg/L		06/28/19 07:39	07/01/19 14:06	1
Phenanthrene	<0.00080		0.00080	0.00024	mg/L		06/28/19 07:39	07/01/19 14:06	1
Phenol	<0.0040		0.0040	0.00054	mg/L		06/28/19 07:39	07/01/19 14:06	1
Pyrene	<0.00080		0.00080	0.00034	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,2,4-Trichlorobenzene	<0.0016		0.0016	0.00019	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4,5-Trichlorophenol	<0.0080		0.0080	0.0021	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4,6-Trichlorophenol	<0.0040		0.0040	0.00057	mg/L		06/28/19 07:39	07/01/19 14:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*34 - 110*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
2-Fluorophenol	*75*		*27 - 110*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
Nitrobenzene-d5	*80*		*36 - 120*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
Phenol-d5	*48*		*20 - 110*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
Terphenyl-d14	*93*		*40 - 145*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
2,4,6-Tribromophenol	*56*		*40 - 145*	*06/28/19 07:39*	*07/01/19 14:06*	*1*

Lab Sample ID: LCS 500-492489/2-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.0320	0.0218		mg/L		68	46 - 110
Acenaphthylene	0.0320	0.0223		mg/L		70	47 - 113
Anthracene	0.0320	0.0266		mg/L		83	67 - 118
Benzo[a]anthracene	0.0320	0.0257		mg/L		80	70 - 126
Benzo[a]pyrene	0.0320	0.0313		mg/L		98	70 - 135
Benzo[b]fluoranthene	0.0320	0.0291		mg/L		91	69 - 136
Benzo[g,h,i]perylene	0.0320	0.0288		mg/L		90	70 - 135
Benzo[k]fluoranthene	0.0320	0.0280		mg/L		87	70 - 133
Bis(2-chloroethoxy)methane	0.0320	0.0247		mg/L		77	59 - 118
Bis(2-chloroethyl)ether	0.0320	0.0227		mg/L		71	54 - 112
Bis(2-ethylhexyl) phthalate	0.0320	0.0330		mg/L		103	69 - 136
4-Bromophenyl phenyl ether	0.0320	0.0215		mg/L		67	58 - 120
Butyl benzyl phthalate	0.0320	0.0323		mg/L		101	68 - 135
Carbazole	0.0320	0.0280		mg/L		87	61 - 145
4-Chloroaniline	0.0320	0.0234		mg/L		73	35 - 128
4-Chloro-3-methylphenol	0.0320	0.0256		mg/L		80	64 - 128
2-Chloronaphthalene	0.0320	0.0192		mg/L		60	39 - 110
2-Chlorophenol	0.0320	0.0231		mg/L		72	59 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-492489/2-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorophenyl phenyl ether	0.0320	0.0222		mg/L		69	48 - 116
Chrysene	0.0320	0.0251		mg/L		78	68 - 129
Dibenz(a,h)anthracene	0.0320	0.0294		mg/L		92	70 - 134
Dibenzofuran	0.0320	0.0221		mg/L		69	51 - 110
1,2-Dichlorobenzene	0.0320	0.0148		mg/L		46	26 - 110
1,3-Dichlorobenzene	0.0320	0.0153		mg/L		48	22 - 110
1,4-Dichlorobenzene	0.0320	0.0154		mg/L		48	23 - 110
3,3'-Dichlorobenzidine	0.0320	0.0232		mg/L		72	60 - 132
2,4-Dichlorophenol	0.0320	0.0219		mg/L		69	58 - 120
Diethyl phthalate	0.0320	0.0264		mg/L		83	62 - 123
2,4-Dimethylphenol	0.0320	0.0234		mg/L		73	51 - 115
Dimethyl phthalate	0.0320	0.0257		mg/L		80	63 - 122
Di-n-butyl phthalate	0.0320	0.0290		mg/L		91	69 - 129
4,6-Dinitro-2-methylphenol	0.0640	0.0553		mg/L		86	50 - 129
2,4-Dinitrophenol	0.0640	0.0542		mg/L		85	37 - 130
2,4-Dinitrotoluene	0.0320	0.0260		mg/L		81	63 - 129
2,6-Dinitrotoluene	0.0320	0.0259		mg/L		81	63 - 129
Di-n-octyl phthalate	0.0320	0.0306		mg/L		96	68 - 137
Fluoranthene	0.0320	0.0260		mg/L		81	68 - 126
Fluorene	0.0320	0.0227		mg/L		71	53 - 120
Hexachlorobenzene	0.0320	0.0204		mg/L		64	61 - 126
Hexachlorobutadiene	0.0320	0.0135		mg/L		42	20 - 100
Hexachlorocyclopentadiene	0.0320	0.0143	J	mg/L		45	10 - 105
Hexachloroethane	0.0320	0.0153		mg/L		48	20 - 100
Indeno[1,2,3-cd]pyrene	0.0320	0.0307		mg/L		96	65 - 133
Isophorone	0.0320	0.0256		mg/L		80	54 - 127
2-Methylnaphthalene	0.0320	0.0177		mg/L		55	34 - 110
2-Methylphenol	0.0320	0.0241		mg/L		75	53 - 115
3 & 4 Methylphenol	0.0320	0.0238		mg/L		74	50 - 116
Naphthalene	0.0320	0.0173		mg/L		54	36 - 110
2-Nitroaniline	0.0320	0.0297		mg/L		93	59 - 138
3-Nitroaniline	0.0320	0.0209		mg/L		65	47 - 123
4-Nitroaniline	0.0320	0.0215		mg/L		67	35 - 110
Nitrobenzene	0.0320	0.0231		mg/L		72	54 - 121
2-Nitrophenol	0.0320	0.0221		mg/L		69	59 - 115
4-Nitrophenol	0.0640	0.0331		mg/L		52	20 - 110
N-Nitrosodi-n-propylamine	0.0320	0.0258		mg/L		81	47 - 131
N-Nitrosodiphenylamine	0.0320	0.0259		mg/L		81	66 - 120
2,2'-oxybis[1-chloropropane]	0.0320	0.0265		mg/L		83	38 - 140
Pentachlorophenol	0.0640	0.0379		mg/L		59	42 - 148
Phenanthrene	0.0320	0.0261		mg/L		81	65 - 120
Phenol	0.0320	0.0181		mg/L		57	33 - 100
Pyrene	0.0320	0.0283		mg/L		88	70 - 126
1,2,4-Trichlorobenzene	0.0320	0.0149		mg/L		47	26 - 110
2,4,5-Trichlorophenol	0.0320	0.0249		mg/L		78	63 - 124
2,4,6-Trichlorophenol	0.0320	0.0236		mg/L		74	62 - 121

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-492489/2-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492489

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*34 - 110*
2-Fluorophenol	*71*		*27 - 110*
Nitrobenzene-d5	*82*		*36 - 120*
Phenol-d5	*56*		*20 - 110*
Terphenyl-d14	*85*		*40 - 145*
2,4,6-Tribromophenol	*65*		*40 - 145*

Lab Sample ID: LCSD 500-492489/3-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	0.0320	0.0237		mg/L		74	46 - 110	8	20
Acenaphthylene	0.0320	0.0237		mg/L		74	47 - 113	6	20
Anthracene	0.0320	0.0278		mg/L		87	67 - 118	4	20
Benzo[a]anthracene	0.0320	0.0257		mg/L		80	70 - 126	0	20
Benzo[a]pyrene	0.0320	0.0328		mg/L		103	70 - 135	5	20
Benzo[b]fluoranthene	0.0320	0.0303		mg/L		95	69 - 136	4	20
Benzo[g,h,i]perylene	0.0320	0.0302		mg/L		94	70 - 135	5	20
Benzo[k]fluoranthene	0.0320	0.0307		mg/L		96	70 - 133	9	20
Bis(2-chloroethoxy)methane	0.0320	0.0269		mg/L		84	59 - 118	8	20
Bis(2-chloroethyl)ether	0.0320	0.0250		mg/L		78	54 - 112	10	20
Bis(2-ethylhexyl) phthalate	0.0320	0.0341		mg/L		106	69 - 136	3	20
4-Bromophenyl phenyl ether	0.0320	0.0229		mg/L		72	58 - 120	7	20
Butyl benzyl phthalate	0.0320	0.0329		mg/L		103	68 - 135	2	20
Carbazole	0.0320	0.0296		mg/L		93	61 - 145	6	20
4-Chloroaniline	0.0320	0.0248		mg/L		77	35 - 128	6	20
4-Chloro-3-methylphenol	0.0320	0.0285		mg/L		89	64 - 128	11	20
2-Chloronaphthalene	0.0320	0.0206		mg/L		64	39 - 110	7	20
2-Chlorophenol	0.0320	0.0251		mg/L		78	59 - 110	8	20
4-Chlorophenyl phenyl ether	0.0320	0.0223		mg/L		70	48 - 116	1	20
Chrysene	0.0320	0.0275		mg/L		86	68 - 129	9	20
Dibenz(a,h)anthracene	0.0320	0.0301		mg/L		94	70 - 134	2	20
Dibenzofuran	0.0320	0.0235		mg/L		74	51 - 110	6	20
1,2-Dichlorobenzene	0.0320	0.0165		mg/L		52	26 - 110	11	20
1,3-Dichlorobenzene	0.0320	0.0165		mg/L		52	22 - 110	8	20
1,4-Dichlorobenzene	0.0320	0.0160		mg/L		50	23 - 110	4	20
3,3'-Dichlorobenzidine	0.0320	0.0247		mg/L		77	60 - 132	6	20
2,4-Dichlorophenol	0.0320	0.0234		mg/L		73	58 - 120	7	20
Diethyl phthalate	0.0320	0.0280		mg/L		88	62 - 123	6	20
2,4-Dimethylphenol	0.0320	0.0251		mg/L		78	51 - 115	7	20
Dimethyl phthalate	0.0320	0.0278		mg/L		87	63 - 122	8	20
Di-n-butyl phthalate	0.0320	0.0302		mg/L		94	69 - 129	4	20
4,6-Dinitro-2-methylphenol	0.0640	0.0563		mg/L		88	50 - 129	2	20
2,4-Dinitrophenol	0.0640	0.0488		mg/L		76	37 - 130	10	20
2,4-Dinitrotoluene	0.0320	0.0274		mg/L		86	63 - 129	5	20
2,6-Dinitrotoluene	0.0320	0.0276		mg/L		86	63 - 129	6	20
Di-n-octyl phthalate	0.0320	0.0324		mg/L		101	68 - 137	6	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-492489/3-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	0.0320	0.0267		mg/L		83	68 - 126	3	20
Fluorene	0.0320	0.0252		mg/L		79	53 - 120	10	20
Hexachlorobenzene	0.0320	0.0223		mg/L		70	61 - 126	9	20
Hexachlorobutadiene	0.0320	0.0140		mg/L		44	20 - 100	4	20
Hexachlorocyclopentadiene	0.0320	0.0156	J	mg/L		49	10 - 105	8	20
Hexachloroethane	0.0320	0.0166		mg/L		52	20 - 100	8	20
Indeno[1,2,3-cd]pyrene	0.0320	0.0331		mg/L		103	65 - 133	8	20
Isophorone	0.0320	0.0273		mg/L		85	54 - 127	6	20
2-Methylnaphthalene	0.0320	0.0186		mg/L		58	34 - 110	5	20
2-Methylphenol	0.0320	0.0263		mg/L		82	53 - 115	9	20
3 & 4 Methylphenol	0.0320	0.0270		mg/L		85	50 - 116	13	20
Naphthalene	0.0320	0.0191		mg/L		60	36 - 110	10	20
2-Nitroaniline	0.0320	0.0317		mg/L		99	59 - 138	6	20
3-Nitroaniline	0.0320	0.0231		mg/L		72	47 - 123	10	20
4-Nitroaniline	0.0320	0.0219		mg/L		69	35 - 110	2	20
Nitrobenzene	0.0320	0.0257		mg/L		80	54 - 121	11	20
2-Nitrophenol	0.0320	0.0244		mg/L		76	59 - 115	10	20
4-Nitrophenol	0.0640	0.0363		mg/L		57	20 - 110	9	20
N-Nitrosodi-n-propylamine	0.0320	0.0293		mg/L		91	47 - 131	13	20
N-Nitrosodiphenylamine	0.0320	0.0274		mg/L		86	66 - 120	6	20
2,2'-oxybis[1-chloropropane]	0.0320	0.0294		mg/L		92	38 - 140	10	20
Pentachlorophenol	0.0640	0.0411		mg/L		64	42 - 148	8	20
Phenanthrene	0.0320	0.0272		mg/L		85	65 - 120	4	20
Phenol	0.0320	0.0184		mg/L		58	33 - 100	2	20
Pyrene	0.0320	0.0288		mg/L		90	70 - 126	2	20
1,2,4-Trichlorobenzene	0.0320	0.0153		mg/L		48	26 - 110	2	20
2,4,5-Trichlorophenol	0.0320	0.0265		mg/L		83	63 - 124	6	20
2,4,6-Trichlorophenol	0.0320	0.0252		mg/L		79	62 - 121	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*34 - 110*
2-Fluorophenol	*79*		*27 - 110*
Nitrobenzene-d5	*85*		*36 - 120*
Phenol-d5	*60*		*20 - 110*
Terphenyl-d14	*84*		*40 - 145*
2,4,6-Tribromophenol	*68*		*40 - 145*

Lab Sample ID: MB 500-493444/1-A
Matrix: Solid
Analysis Batch: 493720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.033		0.033	0.0060	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Acenaphthylene	<0.033		0.033	0.0044	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Anthracene	<0.033		0.033	0.0056	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Benzo[a]anthracene	<0.033		0.033	0.0045	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Benzo[a]pyrene	<0.033		0.033	0.0064	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Benzo[b]fluoranthene	<0.033		0.033	0.0072	mg/Kg		07/05/19 07:39	07/08/19 14:22	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-493444/1-A
Matrix: Solid
Analysis Batch: 493720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	<0.033		0.033	0.011	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Benzo[k]fluoranthene	<0.033		0.033	0.0098	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Bis(2-chloroethoxy)methane	<0.17		0.17	0.034	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Bis(2-chloroethyl)ether	<0.17		0.17	0.050	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Bis(2-ethylhexyl) phthalate	<0.17		0.17	0.061	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
4-Bromophenyl phenyl ether	<0.17		0.17	0.044	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Butyl benzyl phthalate	<0.17		0.17	0.063	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Carbazole	<0.17		0.17	0.083	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
4-Chloroaniline	<0.67		0.67	0.16	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
4-Chloro-3-methylphenol	<0.33		0.33	0.11	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2-Chloronaphthalene	<0.17		0.17	0.037	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2-Chlorophenol	<0.17		0.17	0.057	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
4-Chlorophenyl phenyl ether	<0.17		0.17	0.039	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Chrysene	<0.033		0.033	0.0091	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Dibenz(a,h)anthracene	<0.033		0.033	0.0064	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Dibenzofuran	<0.17		0.17	0.039	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
1,2-Dichlorobenzene	<0.17		0.17	0.040	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
1,3-Dichlorobenzene	<0.17		0.17	0.037	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
1,4-Dichlorobenzene	<0.17		0.17	0.043	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
3,3'-Dichlorobenzidine	<0.17		0.17	0.047	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,4-Dichlorophenol	<0.33		0.33	0.079	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Diethyl phthalate	<0.17		0.17	0.056	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,4-Dimethylphenol	<0.33		0.33	0.13	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Dimethyl phthalate	<0.17		0.17	0.043	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Di-n-butyl phthalate	<0.17		0.17	0.051	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
4,6-Dinitro-2-methylphenol	<0.67		0.67	0.27	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,4-Dinitrophenol	<0.67		0.67	0.59	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,4-Dinitrotoluene	<0.17		0.17	0.053	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,6-Dinitrotoluene	<0.17		0.17	0.065	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Di-n-octyl phthalate	<0.17		0.17	0.054	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Fluoranthene	<0.033		0.033	0.0062	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Fluorene	<0.033		0.033	0.0047	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Hexachlorobenzene	<0.067		0.067	0.0077	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Hexachlorobutadiene	<0.17		0.17	0.052	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Hexachlorocyclopentadiene	<0.67		0.67	0.19	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Hexachloroethane	<0.17		0.17	0.051	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Indeno[1,2,3-cd]pyrene	<0.033		0.033	0.0086	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Isophorone	<0.17		0.17	0.037	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2-Methylnaphthalene	<0.067		0.067	0.0061	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2-Methylphenol	<0.17		0.17	0.053	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
3 & 4 Methylphenol	<0.17		0.17	0.055	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Naphthalene	<0.033		0.033	0.0051	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2-Nitroaniline	<0.17		0.17	0.045	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
3-Nitroaniline	<0.33		0.33	0.10	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
4-Nitroaniline	<0.33		0.33	0.14	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Nitrobenzene	<0.033		0.033	0.0083	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2-Nitrophenol	<0.33		0.33	0.079	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
4-Nitrophenol	<0.67		0.67	0.32	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
N-Nitrosodi-n-propylamine	<0.067		0.067	0.041	mg/Kg		07/05/19 07:39	07/08/19 14:22	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-493444/1-A
Matrix: Solid
Analysis Batch: 493720

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493444

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	<0.17		0.17	0.039	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,2'-oxybis[1-chloropropane]	<0.17		0.17	0.039	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Pentachlorophenol	<0.67		0.67	0.53	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Phenanthrene	<0.033		0.033	0.0046	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Phenol	<0.17		0.17	0.074	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
Pyrene	<0.033		0.033	0.0066	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
1,2,4-Trichlorobenzene	<0.17		0.17	0.036	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,4,5-Trichlorophenol	<0.33		0.33	0.076	mg/Kg		07/05/19 07:39	07/08/19 14:22	1
2,4,6-Trichlorophenol	<0.33		0.33	0.11	mg/Kg		07/05/19 07:39	07/08/19 14:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*43 - 145*	*07/05/19 07:39*	*07/08/19 14:22*	*1*
2-Fluorophenol	*124*		*31 - 166*	*07/05/19 07:39*	*07/08/19 14:22*	*1*
Nitrobenzene-d5	*75*		*37 - 147*	*07/05/19 07:39*	*07/08/19 14:22*	*1*
Phenol-d5	*98*		*30 - 153*	*07/05/19 07:39*	*07/08/19 14:22*	*1*
Terphenyl-d14	*83*		*42 - 157*	*07/05/19 07:39*	*07/08/19 14:22*	*1*
2,4,6-Tribromophenol	*60*		*31 - 143*	*07/05/19 07:39*	*07/08/19 14:22*	*1*

Lab Sample ID: LCS 500-493444/2-A
Matrix: Solid
Analysis Batch: 493720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.33	1.04		mg/Kg		78	65 - 124
Acenaphthylene	1.33	1.07		mg/Kg		80	68 - 120
Anthracene	1.33	1.06		mg/Kg		80	70 - 114
Benzo[a]anthracene	1.33	1.08		mg/Kg		81	67 - 122
Benzo[a]pyrene	1.33	1.15		mg/Kg		86	65 - 133
Benzo[b]fluoranthene	1.33	1.08		mg/Kg		81	69 - 129
Benzo[g,h,i]perylene	1.33	1.12		mg/Kg		84	72 - 131
Benzo[k]fluoranthene	1.33	1.06		mg/Kg		80	68 - 127
Bis(2-chloroethoxy)methane	1.33	1.08		mg/Kg		81	60 - 112
Bis(2-chloroethyl)ether	1.33	0.998		mg/Kg		75	55 - 111
Bis(2-ethylhexyl) phthalate	1.33	1.27		mg/Kg		95	72 - 131
4-Bromophenyl phenyl ether	1.33	1.05		mg/Kg		79	68 - 118
Butyl benzyl phthalate	1.33	1.13		mg/Kg		85	71 - 129
Carbazole	1.33	1.37		mg/Kg		103	65 - 142
4-Chloroaniline	1.33	0.797		mg/Kg		60	30 - 150
4-Chloro-3-methylphenol	1.33	1.13		mg/Kg		85	65 - 122
2-Chloronaphthalene	1.33	1.03		mg/Kg		77	69 - 114
2-Chlorophenol	1.33	1.09		mg/Kg		81	64 - 110
4-Chlorophenyl phenyl ether	1.33	1.06		mg/Kg		79	62 - 119
Chrysene	1.33	1.04		mg/Kg		78	63 - 120
Dibenz(a,h)anthracene	1.33	1.12		mg/Kg		84	64 - 131
Dibenzofuran	1.33	1.03		mg/Kg		77	66 - 115
1,2-Dichlorobenzene	1.33	0.998		mg/Kg		75	62 - 110
1,3-Dichlorobenzene	1.33	0.990		mg/Kg		74	65 - 124
1,4-Dichlorobenzene	1.33	0.996		mg/Kg		75	61 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-493444/2-A
Matrix: Solid
Analysis Batch: 493720

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493444

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
3,3'-Dichlorobenzidine	1.33	0.974		mg/Kg		73	35 - 128
2,4-Dichlorophenol	1.33	1.15		mg/Kg		86	58 - 120
Diethyl phthalate	1.33	1.08		mg/Kg		81	58 - 120
2,4-Dimethylphenol	1.33	1.01		mg/Kg		76	60 - 110
Dimethyl phthalate	1.33	1.05		mg/Kg		79	69 - 116
Di-n-butyl phthalate	1.33	1.16		mg/Kg		87	65 - 120
4,6-Dinitro-2-methylphenol	2.67	1.52		mg/Kg		57	10 - 110
2,4-Dinitrophenol	2.67	0.962		mg/Kg		36	10 - 100
2,4-Dinitrotoluene	1.33	1.13		mg/Kg		85	69 - 124
2,6-Dinitrotoluene	1.33	1.05		mg/Kg		79	70 - 123
Di-n-octyl phthalate	1.33	1.24		mg/Kg		93	68 - 134
Fluoranthene	1.33	1.07		mg/Kg		80	62 - 120
Fluorene	1.33	1.00		mg/Kg		75	62 - 120
Hexachlorobenzene	1.33	1.03		mg/Kg		77	63 - 124
Hexachlorobutadiene	1.33	1.12		mg/Kg		84	56 - 120
Hexachlorocyclopentadiene	1.33	0.364	J	mg/Kg		27	10 - 133
Hexachloroethane	1.33	1.02		mg/Kg		77	60 - 114
Indeno[1,2,3-cd]pyrene	1.33	1.17		mg/Kg		88	68 - 130
Isophorone	1.33	1.14		mg/Kg		85	55 - 110
2-Methylnaphthalene	1.33	1.01		mg/Kg		76	69 - 112
2-Methylphenol	1.33	1.02		mg/Kg		76	60 - 120
3 & 4 Methylphenol	1.33	1.15		mg/Kg		86	57 - 120
Naphthalene	1.33	1.05		mg/Kg		78	63 - 110
2-Nitroaniline	1.33	1.17		mg/Kg		88	57 - 124
3-Nitroaniline	1.33	0.760		mg/Kg		57	40 - 122
4-Nitroaniline	1.33	1.06		mg/Kg		79	60 - 160
Nitrobenzene	1.33	1.19		mg/Kg		89	60 - 116
2-Nitrophenol	1.33	1.13		mg/Kg		85	60 - 120
4-Nitrophenol	2.67	1.76		mg/Kg		66	30 - 122
N-Nitrosodi-n-propylamine	1.33	1.13		mg/Kg		85	56 - 118
N-Nitrosodiphenylamine	1.33	1.09		mg/Kg		82	65 - 112
2,2'-oxybis[1-chloropropane]	1.33	1.02		mg/Kg		77	40 - 124
Pentachlorophenol	2.67	1.58		mg/Kg		59	13 - 112
Phenanthrene	1.33	1.03		mg/Kg		77	62 - 120
Phenol	1.33	1.29		mg/Kg		97	56 - 122
Pyrene	1.33	1.08		mg/Kg		81	61 - 128
1,2,4-Trichlorobenzene	1.33	1.09		mg/Kg		82	66 - 117
2,4,5-Trichlorophenol	1.33	0.940		mg/Kg		70	50 - 120
2,4,6-Trichlorophenol	1.33	1.02		mg/Kg		76	57 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*75*		*43 - 145*
2-Fluorophenol	*116*		*31 - 166*
Nitrobenzene-d5	*80*		*37 - 147*
Phenol-d5	*91*		*30 - 153*
Terphenyl-d14	*81*		*42 - 157*
2,4,6-Tribromophenol	*65*		*31 - 143*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165828-1 MS
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	<0.040		1.62	1.15		mg/Kg	☼	71	65 - 124
Acenaphthylene	<0.040		1.62	1.17		mg/Kg	☼	72	68 - 120
Anthracene	<0.040		1.62	1.25		mg/Kg	☼	77	70 - 114
Benzo[a]anthracene	0.019	J	1.62	1.32		mg/Kg	☼	80	67 - 122
Benzo[a]pyrene	0.021	J	1.62	1.39		mg/Kg	☼	84	65 - 133
Benzo[b]fluoranthene	0.026	J	1.62	1.54		mg/Kg	☼	93	69 - 129
Benzo[g,h,i]perylene	<0.040	F1	1.62	0.667	F1	mg/Kg	☼	41	72 - 131
Benzo[k]fluoranthene	0.013	J	1.62	1.50		mg/Kg	☼	92	68 - 127
Bis(2-chloroethoxy)methane	<0.20		1.62	1.16		mg/Kg	☼	71	60 - 112
Bis(2-chloroethyl)ether	<0.20		1.62	1.12		mg/Kg	☼	69	55 - 111
Bis(2-ethylhexyl) phthalate	<0.20		1.62	1.76		mg/Kg	☼	108	72 - 131
4-Bromophenyl phenyl ether	<0.20		1.62	1.21		mg/Kg	☼	74	68 - 118
Butyl benzyl phthalate	<0.20		1.62	1.55		mg/Kg	☼	95	71 - 129
Carbazole	<0.20		1.62	1.61		mg/Kg	☼	99	65 - 142
4-Chloroaniline	<0.82		1.62	0.726	J	mg/Kg	☼	45	30 - 150
4-Chloro-3-methylphenol	<0.40		1.62	1.28		mg/Kg	☼	79	65 - 122
2-Chloronaphthalene	<0.20	F1	1.62	1.12		mg/Kg	☼	69	69 - 114
2-Chlorophenol	<0.20		1.62	1.21		mg/Kg	☼	75	64 - 110
4-Chlorophenyl phenyl ether	<0.20		1.62	1.20		mg/Kg	☼	74	62 - 119
Chrysene	0.021	J	1.62	1.23		mg/Kg	☼	74	63 - 120
Dibenz(a,h)anthracene	<0.040	F1	1.62	0.812	F1	mg/Kg	☼	50	64 - 131
Dibenzofuran	<0.20		1.62	1.16		mg/Kg	☼	71	66 - 115
1,2-Dichlorobenzene	<0.20	F1	1.62	0.974	F1	mg/Kg	☼	60	62 - 110
1,3-Dichlorobenzene	<0.20	F1	1.62	0.910	F1	mg/Kg	☼	56	60 - 110
1,4-Dichlorobenzene	<0.20	F1	1.62	0.947	F1	mg/Kg	☼	58	61 - 110
3,3'-Dichlorobenzidine	<0.20		1.62	0.877		mg/Kg	☼	54	35 - 128
2,4-Dichlorophenol	<0.40		1.62	1.25		mg/Kg	☼	77	58 - 120
Diethyl phthalate	<0.20		1.62	1.27		mg/Kg	☼	78	58 - 120
2,4-Dimethylphenol	<0.40		1.62	1.16		mg/Kg	☼	71	60 - 110
Dimethyl phthalate	<0.20		1.62	1.20		mg/Kg	☼	74	69 - 116
Di-n-butyl phthalate	<0.20		1.62	1.35		mg/Kg	☼	83	65 - 120
4,6-Dinitro-2-methylphenol	<0.82	F1	3.25	<0.82	F1	mg/Kg	☼	0	10 - 110
2,4-Dinitrophenol	<0.82	F1	3.25	<0.82	F1	mg/Kg	☼	0	10 - 100
2,4-Dinitrotoluene	<0.20		1.62	1.23		mg/Kg	☼	75	69 - 124
2,6-Dinitrotoluene	<0.20		1.62	1.15		mg/Kg	☼	71	70 - 123
Di-n-octyl phthalate	<0.20		1.62	1.32		mg/Kg	☼	81	68 - 134
Fluoranthene	0.030	J	1.62	1.26		mg/Kg	☼	75	62 - 120
Fluorene	<0.040		1.62	1.17		mg/Kg	☼	72	62 - 120
Hexachlorobenzene	<0.082		1.62	1.25		mg/Kg	☼	77	63 - 124
Hexachlorobutadiene	<0.20		1.62	1.03		mg/Kg	☼	63	56 - 120
Hexachlorocyclopentadiene	<0.82	F1	1.62	<0.82	F1	mg/Kg	☼	0	10 - 133
Hexachloroethane	<0.20	F1	1.62	0.649	F1	mg/Kg	☼	40	60 - 114
Indeno[1,2,3-cd]pyrene	0.011	J F1	1.62	0.799	F1	mg/Kg	☼	49	68 - 130
Isophorone	<0.20		1.62	1.18		mg/Kg	☼	73	55 - 110
2-Methylnaphthalene	<0.082	F1	1.62	1.06	F1	mg/Kg	☼	65	69 - 112
2-Methylphenol	<0.20		1.62	1.24		mg/Kg	☼	76	60 - 120
3 & 4 Methylphenol	<0.20		1.62	1.17		mg/Kg	☼	72	57 - 120
Naphthalene	<0.040		1.62	1.06		mg/Kg	☼	66	63 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165828-1 MS
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493444

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	<0.20		1.62	1.38		mg/Kg	☼	85	57 - 124
3-Nitroaniline	<0.40		1.62	1.37		mg/Kg	☼	84	40 - 122
4-Nitroaniline	<0.40		1.62	1.30		mg/Kg	☼	80	60 - 160
Nitrobenzene	<0.040		1.62	1.23		mg/Kg	☼	76	60 - 116
2-Nitrophenol	<0.40		1.62	1.09		mg/Kg	☼	67	60 - 120
4-Nitrophenol	<0.82		3.25	2.08		mg/Kg	☼	64	30 - 122
N-Nitrosodi-n-propylamine	<0.082		1.62	1.19		mg/Kg	☼	73	56 - 118
N-Nitrosodiphenylamine	<0.20		1.62	1.24		mg/Kg	☼	77	65 - 112
2,2'-oxybis[1-chloropropane]	<0.20		1.62	1.18		mg/Kg	☼	73	40 - 124
Pentachlorophenol	<0.82		3.25	1.55		mg/Kg	☼	48	13 - 112
Phenanthrene	0.017	J	1.62	1.22		mg/Kg	☼	74	62 - 120
Phenol	<0.20		1.62	1.30		mg/Kg	☼	80	56 - 122
Pyrene	0.027	J	1.62	1.48		mg/Kg	☼	89	61 - 128
1,2,4-Trichlorobenzene	<0.20	F1	1.62	1.11		mg/Kg	☼	68	66 - 117
2,4,5-Trichlorophenol	<0.40		1.62	1.23		mg/Kg	☼	76	50 - 120
2,4,6-Trichlorophenol	<0.40		1.62	1.25		mg/Kg	☼	77	57 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*43 - 145*
2-Fluorophenol	*104*		*31 - 166*
Nitrobenzene-d5	*66*		*37 - 147*
Phenol-d5	*83*		*30 - 153*
Terphenyl-d14	*93*		*42 - 157*
2,4,6-Tribromophenol	*79*		*31 - 143*

Lab Sample ID: 500-165828-1 MSD
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493444

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	<0.040		1.63	1.13		mg/Kg	☼	69	65 - 124	2	30
Acenaphthylene	<0.040		1.63	1.15		mg/Kg	☼	71	68 - 120	2	30
Anthracene	<0.040		1.63	1.24		mg/Kg	☼	76	70 - 114	1	30
Benzo[a]anthracene	0.019	J	1.63	1.33		mg/Kg	☼	81	67 - 122	1	30
Benzo[a]pyrene	0.021	J	1.63	1.37		mg/Kg	☼	83	65 - 133	1	30
Benzo[b]fluoranthene	0.026	J	1.63	1.46		mg/Kg	☼	88	69 - 129	5	30
Benzo[g,h,i]perylene	<0.040	F1	1.63	0.685	F1	mg/Kg	☼	42	72 - 131	3	30
Benzo[k]fluoranthene	0.013	J	1.63	1.52		mg/Kg	☼	92	68 - 127	1	30
Bis(2-chloroethoxy)methane	<0.20		1.63	1.14		mg/Kg	☼	70	60 - 112	2	30
Bis(2-chloroethyl)ether	<0.20		1.63	1.38		mg/Kg	☼	85	55 - 111	21	30
Bis(2-ethylhexyl) phthalate	<0.20		1.63	1.75		mg/Kg	☼	107	72 - 131	1	30
4-Bromophenyl phenyl ether	<0.20		1.63	1.22		mg/Kg	☼	75	68 - 118	1	30
Butyl benzyl phthalate	<0.20		1.63	1.53		mg/Kg	☼	94	71 - 129	1	30
Carbazole	<0.20		1.63	1.63		mg/Kg	☼	100	65 - 142	1	30
4-Chloroaniline	<0.82		1.63	0.893		mg/Kg	☼	55	30 - 150	21	30
4-Chloro-3-methylphenol	<0.40		1.63	1.22		mg/Kg	☼	75	65 - 122	5	30
2-Chloronaphthalene	<0.20	F1	1.63	1.10	F1	mg/Kg	☼	68	69 - 114	2	30
2-Chlorophenol	<0.20		1.63	1.34		mg/Kg	☼	82	64 - 110	10	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165828-1 MSD
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493444

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chlorophenyl phenyl ether	<0.20		1.63	1.19		mg/Kg	☼	73	62 - 119	1	30
Chrysene	0.021	J	1.63	1.20		mg/Kg	☼	72	63 - 120	2	30
Dibenz(a,h)anthracene	<0.040	F1	1.63	0.832	F1	mg/Kg	☼	51	64 - 131	2	30
Dibenzofuran	<0.20		1.63	1.13		mg/Kg	☼	70	66 - 115	2	30
1,2-Dichlorobenzene	<0.20	F1	1.63	1.03		mg/Kg	☼	63	62 - 110	6	30
1,3-Dichlorobenzene	<0.20	F1	1.63	0.883	F1	mg/Kg	☼	54	60 - 110	3	30
1,4-Dichlorobenzene	<0.20	F1	1.63	1.04		mg/Kg	☼	64	61 - 110	9	30
3,3'-Dichlorobenzidine	<0.20		1.63	0.958		mg/Kg	☼	59	35 - 128	9	30
2,4-Dichlorophenol	<0.40		1.63	1.21		mg/Kg	☼	74	58 - 120	3	30
Diethyl phthalate	<0.20		1.63	1.28		mg/Kg	☼	79	58 - 120	1	30
2,4-Dimethylphenol	<0.40		1.63	1.14		mg/Kg	☼	70	60 - 110	2	30
Dimethyl phthalate	<0.20		1.63	1.18		mg/Kg	☼	72	69 - 116	2	30
Di-n-butyl phthalate	<0.20		1.63	1.32		mg/Kg	☼	81	65 - 120	2	30
4,6-Dinitro-2-methylphenol	<0.82	F1	3.26	<0.82	F1	mg/Kg	☼	0	10 - 110	NC	30
2,4-Dinitrophenol	<0.82	F1	3.26	<0.82	F1	mg/Kg	☼	0	10 - 100	NC	30
2,4-Dinitrotoluene	<0.20		1.63	1.28		mg/Kg	☼	78	69 - 124	4	30
2,6-Dinitrotoluene	<0.20		1.63	1.15		mg/Kg	☼	71	70 - 123	0	30
Di-n-octyl phthalate	<0.20		1.63	1.34		mg/Kg	☼	82	68 - 134	2	30
Fluoranthene	0.030	J	1.63	1.26		mg/Kg	☼	75	62 - 120	0	30
Fluorene	<0.040		1.63	1.15		mg/Kg	☼	71	62 - 120	2	30
Hexachlorobenzene	<0.082		1.63	1.23		mg/Kg	☼	75	63 - 124	2	30
Hexachlorobutadiene	<0.20		1.63	0.973		mg/Kg	☼	60	56 - 120	6	30
Hexachlorocyclopentadiene	<0.82	F1	1.63	<0.82	F1	mg/Kg	☼	0	10 - 133	NC	30
Hexachloroethane	<0.20	F1	1.63	0.556	F1	mg/Kg	☼	34	60 - 114	15	30
Indeno[1,2,3-cd]pyrene	0.011	J F1	1.63	0.832	F1	mg/Kg	☼	51	68 - 130	4	30
Isophorone	<0.20		1.63	1.17		mg/Kg	☼	72	55 - 110	1	30
2-Methylnaphthalene	<0.082	F1	1.63	1.02	F1	mg/Kg	☼	63	69 - 112	3	30
2-Methylphenol	<0.20		1.63	1.28		mg/Kg	☼	79	60 - 120	3	30
3 & 4 Methylphenol	<0.20		1.63	1.37		mg/Kg	☼	84	57 - 120	16	30
Naphthalene	<0.040		1.63	1.07		mg/Kg	☼	65	63 - 110	0	30
2-Nitroaniline	<0.20		1.63	1.39		mg/Kg	☼	85	57 - 124	0	30
3-Nitroaniline	<0.40		1.63	1.27		mg/Kg	☼	78	40 - 122	7	30
4-Nitroaniline	<0.40		1.63	1.20		mg/Kg	☼	74	60 - 160	8	30
Nitrobenzene	<0.040		1.63	1.23		mg/Kg	☼	75	60 - 116	0	30
2-Nitrophenol	<0.40		1.63	1.14		mg/Kg	☼	70	60 - 120	4	30
4-Nitrophenol	<0.82		3.26	1.96		mg/Kg	☼	60	30 - 122	6	30
N-Nitrosodi-n-propylamine	<0.082		1.63	1.30		mg/Kg	☼	80	56 - 118	9	30
N-Nitrosodiphenylamine	<0.20		1.63	1.24		mg/Kg	☼	76	65 - 112	0	30
2,2'-oxybis[1-chloropropane]	<0.20		1.63	1.32		mg/Kg	☼	81	40 - 124	11	30
Pentachlorophenol	<0.82		3.26	1.73		mg/Kg	☼	53	13 - 112	11	30
Phenanthrene	0.017	J	1.63	1.21		mg/Kg	☼	73	62 - 120	1	30
Phenol	<0.20		1.63	1.46		mg/Kg	☼	89	56 - 122	12	30
Pyrene	0.027	J	1.63	1.47		mg/Kg	☼	89	61 - 128	1	30
1,2,4-Trichlorobenzene	<0.20	F1	1.63	1.06	F1	mg/Kg	☼	65	66 - 117	4	30
2,4,5-Trichlorophenol	<0.40		1.63	1.21		mg/Kg	☼	75	50 - 120	2	30
2,4,6-Trichlorophenol	<0.40		1.63	1.23		mg/Kg	☼	75	57 - 120	1	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165828-1 MSD
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493444

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*64*		*43 - 145*
2-Fluorophenol	*112*		*31 - 166*
Nitrobenzene-d5	*65*		*37 - 147*
Phenol-d5	*89*		*30 - 153*
Terphenyl-d14	*90*		*42 - 157*
2,4,6-Tribromophenol	*76*		*31 - 143*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-492873/1-A
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492873

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.424	J	2.0	0.39	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Arsenic	<1.0		1.0	0.34	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Barium	<1.0		1.0	0.11	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Beryllium	<0.40		0.40	0.093	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Cadmium	0.136	J	0.20	0.036	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Chromium	<1.0		1.0	0.50	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Cobalt	<0.50		0.50	0.13	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Copper	1.20		1.0	0.28	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Iron	<20		20	10	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Lead	<0.50		0.50	0.23	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Manganese	<1.0		1.0	0.15	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Nickel	<1.0		1.0	0.29	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Selenium	0.662	J	1.0	0.59	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Silver	<0.50		0.50	0.13	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Thallium	<1.0		1.0	0.50	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Vanadium	<0.50		0.50	0.12	mg/Kg		07/02/19 07:45	07/02/19 14:31	1
Zinc	<2.0		2.0	0.88	mg/Kg		07/02/19 07:45	07/02/19 14:31	1

Lab Sample ID: LCS 500-492873/2-A
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	45.6		mg/Kg		91	80 - 120
Arsenic	10.0	8.58		mg/Kg		86	80 - 120
Barium	200	196		mg/Kg		98	80 - 120
Beryllium	5.00	4.83		mg/Kg		97	80 - 120
Cadmium	5.00	4.76		mg/Kg		95	80 - 120
Chromium	20.0	19.6		mg/Kg		98	80 - 120
Cobalt	50.0	48.6		mg/Kg		97	80 - 120
Copper	25.0	25.3		mg/Kg		101	80 - 120
Iron	100	107		mg/Kg		107	80 - 120
Lead	10.0	8.84		mg/Kg		88	80 - 120
Manganese	50.0	47.9		mg/Kg		96	80 - 120
Nickel	50.0	47.9		mg/Kg		96	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-492873/2-A
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492873

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	10.0	9.10		mg/Kg		91	80 - 120
Silver	5.00	4.50		mg/Kg		90	80 - 120
Thallium	10.0	8.21		mg/Kg		82	80 - 120
Vanadium	50.0	48.7		mg/Kg		97	80 - 120
Zinc	50.0	47.4		mg/Kg		95	80 - 120

Lab Sample ID: 500-165828-1 MS
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 492873

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.35	J B F1	28.4	5.73	F1	mg/Kg	☼	19	75 - 125
Arsenic	8.0		5.69	13.1		mg/Kg	☼	91	75 - 125
Barium	88		114	192		mg/Kg	☼	91	75 - 125
Beryllium	0.78		2.84	3.27		mg/Kg	☼	88	75 - 125
Cadmium	0.25	B	2.84	2.53		mg/Kg	☼	80	75 - 125
Chromium	19		11.4	30.3		mg/Kg	☼	98	75 - 125
Cobalt	14		28.4	43.1		mg/Kg	☼	103	75 - 125
Copper	21	B	14.2	35.6		mg/Kg	☼	105	75 - 125
Iron	21000		56.9	22600	4	mg/Kg	☼	2345	75 - 125
Lead	27		5.69	31.2	4	mg/Kg	☼	81	75 - 125
Manganese	480	F2	28.4	590	4	mg/Kg	☼	395	75 - 125
Nickel	23		28.4	52.8		mg/Kg	☼	104	75 - 125
Selenium	1.3	B F1	5.69	4.69	F1	mg/Kg	☼	59	75 - 125
Silver	4.0		2.84	6.57		mg/Kg	☼	90	75 - 125
Thallium	0.92		5.69	5.50		mg/Kg	☼	80	75 - 125
Vanadium	30		28.4	55.5		mg/Kg	☼	91	75 - 125
Zinc	73		28.4	108		mg/Kg	☼	122	75 - 125

Lab Sample ID: 500-165828-1 MSD
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 492873

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.35	J B F1	30.0	5.69	F1	mg/Kg	☼	18	75 - 125	1	20
Arsenic	8.0		6.01	13.4		mg/Kg	☼	90	75 - 125	2	20
Barium	88		120	192		mg/Kg	☼	87	75 - 125	0	20
Beryllium	0.78		3.00	3.38		mg/Kg	☼	87	75 - 125	3	20
Cadmium	0.25	B	3.00	2.65		mg/Kg	☼	80	75 - 125	5	20
Chromium	19		12.0	29.6		mg/Kg	☼	87	75 - 125	2	20
Cobalt	14		30.0	45.6		mg/Kg	☼	106	75 - 125	6	20
Copper	21	B	15.0	33.7		mg/Kg	☼	87	75 - 125	6	20
Iron	21000		60.1	23000	4	mg/Kg	☼	2792	75 - 125	2	20
Lead	27		6.01	30.8	4	mg/Kg	☼	71	75 - 125	1	20
Manganese	480	F2	30.0	844	4 F2	mg/Kg	☼	1218	75 - 125	35	20
Nickel	23		30.0	55.1		mg/Kg	☼	106	75 - 125	4	20
Selenium	1.3	B F1	6.01	4.73	F1	mg/Kg	☼	57	75 - 125	1	20
Silver	4.0		3.00	6.61		mg/Kg	☼	86	75 - 125	1	20
Thallium	0.92		6.01	5.69		mg/Kg	☼	79	75 - 125	3	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-165828-1 MSD
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 492873

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vanadium	30		30.0	54.6		mg/Kg	☼	83	75 - 125	2	20
Zinc	73		30.0	108		mg/Kg	☼	116	75 - 125	0	20

Lab Sample ID: 500-165828-1 DU
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: OPT-1-1 (0-1')
Prep Type: Total/NA
Prep Batch: 492873

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	0.35	J B F1	<1.1		mg/Kg	☼	NC	20
Arsenic	8.0		8.47		mg/Kg	☼	6	20
Barium	88		89.3		mg/Kg	☼	2	20
Beryllium	0.78		0.813		mg/Kg	☼	5	20
Cadmium	0.25	B	0.248		mg/Kg	☼	1	20
Chromium	19		20.3		mg/Kg	☼	6	20
Cobalt	14		13.7		mg/Kg	☼	0	20
Copper	21	B	21.5		mg/Kg	☼	4	20
Iron	21000		22700		mg/Kg	☼	7	20
Lead	27		22.7		mg/Kg	☼	16	20
Manganese	480	F2	401		mg/Kg	☼	18	20
Nickel	23		25.8		mg/Kg	☼	10	20
Selenium	1.3	B F1	1.23		mg/Kg	☼	6	20
Silver	4.0		4.15		mg/Kg	☼	3	20
Thallium	0.92		1.24	F5	mg/Kg	☼	30	20
Vanadium	30		30.7		mg/Kg	☼	3	20
Zinc	73		76.8		mg/Kg	☼	5	20

Lab Sample ID: LCS 500-493329/2-A
Matrix: Solid
Analysis Batch: 493671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493329

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	1.06		mg/L		106	80 - 120

Lab Sample ID: LCS 500-493331/2-A
Matrix: Solid
Analysis Batch: 493671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0923		mg/L		92	80 - 120
Barium	0.500	0.503		mg/L		101	80 - 120
Beryllium	0.0500	0.0507		mg/L		101	80 - 120
Cadmium	0.0500	0.0491		mg/L		98	80 - 120
Chromium	0.200	0.199		mg/L		100	80 - 120
Cobalt	0.500	0.499		mg/L		100	80 - 120
Copper	0.250	0.256		mg/L		102	80 - 120
Iron	1.00	1.06		mg/L		106	80 - 120
Lead	0.100	0.0940		mg/L		94	80 - 120
Nickel	0.500	0.493		mg/L		99	80 - 120
Selenium	0.100	0.0942		mg/L		94	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-493331/2-A
Matrix: Solid
Analysis Batch: 493671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	0.0500	0.0483		mg/L		97	80 - 120
Vanadium	0.500	0.502		mg/L		100	80 - 120
Zinc	0.500	0.488	J	mg/L		98	80 - 120

Lab Sample ID: LB 500-493096/1-B
Matrix: Solid
Analysis Batch: 493671

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 493331

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/03/19 14:45	07/05/19 15:18	1
Barium	<0.50		0.50	0.050	mg/L		07/03/19 14:45	07/05/19 15:18	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/03/19 14:45	07/05/19 15:18	1
Cadmium	0.00207	J	0.0050	0.0020	mg/L		07/03/19 14:45	07/05/19 15:18	1
Chromium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:18	1
Cobalt	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:18	1
Copper	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:18	1
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:45	07/05/19 15:18	1
Lead	<0.0075		0.0075	0.0075	mg/L		07/03/19 14:45	07/05/19 15:18	1
Nickel	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:18	1
Selenium	<0.050		0.050	0.020	mg/L		07/03/19 14:45	07/05/19 15:18	1
Silver	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:18	1
Vanadium	<0.025		0.025	0.010	mg/L		07/03/19 14:45	07/05/19 15:18	1
Zinc	<0.50		0.50	0.020	mg/L		07/03/19 14:45	07/05/19 15:18	1

Lab Sample ID: 500-165828-16 MS
Matrix: Solid
Analysis Batch: 493671

Client Sample ID: OPT-1-8 (3-8')
Prep Type: TCLP
Prep Batch: 493331

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.050		0.100	0.119		mg/L		119	75 - 125
Barium	0.50		0.500	1.02		mg/L		103	75 - 125
Beryllium	<0.0040		0.0500	0.0580		mg/L		116	75 - 125
Cadmium	0.0035	J B	0.0500	0.0646		mg/L		122	75 - 125
Chromium	<0.025		0.200	0.193		mg/L		97	75 - 125
Cobalt	0.033		0.500	0.574		mg/L		108	75 - 125
Copper	<0.025		0.250	0.308		mg/L		123	75 - 125
Iron	<0.40		1.00	1.10		mg/L		110	75 - 125
Lead	<0.0075		0.100	0.0966		mg/L		97	75 - 125
Nickel	0.030		0.500	0.550		mg/L		104	75 - 125
Selenium	0.038	J	0.100	0.136		mg/L		97	75 - 125
Silver	<0.025	F1	0.0500	0.0687	F1	mg/L		137	75 - 125
Vanadium	<0.025		0.500	0.495		mg/L		99	75 - 125
Zinc	0.028	J	0.500	0.597		mg/L		114	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-165828-16 DU
Matrix: Solid
Analysis Batch: 493671

Client Sample ID: OPT-1-8 (3-8')
Prep Type: TCLP
Prep Batch: 493331

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	<0.050		<0.050		mg/L		NC	20
Barium	0.50		0.515		mg/L		3	20
Beryllium	<0.0040		<0.0040		mg/L		NC	20
Cadmium	0.0035	J B	0.00328	J	mg/L		5	20
Chromium	<0.025		<0.025		mg/L		NC	20
Cobalt	0.033		0.0337		mg/L		2	20
Copper	<0.025		<0.025		mg/L		NC	20
Iron	<0.40		<0.40		mg/L		NC	20
Lead	<0.0075		<0.0075		mg/L		NC	20
Nickel	0.030		0.0305		mg/L		2	20
Selenium	0.038	J	0.0270	J F5	mg/L		34	20
Silver	<0.025	F1	<0.025		mg/L		NC	20
Vanadium	<0.025		<0.025		mg/L		NC	20
Zinc	0.028	J	0.0307	J	mg/L		11	20

Lab Sample ID: LB 500-493090/1-B
Matrix: Solid
Analysis Batch: 493671

Client Sample ID: Method Blank
Prep Type: SPLP East
Prep Batch: 493329

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.40		0.40	0.20	mg/L		07/03/19 14:42	07/05/19 17:02	1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: LCS 500-493331/2-A
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493331

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.471		mg/L		94	80 - 120
Thallium	0.100	0.101		mg/L		101	80 - 120

Lab Sample ID: MB 500-492495/1-A
Matrix: Water
Analysis Batch: 492835

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010	0.00023	mg/L		06/28/19 07:48	06/28/19 17:25	1
Barium	<0.0025		0.0025	0.00073	mg/L		06/28/19 07:48	06/28/19 17:25	1
Beryllium	<0.0010	^	0.0010	0.00053	mg/L		06/28/19 07:48	06/28/19 17:25	1
Cadmium	<0.00050		0.00050	0.00017	mg/L		06/28/19 07:48	06/28/19 17:25	1
Cobalt	<0.0010		0.0010	0.00040	mg/L		06/28/19 07:48	06/28/19 17:25	1
Copper	0.00105	J	0.0020	0.00050	mg/L		06/28/19 07:48	06/28/19 17:25	1
Iron	<0.10		0.10	0.047	mg/L		06/28/19 07:48	06/28/19 17:25	1
Manganese	<0.0025		0.0025	0.00079	mg/L		06/28/19 07:48	06/28/19 17:25	1
Lead	<0.00050		0.00050	0.00019	mg/L		06/28/19 07:48	06/28/19 17:25	1
Nickel	<0.0020		0.0020	0.00063	mg/L		06/28/19 07:48	06/28/19 17:25	1
Antimony	<0.0030		0.0030	0.0013	mg/L		06/28/19 07:48	06/28/19 17:25	1
Selenium	<0.0025		0.0025	0.00098	mg/L		06/28/19 07:48	06/28/19 17:25	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-492495/1-A
Matrix: Water
Analysis Batch: 492835

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.00050		0.00050	0.00012	mg/L		06/28/19 07:48	06/28/19 17:25	1
Thallium	<0.0020		0.0020	0.00057	mg/L		06/28/19 07:48	06/28/19 17:25	1
Vanadium	<0.0050		0.0050	0.0022	mg/L		06/28/19 07:48	06/28/19 17:25	1
Zinc	0.00772	J	0.020	0.0069	mg/L		06/28/19 07:48	06/28/19 17:25	1

Lab Sample ID: MB 500-492495/1-A
Matrix: Water
Analysis Batch: 493500

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	<0.0050		0.0050	0.0011	mg/L		06/28/19 07:48	07/03/19 16:14	1

Lab Sample ID: LCS 500-492495/2-A
Matrix: Water
Analysis Batch: 492835

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.101		mg/L		101	80 - 120
Barium	2.00	2.10		mg/L		105	80 - 120
Beryllium	0.0500	0.0528	^	mg/L		106	80 - 120
Cadmium	0.0500	0.0513		mg/L		103	80 - 120
Cobalt	0.500	0.514		mg/L		103	80 - 120
Copper	0.250	0.258		mg/L		103	80 - 120
Iron	1.00	1.07		mg/L		107	80 - 120
Manganese	0.500	0.520		mg/L		104	80 - 120
Lead	0.100	0.109		mg/L		109	80 - 120
Nickel	0.500	0.518		mg/L		104	80 - 120
Antimony	0.500	0.534		mg/L		107	80 - 120
Selenium	0.100	0.101		mg/L		101	80 - 120
Silver	0.0500	0.0506		mg/L		101	80 - 120
Thallium	0.100	0.107		mg/L		107	80 - 120
Vanadium	0.500	0.505		mg/L		101	80 - 120
Zinc	0.500	0.520		mg/L		104	80 - 120

Lab Sample ID: LCS 500-492495/2-A
Matrix: Water
Analysis Batch: 493500

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.199		mg/L		99	80 - 120

Lab Sample ID: 500-165828-17 MS
Matrix: Water
Analysis Batch: 492835

Client Sample ID: OPT-1-7 GW
Prep Type: Dissolved
Prep Batch: 492495

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0024		0.100	0.106		mg/L		104	75 - 125
Barium	0.020		2.00	2.13		mg/L		106	75 - 125
Beryllium	<0.0010	^	0.0500	0.0527	^	mg/L		105	75 - 125
Cadmium	<0.00050		0.0500	0.0516		mg/L		103	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-165828-17 MS
Matrix: Water
Analysis Batch: 492835

Client Sample ID: OPT-1-7 GW
Prep Type: Dissolved
Prep Batch: 492495

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00069	J	0.500	0.515		mg/L		103	75 - 125
Copper	0.0091	B	0.250	0.269		mg/L		104	75 - 125
Iron	0.61		1.00	1.70		mg/L		109	75 - 125
Manganese	0.10		0.500	0.619		mg/L		104	75 - 125
Lead	0.00095		0.100	0.109		mg/L		108	75 - 125
Nickel	0.0025		0.500	0.515		mg/L		102	75 - 125
Antimony	<0.0030		0.500	0.550		mg/L		110	75 - 125
Selenium	<0.0025		0.100	0.104		mg/L		104	75 - 125
Silver	<0.00050		0.0500	0.0504		mg/L		101	75 - 125
Thallium	<0.0020		0.100	0.106		mg/L		106	75 - 125
Vanadium	<0.0050		0.500	0.515		mg/L		103	75 - 125
Zinc	0.018	J B	0.500	0.533		mg/L		103	75 - 125

Lab Sample ID: 500-165828-17 MS
Matrix: Water
Analysis Batch: 493500

Client Sample ID: OPT-1-7 GW
Prep Type: Dissolved
Prep Batch: 492495

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	<0.0050		0.200	0.202		mg/L		101	75 - 125

Lab Sample ID: 500-165828-17 MSD
Matrix: Water
Analysis Batch: 492835

Client Sample ID: OPT-1-7 GW
Prep Type: Dissolved
Prep Batch: 492495

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0024		0.100	0.106		mg/L		103	75 - 125	1	20
Barium	0.020		2.00	2.12		mg/L		105	75 - 125	1	20
Beryllium	<0.0010	^	0.0500	0.0545	^	mg/L		109	75 - 125	3	20
Cadmium	<0.00050		0.0500	0.0515		mg/L		103	75 - 125	0	20
Cobalt	0.00069	J	0.500	0.521		mg/L		104	75 - 125	1	20
Copper	0.0091	B	0.250	0.267		mg/L		103	75 - 125	1	20
Iron	0.61		1.00	1.86		mg/L		125	75 - 125	9	20
Manganese	0.10		0.500	0.623		mg/L		105	75 - 125	1	20
Lead	0.00095		0.100	0.109		mg/L		108	75 - 125	0	20
Nickel	0.0025		0.500	0.519		mg/L		103	75 - 125	1	20
Antimony	<0.0030		0.500	0.544		mg/L		109	75 - 125	1	20
Selenium	<0.0025		0.100	0.101		mg/L		101	75 - 125	2	20
Silver	<0.00050		0.0500	0.0500		mg/L		100	75 - 125	1	20
Thallium	<0.0020		0.100	0.107		mg/L		107	75 - 125	0	20
Vanadium	<0.0050		0.500	0.523		mg/L		105	75 - 125	1	20
Zinc	0.018	J B	0.500	0.533		mg/L		103	75 - 125	0	20

Lab Sample ID: 500-165828-17 MSD
Matrix: Water
Analysis Batch: 493500

Client Sample ID: OPT-1-7 GW
Prep Type: Dissolved
Prep Batch: 492495

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	<0.0050		0.200	0.201		mg/L		100	75 - 125	0	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-165828-17 DU
Matrix: Water
Analysis Batch: 492835

Client Sample ID: OPT-1-7 GW
Prep Type: Dissolved
Prep Batch: 492495

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.0024		0.00242		mg/L		0.2	20
Barium	0.020		0.0202		mg/L		1	20
Beryllium	<0.0010	^	<0.0010	^	mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Cobalt	0.00069	J	0.000732	J	mg/L		6	20
Copper	0.0091	B	0.00969		mg/L		6	20
Iron	0.61		0.726		mg/L		17	20
Manganese	0.10		0.0998		mg/L		0.2	20
Lead	0.00095		0.00102		mg/L		7	20
Nickel	0.0025		0.00349	F5	mg/L		31	20
Antimony	<0.0030		<0.0030		mg/L		NC	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Vanadium	<0.0050		<0.0050		mg/L		NC	20
Zinc	0.018	J B	0.0222	F5	mg/L		21	20

Lab Sample ID: 500-165828-17 DU
Matrix: Water
Analysis Batch: 493500

Client Sample ID: OPT-1-7 GW
Prep Type: Dissolved
Prep Batch: 492495

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium	<0.0050		<0.0050		mg/L		NC	20

Lab Sample ID: LB 500-493096/1-B
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 493331

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/03/19 14:45	07/08/19 13:20	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/03/19 14:45	07/08/19 13:20	1

Lab Sample ID: 500-165828-16 MS
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: OPT-1-8 (3-8')
Prep Type: TCLP
Prep Batch: 493331

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0060		0.500	0.482		mg/L		96	75 - 125
Thallium	<0.0020		0.100	0.103		mg/L		103	75 - 125

Lab Sample ID: 500-165828-16 DU
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: OPT-1-8 (3-8')
Prep Type: TCLP
Prep Batch: 493331

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0060		<0.0060		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Method: 7470A - TCLP Mercury

Lab Sample ID: MB 500-493347/12-A
Matrix: Solid
Analysis Batch: 493513

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493347

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:42	1

Lab Sample ID: LCS 500-493347/13-A
Matrix: Solid
Analysis Batch: 493513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493347

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00204		mg/L		102	80 - 120

Lab Sample ID: LB 500-493096/1-C
Matrix: Solid
Analysis Batch: 493513

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 493347

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/03/19 16:25	07/05/19 09:50	1

Lab Sample ID: 500-165828-9 MS
Matrix: Solid
Analysis Batch: 493513

Client Sample ID: OPT-1-5 (0-1')
Prep Type: TCLP
Prep Batch: 493347

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00109		mg/L		109	75 - 125

Lab Sample ID: 500-165828-9 DU
Matrix: Solid
Analysis Batch: 493513

Client Sample ID: OPT-1-5 (0-1')
Prep Type: TCLP
Prep Batch: 493347

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-492871/12-A
Matrix: Water
Analysis Batch: 493045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000098	mg/L		07/01/19 10:40	07/02/19 08:37	1

Lab Sample ID: LCS 500-492871/13-A
Matrix: Water
Analysis Batch: 493045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00218		mg/L		109	80 - 120

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-493066/12-A
Matrix: Solid
Analysis Batch: 493285

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493066

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0128	J	0.017	0.0056	mg/Kg		07/02/19 14:25	07/03/19 10:24	1

Lab Sample ID: LCS 500-493066/13-A
Matrix: Solid
Analysis Batch: 493285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493066

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.163		mg/Kg		98	80 - 120

Lab Sample ID: 500-165828-8 MS
Matrix: Solid
Analysis Batch: 493285

Client Sample ID: OPT-1-4 (1-6')
Prep Type: Total/NA
Prep Batch: 493066

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.028	B	0.0930	0.124		mg/Kg	☼	104	75 - 125

Lab Sample ID: 500-165828-8 MSD
Matrix: Solid
Analysis Batch: 493285

Client Sample ID: OPT-1-4 (1-6')
Prep Type: Total/NA
Prep Batch: 493066

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.028	B	0.0928	0.115		mg/Kg	☼	94	75 - 125	8	20

Lab Sample ID: 500-165828-8 DU
Matrix: Solid
Analysis Batch: 493285

Client Sample ID: OPT-1-4 (1-6')
Prep Type: Total/NA
Prep Batch: 493066

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.028	B	0.0335		mg/Kg	☼	19	20

Method: 9014 - Cyanide

Lab Sample ID: MB 500-494196/1-A
Matrix: Water
Analysis Batch: 494275

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010	0.0035	mg/L		07/10/19 12:55	07/10/19 16:16	1

Lab Sample ID: LCS 500-494196/2-A
Matrix: Water
Analysis Batch: 494275

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494196

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0882		mg/L		88	85 - 115

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Method: 9045D - pH

Lab Sample ID: 500-165828-15 DU
Matrix: Solid
Analysis Batch: 493099

Client Sample ID: OPT-1-8 (0-3')
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5			7.5		SU				0.3	

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 500-494058/9
Matrix: Water
Analysis Batch: 494058

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.20		0.20	0.17	mg/L			07/10/19 12:16	1

Lab Sample ID: LCS 500-494058/10
Matrix: Water
Analysis Batch: 494058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			3.00	2.95		mg/L		98	80 - 120		

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-1 (0-1')
Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 15:23	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:29	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 09:51	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:24		
					(End)	07/02/19 15:26		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-1 (0-1')
Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-1
Matrix: Solid
Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 01:40	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 15:17	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 14:39	JEF	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:28	MJG	TAL CHI

Client Sample ID: OPT-1-1 (1-6')
Date Collected: 06/26/19 14:45
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 15:27	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:33	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 09:53	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:26		
					(End)	07/02/19 15:29		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-1 (1-6')

Lab Sample ID: 500-165828-2

Date Collected: 06/26/19 14:45
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 83.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 02:06	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 15:44	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 14:59	JEF	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:30	MJG	TAL CHI

Client Sample ID: OPT-1-2 (0-1')

Lab Sample ID: 500-165828-3

Date Collected: 06/26/19 14:20
Matrix: Solid
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
SPLP East	Leach	1312			493090	07/02/19 11:25	GCA	TAL CHI
SPLP East	Prep	3010A			493329	07/03/19 14:42	BDE	TAL CHI
SPLP East	Analysis	6010B		1	493671	07/05/19 17:18	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 15:31	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:37	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 09:54	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:29		
					(End)	07/02/19 15:31		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-2 (0-1')

Lab Sample ID: 500-165828-3

Date Collected: 06/26/19 14:20
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 02:31	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 16:12	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:03	JEF	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:37	MJG	TAL CHI

Client Sample ID: OPT-1-2 (1-6')

Lab Sample ID: 500-165828-4

Date Collected: 06/26/19 14:20

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 15:35	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:41	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 09:56	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:31		
					(End)	07/02/19 15:33		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-2 (1-6')

Lab Sample ID: 500-165828-4

Date Collected: 06/26/19 14:20

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 02:57	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 19:49	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:07	JEF	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:39	MJG	TAL CHI

Client Sample ID: OPT-1-3 (0-1')

Lab Sample ID: 500-165828-5

Date Collected: 06/26/19 16:30

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 15:39	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:45	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 09:58	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:33		
					(End)	07/02/19 15:36		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-3 (0-1')

Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-5

Matrix: Solid
Percent Solids: 83.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 03:22	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 16:39	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:19	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:12	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:41	MJG	TAL CHI

Client Sample ID: OPT-1-3 (1-6')

Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 15:55	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:50	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 09:59	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:36		
					(End)	07/02/19 15:38		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-3 (1-6')

Date Collected: 06/26/19 16:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-6

Matrix: Solid
Percent Solids: 85.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 03:47	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 17:06	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:23	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:16	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:43	MJG	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-4 (0-1')
Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 15:59	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:54	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:01	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:38		
					(End)	07/02/19 15:41		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-4 (0-1')
Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-7
Matrix: Solid
Percent Solids: 80.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 04:12	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 17:33	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:27	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:20	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:45	MJG	TAL CHI

Client Sample ID: OPT-1-4 (1-6')
Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:03	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:06	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:02	MJG	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-4 (1-6')
Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-4 (1-6')
Date Collected: 06/26/19 13:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-8
Matrix: Solid
Percent Solids: 81.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 04:38	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 18:01	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:31	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:24	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:47	MJG	TAL CHI

Client Sample ID: OPT-1-5 (0-1')
Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:07	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:11	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:04	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:45		
					(End)	07/02/19 15:48		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-5 (0-1')
Date Collected: 06/26/19 14:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-9
Matrix: Solid
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 05:03	PMF	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-5 (0-1')

Lab Sample ID: 500-165828-9
Date Collected: 06/26/19 14:00
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 18:28	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:35	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:28	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 10:56	MJG	TAL CHI

Client Sample ID: OPT-1-5 (1-6')

Lab Sample ID: 500-165828-10
Date Collected: 06/26/19 14:00
Matrix: Solid
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:11	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:15	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:12	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:48		
					(End)	07/02/19 15:50		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-5 (1-6')

Lab Sample ID: 500-165828-10
Date Collected: 06/26/19 14:00
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 05:29	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 20:16	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:39	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:32	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 11:02	MJG	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-6 (0-1')
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:15	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:19	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:14	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:50		
					(End)	07/02/19 15:53		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-6 (0-1')
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-11
Matrix: Solid
Percent Solids: 81.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 05:54	PMF	TAL CHI
Total/NA	Prep	3541	DL		493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D	DL	5	494131	07/10/19 16:37	STW	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	494104	07/10/19 11:29	AJD	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:43	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:37	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 11:04	MJG	TAL CHI

Client Sample ID: OPT-1-6 (1-6')
Date Collected: 06/26/19 16:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:19	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:23	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:16	MJG	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-6 (1-6')

Lab Sample ID: 500-165828-12

Date Collected: 06/26/19 16:00
Matrix: Solid
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-6 (1-6')

Lab Sample ID: 500-165828-12

Date Collected: 06/26/19 16:00
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 77.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 06:19	PMF	TAL CHI
Total/NA	Prep	3541	DL		493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D	DL	2	494131	07/10/19 17:07	STW	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	494104	07/10/19 11:56	AJD	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:47	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:41	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 11:06	MJG	TAL CHI

Client Sample ID: OPT-1-7 (0-3')

Lab Sample ID: 500-165828-13

Date Collected: 06/26/19 15:30
Matrix: Solid
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:23	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:27	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:18	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:55		
					(End)	07/02/19 15:57		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-7 (0-3')

Lab Sample ID: 500-165828-13
Date Collected: 06/26/19 15:30
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 69.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 06:45	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	494104	07/10/19 12:24	AJD	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:51	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:45	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 11:09	MJG	TAL CHI

Client Sample ID: OPT-1-7 (3-8')

Lab Sample ID: 500-165828-14
Date Collected: 06/26/19 15:30
Matrix: Solid
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:27	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:31	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:19	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:57		
					(End)	07/02/19 16:00		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-7 (3-8')

Lab Sample ID: 500-165828-14
Date Collected: 06/26/19 15:30
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 07:10	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 13:54	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 15:55	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 17:57	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 11:11	MJG	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-8 (0-3')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-15
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:31	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:36	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:21	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 16:12		
					(End)	07/02/19 16:14		
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-8 (0-3')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-15
Matrix: Solid
Percent Solids: 78.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 07:35	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	494104	07/10/19 11:02	AJD	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:07	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:01	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 11:13	MJG	TAL CHI

Client Sample ID: OPT-1-8 (3-8')
Date Collected: 06/26/19 15:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-16
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6010B		1	493671	07/05/19 16:43	JEF	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	3010A			493331	07/03/19 14:45	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 14:40	FXG	TAL CHI
TCLP	Leach	1311			493096	07/02/19 11:25	GCA	TAL CHI
TCLP	Prep	7470A			493347	07/03/19 16:25	MJG	TAL CHI
TCLP	Analysis	7470A		1	493513	07/05/19 10:22	MJG	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: OPT-1-8 (3-8')

Lab Sample ID: 500-165828-16

Date Collected: 06/26/19 15:10
Matrix: Solid
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
Total/NA	Analysis	Moisture		1	492919	07/01/19 14:02	LWN	TAL CHI

Client Sample ID: OPT-1-8 (3-8')

Lab Sample ID: 500-165828-16

Date Collected: 06/26/19 15:10
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 77.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493124	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493839	07/09/19 08:01	PMF	TAL CHI
Total/NA	Prep	3541			493444	07/05/19 07:39	DX	TAL CHI
Total/NA	Analysis	8270D		1	493921	07/09/19 14:50	STW	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:11	JEF	TAL CHI
Total/NA	Prep	3050B			492873	07/02/19 07:45	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:04	EEN	TAL CHI
Total/NA	Prep	7471B			493066	07/02/19 14:25	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493285	07/03/19 11:15	MJG	TAL CHI

Client Sample ID: OPT-1-7 GW

Lab Sample ID: 500-165828-17

Date Collected: 06/26/19 16:00
Matrix: Water
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	493914	07/09/19 15:37	PMF	TAL CHI
Total/NA	Prep	3510C			492489	06/28/19 07:39	JVD	TAL CHI
Total/NA	Analysis	8270D		1	492819	07/01/19 18:40	AJD	TAL CHI
Dissolved	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Dissolved	Analysis	6020A		1	492835	06/28/19 17:47	FXG	TAL CHI
Dissolved	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Dissolved	Analysis	6020A		1	493500	07/03/19 16:30	FXG	TAL CHI
Total Recoverable	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	492835	06/28/19 17:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	493500	07/03/19 16:26	FXG	TAL CHI
Dissolved	Prep	7470A			492871	07/01/19 10:40	MJG	TAL CHI
Dissolved	Analysis	7470A		1	493045	07/02/19 08:24	MJG	TAL CHI
Total/NA	Prep	7470A			492871	07/01/19 10:40	MJG	TAL CHI
Total/NA	Analysis	7470A		1	493045	07/02/19 08:22	MJG	TAL CHI
Total/NA	Prep	9010B			494196	07/10/19 12:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494275		MS	TAL CHI
					(Start)	07/10/19 16:22		
					(End)	07/10/19 16:23		
Total/NA	Analysis	9056A		50	494058	07/10/19 15:46	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165828-1

Client Sample ID: Trip Blank

Date Collected: 06/26/19 00:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165828-18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	493914	07/09/19 16:03	PMF	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 500-165828-1
Project/Site: IDOT - Grayslake - WO 049

Laboratory: Eurofins TestAmerica, Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
7470A	7470A	Solid	Mercury
8260B		Water	1,3-Dichloropropene, Total
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

500-165828 COC

Report To (optional)
Contact: Terence Dixon
Company: Wood E+IS
Address:
Address:
Phone: 309-693-5697
Fax:
E-Mail: Terence.Dixon@woodplc.com

Bill To (optional)
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-165828
Chain of Custody Number:
Page 1 of 2
Temperature °C of Cooler: 3.8→2.8, 2.5→1.5, 3.1→2.1, 3.7→2.7, 4.1→3.1

Client: Wood E+IS	Client Project #: 3160150049
Project Name: IDOT-Grayslake - W.O. 49	
Project Location/State: Grayslake, IL	Lab Project #: 50016246
Sampler: Jacob Stricklin	Lab PM: Richard Wright

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOC (Preservative 9)	SVOC, Metals, TCLP, pH, solids + more (Preservative 8)							Comments
1		OPT-1-1 (0-1')	6/26/19	14:45	6	S	X	X							
2		OPT-1-1 (1-6')	6/26/19	14:45	6	S	X	X							
3		OPT-1-2 (0-1')	6/26/19	14:20	6	S	X	X							
4		OPT-1-2 (1-6')	6/26/19	14:20	6	S	X	X							
5		OPT-1-3 (0-1')	6/26/19	16:30	6	S	X	X							
6		OPT-1-3 (1-6')	6/26/19	16:30	6	S	X	X							
7		OPT-1-4 (0-1')	6/26/19	13:30	6	S	X	X							
8		OPT-1-4 (1-6')	6/26/19	13:30	6	S	X	X							
9		OPT-1-5 (0-1')	6/26/19	14:00	6	S	X	X							
10		OPT-1-5 (1-6')	6/26/19	14:00	6	S	X	X							

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days X 15 Days ~~ICF~~ Other
Requested Due Date ______

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Cfortney/CFortney	Wood E+IS	6/27/19	10:35	P. Neal	TA	6/27/19	1035
P. Neal	TA	6/27/19	1135	Shun Scott	TA-OPT	6/27/19	1135

Lab Courier: [signature]
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments:

Lab Comments:

TAL-4124-500 (1209)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Terence Dixon
Company: Wood E+IS
Address:
Address:
Phone: 309-693-5697
Fax:
E-Mail: Terence.Dixon@woodplc.com

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-165828
Chain of Custody Number:
Page 2 of 2
Temperature °C of Cooler:

Client: Wood E+IS
Client Project #: 3160150049
Project Name: IDOT-Grayslake-W.O. 49
Project Location/State: Grayslake, IL
Lab Project #: 500016246
Sampler: Jacob
Lab PM: Richard Wright

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Parameter: VOC	SVOC, metals, TCLP, pH, solids, TMAR	SVOC	Total Metals	Dissolved metals	Cyanide	Chloride	VOC		Comments
11		OPT-1-6 (0-1')	6/26/19	16:00	6	S	X	X								
12		OPT-1-6 (1-6')	6/26/19	16:00	6	S	X	X								
13		OPT-1-7 (0-3')	6/26/19	15:30	6	S	X	X								
14		OPT-1-7 (3-8')	6/26/19	15:30	6	S	X	X								
15		OPT-1-8 (0-3')	6/26/19	15:10	6	S	X	X								
16		OPT-1-8 (3-8')	6/26/19	15:10	6	S	X	X								
17		OPT-1-7 GW	6/26/19	16:00	9	W	3 COC		X	X	X	X	X	X		
18		Trip Blank														Added by TA

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days X 15 Days 3 COC Other
Requested Due Date

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Carolyn Fortney	Wood E+IS	6/27/19	10:35	K. Neal	TA	6/27/19	1035
K. Neal	TA	6/27/19	1135	[illegible]	TA-CHI	6/27/19	1135

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 500-165828-1

Login Number: 165828
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8,1.5,2.1,2.7,3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-165829-1
Client Project/Site: IDOT - Grayslake - WO 049

For:
Wood E&I Solutions Inc
4232 Brandywine Drive
Suite A
Peoria, Illinois 61614

Attn: Mr. Terry Dixon

Authorized for release by:
7/16/2019 10:37:46 AM

Richard Wright, Senior Project Manager
(708)534-5200
richard.wright@testamericainc.com

Table of Contents

Case Narrative

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Job ID: 500-165829-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-165829-1

Receipt
The samples were received on 6/27/2019 11:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.5º C, 2.1º C, 2.7º C, 2.8º C and 3.1º C.

GC/MS VOA
The following samples were diluted due to the abundance of non-target analytes: OPT-2-7 (0-1') (500-165829-13) and OPT-2-7 (1-6') (500-165829-14). Elevated reporting limits (RLs) are provided.

The following sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: OPT-2-1 GW (500-165829-17).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: The following matrix spike/matrix spike duplicate (MS/MSD) recovered at 0% for two analytes: 2,4-Dinitrophenol and Hexachlorocyclopentadiene. The associated LCS was in control for all analytes. Data has been qualified and reported.(500-165829-F-1-I MS) and (500-165829-F-1-J MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 6020A: The method blank for preparation batch 500-492495 contained Chromium above the reporting limit (RL). The sample associated with this method blank did not contain the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 6020A: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: OPT-2-1 GW (500-165829-17).

Method(s) 6020A: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following sample: OPT-2-1 GW (500-165829-17).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method(s) 9014: The following samples were analyzed for cyanide outside of holding time due to laboratory error: OPT-2-1 (0-1') (500-165829-1), OPT-2-1 (1-6') (500-165829-2), OPT-2-2 (0-1') (500-165829-3), OPT-2-2 (1-6') (500-165829-4), OPT-2-3 (0-1') (500-165829-5), OPT-2-3 (1-6') (500-165829-6), OPT-2-4 (0-3') (500-165829-7), OPT-2-4 (3-8') (500-165829-8), OPT-2-5 (0-3') (500-165829-9), OPT-2-5 (3-8') (500-165829-10), OPT-2-6 (0-1') (500-165829-11), OPT-2-6 (1-6') (500-165829-12), OPT-2-7 (0-1') (500-165829-13), OPT-2-7 (1-6') (500-165829-14), OPT-2-8 (0-1') (500-165829-15) and OPT-2-8 (1-6') (500-165829-16).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-1 (0-1')

Lab Sample ID: 500-165829-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.035		0.021	0.0092	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0054		0.0053	0.0023	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.0073	J	0.041	0.0056	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.012	J	0.041	0.0081	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.015	J	0.041	0.0090	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.011	J	0.041	0.0077	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.012	J	0.041	0.0083	mg/Kg	1	☼	8270D	Total/NA
Arsenic	6.7		0.62	0.21	mg/Kg	1	☼	6010B	Total/NA
Barium	93		0.62	0.071	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.81		0.25	0.058	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.24	B	0.12	0.022	mg/Kg	1	☼	6010B	Total/NA
Chromium	23		0.62	0.31	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.31	0.082	mg/Kg	1	☼	6010B	Total/NA
Copper	22	B	0.62	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	23000	B	12	6.5	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.31	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	620		0.62	0.090	mg/Kg	1	☼	6010B	Total/NA
Nickel	29		0.62	0.18	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.4	B	0.62	0.37	mg/Kg	1	☼	6010B	Total/NA
Silver	4.1		0.31	0.080	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.1		0.62	0.31	mg/Kg	1	☼	6010B	Total/NA
Vanadium	32		0.31	0.073	mg/Kg	1	☼	6010B	Total/NA
Zinc	70	B	1.2	0.55	mg/Kg	1	☼	6010B	Total/NA
Barium	0.23	J	0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.015	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.081	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.028		0.019	0.0064	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.57	J H	0.60	0.21	mg/Kg	1	☼	9014	Total/NA
pH	7.2		0.2	0.2	SU	1		9045D	Total/NA
Chloride	7100		500	420	mg/Kg	200	☼	9056A	Total/NA

Client Sample ID: OPT-2-1 (1-6')

Lab Sample ID: 500-165829-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.2		0.58	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	77		0.58	0.066	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.87		0.23	0.054	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.30	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	21		0.58	0.28	mg/Kg	1	☼	6010B	Total/NA
Cobalt	14		0.29	0.075	mg/Kg	1	☼	6010B	Total/NA
Copper	28	B	0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	24000	B	12	6.0	mg/Kg	1	☼	6010B	Total/NA
Lead	15		0.29	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	580		0.58	0.083	mg/Kg	1	☼	6010B	Total/NA
Nickel	37		0.58	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.71	B	0.58	0.34	mg/Kg	1	☼	6010B	Total/NA
Silver	4.0		0.29	0.074	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.99		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	28		0.29	0.068	mg/Kg	1	☼	6010B	Total/NA
Zinc	67	B	1.2	0.51	mg/Kg	1	☼	6010B	Total/NA
Barium	0.44	J	0.50	0.050	mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-1 (1-6') (Continued) — Lab Sample ID: 500-165829-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.018	J	0.020	0.0067	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.22	J H	0.60	0.21	mg/Kg	1	☼	9014	Total/NA
pH	7.5		0.2	0.2	SU	1		9045D	Total/NA
Chloride	2300		120	100	mg/Kg	50	☼	9056A	Total/NA

Client Sample ID: OPT-2-2 (0-1') — Lab Sample ID: 500-165829-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.054		0.018	0.0080	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.012		0.0046	0.0020	mg/Kg	1	☼	8260B	Total/NA
Antimony	0.28	J	1.2	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.1		0.60	0.21	mg/Kg	1	☼	6010B	Total/NA
Barium	84		0.60	0.069	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.79		0.24	0.056	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.35	B	0.12	0.022	mg/Kg	1	☼	6010B	Total/NA
Chromium	21		0.60	0.30	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.30	0.079	mg/Kg	1	☼	6010B	Total/NA
Copper	21	B	0.60	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	23000	B	12	6.3	mg/Kg	1	☼	6010B	Total/NA
Lead	22		0.30	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	560		0.60	0.087	mg/Kg	1	☼	6010B	Total/NA
Nickel	30		0.60	0.18	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.86	B	0.60	0.35	mg/Kg	1	☼	6010B	Total/NA
Silver	4.0		0.30	0.078	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.1		0.60	0.30	mg/Kg	1	☼	6010B	Total/NA
Vanadium	31		0.30	0.071	mg/Kg	1	☼	6010B	Total/NA
Zinc	130	B	1.2	0.53	mg/Kg	1	☼	6010B	Total/NA
Barium	0.38	J	0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.028		0.025	0.010	mg/L	1		6010B	TCLP
Iron	0.47		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.013	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.39	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.027		0.020	0.0067	mg/Kg	1	☼	7471B	Total/NA
pH	7.7		0.2	0.2	SU	1		9045D	Total/NA
Chloride	1600		46	39	mg/Kg	20	☼	9056A	Total/NA

Client Sample ID: OPT-2-2 (1-6') — Lab Sample ID: 500-165829-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.057		0.021	0.0092	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0045	J	0.0053	0.0023	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.0062	J	0.044	0.0059	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.013	J	0.044	0.0095	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.0089	J	0.044	0.0082	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.0099	J	0.044	0.0088	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.44	J	1.3	0.24	mg/Kg	1	☼	6010B	Total/NA
Arsenic	5.7		0.63	0.22	mg/Kg	1	☼	6010B	Total/NA
Barium	43		0.63	0.072	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.53		0.25	0.059	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.27	B	0.13	0.023	mg/Kg	1	☼	6010B	Total/NA
Chromium	15		0.63	0.31	mg/Kg	1	☼	6010B	Total/NA
Cobalt	10		0.31	0.082	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-2 (1-6') (Continued) — Lab Sample ID: 500-165829-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	19	B	0.63	0.18	mg/Kg	1	☼	6010B	Total/NA
Iron	18000	B	13	6.5	mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.31	0.15	mg/Kg	1	☼	6010B	Total/NA
Manganese	540		0.63	0.091	mg/Kg	1	☼	6010B	Total/NA
Nickel	25		0.63	0.18	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.64	B	0.63	0.37	mg/Kg	1	☼	6010B	Total/NA
Silver	2.5		0.31	0.081	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.31	0.074	mg/Kg	1	☼	6010B	Total/NA
Zinc	48	B	1.3	0.55	mg/Kg	1	☼	6010B	Total/NA
Barium	0.42	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0021	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.013	J	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.018	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.19	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.014	J	0.022	0.0073	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.22	J H	0.61	0.21	mg/Kg	1	☼	9014	Total/NA
pH	8.4		0.2	0.2	SU	1		9045D	Total/NA
Chloride	5700		260	220	mg/Kg	100	☼	9056A	Total/NA

Client Sample ID: OPT-2-3 (0-1') — Lab Sample ID: 500-165829-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.056		0.019	0.0081	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0084		0.0047	0.0021	mg/Kg	1	☼	8260B	Total/NA
Arsenic	7.1		0.58	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	83		0.58	0.066	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.76		0.23	0.054	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.28	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	22		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.29	0.076	mg/Kg	1	☼	6010B	Total/NA
Copper	22	B	0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	23000	B	12	6.0	mg/Kg	1	☼	6010B	Total/NA
Lead	18		0.29	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	590		0.58	0.084	mg/Kg	1	☼	6010B	Total/NA
Nickel	29		0.58	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	1.1	B	0.58	0.34	mg/Kg	1	☼	6010B	Total/NA
Silver	3.9		0.29	0.075	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.86		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	29		0.29	0.068	mg/Kg	1	☼	6010B	Total/NA
Zinc	60	B	1.2	0.51	mg/Kg	1	☼	6010B	Total/NA
Barium	0.39	J	0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.024	J	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.015	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.081	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.024		0.019	0.0064	mg/Kg	1	☼	7471B	Total/NA
pH	8.4		0.2	0.2	SU	1		9045D	Total/NA
Chloride	490		24	20	mg/Kg	10	☼	9056A	Total/NA

Client Sample ID: OPT-2-3 (1-6') — Lab Sample ID: 500-165829-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.034		0.017	0.0074	mg/Kg	1	☼	8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-3 (1-6') (Continued)

Lab Sample ID: 500-165829-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.34	J	1.1	0.21	mg/Kg	1	☼	6010B	Total/NA
Arsenic	10		0.54	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	48		0.54	0.062	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.60		0.22	0.051	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.45	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	15		0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13		0.27	0.071	mg/Kg	1	☼	6010B	Total/NA
Copper	25	B	0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Iron	23000	B	11	5.7	mg/Kg	1	☼	6010B	Total/NA
Lead	15		0.27	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	580		0.54	0.079	mg/Kg	1	☼	6010B	Total/NA
Nickel	31		0.54	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.41	J B	0.54	0.32	mg/Kg	1	☼	6010B	Total/NA
Silver	2.7		0.27	0.070	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.28	J	0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.27	0.064	mg/Kg	1	☼	6010B	Total/NA
Zinc	52	B	1.1	0.48	mg/Kg	1	☼	6010B	Total/NA
Barium	0.43	J	0.50	0.050	mg/L	1		6010B	TCLP
Zinc	0.22	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.019		0.019	0.0063	mg/Kg	1	☼	7471B	Total/NA
pH	8.6		0.2	0.2	SU	1		9045D	Total/NA
Chloride	430		23	19	mg/Kg	10	☼	9056A	Total/NA

Client Sample ID: OPT-2-4 (0-3')

Lab Sample ID: 500-165829-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.026		0.016	0.0070	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0037	J	0.0040	0.0018	mg/Kg	1	☼	8260B	Total/NA
Phenanthrene	0.013	J	0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.31	J	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.2		0.55	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	58		0.55	0.063	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.54		0.22	0.052	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.29	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	14		0.55	0.27	mg/Kg	1	☼	6010B	Total/NA
Cobalt	16		0.28	0.073	mg/Kg	1	☼	6010B	Total/NA
Copper	19	B	0.55	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	19000	B	11	5.8	mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	870		0.55	0.080	mg/Kg	1	☼	6010B	Total/NA
Nickel	32		0.55	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.36	J B	0.55	0.33	mg/Kg	1	☼	6010B	Total/NA
Silver	2.8		0.28	0.072	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.35	J	0.55	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	22		0.28	0.065	mg/Kg	1	☼	6010B	Total/NA
Zinc	36	B	1.1	0.49	mg/Kg	1	☼	6010B	Total/NA
Barium	0.58		0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.024	J	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.023	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.16	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.014	J	0.018	0.0060	mg/Kg	1	☼	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-4 (0-3') (Continued)

Lab Sample ID: 500-165829-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	8.8		0.2	0.2	SU	1		9045D	Total/NA
Chloride	2300		220	190	mg/Kg	100	☼	9056A	Total/NA

Client Sample ID: OPT-2-4 (3-8')

Lab Sample ID: 500-165829-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.0078	J	0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.0089	J	0.037	0.0072	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.011	J	0.037	0.0081	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.0083	J	0.037	0.0069	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.010	J	0.075	0.0069	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.025	J	0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.0096	J	0.037	0.0074	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.41	J	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.2		0.55	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	40		0.55	0.063	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.52		0.22	0.052	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.35	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	13		0.55	0.27	mg/Kg	1	☼	6010B	Total/NA
Cobalt	9.8		0.28	0.073	mg/Kg	1	☼	6010B	Total/NA
Copper	24	B	0.55	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	18000	B	11	5.8	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	480		0.55	0.080	mg/Kg	1	☼	6010B	Total/NA
Nickel	25		0.55	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.71	B	0.55	0.33	mg/Kg	1	☼	6010B	Total/NA
Silver	2.3		0.28	0.071	mg/Kg	1	☼	6010B	Total/NA
Vanadium	18		0.28	0.065	mg/Kg	1	☼	6010B	Total/NA
Zinc	50		1.1	0.49	mg/Kg	1	☼	6010B	Total/NA
Barium	0.42	J	0.50	0.050	mg/L	1		6010B	TCLP
Mercury	0.0060	J	0.018	0.0060	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.26	J H	0.57	0.19	mg/Kg	1	☼	9014	Total/NA
pH	9.5		0.2	0.2	SU	1		9045D	Total/NA
Chloride	470		21	18	mg/Kg	10	☼	9056A	Total/NA

Client Sample ID: OPT-2-5 (0-3')

Lab Sample ID: 500-165829-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.044		0.018	0.0079	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0064		0.0045	0.0020	mg/Kg	1	☼	8260B	Total/NA
Antimony	0.27	J	1.3	0.25	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.9		0.64	0.22	mg/Kg	1	☼	6010B	Total/NA
Barium	42		0.64	0.072	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.81		0.25	0.059	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.22	B	0.13	0.023	mg/Kg	1	☼	6010B	Total/NA
Chromium	21		0.64	0.31	mg/Kg	1	☼	6010B	Total/NA
Cobalt	18		0.32	0.083	mg/Kg	1	☼	6010B	Total/NA
Copper	24	B	0.64	0.18	mg/Kg	1	☼	6010B	Total/NA
Iron	24000	B	13	6.6	mg/Kg	1	☼	6010B	Total/NA
Lead	15		0.32	0.15	mg/Kg	1	☼	6010B	Total/NA
Manganese	770		0.64	0.092	mg/Kg	1	☼	6010B	Total/NA
Nickel	38		0.64	0.18	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-5 (0-3') (Continued) — Lab Sample ID: 500-165829-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.81	B	0.64	0.37	mg/Kg	1	☼	6010B	Total/NA
Silver	3.9		0.32	0.082	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.1		0.64	0.32	mg/Kg	1	☼	6010B	Total/NA
Vanadium	29		0.32	0.075	mg/Kg	1	☼	6010B	Total/NA
Zinc	61		1.3	0.56	mg/Kg	1	☼	6010B	Total/NA
Barium	0.23	J	0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.028		0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.020	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.13	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.025		0.021	0.0071	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.98	H	0.63	0.22	mg/Kg	1	☼	9014	Total/NA
pH	7.9		0.2	0.2	SU	1		9045D	Total/NA
Chloride	9400		540	460	mg/Kg	200	☼	9056A	Total/NA

Client Sample ID: OPT-2-5 (3-8') — Lab Sample ID: 500-165829-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.37	J F1	1.1	0.21	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.9	F1	0.54	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	21		0.54	0.062	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.56		0.22	0.051	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.32	F1 B	0.11	0.019	mg/Kg	1	☼	6010B	Total/NA
Chromium	14		0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Cobalt	13	F1	0.27	0.071	mg/Kg	1	☼	6010B	Total/NA
Copper	22	B	0.54	0.15	mg/Kg	1	☼	6010B	Total/NA
Iron	20000	B	11	5.6	mg/Kg	1	☼	6010B	Total/NA
Lead	14	F1	0.27	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	560		0.54	0.078	mg/Kg	1	☼	6010B	Total/NA
Nickel	31	F1	0.54	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.68	F1 B	0.54	0.32	mg/Kg	1	☼	6010B	Total/NA
Silver	2.5		0.27	0.070	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.59	F1	0.54	0.27	mg/Kg	1	☼	6010B	Total/NA
Vanadium	19		0.27	0.064	mg/Kg	1	☼	6010B	Total/NA
Zinc	50		1.1	0.48	mg/Kg	1	☼	6010B	Total/NA
Barium	0.27	J	0.50	0.050	mg/L	1		6010B	TCLP
Mercury	0.010	J	0.018	0.0059	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	1.6	H	0.44	0.15	mg/Kg	1	☼	9014	Total/NA
pH	8.3		0.2	0.2	SU	1		9045D	Total/NA
Chloride	5200		450	380	mg/Kg	200	☼	9056A	Total/NA

Client Sample ID: OPT-2-6 (0-1') — Lab Sample ID: 500-165829-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.098		0.019	0.0081	mg/Kg	1	☼	8260B	Total/NA
Benzene	0.00052	J	0.0019	0.00047	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.018		0.0046	0.0021	mg/Kg	1	☼	8260B	Total/NA
Carbon disulfide	0.0014	J	0.0046	0.00097	mg/Kg	1	☼	8260B	Total/NA
Anthracene	0.0076	J	0.042	0.0070	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.012	J	0.042	0.0057	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.0095	J	0.042	0.0082	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.012	J	0.042	0.0091	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.046		0.042	0.0078	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-6 (0-1') (Continued) — Lab Sample ID: 500-165829-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	0.020	J	0.042	0.0059	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.018	J	0.042	0.0084	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.32	J	1.2	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.6		0.60	0.21	mg/Kg	1	☼	6010B	Total/NA
Barium	89		0.60	0.068	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.79		0.24	0.056	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.28	B	0.12	0.022	mg/Kg	1	☼	6010B	Total/NA
Chromium	21		0.60	0.30	mg/Kg	1	☼	6010B	Total/NA
Cobalt	14		0.30	0.079	mg/Kg	1	☼	6010B	Total/NA
Copper	23	B	0.60	0.17	mg/Kg	1	☼	6010B	Total/NA
Iron	22000	B	12	6.2	mg/Kg	1	☼	6010B	Total/NA
Lead	17		0.30	0.14	mg/Kg	1	☼	6010B	Total/NA
Manganese	320		0.60	0.087	mg/Kg	1	☼	6010B	Total/NA
Nickel	31		0.60	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.89	B	0.60	0.35	mg/Kg	1	☼	6010B	Total/NA
Silver	4.5		0.30	0.077	mg/Kg	1	☼	6010B	Total/NA
Thallium	1.1		0.60	0.30	mg/Kg	1	☼	6010B	Total/NA
Vanadium	29		0.30	0.071	mg/Kg	1	☼	6010B	Total/NA
Zinc	70		1.2	0.53	mg/Kg	1	☼	6010B	Total/NA
Barium	0.37	J	0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.032		0.025	0.010	mg/L	1		6010B	TCLP
Iron	1.2		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.017	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.10	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.026		0.020	0.0067	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.36	J H	0.56	0.19	mg/Kg	1	☼	9014	Total/NA
pH	7.6		0.2	0.2	SU	1		9045D	Total/NA
Chloride	13000		1200	1000	mg/Kg	500	☼	9056A	Total/NA

Client Sample ID: OPT-2-6 (1-6') — Lab Sample ID: 500-165829-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.021		0.017	0.0072	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0026	J	0.0041	0.0018	mg/Kg	1	☼	8260B	Total/NA
Acenaphthene	0.0072	J	0.038	0.0068	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.011	J	0.038	0.0064	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.015	J	0.038	0.0051	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.013	J	0.038	0.0074	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.011	J	0.038	0.0082	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.011	J	0.038	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.037	J	0.038	0.0071	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.015	J	0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.014	J	0.038	0.0059	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.037	J	0.038	0.0053	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.028	J	0.038	0.0076	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.42	J	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	5.1		0.56	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	65		0.56	0.064	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.46		0.22	0.052	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.28	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	12		0.56	0.28	mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-6 (1-6') (Continued)

Lab Sample ID: 500-165829-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	9.9		0.28	0.073	mg/Kg	1	☼	6010B	Total/NA
Copper	17	B	0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	14000	B	11	5.8	mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	1000		0.56	0.081	mg/Kg	1	☼	6010B	Total/NA
Nickel	21		0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.62	B	0.56	0.33	mg/Kg	1	☼	6010B	Total/NA
Silver	2.4		0.28	0.072	mg/Kg	1	☼	6010B	Total/NA
Vanadium	19		0.28	0.066	mg/Kg	1	☼	6010B	Total/NA
Zinc	32		1.1	0.49	mg/Kg	1	☼	6010B	Total/NA
Barium	0.91		0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0022	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.017	J	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.018	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.25	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.014	J	0.017	0.0058	mg/Kg	1	☼	7471B	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA
Chloride	5200		460	390	mg/Kg	200	☼	9056A	Total/NA

Client Sample ID: OPT-2-7 (0-1')

Lab Sample ID: 500-165829-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.011	J	0.015	0.0085	mg/Kg	50	☼	8260B	Total/NA
Ethylbenzene	1.1		0.015	0.011	mg/Kg	50	☼	8260B	Total/NA
Xylenes, Total	0.99		0.029	0.013	mg/Kg	50	☼	8260B	Total/NA
2-Methylnaphthalene	0.053	J	0.081	0.0074	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.26		0.040	0.0062	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.33	J	1.2	0.23	mg/Kg	1	☼	6010B	Total/NA
Arsenic	6.2		0.58	0.20	mg/Kg	1	☼	6010B	Total/NA
Barium	78		0.58	0.066	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.68		0.23	0.054	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.31	B	0.12	0.021	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Cobalt	12		0.29	0.076	mg/Kg	1	☼	6010B	Total/NA
Copper	18	B	0.58	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	20000	B	12	6.0	mg/Kg	1	☼	6010B	Total/NA
Lead	23		0.29	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	390		0.58	0.084	mg/Kg	1	☼	6010B	Total/NA
Nickel	25		0.58	0.17	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.82	B	0.58	0.34	mg/Kg	1	☼	6010B	Total/NA
Silver	3.7		0.29	0.075	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.95		0.58	0.29	mg/Kg	1	☼	6010B	Total/NA
Vanadium	28		0.29	0.069	mg/Kg	1	☼	6010B	Total/NA
Zinc	69		1.2	0.51	mg/Kg	1	☼	6010B	Total/NA
Barium	0.52		0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.036		0.025	0.010	mg/L	1		6010B	TCLP
Iron	0.77		0.40	0.20	mg/L	1		6010B	TCLP
Nickel	0.021	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.090	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.023		0.019	0.0064	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.19	J H	0.52	0.18	mg/Kg	1	☼	9014	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-7 (0-1') (Continued) — Lab Sample ID: 500-165829-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.9		0.2	0.2	SU	1		9045D	Total/NA
Chloride	8600		600	510	mg/Kg	250	☼	9056A	Total/NA

Client Sample ID: OPT-2-7 (1-6') — Lab Sample ID: 500-165829-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.68		0.012	0.0086	mg/Kg	50	☼	8260B	Total/NA
Xylenes, Total	0.37		0.024	0.010	mg/Kg	50	☼	8260B	Total/NA
Acenaphthene	0.017	J	0.037	0.0066	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.011	J	0.037	0.0050	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.012	J	0.037	0.0071	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.016	J	0.037	0.0080	mg/Kg	1	☼	8270D	Total/NA
Bis(2-ethylhexyl) phthalate	0.092	J	0.19	0.067	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.026	J	0.037	0.010	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.012	J	0.037	0.0068	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.014	J	0.037	0.0052	mg/Kg	1	☼	8270D	Total/NA
2-Methylnaphthalene	0.12		0.074	0.0068	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	1.8		0.037	0.0057	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.039		0.037	0.0051	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.039		0.037	0.0073	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.42	J	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	5.2		0.56	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	56		0.56	0.064	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.42		0.22	0.052	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.27	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	13		0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Cobalt	10		0.28	0.073	mg/Kg	1	☼	6010B	Total/NA
Copper	18	B	0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	14000	B	11	5.8	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	460		0.56	0.081	mg/Kg	1	☼	6010B	Total/NA
Nickel	23		0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.77	B	0.56	0.33	mg/Kg	1	☼	6010B	Total/NA
Silver	2.2		0.28	0.072	mg/Kg	1	☼	6010B	Total/NA
Vanadium	17		0.28	0.066	mg/Kg	1	☼	6010B	Total/NA
Zinc	36		1.1	0.49	mg/Kg	1	☼	6010B	Total/NA
Barium	0.59		0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.019	J	0.025	0.010	mg/L	1		6010B	TCLP
Nickel	0.016	J	0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.14	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.011	J	0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.39	J H	0.51	0.18	mg/Kg	1	☼	9014	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA
Chloride	6200		450	380	mg/Kg	200	☼	9056A	Total/NA

Client Sample ID: OPT-2-8 (0-1') — Lab Sample ID: 500-165829-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.042		0.018	0.0076	mg/Kg	1	☼	8260B	Total/NA
2-Butanone (MEK)	0.0082		0.0044	0.0019	mg/Kg	1	☼	8260B	Total/NA
Benzo[a]pyrene	0.011	J	0.039	0.0076	mg/Kg	1	☼	8270D	Total/NA
Naphthalene	0.0083	J	0.039	0.0060	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-8 (0-1') (Continued) — Lab Sample ID: 500-165829-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	0.0087	J	0.039	0.0078	mg/Kg	1	☼	8270D	Total/NA
Antimony	0.39	J	1.1	0.22	mg/Kg	1	☼	6010B	Total/NA
Arsenic	4.7		0.56	0.19	mg/Kg	1	☼	6010B	Total/NA
Barium	66		0.56	0.064	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.60		0.22	0.052	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.26	B	0.11	0.020	mg/Kg	1	☼	6010B	Total/NA
Chromium	15		0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Cobalt	8.5		0.28	0.073	mg/Kg	1	☼	6010B	Total/NA
Copper	17	B	0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Iron	16000	B	11	5.8	mg/Kg	1	☼	6010B	Total/NA
Lead	20		0.28	0.13	mg/Kg	1	☼	6010B	Total/NA
Manganese	280		0.56	0.081	mg/Kg	1	☼	6010B	Total/NA
Nickel	18		0.56	0.16	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.79	B	0.56	0.33	mg/Kg	1	☼	6010B	Total/NA
Silver	2.6		0.28	0.072	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.40	J	0.56	0.28	mg/Kg	1	☼	6010B	Total/NA
Vanadium	26		0.28	0.066	mg/Kg	1	☼	6010B	Total/NA
Zinc	52		1.1	0.49	mg/Kg	1	☼	6010B	Total/NA
Barium	0.59		0.50	0.050	mg/L	1		6010B	TCLP
Cobalt	0.027		0.025	0.010	mg/L	1		6010B	TCLP
Iron	1.4		0.40	0.20	mg/L	1		6010B	TCLP
Zinc	0.039	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.032		0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
Cyanide, Total	0.20	J H	0.44	0.15	mg/Kg	1	☼	9014	Total/NA
pH	8.2		0.2	0.2	SU	1		9045D	Total/NA
Chloride	6500		540	460	mg/Kg	250	☼	9056A	Total/NA

Client Sample ID: OPT-2-8 (1-6') — Lab Sample ID: 500-165829-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0093	J	0.016	0.0070	mg/Kg	1	☼	8260B	Total/NA
Antimony	0.20	J	1.0	0.20	mg/Kg	1	☼	6010B	Total/NA
Arsenic	7.0		0.51	0.18	mg/Kg	1	☼	6010B	Total/NA
Barium	84		0.51	0.058	mg/Kg	1	☼	6010B	Total/NA
Beryllium	0.77		0.21	0.048	mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.30	B	0.10	0.018	mg/Kg	1	☼	6010B	Total/NA
Chromium	19		0.51	0.25	mg/Kg	1	☼	6010B	Total/NA
Cobalt	11		0.26	0.067	mg/Kg	1	☼	6010B	Total/NA
Copper	25	B	0.51	0.14	mg/Kg	1	☼	6010B	Total/NA
Iron	21000	B	10	5.3	mg/Kg	1	☼	6010B	Total/NA
Lead	12		0.26	0.12	mg/Kg	1	☼	6010B	Total/NA
Manganese	350		0.51	0.074	mg/Kg	1	☼	6010B	Total/NA
Nickel	32		0.51	0.15	mg/Kg	1	☼	6010B	Total/NA
Selenium	0.41	J B	0.51	0.30	mg/Kg	1	☼	6010B	Total/NA
Silver	3.5		0.26	0.066	mg/Kg	1	☼	6010B	Total/NA
Thallium	0.76		0.51	0.26	mg/Kg	1	☼	6010B	Total/NA
Vanadium	26		0.26	0.061	mg/Kg	1	☼	6010B	Total/NA
Zinc	60		1.0	0.45	mg/Kg	1	☼	6010B	Total/NA
Barium	0.46	J	0.50	0.050	mg/L	1		6010B	TCLP
Cadmium	0.0021	J	0.0050	0.0020	mg/L	1		6010B	TCLP
Cobalt	0.016	J	0.025	0.010	mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Client Sample ID: OPT-2-8 (1-6') (Continued) — Lab Sample ID: 500-165829-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.026		0.025	0.010	mg/L	1		6010B	TCLP
Zinc	0.35	J	0.50	0.020	mg/L	1		6010B	TCLP
Mercury	0.015	J	0.018	0.0061	mg/Kg	1	☼	7471B	Total/NA
pH	8.1		0.2	0.2	SU	1		9045D	Total/NA
Chloride	4300		440	370	mg/Kg	200	☼	9056A	Total/NA

Client Sample ID: OPT-2-1 GW — Lab Sample ID: 500-165829-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.024		0.0010	0.00023	mg/L	1		6020A	Total Recoverable
Barium	0.35		0.0025	0.00073	mg/L	1		6020A	Total Recoverable
Cadmium	0.0020		0.00050	0.00017	mg/L	1		6020A	Total Recoverable
Chromium	0.039		0.025	0.0057	mg/L	5		6020A	Total Recoverable
Cobalt	0.018		0.0050	0.0020	mg/L	5		6020A	Total Recoverable
Copper	0.073	B	0.0020	0.00050	mg/L	1		6020A	Total Recoverable
Iron	40		0.50	0.23	mg/L	5		6020A	Total Recoverable
Lead	0.020		0.00050	0.00019	mg/L	1		6020A	Total Recoverable
Manganese	3.8		0.013	0.0040	mg/L	5		6020A	Total Recoverable
Nickel	0.059		0.010	0.0031	mg/L	5		6020A	Total Recoverable
Selenium	0.0026		0.0025	0.00098	mg/L	1		6020A	Total Recoverable
Silver	0.00020	J	0.00050	0.00012	mg/L	1		6020A	Total Recoverable
Thallium	0.0011	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Vanadium	0.057		0.025	0.011	mg/L	5		6020A	Total Recoverable
Zinc	0.14	B	0.020	0.0069	mg/L	1		6020A	Total Recoverable
Arsenic	0.0039		0.0010	0.00023	mg/L	1		6020A	Dissolved
Barium	0.27		0.0025	0.00073	mg/L	1		6020A	Dissolved
Cadmium	0.00056		0.00050	0.00017	mg/L	1		6020A	Dissolved
Cobalt	0.0058		0.0010	0.00040	mg/L	1		6020A	Dissolved
Copper	0.0052	B	0.0020	0.00050	mg/L	1		6020A	Dissolved
Iron	0.22		0.10	0.047	mg/L	1		6020A	Dissolved
Manganese	3.6		0.0025	0.00079	mg/L	1		6020A	Dissolved
Nickel	0.020		0.0020	0.00063	mg/L	1		6020A	Dissolved
Selenium	0.0022	J	0.0025	0.00098	mg/L	1		6020A	Dissolved
Vanadium	0.0026	J	0.0050	0.0022	mg/L	1		6020A	Dissolved
Zinc	0.036	B	0.020	0.0069	mg/L	1		6020A	Dissolved
Cyanide, Total	0.16		0.010	0.0035	mg/L	1		9014	Total/NA
Chloride	8100		400	340	mg/L	2000		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-165829-1	OPT-2-1 (0-1')	Solid	06/26/19 10:35	06/27/19 11:35	
500-165829-2	OPT-2-1 (1-6')	Solid	06/26/19 10:35	06/27/19 11:35	
500-165829-3	OPT-2-2 (0-1')	Solid	06/26/19 11:00	06/27/19 11:35	
500-165829-4	OPT-2-2 (1-6')	Solid	06/26/19 11:00	06/27/19 11:35	
500-165829-5	OPT-2-3 (0-1')	Solid	06/26/19 11:25	06/27/19 11:35	
500-165829-6	OPT-2-3 (1-6')	Solid	06/26/19 11:25	06/27/19 11:35	
500-165829-7	OPT-2-4 (0-3')	Solid	06/26/19 12:55	06/27/19 11:35	
500-165829-8	OPT-2-4 (3-8')	Solid	06/26/19 12:55	06/27/19 11:35	
500-165829-9	OPT-2-5 (0-3')	Solid	06/26/19 12:20	06/27/19 11:35	
500-165829-10	OPT-2-5 (3-8')	Solid	06/26/19 12:20	06/27/19 11:35	
500-165829-11	OPT-2-6 (0-1')	Solid	06/26/19 11:50	06/27/19 11:35	
500-165829-12	OPT-2-6 (1-6')	Solid	06/26/19 11:50	06/27/19 11:35	
500-165829-13	OPT-2-7 (0-1')	Solid	06/26/19 09:30	06/27/19 11:35	
500-165829-14	OPT-2-7 (1-6')	Solid	06/26/19 09:30	06/27/19 11:35	
500-165829-15	OPT-2-8 (0-1')	Solid	06/26/19 10:10	06/27/19 11:35	
500-165829-16	OPT-2-8 (1-6')	Solid	06/26/19 10:10	06/27/19 11:35	
500-165829-17	OPT-2-1 GW	Water	06/26/19 13:00	06/27/19 11:35	

Client Sample ID: OPT-2-1 (0-1')
Lab Sample ID: 500-165829-1

Date Collected: 06/26/19 10:35
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 79.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.035**		0.021	0.0092	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Benzene	<0.0021		0.0021	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Bromodichloromethane	<0.0021		0.0021	0.00043	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Bromoform	<0.0021		0.0021	0.00061	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Bromomethane	<0.0053		0.0053	0.0020	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
2-Butanone (MEK)	**0.0054**		0.0053	0.0023	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Carbon disulfide	<0.0053		0.0053	0.0011	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Carbon tetrachloride	<0.0021		0.0021	0.00061	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Chlorobenzene	<0.0021		0.0021	0.00078	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Chloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Chloroform	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Chloromethane	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
cis-1,2-Dichloroethene	<0.0021		0.0021	0.00059	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
cis-1,3-Dichloropropene	<0.0021		0.0021	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Dibromochloromethane	<0.0021		0.0021	0.00069	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,1-Dichloroethane	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,2-Dichloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,1-Dichloroethene	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,2-Dichloropropane	<0.0021		0.0021	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,3-Dichloropropene, Total	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Ethylbenzene	<0.0021		0.0021	0.0010	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
2-Hexanone	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Methylene Chloride	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
4-Methyl-2-pentanone (MIBK)	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Methyl tert-butyl ether	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Styrene	<0.0021		0.0021	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,1,2,2-Tetrachloroethane	<0.0021		0.0021	0.00067	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Tetrachloroethene	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Toluene	<0.0021		0.0021	0.00053	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
trans-1,2-Dichloroethene	<0.0021		0.0021	0.00093	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
trans-1,3-Dichloropropene	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,1,1-Trichloroethane	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
1,1,2-Trichloroethane	<0.0021		0.0021	0.00090	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Trichloroethene	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Vinyl acetate	<0.0053		0.0053	0.0018	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Vinyl chloride	<0.0021		0.0021	0.00093	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1
Xylenes, Total	<0.0042		0.0042	0.00067	mg/Kg	☼	06/27/19 17:21	07/08/19 02:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*75 - 131*	*06/27/19 17:21*	*07/08/19 02:46*	*1*
Dibromofluoromethane	*100*		*75 - 126*	*06/27/19 17:21*	*07/08/19 02:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 134*	*06/27/19 17:21*	*07/08/19 02:46*	*1*
Toluene-d8 (Surr)	*101*		*75 - 124*	*06/27/19 17:21*	*07/08/19 02:46*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.041		0.041	0.0075	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Acenaphthylene	<0.041		0.041	0.0055	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Anthracene	<0.041		0.041	0.0070	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Benzo[a]anthracene	**0.0073**	**J**	0.041	0.0056	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1

Client Sample ID: OPT-2-1 (0-1')

Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-1

Matrix: Solid
Percent Solids: 79.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.012**	**J**	0.041	0.0081	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Benzo[b]fluoranthene	**0.015**	**J**	0.041	0.0090	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Benzo[g,h,i]perylene	<0.041	F1	0.041	0.013	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Benzo[k]fluoranthene	<0.041		0.041	0.012	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.043	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Bis(2-chloroethyl)ether	<0.21	F1 F2	0.21	0.063	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.076	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.055	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Butyl benzyl phthalate	<0.21		0.21	0.079	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Carbazole	<0.21		0.21	0.10	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
4-Chloroaniline	<0.84		0.84	0.20	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
4-Chloro-3-methylphenol	<0.41		0.41	0.14	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2-Chloronaphthalene	<0.21		0.21	0.046	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2-Chlorophenol	<0.21		0.21	0.071	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Chrysene	<0.041		0.041	0.011	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Dibenz(a,h)anthracene	<0.041		0.041	0.0081	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Dibenzofuran	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
1,2-Dichlorobenzene	<0.21		0.21	0.050	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
1,3-Dichlorobenzene	<0.21		0.21	0.047	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
1,4-Dichlorobenzene	<0.21		0.21	0.053	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.058	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,4-Dichlorophenol	<0.41		0.41	0.099	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Diethyl phthalate	<0.21		0.21	0.071	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,4-Dimethylphenol	<0.41		0.41	0.16	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Dimethyl phthalate	<0.21		0.21	0.055	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Di-n-butyl phthalate	<0.21		0.21	0.064	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
4,6-Dinitro-2-methylphenol	<0.84	F2	0.84	0.34	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,4-Dinitrophenol	<0.84	F1	0.84	0.73	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,4-Dinitrotoluene	<0.21		0.21	0.066	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,6-Dinitrotoluene	<0.21		0.21	0.082	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Di-n-octyl phthalate	<0.21		0.21	0.068	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Fluoranthene	**0.011**	**J**	0.041	0.0077	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Fluorene	<0.041		0.041	0.0059	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Hexachlorobenzene	<0.084		0.084	0.0097	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Hexachlorobutadiene	<0.21		0.21	0.066	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Hexachlorocyclopentadiene	<0.84	F1	0.84	0.24	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Hexachloroethane	<0.21		0.21	0.063	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Indeno[1,2,3-cd]pyrene	<0.041		0.041	0.011	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Isophorone	<0.21		0.21	0.047	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2-Methylnaphthalene	<0.084		0.084	0.0077	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2-Methylphenol	<0.21		0.21	0.067	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
3 & 4 Methylphenol	<0.21		0.21	0.070	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Naphthalene	<0.041		0.041	0.0064	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2-Nitroaniline	<0.21		0.21	0.056	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
3-Nitroaniline	<0.41		0.41	0.13	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
4-Nitroaniline	<0.41		0.41	0.17	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Nitrobenzene	<0.041		0.041	0.010	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2-Nitrophenol	<0.41		0.41	0.099	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1

Client Sample ID: OPT-2-1 (0-1')

Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-1

Matrix: Solid
Percent Solids: 79.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.84		0.84	0.40	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
N-Nitrosodi-n-propylamine	<0.084		0.084	0.051	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
N-Nitrosodiphenylamine	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Pentachlorophenol	<0.84		0.84	0.67	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Phenanthrene	<0.041		0.041	0.0058	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Phenol	<0.21		0.21	0.093	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
Pyrene	**0.012**	**J**	0.041	0.0083	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.045	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,4,5-Trichlorophenol	<0.41		0.41	0.095	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1
2,4,6-Trichlorophenol	<0.41		0.41	0.14	mg/Kg	☼	07/08/19 07:34	07/10/19 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*43 - 145*	*07/08/19 07:34*	*07/10/19 13:43*	*1*
2-Fluorophenol	*107*		*31 - 166*	*07/08/19 07:34*	*07/10/19 13:43*	*1*
Nitrobenzene-d5	*69*		*37 - 147*	*07/08/19 07:34*	*07/10/19 13:43*	*1*
Phenol-d5	*49*		*30 - 153*	*07/08/19 07:34*	*07/10/19 13:43*	*1*
Terphenyl-d14	*81*		*42 - 157*	*07/08/19 07:34*	*07/10/19 13:43*	*1*
2,4,6-Tribromophenol	*79*		*31 - 143*	*07/08/19 07:34*	*07/10/19 13:43*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.24	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Arsenic	**6.7**		0.62	0.21	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Barium	**93**		0.62	0.071	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Beryllium	**0.81**		0.25	0.058	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Cadmium	**0.24**	**B**	0.12	0.022	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Chromium	**23**		0.62	0.31	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Cobalt	**13**		0.31	0.082	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Copper	**22**	**B**	0.62	0.17	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Iron	**23000**	**B**	12	6.5	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Lead	**17**		0.31	0.14	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Manganese	**620**		0.62	0.090	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Nickel	**29**		0.62	0.18	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Selenium	**1.4**	**B**	0.62	0.37	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Silver	**4.1**		0.31	0.080	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Thallium	**1.1**		0.62	0.31	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Vanadium	**32**		0.31	0.073	mg/Kg	☼	07/02/19 07:49	07/02/19 16:29	1
Zinc	**70**	**B**	1.2	0.55	mg/Kg	☼	07/02/19 07:49	07/03/19 11:43	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:21	1
Barium	**0.23**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:21	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:21	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:21	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:29	1
Cobalt	**0.015**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:21	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:21	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:21	1

Client Sample ID: OPT-2-1 (0-1')

Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-1

Matrix: Solid
Percent Solids: 79.3

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:21	1
Nickel	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:21	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:21	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:21	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:21	1
Zinc	**0.081**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:21	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 11:40	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 11:40	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 09:24	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.028**		0.019	0.0064	mg/Kg	☼	07/03/19 15:00	07/05/19 08:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.57**	**J H**	0.60	0.21	mg/Kg	☼	07/11/19 13:55	07/11/19 16:51	1
pH	**7.2**		0.2	0.2	SU			07/02/19 14:38	1
Chloride	**7100**		500	420	mg/Kg	☼	07/01/19 13:45	07/02/19 19:19	200

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-1 (1-6')
Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-2
Matrix: Solid
Percent Solids: 80.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.017		0.017	0.0074	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Benzene	<0.0017		0.0017	0.00043	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Bromodichloromethane	<0.0017		0.0017	0.00035	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Bromoform	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Bromomethane	<0.0043		0.0043	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
2-Butanone (MEK)	<0.0043		0.0043	0.0019	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Carbon disulfide	<0.0043		0.0043	0.00088	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Carbon tetrachloride	<0.0017		0.0017	0.00049	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Chlorobenzene	<0.0017		0.0017	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Chloroethane	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Chloroform	<0.0017		0.0017	0.00059	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Chloromethane	<0.0043		0.0043	0.0017	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
cis-1,2-Dichloroethene	<0.0017		0.0017	0.00048	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
cis-1,3-Dichloropropene	<0.0017		0.0017	0.00051	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Dibromochloromethane	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,1-Dichloroethane	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,2-Dichloroethane	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,1-Dichloroethene	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,2-Dichloropropane	<0.0017		0.0017	0.00044	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,3-Dichloropropene, Total	<0.0017		0.0017	0.00060	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Ethylbenzene	<0.0017		0.0017	0.00081	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
2-Hexanone	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Methylene Chloride	<0.0043		0.0043	0.0017	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
4-Methyl-2-pentanone (MIBK)	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Methyl tert-butyl ether	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Styrene	<0.0017		0.0017	0.00051	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,1,2,2-Tetrachloroethane	<0.0017		0.0017	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Tetrachloroethene	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Toluene	<0.0017		0.0017	0.00043	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
trans-1,2-Dichloroethene	<0.0017		0.0017	0.00075	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
trans-1,3-Dichloropropene	<0.0017		0.0017	0.00060	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,1,1-Trichloroethane	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
1,1,2-Trichloroethane	<0.0017		0.0017	0.00073	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Trichloroethene	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Vinyl acetate	<0.0043		0.0043	0.0015	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Vinyl chloride	<0.0017		0.0017	0.00075	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1
Xylenes, Total	<0.0034		0.0034	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 03:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*75 - 131*	*06/27/19 17:21*	*07/08/19 03:11*	*1*
Dibromofluoromethane	*94*		*75 - 126*	*06/27/19 17:21*	*07/08/19 03:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 134*	*06/27/19 17:21*	*07/08/19 03:11*	*1*
Toluene-d8 (Surr)	*100*		*75 - 124*	*06/27/19 17:21*	*07/08/19 03:11*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.041		0.041	0.0074	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Acenaphthylene	<0.041		0.041	0.0054	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Anthracene	<0.041		0.041	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Benzo[a]anthracene	<0.041		0.041	0.0055	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1

Client Sample ID: OPT-2-1 (1-6')
Lab Sample ID: 500-165829-2
Date Collected: 06/26/19 10:35
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.041		0.041	0.0079	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Benzo[b]fluoranthene	<0.041		0.041	0.0088	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Benzo[g,h,i]perylene	<0.041		0.041	0.013	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Benzo[k]fluoranthene	<0.041		0.041	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.075	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.054	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Butyl benzyl phthalate	<0.21		0.21	0.078	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Carbazole	<0.21		0.21	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
4-Chloroaniline	<0.83		0.83	0.19	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
4-Chloro-3-methylphenol	<0.41		0.41	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2-Chloronaphthalene	<0.21		0.21	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2-Chlorophenol	<0.21		0.21	0.070	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Chrysene	<0.041		0.041	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Dibenz(a,h)anthracene	<0.041		0.041	0.0079	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Dibenzofuran	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
1,2-Dichlorobenzene	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
1,3-Dichlorobenzene	<0.21		0.21	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
1,4-Dichlorobenzene	<0.21		0.21	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,4-Dichlorophenol	<0.41		0.41	0.097	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Diethyl phthalate	<0.21		0.21	0.069	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,4-Dimethylphenol	<0.41		0.41	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Dimethyl phthalate	<0.21		0.21	0.054	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Di-n-butyl phthalate	<0.21		0.21	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
4,6-Dinitro-2-methylphenol	<0.83		0.83	0.33	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,4-Dinitrophenol	<0.83		0.83	0.72	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,4-Dinitrotoluene	<0.21		0.21	0.065	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,6-Dinitrotoluene	<0.21		0.21	0.081	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Di-n-octyl phthalate	<0.21		0.21	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Fluoranthene	<0.041		0.041	0.0076	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Fluorene	<0.041		0.041	0.0058	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Hexachlorobenzene	<0.083		0.083	0.0095	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Hexachlorobutadiene	<0.21		0.21	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Hexachlorocyclopentadiene	<0.83		0.83	0.24	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Hexachloroethane	<0.21		0.21	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Indeno[1,2,3-cd]pyrene	<0.041		0.041	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Isophorone	<0.21		0.21	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2-Methylnaphthalene	<0.083		0.083	0.0075	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2-Methylphenol	<0.21		0.21	0.066	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
3 & 4 Methylphenol	<0.21		0.21	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Naphthalene	<0.041		0.041	0.0063	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2-Nitroaniline	<0.21		0.21	0.055	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
3-Nitroaniline	<0.41		0.41	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
4-Nitroaniline	<0.41		0.41	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Nitrobenzene	<0.041		0.041	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2-Nitrophenol	<0.41		0.41	0.097	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1

Client Sample ID: OPT-2-1 (1-6')

Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-2

Matrix: Solid
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.83		0.83	0.39	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
N-Nitrosodi-n-propylamine	<0.083		0.083	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
N-Nitrosodiphenylamine	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Pentachlorophenol	<0.83		0.83	0.66	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Phenanthrene	<0.041		0.041	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Phenol	<0.21		0.21	0.091	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
Pyrene	<0.041		0.041	0.0081	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,4,5-Trichlorophenol	<0.41		0.41	0.094	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1
2,4,6-Trichlorophenol	<0.41		0.41	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*88*		*43 - 145*	*07/08/19 07:34*	*07/09/19 19:32*	*1*
2-Fluorophenol	*97*		*31 - 166*	*07/08/19 07:34*	*07/09/19 19:32*	*1*
Nitrobenzene-d5	*81*		*37 - 147*	*07/08/19 07:34*	*07/09/19 19:32*	*1*
Phenol-d5	*54*		*30 - 153*	*07/08/19 07:34*	*07/09/19 19:32*	*1*
Terphenyl-d14	*89*		*42 - 157*	*07/08/19 07:34*	*07/09/19 19:32*	*1*
2,4,6-Tribromophenol	*48*		*31 - 143*	*07/08/19 07:34*	*07/09/19 19:32*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Arsenic	**8.2**		0.58	0.20	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Barium	**77**		0.58	0.066	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Beryllium	**0.87**		0.23	0.054	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Cadmium	**0.30**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Chromium	**21**		0.58	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Cobalt	**14**		0.29	0.075	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Copper	**28**	**B**	0.58	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Iron	**24000**	**B**	12	6.0	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Lead	**15**		0.29	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Manganese	**580**		0.58	0.083	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Nickel	**37**		0.58	0.17	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Selenium	**0.71**	**B**	0.58	0.34	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Silver	**4.0**		0.29	0.074	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Thallium	**0.99**		0.58	0.29	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Vanadium	**28**		0.29	0.068	mg/Kg	☼	07/02/19 07:49	07/02/19 16:33	1
Zinc	**67**	**B**	1.2	0.51	mg/Kg	☼	07/02/19 07:49	07/03/19 11:47	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:25	1
Barium	**0.44**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:25	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:25	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:25	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:33	1
Cobalt	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:25	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:25	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:25	1

Client Sample ID: OPT-2-1 (1-6')

Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-2

Matrix: Solid
Percent Solids: 80.8

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:25	1
Nickel	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:25	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:25	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:25	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:25	1
Zinc	<0.50		0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:25	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 11:44	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 11:44	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 09:26	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.018**	**J**	0.020	0.0067	mg/Kg	☼	07/03/19 15:00	07/05/19 08:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.22**	**J H**	0.60	0.21	mg/Kg	☼	07/11/19 13:55	07/11/19 16:52	1
pH	**7.5**		0.2	0.2	SU			07/02/19 14:41	1
Chloride	**2300**		120	100	mg/Kg	☼	07/01/19 13:45	07/02/19 19:31	50

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-2 (0-1')
Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-3
Matrix: Solid
Percent Solids: 80.8

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.054**		0.018	0.0080	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Benzene	<0.0018		0.0018	0.00047	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Bromodichloromethane	<0.0018		0.0018	0.00037	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Bromoform	<0.0018		0.0018	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Bromomethane	<0.0046		0.0046	0.0017	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
2-Butanone (MEK)	**0.012**		0.0046	0.0020	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Carbon disulfide	<0.0046		0.0046	0.00096	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Carbon tetrachloride	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Chlorobenzene	<0.0018		0.0018	0.00068	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Chloroethane	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Chloroform	<0.0018		0.0018	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Chloromethane	<0.0046		0.0046	0.0018	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
cis-1,2-Dichloroethene	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
cis-1,3-Dichloropropene	<0.0018		0.0018	0.00055	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Dibromochloromethane	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,1-Dichloroethane	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,2-Dichloroethane	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,1-Dichloroethene	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,2-Dichloropropane	<0.0018		0.0018	0.00047	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,3-Dichloropropene, Total	<0.0018		0.0018	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Ethylbenzene	<0.0018		0.0018	0.00088	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
2-Hexanone	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Methylene Chloride	<0.0046		0.0046	0.0018	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
4-Methyl-2-pentanone (MIBK)	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Methyl tert-butyl ether	<0.0018		0.0018	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Styrene	<0.0018		0.0018	0.00055	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,1,2,2-Tetrachloroethane	<0.0018		0.0018	0.00059	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Tetrachloroethene	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Toluene	<0.0018		0.0018	0.00046	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
trans-1,2-Dichloroethene	<0.0018		0.0018	0.00081	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
trans-1,3-Dichloropropene	<0.0018		0.0018	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,1,1-Trichloroethane	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
1,1,2-Trichloroethane	<0.0018		0.0018	0.00079	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Trichloroethene	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Vinyl acetate	<0.0046		0.0046	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Vinyl chloride	<0.0018		0.0018	0.00081	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1
Xylenes, Total	<0.0037		0.0037	0.00059	mg/Kg	☼	06/27/19 17:21	07/08/19 03:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*75 - 131*	*06/27/19 17:21*	*07/08/19 03:37*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*06/27/19 17:21*	*07/08/19 03:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*123*		*70 - 134*	*06/27/19 17:21*	*07/08/19 03:37*	*1*
Toluene-d8 (Surr)	*99*		*75 - 124*	*06/27/19 17:21*	*07/08/19 03:37*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.041		0.041	0.0073	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Acenaphthylene	<0.041		0.041	0.0054	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Anthracene	<0.041		0.041	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Benzo[a]anthracene	<0.041		0.041	0.0055	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-2 (0-1')
Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-3
Matrix: Solid
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.041		0.041	0.0079	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Benzo[b]fluoranthene	<0.041		0.041	0.0088	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Benzo[g,h,i]perylene	<0.041		0.041	0.013	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Benzo[k]fluoranthene	<0.041		0.041	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.075	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.054	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Butyl benzyl phthalate	<0.21		0.21	0.078	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Carbazole	<0.21		0.21	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
4-Chloroaniline	<0.82		0.82	0.19	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
4-Chloro-3-methylphenol	<0.41		0.41	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2-Chloronaphthalene	<0.21		0.21	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2-Chlorophenol	<0.21		0.21	0.070	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Chrysene	<0.041		0.041	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Dibenz(a,h)anthracene	<0.041		0.041	0.0079	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Dibenzofuran	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
1,2-Dichlorobenzene	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
1,3-Dichlorobenzene	<0.21		0.21	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
1,4-Dichlorobenzene	<0.21		0.21	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,4-Dichlorophenol	<0.41		0.41	0.097	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Diethyl phthalate	<0.21		0.21	0.069	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,4-Dimethylphenol	<0.41		0.41	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Dimethyl phthalate	<0.21		0.21	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Di-n-butyl phthalate	<0.21		0.21	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
4,6-Dinitro-2-methylphenol	<0.82		0.82	0.33	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,4-Dinitrophenol	<0.82		0.82	0.72	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,4-Dinitrotoluene	<0.21		0.21	0.065	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,6-Dinitrotoluene	<0.21		0.21	0.080	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Di-n-octyl phthalate	<0.21		0.21	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Fluoranthene	<0.041		0.041	0.0076	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Fluorene	<0.041		0.041	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Hexachlorobenzene	<0.082		0.082	0.0095	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Hexachlorobutadiene	<0.21		0.21	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Hexachlorocyclopentadiene	<0.82		0.82	0.24	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Hexachloroethane	<0.21		0.21	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Indeno[1,2,3-cd]pyrene	<0.041		0.041	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Isophorone	<0.21		0.21	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2-Methylnaphthalene	<0.082		0.082	0.0075	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2-Methylphenol	<0.21		0.21	0.066	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
3 & 4 Methylphenol	<0.21		0.21	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Naphthalene	<0.041		0.041	0.0063	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2-Nitroaniline	<0.21		0.21	0.055	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
3-Nitroaniline	<0.41		0.41	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
4-Nitroaniline	<0.41		0.41	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Nitrobenzene	<0.041		0.041	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2-Nitrophenol	<0.41		0.41	0.097	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1

Client Sample ID: OPT-2-2 (0-1')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-3

Matrix: Solid
Percent Solids: 80.8

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.82		0.82	0.39	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
N-Nitrosodi-n-propylamine	<0.082		0.082	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
N-Nitrosodiphenylamine	<0.21		0.21	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Pentachlorophenol	<0.82		0.82	0.66	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Phenanthrene	<0.041		0.041	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Phenol	<0.21		0.21	0.091	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
Pyrene	<0.041		0.041	0.0081	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,4,5-Trichlorophenol	<0.41		0.41	0.093	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1
2,4,6-Trichlorophenol	<0.41		0.41	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 14:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*80*		*43 - 145*	*07/08/19 07:34*	*07/09/19 14:34*	*1*
2-Fluorophenol	*91*		*31 - 166*	*07/08/19 07:34*	*07/09/19 14:34*	*1*
Nitrobenzene-d5	*77*		*37 - 147*	*07/08/19 07:34*	*07/09/19 14:34*	*1*
Phenol-d5	*73*		*30 - 153*	*07/08/19 07:34*	*07/09/19 14:34*	*1*
Terphenyl-d14	*92*		*42 - 157*	*07/08/19 07:34*	*07/09/19 14:34*	*1*
2,4,6-Tribromophenol	*92*		*31 - 143*	*07/08/19 07:34*	*07/09/19 14:34*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.28**	**J**	1.2	0.23	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Arsenic	**7.1**		0.60	0.21	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Barium	**84**		0.60	0.069	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Beryllium	**0.79**		0.24	0.056	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Cadmium	**0.35**	**B**	0.12	0.022	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Chromium	**21**		0.60	0.30	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Cobalt	**13**		0.30	0.079	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Copper	**21**	**B**	0.60	0.17	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Iron	**23000**	**B**	12	6.3	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Lead	**22**		0.30	0.14	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Manganese	**560**		0.60	0.087	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Nickel	**30**		0.60	0.18	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Selenium	**0.86**	**B**	0.60	0.35	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Silver	**4.0**		0.30	0.078	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Thallium	**1.1**		0.60	0.30	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Vanadium	**31**		0.30	0.071	mg/Kg	☼	07/02/19 07:49	07/02/19 16:37	1
Zinc	**130**	**B**	1.2	0.53	mg/Kg	☼	07/02/19 07:49	07/03/19 11:51	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:29	1
Barium	**0.38**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:29	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:29	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:29	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:37	1
Cobalt	**0.028**		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:29	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:29	1
Iron	**0.47**		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:29	1

Client Sample ID: OPT-2-2 (0-1')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-3

Matrix: Solid
Percent Solids: 80.8

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:29	1
Nickel	**0.013**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:29	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:29	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:29	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:29	1
Zinc	**0.39**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:29	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 11:48	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 11:48	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 09:28	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.027**		0.020	0.0067	mg/Kg	☼	07/03/19 15:00	07/05/19 08:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.52	H	0.52	0.18	mg/Kg	☼	07/11/19 13:55	07/11/19 16:52	1
pH	**7.7**		0.2	0.2	SU			07/02/19 14:43	1
Chloride	**1600**		46	39	mg/Kg	☼	07/01/19 13:45	07/02/19 19:44	20

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-2 (1-6')
Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-4
Matrix: Solid
Percent Solids: 74.6

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.057**		0.021	0.0092	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Benzene	<0.0021		0.0021	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Bromodichloromethane	<0.0021		0.0021	0.00043	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Bromoform	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Bromomethane	<0.0053		0.0053	0.0020	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
2-Butanone (MEK)	**0.0045**	**J**	0.0053	0.0023	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Carbon disulfide	<0.0053		0.0053	0.0011	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Carbon tetrachloride	<0.0021		0.0021	0.00061	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Chlorobenzene	<0.0021		0.0021	0.00078	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Chloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Chloroform	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Chloromethane	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
cis-1,2-Dichloroethene	<0.0021		0.0021	0.00059	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
cis-1,3-Dichloropropene	<0.0021		0.0021	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Dibromochloromethane	<0.0021		0.0021	0.00069	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,1-Dichloroethane	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,2-Dichloroethane	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,1-Dichloroethene	<0.0021		0.0021	0.00073	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,2-Dichloropropane	<0.0021		0.0021	0.00055	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,3-Dichloropropene, Total	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Ethylbenzene	<0.0021		0.0021	0.0010	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
2-Hexanone	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Methylene Chloride	<0.0053		0.0053	0.0021	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
4-Methyl-2-pentanone (MIBK)	<0.0053		0.0053	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Methyl tert-butyl ether	<0.0021		0.0021	0.00062	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Styrene	<0.0021		0.0021	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,1,2,2-Tetrachloroethane	<0.0021		0.0021	0.00068	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Tetrachloroethene	<0.0021		0.0021	0.00072	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Toluene	<0.0021		0.0021	0.00053	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
trans-1,2-Dichloroethene	<0.0021		0.0021	0.00094	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
trans-1,3-Dichloropropene	<0.0021		0.0021	0.00074	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,1,1-Trichloroethane	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
1,1,2-Trichloroethane	<0.0021		0.0021	0.00091	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Trichloroethene	<0.0021		0.0021	0.00071	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Vinyl acetate	<0.0053		0.0053	0.0018	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Vinyl chloride	<0.0021		0.0021	0.00094	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1
Xylenes, Total	<0.0042		0.0042	0.00068	mg/Kg	☼	06/27/19 17:21	07/08/19 04:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*75 - 131*	*06/27/19 17:21*	*07/08/19 04:02*	*1*
Dibromofluoromethane	*100*		*75 - 126*	*06/27/19 17:21*	*07/08/19 04:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 134*	*06/27/19 17:21*	*07/08/19 04:02*	*1*
Toluene-d8 (Surr)	*95*		*75 - 124*	*06/27/19 17:21*	*07/08/19 04:02*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.044		0.044	0.0079	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Acenaphthylene	<0.044		0.044	0.0058	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Anthracene	<0.044		0.044	0.0074	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Benzo[a]anthracene	**0.0062**	**J**	0.044	0.0059	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1

Client Sample ID: OPT-2-2 (1-6')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-4

Matrix: Solid
Percent Solids: 74.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.044		0.044	0.0085	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Benzo[b]fluoranthene	**0.013**	**J**	0.044	0.0095	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Benzo[g,h,i]perylene	<0.044		0.044	0.014	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Benzo[k]fluoranthene	<0.044		0.044	0.013	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Bis(2-chloroethoxy)methane	<0.22		0.22	0.045	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Bis(2-chloroethyl)ether	<0.22		0.22	0.066	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Bis(2-ethylhexyl) phthalate	<0.22		0.22	0.081	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
4-Bromophenyl phenyl ether	<0.22		0.22	0.058	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Butyl benzyl phthalate	<0.22		0.22	0.084	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Carbazole	<0.22		0.22	0.11	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
4-Chloroaniline	<0.89		0.89	0.21	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
4-Chloro-3-methylphenol	<0.44		0.44	0.15	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2-Chloronaphthalene	<0.22		0.22	0.049	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2-Chlorophenol	<0.22		0.22	0.075	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
4-Chlorophenyl phenyl ether	<0.22		0.22	0.051	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Chrysene	<0.044		0.044	0.012	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Dibenz(a,h)anthracene	<0.044		0.044	0.0085	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Dibenzofuran	<0.22		0.22	0.052	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
1,2-Dichlorobenzene	<0.22		0.22	0.053	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
1,3-Dichlorobenzene	<0.22		0.22	0.050	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
1,4-Dichlorobenzene	<0.22		0.22	0.057	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
3,3'-Dichlorobenzidine	<0.22		0.22	0.062	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,4-Dichlorophenol	<0.44		0.44	0.10	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Diethyl phthalate	<0.22		0.22	0.075	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,4-Dimethylphenol	<0.44		0.44	0.17	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Dimethyl phthalate	<0.22		0.22	0.058	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Di-n-butyl phthalate	<0.22		0.22	0.067	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
4,6-Dinitro-2-methylphenol	<0.89		0.89	0.35	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,4-Dinitrophenol	<0.89		0.89	0.78	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,4-Dinitrotoluene	<0.22		0.22	0.070	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,6-Dinitrotoluene	<0.22		0.22	0.087	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Di-n-octyl phthalate	<0.22		0.22	0.072	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Fluoranthene	**0.0089**	**J**	0.044	0.0082	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Fluorene	<0.044		0.044	0.0062	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Hexachlorobenzene	<0.089		0.089	0.010	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Hexachlorobutadiene	<0.22		0.22	0.069	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Hexachlorocyclopentadiene	<0.89		0.89	0.25	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Hexachloroethane	<0.22		0.22	0.067	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Indeno[1,2,3-cd]pyrene	<0.044		0.044	0.011	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Isophorone	<0.22		0.22	0.050	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2-Methylnaphthalene	<0.089		0.089	0.0081	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2-Methylphenol	<0.22		0.22	0.071	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
3 & 4 Methylphenol	<0.22		0.22	0.074	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Naphthalene	<0.044		0.044	0.0068	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2-Nitroaniline	<0.22		0.22	0.059	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
3-Nitroaniline	<0.44		0.44	0.14	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
4-Nitroaniline	<0.44		0.44	0.18	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Nitrobenzene	<0.044		0.044	0.011	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2-Nitrophenol	<0.44		0.44	0.10	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1

Client Sample ID: OPT-2-2 (1-6')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-4

Matrix: Solid
Percent Solids: 74.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.89		0.89	0.42	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
N-Nitrosodi-n-propylamine	<0.089		0.089	0.054	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
N-Nitrosodiphenylamine	<0.22		0.22	0.052	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,2'-oxybis[1-chloropropane]	<0.22		0.22	0.051	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Pentachlorophenol	<0.89		0.89	0.71	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Phenanthrene	<0.044		0.044	0.0061	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Phenol	<0.22		0.22	0.098	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
Pyrene	**0.0099**	**J**	0.044	0.0088	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
1,2,4-Trichlorobenzene	<0.22		0.22	0.048	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,4,5-Trichlorophenol	<0.44		0.44	0.10	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1
2,4,6-Trichlorophenol	<0.44		0.44	0.15	mg/Kg	☼	07/08/19 07:34	07/10/19 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*43 - 145*	*07/08/19 07:34*	*07/10/19 12:45*	*1*
2-Fluorophenol	*124*		*31 - 166*	*07/08/19 07:34*	*07/10/19 12:45*	*1*
Nitrobenzene-d5	*74*		*37 - 147*	*07/08/19 07:34*	*07/10/19 12:45*	*1*
Phenol-d5	*98*		*30 - 153*	*07/08/19 07:34*	*07/10/19 12:45*	*1*
Terphenyl-d14	*86*		*42 - 157*	*07/08/19 07:34*	*07/10/19 12:45*	*1*
2,4,6-Tribromophenol	*66*		*31 - 143*	*07/08/19 07:34*	*07/10/19 12:45*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.44**	**J**	1.3	0.24	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Arsenic	**5.7**		0.63	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Barium	**43**		0.63	0.072	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Beryllium	**0.53**		0.25	0.059	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Cadmium	**0.27**	**B**	0.13	0.023	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Chromium	**15**		0.63	0.31	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Cobalt	**10**		0.31	0.082	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Copper	**19**	**B**	0.63	0.18	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Iron	**18000**	**B**	13	6.5	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Lead	**11**		0.31	0.15	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Manganese	**540**		0.63	0.091	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Nickel	**25**		0.63	0.18	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Selenium	**0.64**	**B**	0.63	0.37	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Silver	**2.5**		0.31	0.081	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Thallium	<0.63		0.63	0.31	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Vanadium	**22**		0.31	0.074	mg/Kg	☼	07/02/19 07:49	07/02/19 16:41	1
Zinc	**48**	**B**	1.3	0.55	mg/Kg	☼	07/02/19 07:49	07/03/19 11:55	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:33	1
Barium	**0.42**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:33	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:33	1
Cadmium	**0.0021**	**J**	0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:33	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:41	1
Cobalt	**0.013**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:33	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:33	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:33	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-2 (1-6')
Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-4
Matrix: Solid
Percent Solids: 74.6

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:33	1
Nickel	**0.018**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:33	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:33	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:33	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:33	1
Zinc	**0.19**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:33	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 11:52	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 11:52	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 09:29	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**	**J**	0.022	0.0073	mg/Kg	☼	07/03/19 15:00	07/05/19 08:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.22**	**J H**	0.61	0.21	mg/Kg	☼	07/11/19 13:55	07/11/19 16:52	1
pH	**8.4**		0.2	0.2	SU			07/02/19 14:45	1
Chloride	**5700**		260	220	mg/Kg	☼	07/01/19 13:45	07/02/19 19:56	100

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (0-1')
Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-5
Matrix: Solid
Percent Solids: 80.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.056**		0.019	0.0081	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Benzene	<0.0019		0.0019	0.00048	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Bromodichloromethane	<0.0019		0.0019	0.00038	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Bromoform	<0.0019		0.0019	0.00055	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Bromomethane	<0.0047		0.0047	0.0018	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
2-Butanone (MEK)	**0.0084**		0.0047	0.0021	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Carbon disulfide	<0.0047		0.0047	0.00097	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Carbon tetrachloride	<0.0019		0.0019	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Chlorobenzene	<0.0019		0.0019	0.00069	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Chloroethane	<0.0047		0.0047	0.0014	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Chloroform	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Chloromethane	<0.0047		0.0047	0.0019	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
cis-1,2-Dichloroethene	<0.0019		0.0019	0.00052	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
cis-1,3-Dichloropropene	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Dibromochloromethane	<0.0019		0.0019	0.00061	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,1-Dichloroethane	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,2-Dichloroethane	<0.0047		0.0047	0.0015	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,1-Dichloroethene	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,2-Dichloropropane	<0.0019		0.0019	0.00048	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,3-Dichloropropene, Total	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Ethylbenzene	<0.0019		0.0019	0.00089	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
2-Hexanone	<0.0047		0.0047	0.0015	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Methylene Chloride	<0.0047		0.0047	0.0018	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
4-Methyl-2-pentanone (MIBK)	<0.0047		0.0047	0.0014	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Methyl tert-butyl ether	<0.0019		0.0019	0.00055	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Styrene	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,1,2,2-Tetrachloroethane	<0.0019		0.0019	0.00060	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Tetrachloroethene	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Toluene	<0.0019		0.0019	0.00047	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
trans-1,2-Dichloroethene	<0.0019		0.0019	0.00083	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
trans-1,3-Dichloropropene	<0.0019		0.0019	0.00066	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,1,1-Trichloroethane	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
1,1,2-Trichloroethane	<0.0019		0.0019	0.00080	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Trichloroethene	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Vinyl acetate	<0.0047		0.0047	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Vinyl chloride	<0.0019		0.0019	0.00083	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1
Xylenes, Total	<0.0037		0.0037	0.00060	mg/Kg	☼	06/27/19 17:21	07/08/19 04:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*75 - 131*	*06/27/19 17:21*	*07/08/19 04:27*	*1*
Dibromofluoromethane	*100*		*75 - 126*	*06/27/19 17:21*	*07/08/19 04:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*121*		*70 - 134*	*06/27/19 17:21*	*07/08/19 04:27*	*1*
Toluene-d8 (Surr)	*96*		*75 - 124*	*06/27/19 17:21*	*07/08/19 04:27*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.040		0.040	0.0073	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Acenaphthylene	<0.040		0.040	0.0053	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Anthracene	<0.040		0.040	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Benzo[a]anthracene	<0.040		0.040	0.0054	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (0-1')
Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-5
Matrix: Solid
Percent Solids: 80.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.040		0.040	0.0078	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Benzo[b]fluoranthene	<0.040		0.040	0.0087	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Benzo[g,h,i]perylene	<0.040		0.040	0.013	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Benzo[k]fluoranthene	<0.040		0.040	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.074	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Butyl benzyl phthalate	<0.20		0.20	0.077	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
4-Chloroaniline	<0.82		0.82	0.19	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2-Chloronaphthalene	<0.20		0.20	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2-Chlorophenol	<0.20		0.20	0.069	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Chrysene	<0.040		0.040	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Dibenz(a,h)anthracene	<0.040		0.040	0.0078	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
1,3-Dichlorobenzene	<0.20		0.20	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
1,4-Dichlorobenzene	<0.20		0.20	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,4-Dichlorophenol	<0.40		0.40	0.096	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Diethyl phthalate	<0.20		0.20	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Dimethyl phthalate	<0.20		0.20	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Di-n-butyl phthalate	<0.20		0.20	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
4,6-Dinitro-2-methylphenol	<0.82		0.82	0.32	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,4-Dinitrophenol	<0.82		0.82	0.71	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,4-Dinitrotoluene	<0.20		0.20	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,6-Dinitrotoluene	<0.20		0.20	0.079	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Di-n-octyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Fluoranthene	<0.040		0.040	0.0075	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Fluorene	<0.040		0.040	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Hexachlorobenzene	<0.082		0.082	0.0094	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Hexachlorobutadiene	<0.20		0.20	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Hexachlorocyclopentadiene	<0.82		0.82	0.23	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Hexachloroethane	<0.20		0.20	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Indeno[1,2,3-cd]pyrene	<0.040		0.040	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2-Methylnaphthalene	<0.082		0.082	0.0074	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2-Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
3 & 4 Methylphenol	<0.20		0.20	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Naphthalene	<0.040		0.040	0.0062	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2-Nitroaniline	<0.20		0.20	0.054	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
3-Nitroaniline	<0.40		0.40	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2-Nitrophenol	<0.40		0.40	0.096	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (0-1')
Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-5
Matrix: Solid
Percent Solids: 80.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.82		0.82	0.38	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
N-Nitrosodi-n-propylamine	<0.082		0.082	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
N-Nitrosodiphenylamine	<0.20		0.20	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Pentachlorophenol	<0.82		0.82	0.65	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Phenanthrene	<0.040		0.040	0.0056	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Phenol	<0.20		0.20	0.090	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
Pyrene	<0.040		0.040	0.0080	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,4,5-Trichlorophenol	<0.40		0.40	0.092	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*43 - 145*	*07/08/19 07:34*	*07/09/19 15:33*	*1*
2-Fluorophenol	*74*		*31 - 166*	*07/08/19 07:34*	*07/09/19 15:33*	*1*
Nitrobenzene-d5	*64*		*37 - 147*	*07/08/19 07:34*	*07/09/19 15:33*	*1*
Phenol-d5	*63*		*30 - 153*	*07/08/19 07:34*	*07/09/19 15:33*	*1*
Terphenyl-d14	*73*		*42 - 157*	*07/08/19 07:34*	*07/09/19 15:33*	*1*
2,4,6-Tribromophenol	*85*		*31 - 143*	*07/08/19 07:34*	*07/09/19 15:33*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<1.2		1.2	0.23	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Arsenic	**7.1**		0.58	0.20	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Barium	**83**		0.58	0.066	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Beryllium	**0.76**		0.23	0.054	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Cadmium	**0.28**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Chromium	**22**		0.58	0.29	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Cobalt	**13**		0.29	0.076	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Copper	**22**	**B**	0.58	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Iron	**23000**	**B**	12	6.0	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Lead	**18**		0.29	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Manganese	**590**		0.58	0.084	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Nickel	**29**		0.58	0.17	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Selenium	**1.1**	**B**	0.58	0.34	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Silver	**3.9**		0.29	0.075	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Thallium	**0.86**		0.58	0.29	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Vanadium	**29**		0.29	0.068	mg/Kg	☼	07/02/19 07:49	07/02/19 16:45	1
Zinc	**60**	**B**	1.2	0.51	mg/Kg	☼	07/02/19 07:49	07/03/19 11:59	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:37	1
Barium	**0.39**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:37	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:37	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:37	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:45	1
Cobalt	**0.024**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:37	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:37	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:37	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (0-1')
Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-5
Matrix: Solid
Percent Solids: 80.7

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:37	1
Nickel	**0.015**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:37	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:37	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:37	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:37	1
Zinc	**0.081**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:37	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 11:56	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 11:56	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:03	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.024**		0.019	0.0064	mg/Kg	☼	07/03/19 15:00	07/05/19 08:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.46	H	0.46	0.16	mg/Kg	☼	07/11/19 13:55	07/11/19 16:53	1
pH	**8.4**		0.2	0.2	SU			07/02/19 14:48	1
Chloride	**490**		24	20	mg/Kg	☼	07/08/19 19:30	07/09/19 21:30	10

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (1-6')
Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-6
Matrix: Solid
Percent Solids: 86.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.034		0.017	0.0074	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Benzene	<0.0017		0.0017	0.00043	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Bromodichloromethane	<0.0017		0.0017	0.00035	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Bromoform	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Bromomethane	<0.0043		0.0043	0.0016	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
2-Butanone (MEK)	<0.0043		0.0043	0.0019	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Carbon disulfide	<0.0043		0.0043	0.00089	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Carbon tetrachloride	<0.0017		0.0017	0.00049	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Chlorobenzene	<0.0017		0.0017	0.00063	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Chloroethane	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Chloroform	<0.0017		0.0017	0.00059	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Chloromethane	<0.0043		0.0043	0.0017	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
cis-1,2-Dichloroethene	<0.0017		0.0017	0.00048	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
cis-1,3-Dichloropropene	<0.0017		0.0017	0.00051	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Dibromochloromethane	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,1-Dichloroethane	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,2-Dichloroethane	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,1-Dichloroethene	<0.0017		0.0017	0.00059	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,2-Dichloropropane	<0.0017		0.0017	0.00044	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,3-Dichloropropene, Total	<0.0017		0.0017	0.00060	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Ethylbenzene	<0.0017		0.0017	0.00082	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
2-Hexanone	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Methylene Chloride	<0.0043		0.0043	0.0017	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
4-Methyl-2-pentanone (MIBK)	<0.0043		0.0043	0.0013	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Methyl tert-butyl ether	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Styrene	<0.0017		0.0017	0.00052	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,1,2,2-Tetrachloroethane	<0.0017		0.0017	0.00054	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Tetrachloroethene	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Toluene	<0.0017		0.0017	0.00043	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
trans-1,2-Dichloroethene	<0.0017		0.0017	0.00076	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
trans-1,3-Dichloropropene	<0.0017		0.0017	0.00060	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,1,1-Trichloroethane	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
1,1,2-Trichloroethane	<0.0017		0.0017	0.00073	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Trichloroethene	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Vinyl acetate	<0.0043		0.0043	0.0015	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Vinyl chloride	<0.0017		0.0017	0.00075	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1
Xylenes, Total	<0.0034		0.0034	0.00055	mg/Kg	☼	06/27/19 17:21	07/08/19 04:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*75 - 131*	*06/27/19 17:21*	*07/08/19 04:52*	*1*
Dibromofluoromethane	*94*		*75 - 126*	*06/27/19 17:21*	*07/08/19 04:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 134*	*06/27/19 17:21*	*07/08/19 04:52*	*1*
Toluene-d8 (Surr)	*99*		*75 - 124*	*06/27/19 17:21*	*07/08/19 04:52*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.038		0.038	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Acenaphthylene	<0.038		0.038	0.0050	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Anthracene	<0.038		0.038	0.0063	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Benzo[a]anthracene	<0.038		0.038	0.0051	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (1-6')
Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-6
Matrix: Solid
Percent Solids: 86.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.038		0.038	0.0074	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Benzo[b]fluoranthene	<0.038		0.038	0.0082	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Benzo[g,h,i]perylene	<0.038		0.038	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Benzo[k]fluoranthene	<0.038		0.038	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.069	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Butyl benzyl phthalate	<0.19		0.19	0.072	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Carbazole	<0.19		0.19	0.095	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
4-Chloroaniline	<0.77		0.77	0.18	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2-Chlorophenol	<0.19		0.19	0.065	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Chrysene	<0.038		0.038	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0073	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,4-Dichlorophenol	<0.38		0.38	0.090	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,4-Dimethylphenol	<0.38		0.38	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
4,6-Dinitro-2-methylphenol	<0.77		0.77	0.31	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,4-Dinitrophenol	<0.77		0.77	0.67	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,6-Dinitrotoluene	<0.19		0.19	0.075	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Fluoranthene	<0.038		0.038	0.0070	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Fluorene	<0.038		0.038	0.0053	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Hexachlorobenzene	<0.077		0.077	0.0088	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Hexachlorocyclopentadiene	<0.77		0.77	0.22	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.0098	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2-Methylnaphthalene	<0.077		0.077	0.0070	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Naphthalene	<0.038		0.038	0.0058	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Nitrobenzene	<0.038		0.038	0.0095	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2-Nitrophenol	<0.38		0.38	0.090	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1

Client Sample ID: OPT-2-3 (1-6')

Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-6

Matrix: Solid
Percent Solids: 86.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.77		0.77	0.36	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
N-Nitrosodi-n-propylamine	<0.077		0.077	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Pentachlorophenol	<0.77		0.77	0.61	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Phenanthrene	<0.038		0.038	0.0053	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Phenol	<0.19		0.19	0.084	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
Pyrene	<0.038		0.038	0.0075	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,4,5-Trichlorophenol	<0.38		0.38	0.087	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 16:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*43 - 145*	*07/08/19 07:34*	*07/09/19 16:03*	*1*
2-Fluorophenol	*80*		*31 - 166*	*07/08/19 07:34*	*07/09/19 16:03*	*1*
Nitrobenzene-d5	*71*		*37 - 147*	*07/08/19 07:34*	*07/09/19 16:03*	*1*
Phenol-d5	*60*		*30 - 153*	*07/08/19 07:34*	*07/09/19 16:03*	*1*
Terphenyl-d14	*77*		*42 - 157*	*07/08/19 07:34*	*07/09/19 16:03*	*1*
2,4,6-Tribromophenol	*76*		*31 - 143*	*07/08/19 07:34*	*07/09/19 16:03*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.34**	**J**	1.1	0.21	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Arsenic	**10**		0.54	0.19	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Barium	**48**		0.54	0.062	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Beryllium	**0.60**		0.22	0.051	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Cadmium	**0.45**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Chromium	**15**		0.54	0.27	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Cobalt	**13**		0.27	0.071	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Copper	**25**	**B**	0.54	0.15	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Iron	**23000**	**B**	11	5.7	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Lead	**15**		0.27	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Manganese	**580**		0.54	0.079	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Nickel	**31**		0.54	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Selenium	**0.41**	**J B**	0.54	0.32	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Silver	**2.7**		0.27	0.070	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Thallium	**0.28**	**J**	0.54	0.27	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Vanadium	**22**		0.27	0.064	mg/Kg	☼	07/02/19 07:49	07/02/19 16:57	1
Zinc	**52**	**B**	1.1	0.48	mg/Kg	☼	07/02/19 07:49	07/03/19 12:03	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:42	1
Barium	**0.43**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:42	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:42	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:42	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:58	1
Cobalt	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:42	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:42	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:42	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (1-6')
Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-6
Matrix: Solid
Percent Solids: 86.0

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:42	1
Nickel	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:42	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:42	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:42	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:42	1
Zinc	**0.22**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:42	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:01	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:01	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:04	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.019**		0.019	0.0063	mg/Kg	☼	07/03/19 15:00	07/05/19 08:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.50	H	0.50	0.17	mg/Kg	☼	07/11/19 13:55	07/11/19 16:53	1
pH	**8.6**		0.2	0.2	SU			07/02/19 14:53	1
Chloride	**430**		23	19	mg/Kg	☼	07/08/19 19:30	07/09/19 21:43	10

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-4 (0-3')
Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-7
Matrix: Solid
Percent Solids: 88.2

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.026**		0.016	0.0070	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Benzene	<0.0016		0.0016	0.00041	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Bromodichloromethane	<0.0016		0.0016	0.00033	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Bromoform	<0.0016		0.0016	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Bromomethane	<0.0040		0.0040	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
2-Butanone (MEK)	**0.0037**	**J**	0.0040	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Carbon disulfide	<0.0040		0.0040	0.00084	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Carbon tetrachloride	<0.0016		0.0016	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Chlorobenzene	<0.0016		0.0016	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Chloroethane	<0.0040		0.0040	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Chloroform	<0.0016		0.0016	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Chloromethane	<0.0040		0.0040	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
cis-1,2-Dichloroethene	<0.0016		0.0016	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
cis-1,3-Dichloropropene	<0.0016		0.0016	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Dibromochloromethane	<0.0016		0.0016	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,1-Dichloroethane	<0.0016		0.0016	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,2-Dichloroethane	<0.0040		0.0040	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,1-Dichloroethene	<0.0016		0.0016	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,2-Dichloropropane	<0.0016		0.0016	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,3-Dichloropropene, Total	<0.0016		0.0016	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Ethylbenzene	<0.0016		0.0016	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
2-Hexanone	<0.0040		0.0040	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Methylene Chloride	<0.0040		0.0040	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
4-Methyl-2-pentanone (MIBK)	<0.0040		0.0040	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Methyl tert-butyl ether	<0.0016		0.0016	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Styrene	<0.0016		0.0016	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,1,2,2-Tetrachloroethane	<0.0016		0.0016	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Tetrachloroethene	<0.0016		0.0016	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Toluene	<0.0016		0.0016	0.00041	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
trans-1,2-Dichloroethene	<0.0016		0.0016	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
trans-1,3-Dichloropropene	<0.0016		0.0016	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,1,1-Trichloroethane	<0.0016		0.0016	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
1,1,2-Trichloroethane	<0.0016		0.0016	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Trichloroethene	<0.0016		0.0016	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Vinyl acetate	<0.0040		0.0040	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Vinyl chloride	<0.0016		0.0016	0.00072	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1
Xylenes, Total	<0.0032		0.0032	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 14:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*75 - 131*	*06/27/19 17:21*	*07/09/19 14:12*	*1*
Dibromofluoromethane	*100*		*75 - 126*	*06/27/19 17:21*	*07/09/19 14:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 134*	*06/27/19 17:21*	*07/09/19 14:12*	*1*
Toluene-d8 (Surr)	*106*		*75 - 124*	*06/27/19 17:21*	*07/09/19 14:12*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.037		0.037	0.0067	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Acenaphthylene	<0.037		0.037	0.0049	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Anthracene	<0.037		0.037	0.0062	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Benzo[a]anthracene	<0.037		0.037	0.0050	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-4 (0-3')
Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-7
Matrix: Solid
Percent Solids: 88.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.037		0.037	0.0072	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Benzo[b]fluoranthene	<0.037		0.037	0.0080	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Benzo[g,h,i]perylene	<0.037		0.037	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Benzo[k]fluoranthene	<0.037		0.037	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Butyl benzyl phthalate	<0.19		0.19	0.071	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Carbazole	<0.19		0.19	0.093	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
4-Chloroaniline	<0.75		0.75	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Chrysene	<0.037		0.037	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0072	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
1,2-Dichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,4-Dichlorophenol	<0.37		0.37	0.088	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
4,6-Dinitro-2-methylphenol	<0.75		0.75	0.30	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,4-Dinitrophenol	<0.75		0.75	0.66	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,6-Dinitrotoluene	<0.19		0.19	0.073	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Fluoranthene	<0.037		0.037	0.0069	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Fluorene	<0.037		0.037	0.0052	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Hexachlorobenzene	<0.075		0.075	0.0086	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Hexachlorobutadiene	<0.19		0.19	0.058	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Hexachlorocyclopentadiene	<0.75		0.75	0.21	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Indeno[1,2,3-cd]pyrene	<0.037		0.037	0.0096	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2-Methylnaphthalene	<0.075		0.075	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Naphthalene	<0.037		0.037	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Nitrobenzene	<0.037		0.037	0.0093	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2-Nitrophenol	<0.37		0.37	0.088	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1

Client Sample ID: OPT-2-4 (0-3')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-7

Matrix: Solid
Percent Solids: 88.2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.75		0.75	0.35	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
N-Nitrosodi-n-propylamine	<0.075		0.075	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Pentachlorophenol	<0.75		0.75	0.60	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Phenanthrene	**0.013**	**J**	0.037	0.0052	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Phenol	<0.19		0.19	0.083	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
Pyrene	<0.037		0.037	0.0074	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,4,5-Trichlorophenol	<0.37		0.37	0.085	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*43 - 145*	*07/08/19 07:34*	*07/09/19 16:33*	*1*
2-Fluorophenol	*86*		*31 - 166*	*07/08/19 07:34*	*07/09/19 16:33*	*1*
Nitrobenzene-d5	*68*		*37 - 147*	*07/08/19 07:34*	*07/09/19 16:33*	*1*
Phenol-d5	*71*		*30 - 153*	*07/08/19 07:34*	*07/09/19 16:33*	*1*
Terphenyl-d14	*90*		*42 - 157*	*07/08/19 07:34*	*07/09/19 16:33*	*1*
2,4,6-Tribromophenol	*92*		*31 - 143*	*07/08/19 07:34*	*07/09/19 16:33*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.31**	**J**	1.1	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Arsenic	**6.2**		0.55	0.19	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Barium	**58**		0.55	0.063	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Beryllium	**0.54**		0.22	0.052	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Cadmium	**0.29**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Chromium	**14**		0.55	0.27	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Cobalt	**16**		0.28	0.073	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Copper	**19**	**B**	0.55	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Iron	**19000**	**B**	11	5.8	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Lead	**11**		0.28	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Manganese	**870**		0.55	0.080	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Nickel	**32**		0.55	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Selenium	**0.36**	**J B**	0.55	0.33	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Silver	**2.8**		0.28	0.072	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Thallium	**0.35**	**J**	0.55	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Vanadium	**22**		0.28	0.065	mg/Kg	☼	07/02/19 07:49	07/02/19 17:01	1
Zinc	**36**	**B**	1.1	0.49	mg/Kg	☼	07/02/19 07:49	07/03/19 12:07	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:46	1
Barium	**0.58**		0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:46	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:46	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:46	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:02	1
Cobalt	**0.024**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:46	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:46	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:46	1

Client Sample ID: OPT-2-4 (0-3')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-7

Matrix: Solid
Percent Solids: 88.2

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:46	1
Nickel	**0.023**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:46	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:46	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:46	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:46	1
Zinc	**0.16**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:46	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:05	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:05	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:06	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**	**J**	0.018	0.0060	mg/Kg	☼	07/03/19 15:00	07/05/19 08:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.52	H	0.52	0.18	mg/Kg	☼	07/11/19 13:55	07/11/19 16:54	1
pH	**8.8**		0.2	0.2	SU			07/02/19 14:55	1
Chloride	**2300**		220	190	mg/Kg	☼	07/08/19 19:30	07/09/19 21:56	100

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-4 (3-8')
Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-8
Matrix: Solid
Percent Solids: 87.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.015		0.015	0.0067	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Benzene	<0.0015		0.0015	0.00039	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Bromodichloromethane	<0.0015		0.0015	0.00031	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Bromoform	<0.0015		0.0015	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Bromomethane	<0.0039		0.0039	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
2-Butanone (MEK)	<0.0039		0.0039	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Carbon disulfide	<0.0039		0.0039	0.00080	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Carbon tetrachloride	<0.0015		0.0015	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Chlorobenzene	<0.0015		0.0015	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Chloroethane	<0.0039		0.0039	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Chloroform	<0.0015		0.0015	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Chloromethane	<0.0039		0.0039	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
cis-1,2-Dichloroethene	<0.0015		0.0015	0.00043	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
cis-1,3-Dichloropropene	<0.0015		0.0015	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Dibromochloromethane	<0.0015		0.0015	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,1-Dichloroethane	<0.0015		0.0015	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,2-Dichloroethane	<0.0039		0.0039	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,1-Dichloroethene	<0.0015		0.0015	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,2-Dichloropropane	<0.0015		0.0015	0.00040	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,3-Dichloropropene, Total	<0.0015		0.0015	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Ethylbenzene	<0.0015		0.0015	0.00074	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
2-Hexanone	<0.0039		0.0039	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Methylene Chloride	<0.0039		0.0039	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
4-Methyl-2-pentanone (MIBK)	<0.0039		0.0039	0.0011	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Methyl tert-butyl ether	<0.0015		0.0015	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Styrene	<0.0015		0.0015	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,1,2,2-Tetrachloroethane	<0.0015		0.0015	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Tetrachloroethene	<0.0015		0.0015	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Toluene	<0.0015		0.0015	0.00039	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
trans-1,2-Dichloroethene	<0.0015		0.0015	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
trans-1,3-Dichloropropene	<0.0015		0.0015	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,1,1-Trichloroethane	<0.0015		0.0015	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
1,1,2-Trichloroethane	<0.0015		0.0015	0.00066	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Trichloroethene	<0.0015		0.0015	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Vinyl acetate	<0.0039		0.0039	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Vinyl chloride	<0.0015		0.0015	0.00068	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1
Xylenes, Total	<0.0031		0.0031	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*75 - 131*	*06/27/19 17:21*	*07/09/19 14:38*	*1*
Dibromofluoromethane	*98*		*75 - 126*	*06/27/19 17:21*	*07/09/19 14:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 134*	*06/27/19 17:21*	*07/09/19 14:38*	*1*
Toluene-d8 (Surr)	*102*		*75 - 124*	*06/27/19 17:21*	*07/09/19 14:38*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.037		0.037	0.0067	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Acenaphthylene	<0.037		0.037	0.0049	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Anthracene	<0.037		0.037	0.0062	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Benzo[a]anthracene	**0.0078**	**J**	0.037	0.0050	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1

Client Sample ID: OPT-2-4 (3-8')
Lab Sample ID: 500-165829-8

Date Collected: 06/26/19 12:55
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 87.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.0089**	**J**	0.037	0.0072	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Benzo[b]fluoranthene	**0.011**	**J**	0.037	0.0081	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Benzo[g,h,i]perylene	<0.037		0.037	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Benzo[k]fluoranthene	<0.037		0.037	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Butyl benzyl phthalate	<0.19		0.19	0.071	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Carbazole	<0.19		0.19	0.093	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
4-Chloroaniline	<0.75		0.75	0.18	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Chrysene	<0.037		0.037	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0072	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,4-Dichlorophenol	<0.37		0.37	0.089	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
4,6-Dinitro-2-methylphenol	<0.75		0.75	0.30	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,4-Dinitrophenol	<0.75		0.75	0.66	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,6-Dinitrotoluene	<0.19		0.19	0.073	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Fluoranthene	**0.0083**	**J**	0.037	0.0069	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Fluorene	<0.037		0.037	0.0053	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Hexachlorobenzene	<0.075		0.075	0.0087	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Hexachlorocyclopentadiene	<0.75		0.75	0.21	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Indeno[1,2,3-cd]pyrene	<0.037		0.037	0.0097	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2-Methylnaphthalene	**0.010**	**J**	0.075	0.0069	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Naphthalene	<0.037		0.037	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Nitrobenzene	<0.037		0.037	0.0093	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2-Nitrophenol	<0.37		0.37	0.088	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1

Client Sample ID: OPT-2-4 (3-8')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-8

Matrix: Solid
Percent Solids: 87.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.75		0.75	0.36	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
N-Nitrosodi-n-propylamine	<0.075		0.075	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Pentachlorophenol	<0.75		0.75	0.60	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Phenanthrene	**0.025**	**J**	0.037	0.0052	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Phenol	<0.19		0.19	0.083	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
Pyrene	**0.0096**	**J**	0.037	0.0074	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,4,5-Trichlorophenol	<0.37		0.37	0.085	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*75*		*43 - 145*	*07/08/19 07:34*	*07/09/19 17:03*	*1*
2-Fluorophenol	*85*		*31 - 166*	*07/08/19 07:34*	*07/09/19 17:03*	*1*
Nitrobenzene-d5	*81*		*37 - 147*	*07/08/19 07:34*	*07/09/19 17:03*	*1*
Phenol-d5	*67*		*30 - 153*	*07/08/19 07:34*	*07/09/19 17:03*	*1*
Terphenyl-d14	*86*		*42 - 157*	*07/08/19 07:34*	*07/09/19 17:03*	*1*
2,4,6-Tribromophenol	*63*		*31 - 143*	*07/08/19 07:34*	*07/09/19 17:03*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.41**	**J**	1.1	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Arsenic	**7.2**		0.55	0.19	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Barium	**40**		0.55	0.063	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Beryllium	**0.52**		0.22	0.052	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Cadmium	**0.35**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Chromium	**13**		0.55	0.27	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Cobalt	**9.8**		0.28	0.073	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Copper	**24**	**B**	0.55	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Iron	**18000**	**B**	11	5.8	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Lead	**12**		0.28	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Manganese	**480**		0.55	0.080	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Nickel	**25**		0.55	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Selenium	**0.71**	**B**	0.55	0.33	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Silver	**2.3**		0.28	0.071	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Thallium	<0.55		0.55	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Vanadium	**18**		0.28	0.065	mg/Kg	☼	07/02/19 07:49	07/02/19 17:05	1
Zinc	**50**		1.1	0.49	mg/Kg	☼	07/02/19 07:49	07/03/19 18:12	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:50	1
Barium	**0.42**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:50	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:50	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:50	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:06	1
Cobalt	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:50	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:50	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:50	1

Client Sample ID: OPT-2-4 (3-8')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-8

Matrix: Solid
Percent Solids: 87.9

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:50	1
Nickel	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:50	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:50	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:50	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:50	1
Zinc	<0.50		0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:50	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:09	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:09	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:08	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0060**	**J**	0.018	0.0060	mg/Kg	☼	07/03/19 15:00	07/05/19 08:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.26**	**J H**	0.57	0.19	mg/Kg	☼	07/11/19 13:55	07/11/19 16:54	1
pH	**9.5**		0.2	0.2	SU			07/02/19 14:57	1
Chloride	**470**		21	18	mg/Kg	☼	07/08/19 19:30	07/09/19 22:08	10

Client Sample ID: OPT-2-5 (0-3')
Lab Sample ID: 500-165829-9

Date Collected: 06/26/19 12:20
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 73.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.044**		0.018	0.0079	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Benzene	<0.0018		0.0018	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Bromodichloromethane	<0.0018		0.0018	0.00037	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Bromoform	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Bromomethane	<0.0045		0.0045	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
2-Butanone (MEK)	**0.0064**		0.0045	0.0020	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Carbon disulfide	<0.0045		0.0045	0.00094	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Carbon tetrachloride	<0.0018		0.0018	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Chlorobenzene	<0.0018		0.0018	0.00067	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Chloroethane	<0.0045		0.0045	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Chloroform	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Chloromethane	<0.0045		0.0045	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
cis-1,2-Dichloroethene	<0.0018		0.0018	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
cis-1,3-Dichloropropene	<0.0018		0.0018	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Dibromochloromethane	<0.0018		0.0018	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,1-Dichloroethane	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,2-Dichloroethane	<0.0045		0.0045	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,1-Dichloroethene	<0.0018		0.0018	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,2-Dichloropropane	<0.0018		0.0018	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,3-Dichloropropene, Total	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Ethylbenzene	<0.0018		0.0018	0.00086	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
2-Hexanone	<0.0045		0.0045	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Methylene Chloride	<0.0045		0.0045	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
4-Methyl-2-pentanone (MIBK)	<0.0045		0.0045	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Methyl tert-butyl ether	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Styrene	<0.0018		0.0018	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,1,2,2-Tetrachloroethane	<0.0018		0.0018	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Tetrachloroethene	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Toluene	<0.0018		0.0018	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
trans-1,2-Dichloroethene	<0.0018		0.0018	0.00080	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
trans-1,3-Dichloropropene	<0.0018		0.0018	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,1,1-Trichloroethane	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
1,1,2-Trichloroethane	<0.0018		0.0018	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Trichloroethene	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Vinyl acetate	<0.0045		0.0045	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Vinyl chloride	<0.0018		0.0018	0.00080	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1
Xylenes, Total	<0.0036		0.0036	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*75 - 131*	*06/27/19 17:21*	*07/09/19 15:04*	*1*
Dibromofluoromethane	*104*		*75 - 126*	*06/27/19 17:21*	*07/09/19 15:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 134*	*06/27/19 17:21*	*07/09/19 15:04*	*1*
Toluene-d8 (Surr)	*100*		*75 - 124*	*06/27/19 17:21*	*07/09/19 15:04*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.045		0.045	0.0081	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Acenaphthylene	<0.045		0.045	0.0059	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Anthracene	<0.045		0.045	0.0075	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Benzo[a]anthracene	<0.045		0.045	0.0060	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-5 (0-3')
Date Collected: 06/26/19 12:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-9
Matrix: Solid
Percent Solids: 73.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.045		0.045	0.0087	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Benzo[b]fluoranthene	<0.045		0.045	0.0097	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Benzo[g,h,i]perylene	<0.045		0.045	0.014	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Benzo[k]fluoranthene	<0.045		0.045	0.013	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Bis(2-chloroethoxy)methane	<0.23		0.23	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Bis(2-chloroethyl)ether	<0.23		0.23	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Bis(2-ethylhexyl) phthalate	<0.23		0.23	0.082	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
4-Bromophenyl phenyl ether	<0.23		0.23	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Butyl benzyl phthalate	<0.23		0.23	0.085	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Carbazole	<0.23		0.23	0.11	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
4-Chloroaniline	<0.90		0.90	0.21	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
4-Chloro-3-methylphenol	<0.45		0.45	0.15	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2-Chloronaphthalene	<0.23		0.23	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2-Chlorophenol	<0.23		0.23	0.077	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
4-Chlorophenyl phenyl ether	<0.23		0.23	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Chrysene	<0.045		0.045	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Dibenz(a,h)anthracene	<0.045		0.045	0.0087	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Dibenzofuran	<0.23		0.23	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
1,2-Dichlorobenzene	<0.23		0.23	0.054	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
1,3-Dichlorobenzene	<0.23		0.23	0.051	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
1,4-Dichlorobenzene	<0.23		0.23	0.058	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
3,3'-Dichlorobenzidine	<0.23		0.23	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,4-Dichlorophenol	<0.45		0.45	0.11	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Diethyl phthalate	<0.23		0.23	0.076	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,4-Dimethylphenol	<0.45		0.45	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Dimethyl phthalate	<0.23		0.23	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Di-n-butyl phthalate	<0.23		0.23	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
4,6-Dinitro-2-methylphenol	<0.90		0.90	0.36	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,4-Dinitrophenol	<0.90		0.90	0.79	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,4-Dinitrotoluene	<0.23		0.23	0.071	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,6-Dinitrotoluene	<0.23		0.23	0.088	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Di-n-octyl phthalate	<0.23		0.23	0.073	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Fluoranthene	<0.045		0.045	0.0083	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Fluorene	<0.045		0.045	0.0063	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Hexachlorobenzene	<0.090		0.090	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Hexachlorobutadiene	<0.23		0.23	0.071	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Hexachlorocyclopentadiene	<0.90		0.90	0.26	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Hexachloroethane	<0.23		0.23	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Indeno[1,2,3-cd]pyrene	<0.045		0.045	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Isophorone	<0.23		0.23	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2-Methylnaphthalene	<0.090		0.090	0.0083	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2-Methylphenol	<0.23		0.23	0.072	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
3 & 4 Methylphenol	<0.23		0.23	0.075	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Naphthalene	<0.045		0.045	0.0069	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2-Nitroaniline	<0.23		0.23	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
3-Nitroaniline	<0.45		0.45	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
4-Nitroaniline	<0.45		0.45	0.19	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Nitrobenzene	<0.045		0.045	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2-Nitrophenol	<0.45		0.45	0.11	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1

Client Sample ID: OPT-2-5 (0-3')

Date Collected: 06/26/19 12:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-9

Matrix: Solid
Percent Solids: 73.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.90		0.90	0.43	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
N-Nitrosodi-n-propylamine	<0.090		0.090	0.055	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
N-Nitrosodiphenylamine	<0.23		0.23	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,2'-oxybis[1-chloropropane]	<0.23		0.23	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Pentachlorophenol	<0.90		0.90	0.72	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Phenanthrene	<0.045		0.045	0.0063	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Phenol	<0.23		0.23	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
Pyrene	<0.045		0.045	0.0089	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
1,2,4-Trichlorobenzene	<0.23		0.23	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,4,5-Trichlorophenol	<0.45		0.45	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1
2,4,6-Trichlorophenol	<0.45		0.45	0.15	mg/Kg	☼	07/08/19 07:34	07/09/19 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*43 - 145*	*07/08/19 07:34*	*07/09/19 17:32*	*1*
2-Fluorophenol	*83*		*31 - 166*	*07/08/19 07:34*	*07/09/19 17:32*	*1*
Nitrobenzene-d5	*69*		*37 - 147*	*07/08/19 07:34*	*07/09/19 17:32*	*1*
Phenol-d5	*68*		*30 - 153*	*07/08/19 07:34*	*07/09/19 17:32*	*1*
Terphenyl-d14	*88*		*42 - 157*	*07/08/19 07:34*	*07/09/19 17:32*	*1*
2,4,6-Tribromophenol	*88*		*31 - 143*	*07/08/19 07:34*	*07/09/19 17:32*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.27**	**J**	1.3	0.25	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Arsenic	**7.9**		0.64	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Barium	**42**		0.64	0.072	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Beryllium	**0.81**		0.25	0.059	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Cadmium	**0.22**	**B**	0.13	0.023	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Chromium	**21**		0.64	0.31	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Cobalt	**18**		0.32	0.083	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Copper	**24**	**B**	0.64	0.18	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Iron	**24000**	**B**	13	6.6	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Lead	**15**		0.32	0.15	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Manganese	**770**		0.64	0.092	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Nickel	**38**		0.64	0.18	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Selenium	**0.81**	**B**	0.64	0.37	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Silver	**3.9**		0.32	0.082	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Thallium	**1.1**		0.64	0.32	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Vanadium	**29**		0.32	0.075	mg/Kg	☼	07/02/19 07:49	07/02/19 17:09	1
Zinc	**61**		1.3	0.56	mg/Kg	☼	07/02/19 07:49	07/03/19 18:16	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:02	1
Barium	**0.23**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:02	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:02	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:02	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:10	1
Cobalt	**0.028**		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:02	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:02	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:02	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-5 (0-3')
Date Collected: 06/26/19 12:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-9
Matrix: Solid
Percent Solids: 73.7

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:02	1
Nickel	**0.020**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:02	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:02	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:02	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:02	1
Zinc	**0.13**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:02	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:22	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:22	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:09	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.025**		0.021	0.0071	mg/Kg	☼	07/03/19 15:00	07/05/19 08:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.98**	**H**	0.63	0.22	mg/Kg	☼	07/11/19 13:55	07/11/19 16:55	1
pH	**7.9**		0.2	0.2	SU			07/02/19 15:00	1
Chloride	**9400**		540	460	mg/Kg	☼	07/08/19 19:30	07/09/19 22:21	200

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-5 (3-8')
Date Collected: 06/26/19 12:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-10
Matrix: Solid
Percent Solids: 88.1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.017		0.017	0.0076	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Benzene	<0.0017		0.0017	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Bromodichloromethane	<0.0017		0.0017	0.00036	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Bromoform	<0.0017		0.0017	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Bromomethane	<0.0044		0.0044	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
2-Butanone (MEK)	<0.0044		0.0044	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Carbon disulfide	<0.0044		0.0044	0.00091	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Carbon tetrachloride	<0.0017		0.0017	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Chlorobenzene	<0.0017		0.0017	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Chloroethane	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Chloroform	<0.0017		0.0017	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Chloromethane	<0.0044		0.0044	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
cis-1,2-Dichloroethene	<0.0017		0.0017	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
cis-1,3-Dichloropropene	<0.0017		0.0017	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Dibromochloromethane	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,1-Dichloroethane	<0.0017		0.0017	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,2-Dichloroethane	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,1-Dichloroethene	<0.0017		0.0017	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,2-Dichloropropane	<0.0017		0.0017	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,3-Dichloropropene, Total	<0.0017		0.0017	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Ethylbenzene	<0.0017		0.0017	0.00084	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
2-Hexanone	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Methylene Chloride	<0.0044		0.0044	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
4-Methyl-2-pentanone (MIBK)	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Methyl tert-butyl ether	<0.0017		0.0017	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Styrene	<0.0017		0.0017	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,1,2,2-Tetrachloroethane	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Tetrachloroethene	<0.0017		0.0017	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Toluene	<0.0017		0.0017	0.00044	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
trans-1,2-Dichloroethene	<0.0017		0.0017	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
trans-1,3-Dichloropropene	<0.0017		0.0017	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,1,1-Trichloroethane	<0.0017		0.0017	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
1,1,2-Trichloroethane	<0.0017		0.0017	0.00075	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Trichloroethene	<0.0017		0.0017	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Vinyl acetate	<0.0044		0.0044	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Vinyl chloride	<0.0017		0.0017	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1
Xylenes, Total	<0.0035		0.0035	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 17:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*75 - 131*	*06/27/19 17:21*	*07/09/19 17:11*	*1*
Dibromofluoromethane	*103*		*75 - 126*	*06/27/19 17:21*	*07/09/19 17:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 134*	*06/27/19 17:21*	*07/09/19 17:11*	*1*
Toluene-d8 (Surr)	*100*		*75 - 124*	*06/27/19 17:21*	*07/09/19 17:11*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.037		0.037	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Acenaphthylene	<0.037		0.037	0.0050	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Anthracene	<0.037		0.037	0.0063	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Benzo[a]anthracene	<0.037		0.037	0.0051	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-5 (3-8')
Date Collected: 06/26/19 12:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-10
Matrix: Solid
Percent Solids: 88.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.037		0.037	0.0073	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Benzo[b]fluoranthene	<0.037		0.037	0.0081	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Benzo[g,h,i]perylene	<0.037		0.037	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Benzo[k]fluoranthene	<0.037		0.037	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.069	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Butyl benzyl phthalate	<0.19		0.19	0.072	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Carbazole	<0.19		0.19	0.094	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
4-Chloroaniline	<0.76		0.76	0.18	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2-Chlorophenol	<0.19		0.19	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Chrysene	<0.037		0.037	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0073	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Dibenzofuran	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
1,4-Dichlorobenzene	<0.19		0.19	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,4-Dichlorophenol	<0.37		0.37	0.089	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Dimethyl phthalate	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Di-n-butyl phthalate	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
4,6-Dinitro-2-methylphenol	<0.76		0.76	0.30	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,4-Dinitrophenol	<0.76		0.76	0.66	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,6-Dinitrotoluene	<0.19		0.19	0.074	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Di-n-octyl phthalate	<0.19		0.19	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Fluoranthene	<0.037		0.037	0.0070	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Fluorene	<0.037		0.037	0.0053	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Hexachlorobenzene	<0.076		0.076	0.0087	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Hexachlorobutadiene	<0.19		0.19	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Hexachlorocyclopentadiene	<0.76		0.76	0.22	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Hexachloroethane	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Indeno[1,2,3-cd]pyrene	<0.037		0.037	0.0097	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Isophorone	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2-Methylnaphthalene	<0.076		0.076	0.0069	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2-Methylphenol	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Naphthalene	<0.037		0.037	0.0058	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
3-Nitroaniline	<0.37		0.37	0.12	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
4-Nitroaniline	<0.37		0.37	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Nitrobenzene	<0.037		0.037	0.0094	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2-Nitrophenol	<0.37		0.37	0.089	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1

Client Sample ID: OPT-2-5 (3-8')
Lab Sample ID: 500-165829-10

Date Collected: 06/26/19 12:20
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 88.1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.76		0.76	0.36	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
N-Nitrosodi-n-propylamine	<0.076		0.076	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Pentachlorophenol	<0.76		0.76	0.60	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Phenanthrene	<0.037		0.037	0.0052	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Phenol	<0.19		0.19	0.084	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
Pyrene	<0.037		0.037	0.0075	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,4,5-Trichlorophenol	<0.37		0.37	0.086	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*43 - 145*	*07/08/19 07:34*	*07/09/19 18:02*	*1*
2-Fluorophenol	*90*		*31 - 166*	*07/08/19 07:34*	*07/09/19 18:02*	*1*
Nitrobenzene-d5	*76*		*37 - 147*	*07/08/19 07:34*	*07/09/19 18:02*	*1*
Phenol-d5	*71*		*30 - 153*	*07/08/19 07:34*	*07/09/19 18:02*	*1*
Terphenyl-d14	*91*		*42 - 157*	*07/08/19 07:34*	*07/09/19 18:02*	*1*
2,4,6-Tribromophenol	*92*		*31 - 143*	*07/08/19 07:34*	*07/09/19 18:02*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.37**	**J F1**	1.1	0.21	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Arsenic	**6.9**	**F1**	0.54	0.19	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Barium	**21**		0.54	0.062	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Beryllium	**0.56**		0.22	0.051	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Cadmium	**0.32**	**F1 B**	0.11	0.019	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Chromium	**14**		0.54	0.27	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Cobalt	**13**	**F1**	0.27	0.071	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Copper	**22**	**B**	0.54	0.15	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Iron	**20000**	**B**	11	5.6	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Lead	**14**	**F1**	0.27	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Manganese	**560**		0.54	0.078	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Nickel	**31**	**F1**	0.54	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Selenium	**0.68**	**F1 B**	0.54	0.32	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Silver	**2.5**		0.27	0.070	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Thallium	**0.59**	**F1**	0.54	0.27	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Vanadium	**19**		0.27	0.064	mg/Kg	☼	07/02/19 07:49	07/02/19 17:13	1
Zinc	**50**		1.1	0.48	mg/Kg	☼	07/02/19 07:49	07/03/19 18:21	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:06	1
Barium	**0.27**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:06	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:06	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:06	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:14	1
Cobalt	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:06	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:06	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:06	1

Client Sample ID: OPT-2-5 (3-8')

Date Collected: 06/26/19 12:20
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-10

Matrix: Solid
Percent Solids: 88.1

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:06	1
Nickel	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:06	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:06	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:06	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:06	1
Zinc	<0.50		0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:06	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:26	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:26	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:14	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.010**	**J**	0.018	0.0059	mg/Kg	☼	07/03/19 15:00	07/05/19 08:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**1.6**	**H**	0.44	0.15	mg/Kg	☼	07/11/19 13:55	07/11/19 16:55	1
pH	**8.3**		0.2	0.2	SU			07/02/19 15:02	1
Chloride	**5200**		450	380	mg/Kg	☼	07/08/19 19:30	07/09/19 22:33	200

Client Sample ID: OPT-2-6 (0-1')
Lab Sample ID: 500-165829-11

Date Collected: 06/26/19 11:50
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 77.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.098**		0.019	0.0081	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Benzene	**0.00052**	**J**	0.0019	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Bromodichloromethane	<0.0019		0.0019	0.00038	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Bromoform	<0.0019		0.0019	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Bromomethane	<0.0046		0.0046	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
2-Butanone (MEK)	**0.018**		0.0046	0.0021	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Carbon disulfide	**0.0014**	**J**	0.0046	0.00097	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Carbon tetrachloride	<0.0019		0.0019	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Chlorobenzene	<0.0019		0.0019	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Chloroethane	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Chloroform	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Chloromethane	<0.0046		0.0046	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
cis-1,2-Dichloroethene	<0.0019		0.0019	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
cis-1,3-Dichloropropene	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Dibromochloromethane	<0.0019		0.0019	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,1-Dichloroethane	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,2-Dichloroethane	<0.0046		0.0046	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,1-Dichloroethene	<0.0019		0.0019	0.00064	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,2-Dichloropropane	<0.0019		0.0019	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,3-Dichloropropene, Total	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Ethylbenzene	<0.0019		0.0019	0.00089	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
2-Hexanone	<0.0046		0.0046	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Methylene Chloride	<0.0046		0.0046	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
4-Methyl-2-pentanone (MIBK)	<0.0046		0.0046	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Methyl tert-butyl ether	<0.0019		0.0019	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Styrene	<0.0019		0.0019	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,1,2,2-Tetrachloroethane	<0.0019		0.0019	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Tetrachloroethene	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Toluene	<0.0019		0.0019	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
trans-1,2-Dichloroethene	<0.0019		0.0019	0.00082	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
trans-1,3-Dichloropropene	<0.0019		0.0019	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,1,1-Trichloroethane	<0.0019		0.0019	0.00062	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
1,1,2-Trichloroethane	<0.0019		0.0019	0.00080	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Trichloroethene	<0.0019		0.0019	0.00063	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Vinyl acetate	<0.0046		0.0046	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Vinyl chloride	<0.0019		0.0019	0.00082	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1
Xylenes, Total	<0.0037		0.0037	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*75 - 131*	*06/27/19 17:21*	*07/09/19 17:37*	*1*
Dibromofluoromethane	*83*		*75 - 126*	*06/27/19 17:21*	*07/09/19 17:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 134*	*06/27/19 17:21*	*07/09/19 17:37*	*1*
Toluene-d8 (Surr)	*103*		*75 - 124*	*06/27/19 17:21*	*07/09/19 17:37*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.042		0.042	0.0076	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Acenaphthylene	<0.042		0.042	0.0056	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Anthracene	**0.0076**	**J**	0.042	0.0070	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Benzo[a]anthracene	**0.012**	**J**	0.042	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1

Client Sample ID: OPT-2-6 (0-1')
Date Collected: 06/26/19 11:50
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-11
Matrix: Solid
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.0095**	**J**	0.042	0.0082	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Benzo[b]fluoranthene	**0.012**	**J**	0.042	0.0091	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Benzo[g,h,i]perylene	<0.042		0.042	0.014	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Benzo[k]fluoranthene	<0.042		0.042	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Bis(2-chloroethoxy)methane	<0.21		0.21	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Bis(2-chloroethyl)ether	<0.21		0.21	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Bis(2-ethylhexyl) phthalate	<0.21		0.21	0.077	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
4-Bromophenyl phenyl ether	<0.21		0.21	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Butyl benzyl phthalate	<0.21		0.21	0.080	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Carbazole	<0.21		0.21	0.11	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
4-Chloroaniline	<0.85		0.85	0.20	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
4-Chloro-3-methylphenol	<0.42		0.42	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2-Chloronaphthalene	<0.21		0.21	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2-Chlorophenol	<0.21		0.21	0.072	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
4-Chlorophenyl phenyl ether	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Chrysene	<0.042		0.042	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Dibenz(a,h)anthracene	<0.042		0.042	0.0082	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Dibenzofuran	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
1,2-Dichlorobenzene	<0.21		0.21	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
1,3-Dichlorobenzene	<0.21		0.21	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
1,4-Dichlorobenzene	<0.21		0.21	0.054	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
3,3'-Dichlorobenzidine	<0.21		0.21	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,4-Dichlorophenol	<0.42		0.42	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Diethyl phthalate	<0.21		0.21	0.072	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,4-Dimethylphenol	<0.42		0.42	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Dimethyl phthalate	<0.21		0.21	0.055	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Di-n-butyl phthalate	<0.21		0.21	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
4,6-Dinitro-2-methylphenol	<0.85		0.85	0.34	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,4-Dinitrophenol	<0.85		0.85	0.74	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,4-Dinitrotoluene	<0.21		0.21	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,6-Dinitrotoluene	<0.21		0.21	0.083	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Di-n-octyl phthalate	<0.21		0.21	0.069	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Fluoranthene	**0.046**		0.042	0.0078	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Fluorene	<0.042		0.042	0.0059	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Hexachlorobenzene	<0.085		0.085	0.0098	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Hexachlorobutadiene	<0.21		0.21	0.066	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Hexachlorocyclopentadiene	<0.85		0.85	0.24	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Hexachloroethane	<0.21		0.21	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Indeno[1,2,3-cd]pyrene	<0.042		0.042	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Isophorone	<0.21		0.21	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2-Methylnaphthalene	<0.085		0.085	0.0078	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2-Methylphenol	<0.21		0.21	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
3 & 4 Methylphenol	<0.21		0.21	0.070	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Naphthalene	<0.042		0.042	0.0065	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2-Nitroaniline	<0.21		0.21	0.057	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
3-Nitroaniline	<0.42		0.42	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
4-Nitroaniline	<0.42		0.42	0.18	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Nitrobenzene	<0.042		0.042	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2-Nitrophenol	<0.42		0.42	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1

Client Sample ID: OPT-2-6 (0-1')

Date Collected: 06/26/19 11:50
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-11

Matrix: Solid
Percent Solids: 77.9

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.85		0.85	0.40	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
N-Nitrosodi-n-propylamine	<0.085		0.085	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
N-Nitrosodiphenylamine	<0.21		0.21	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,2'-oxybis[1-chloropropane]	<0.21		0.21	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Pentachlorophenol	<0.85		0.85	0.68	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Phenanthrene	**0.020**	**J**	0.042	0.0059	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Phenol	<0.21		0.21	0.094	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
Pyrene	**0.018**	**J**	0.042	0.0084	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
1,2,4-Trichlorobenzene	<0.21		0.21	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,4,5-Trichlorophenol	<0.42		0.42	0.096	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1
2,4,6-Trichlorophenol	<0.42		0.42	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*43 - 145*	*07/08/19 07:34*	*07/09/19 18:32*	*1*
2-Fluorophenol	*87*		*31 - 166*	*07/08/19 07:34*	*07/09/19 18:32*	*1*
Nitrobenzene-d5	*67*		*37 - 147*	*07/08/19 07:34*	*07/09/19 18:32*	*1*
Phenol-d5	*71*		*30 - 153*	*07/08/19 07:34*	*07/09/19 18:32*	*1*
Terphenyl-d14	*80*		*42 - 157*	*07/08/19 07:34*	*07/09/19 18:32*	*1*
2,4,6-Tribromophenol	*101*		*31 - 143*	*07/08/19 07:34*	*07/09/19 18:32*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.32**	**J**	1.2	0.23	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Arsenic	**6.6**		0.60	0.21	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Barium	**89**		0.60	0.068	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Beryllium	**0.79**		0.24	0.056	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Cadmium	**0.28**	**B**	0.12	0.022	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Chromium	**21**		0.60	0.30	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Cobalt	**14**		0.30	0.079	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Copper	**23**	**B**	0.60	0.17	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Iron	**22000**	**B**	12	6.2	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Lead	**17**		0.30	0.14	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Manganese	**320**		0.60	0.087	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Nickel	**31**		0.60	0.17	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Selenium	**0.89**	**B**	0.60	0.35	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Silver	**4.5**		0.30	0.077	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Thallium	**1.1**		0.60	0.30	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Vanadium	**29**		0.30	0.071	mg/Kg	☼	07/02/19 07:49	07/02/19 17:34	1
Zinc	**70**		1.2	0.53	mg/Kg	☼	07/02/19 07:49	07/03/19 18:49	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:11	1
Barium	**0.37**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:11	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:11	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:11	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:18	1
Cobalt	**0.032**		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:11	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:11	1
Iron	**1.2**		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:11	1

Client Sample ID: OPT-2-6 (0-1')

Date Collected: 06/26/19 11:50
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-11

Matrix: Solid
Percent Solids: 77.9

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:11	1
Nickel	**0.017**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:11	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:11	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:11	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:11	1
Zinc	**0.10**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:11	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:30	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:30	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:16	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.026**		0.020	0.0067	mg/Kg	☼	07/03/19 15:00	07/05/19 08:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.36**	**J H**	0.56	0.19	mg/Kg	☼	07/11/19 13:55	07/11/19 16:55	1
pH	**7.6**		0.2	0.2	SU			07/02/19 15:05	1
Chloride	**13000**		1200	1000	mg/Kg	☼	07/08/19 19:30	07/09/19 22:46	500

Client Sample ID: OPT-2-6 (1-6')
Lab Sample ID: 500-165829-12

Date Collected: 06/26/19 11:50
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 86.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.021**		0.017	0.0072	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Benzene	<0.0017		0.0017	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Bromodichloromethane	<0.0017		0.0017	0.00034	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Bromoform	<0.0017		0.0017	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Bromomethane	<0.0041		0.0041	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
2-Butanone (MEK)	**0.0026**	**J**	0.0041	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Carbon disulfide	<0.0041		0.0041	0.00086	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Carbon tetrachloride	<0.0017		0.0017	0.00048	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Chlorobenzene	<0.0017		0.0017	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Chloroethane	<0.0041		0.0041	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Chloroform	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Chloromethane	<0.0041		0.0041	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
cis-1,2-Dichloroethene	<0.0017		0.0017	0.00046	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
cis-1,3-Dichloropropene	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Dibromochloromethane	<0.0017		0.0017	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,1-Dichloroethane	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,2-Dichloroethane	<0.0041		0.0041	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,1-Dichloroethene	<0.0017		0.0017	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,2-Dichloropropane	<0.0017		0.0017	0.00043	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,3-Dichloropropene, Total	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Ethylbenzene	<0.0017		0.0017	0.00079	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
2-Hexanone	<0.0041		0.0041	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Methylene Chloride	<0.0041		0.0041	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
4-Methyl-2-pentanone (MIBK)	<0.0041		0.0041	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Methyl tert-butyl ether	<0.0017		0.0017	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Styrene	<0.0017		0.0017	0.00050	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,1,2,2-Tetrachloroethane	<0.0017		0.0017	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Tetrachloroethene	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Toluene	<0.0017		0.0017	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
trans-1,2-Dichloroethene	<0.0017		0.0017	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
trans-1,3-Dichloropropene	<0.0017		0.0017	0.00058	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,1,1-Trichloroethane	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
1,1,2-Trichloroethane	<0.0017		0.0017	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Trichloroethene	<0.0017		0.0017	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Vinyl acetate	<0.0041		0.0041	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Vinyl chloride	<0.0017		0.0017	0.00073	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1
Xylenes, Total	<0.0033		0.0033	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*75 - 131*	*06/27/19 17:21*	*07/09/19 18:03*	*1*
Dibromofluoromethane	*99*		*75 - 126*	*06/27/19 17:21*	*07/09/19 18:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 134*	*06/27/19 17:21*	*07/09/19 18:03*	*1*
Toluene-d8 (Surr)	*101*		*75 - 124*	*06/27/19 17:21*	*07/09/19 18:03*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0072**	**J**	0.038	0.0068	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Acenaphthylene	<0.038		0.038	0.0050	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Anthracene	**0.011**	**J**	0.038	0.0064	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Benzo[a]anthracene	**0.015**	**J**	0.038	0.0051	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1

Client Sample ID: OPT-2-6 (1-6')
Date Collected: 06/26/19 11:50
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-12
Matrix: Solid
Percent Solids: 86.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.013**	**J**	0.038	0.0074	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Benzo[b]fluoranthene	**0.011**	**J**	0.038	0.0082	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Benzo[g,h,i]perylene	<0.038		0.038	0.012	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Benzo[k]fluoranthene	<0.038		0.038	0.011	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.039	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.057	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Bis(2-ethylhexyl) phthalate	<0.19		0.19	0.070	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Butyl benzyl phthalate	<0.19		0.19	0.072	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Carbazole	<0.19		0.19	0.095	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
4-Chloroaniline	<0.77		0.77	0.18	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
4-Chloro-3-methylphenol	<0.38		0.38	0.13	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2-Chloronaphthalene	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2-Chlorophenol	<0.19		0.19	0.065	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Chrysene	**0.011**	**J**	0.038	0.010	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Dibenz(a,h)anthracene	<0.038		0.038	0.0074	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Dibenzofuran	<0.19		0.19	0.045	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
1,2-Dichlorobenzene	<0.19		0.19	0.045	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
1,3-Dichlorobenzene	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
1,4-Dichlorobenzene	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.053	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,4-Dichlorophenol	<0.38		0.38	0.090	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Diethyl phthalate	<0.19		0.19	0.064	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,4-Dimethylphenol	<0.38		0.38	0.14	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Dimethyl phthalate	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Di-n-butyl phthalate	<0.19		0.19	0.058	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
4,6-Dinitro-2-methylphenol	<0.77		0.77	0.31	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,4-Dinitrophenol	<0.77		0.77	0.67	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,4-Dinitrotoluene	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,6-Dinitrotoluene	<0.19		0.19	0.075	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Di-n-octyl phthalate	<0.19		0.19	0.062	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Fluoranthene	**0.037**	**J**	0.038	0.0071	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Fluorene	**0.015**	**J**	0.038	0.0053	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Hexachlorobenzene	<0.077		0.077	0.0088	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Hexachlorobutadiene	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Hexachlorocyclopentadiene	<0.77		0.77	0.22	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Hexachloroethane	<0.19		0.19	0.058	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Indeno[1,2,3-cd]pyrene	<0.038		0.038	0.0099	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Isophorone	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2-Methylnaphthalene	<0.077		0.077	0.0070	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2-Methylphenol	<0.19		0.19	0.061	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
3 & 4 Methylphenol	<0.19		0.19	0.063	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Naphthalene	**0.014**	**J**	0.038	0.0059	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2-Nitroaniline	<0.19		0.19	0.051	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
3-Nitroaniline	<0.38		0.38	0.12	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
4-Nitroaniline	<0.38		0.38	0.16	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Nitrobenzene	<0.038		0.038	0.0095	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2-Nitrophenol	<0.38		0.38	0.090	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1

Client Sample ID: OPT-2-6 (1-6')

Date Collected: 06/26/19 11:50
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-12

Matrix: Solid
Percent Solids: 86.7

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.77		0.77	0.36	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
N-Nitrosodi-n-propylamine	<0.077		0.077	0.047	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
N-Nitrosodiphenylamine	<0.19		0.19	0.045	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Pentachlorophenol	<0.77		0.77	0.61	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Phenanthrene	**0.037**	**J**	0.038	0.0053	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Phenol	<0.19		0.19	0.085	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
Pyrene	**0.028**	**J**	0.038	0.0076	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.041	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,4,5-Trichlorophenol	<0.38		0.38	0.087	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1
2,4,6-Trichlorophenol	<0.38		0.38	0.13	mg/Kg	☼	07/08/19 07:34	07/10/19 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*79*		*43 - 145*	*07/08/19 07:34*	*07/10/19 13:14*	*1*
2-Fluorophenol	*120*		*31 - 166*	*07/08/19 07:34*	*07/10/19 13:14*	*1*
Nitrobenzene-d5	*79*		*37 - 147*	*07/08/19 07:34*	*07/10/19 13:14*	*1*
Phenol-d5	*48*		*30 - 153*	*07/08/19 07:34*	*07/10/19 13:14*	*1*
Terphenyl-d14	*94*		*42 - 157*	*07/08/19 07:34*	*07/10/19 13:14*	*1*
2,4,6-Tribromophenol	*80*		*31 - 143*	*07/08/19 07:34*	*07/10/19 13:14*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.42**	**J**	1.1	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Arsenic	**5.1**		0.56	0.19	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Barium	**65**		0.56	0.064	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Beryllium	**0.46**		0.22	0.052	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Cadmium	**0.28**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Chromium	**12**		0.56	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Cobalt	**9.9**		0.28	0.073	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Copper	**17**	**B**	0.56	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Iron	**14000**	**B**	11	5.8	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Lead	**11**		0.28	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Manganese	**1000**		0.56	0.081	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Nickel	**21**		0.56	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Selenium	**0.62**	**B**	0.56	0.33	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Silver	**2.4**		0.28	0.072	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Thallium	<0.56		0.56	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Vanadium	**19**		0.28	0.066	mg/Kg	☼	07/02/19 07:49	07/02/19 17:46	1
Zinc	**32**		1.1	0.49	mg/Kg	☼	07/02/19 07:49	07/03/19 18:53	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:15	1
Barium	**0.91**		0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:15	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:15	1
Cadmium	**0.0022**	**J**	0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:15	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:22	1
Cobalt	**0.017**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:15	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:15	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:15	1

Client Sample ID: OPT-2-6 (1-6')

Date Collected: 06/26/19 11:50
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-12

Matrix: Solid
Percent Solids: 86.7

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:15	1
Nickel	**0.018**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:15	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:15	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:15	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:15	1
Zinc	**0.25**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:15	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:34	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:34	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:18	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**	**J**	0.017	0.0058	mg/Kg	☼	07/03/19 15:00	07/05/19 08:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.50	H	0.50	0.17	mg/Kg	☼	07/11/19 13:55	07/11/19 16:55	1
pH	**8.2**		0.2	0.2	SU			07/02/19 15:07	1
Chloride	**5200**		460	390	mg/Kg	☼	07/08/19 19:30	07/09/19 22:58	200

Client Sample ID: OPT-2-7 (0-1')
Lab Sample ID: 500-165829-13

Date Collected: 06/26/19 09:30
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 82.0

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.58		0.58	0.10	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Benzene	**0.011**	**J**	0.015	0.0085	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Bromodichloromethane	<0.058		0.058	0.022	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Bromoform	<0.058		0.058	0.028	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Bromomethane	<0.17		0.17	0.046	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
2-Butanone (MEK)	<0.29		0.29	0.12	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Carbon disulfide	<0.12		0.12	0.047	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Carbon tetrachloride	<0.058		0.058	0.022	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Chlorobenzene	<0.058		0.058	0.022	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Chloroethane	<0.058		0.058	0.029	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Chloroform	<0.12		0.12	0.021	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Chloromethane	<0.058		0.058	0.019	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
cis-1,2-Dichloroethene	<0.058		0.058	0.024	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
cis-1,3-Dichloropropene	<0.058		0.058	0.024	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Dibromochloromethane	<0.058		0.058	0.028	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,1-Dichloroethane	<0.058		0.058	0.024	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,2-Dichloroethane	<0.058		0.058	0.023	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,1-Dichloroethene	<0.058		0.058	0.023	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,2-Dichloropropane	<0.058		0.058	0.025	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,3-Dichloropropene, Total	<0.058		0.058	0.024	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Ethylbenzene	**1.1**		0.015	0.011	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
2-Hexanone	<0.29		0.29	0.091	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Methylene Chloride	<0.29		0.29	0.095	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
4-Methyl-2-pentanone (MIBK)	<0.29		0.29	0.12	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Methyl tert-butyl ether	<0.058		0.058	0.023	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Styrene	<0.058		0.058	0.022	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,1,2,2-Tetrachloroethane	<0.058		0.058	0.023	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Tetrachloroethene	<0.058		0.058	0.021	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Toluene	<0.015		0.015	0.0085	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
trans-1,2-Dichloroethene	<0.058		0.058	0.020	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
trans-1,3-Dichloropropene	<0.058		0.058	0.021	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,1,1-Trichloroethane	<0.058		0.058	0.022	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
1,1,2-Trichloroethane	<0.058		0.058	0.020	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Trichloroethene	<0.029		0.029	0.0095	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Vinyl acetate	<0.12		0.12	0.052	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Vinyl chloride	<0.058		0.058	0.015	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50
Xylenes, Total	**0.99**		0.029	0.013	mg/Kg	☼	06/26/19 09:30	07/09/19 14:46	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*72 - 124*	*06/26/19 09:30*	*07/09/19 14:46*	*50*
Dibromofluoromethane	*105*		*75 - 120*	*06/26/19 09:30*	*07/09/19 14:46*	*50*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*	*06/26/19 09:30*	*07/09/19 14:46*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*06/26/19 09:30*	*07/09/19 14:46*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.040		0.040	0.0072	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Acenaphthylene	<0.040		0.040	0.0053	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Anthracene	<0.040		0.040	0.0067	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Benzo[a]anthracene	<0.040		0.040	0.0054	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1

Client Sample ID: OPT-2-7 (0-1')
Lab Sample ID: 500-165829-13
Date Collected: 06/26/19 09:30
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 82.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.040		0.040	0.0077	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Benzo[b]fluoranthene	<0.040		0.040	0.0086	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Benzo[g,h,i]perylene	<0.040		0.040	0.013	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Benzo[k]fluoranthene	<0.040		0.040	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.073	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Butyl benzyl phthalate	<0.20		0.20	0.076	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Carbazole	<0.20		0.20	0.10	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
4-Chloroaniline	<0.81		0.81	0.19	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
4-Chloro-3-methylphenol	<0.40		0.40	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2-Chloronaphthalene	<0.20		0.20	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2-Chlorophenol	<0.20		0.20	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Chrysene	<0.040		0.040	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Dibenz(a,h)anthracene	<0.040		0.040	0.0077	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Dibenzofuran	<0.20		0.20	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
1,2-Dichlorobenzene	<0.20		0.20	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
1,3-Dichlorobenzene	<0.20		0.20	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
1,4-Dichlorobenzene	<0.20		0.20	0.051	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,4-Dichlorophenol	<0.40		0.40	0.095	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Diethyl phthalate	<0.20		0.20	0.068	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,4-Dimethylphenol	<0.40		0.40	0.15	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Dimethyl phthalate	<0.20		0.20	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Di-n-butyl phthalate	<0.20		0.20	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
4,6-Dinitro-2-methylphenol	<0.81		0.81	0.32	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,4-Dinitrophenol	<0.81		0.81	0.70	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,4-Dinitrotoluene	<0.20		0.20	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,6-Dinitrotoluene	<0.20		0.20	0.079	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Di-n-octyl phthalate	<0.20		0.20	0.065	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Fluoranthene	<0.040		0.040	0.0074	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Fluorene	<0.040		0.040	0.0056	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Hexachlorobenzene	<0.081		0.081	0.0093	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Hexachlorobutadiene	<0.20		0.20	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Hexachlorocyclopentadiene	<0.81		0.81	0.23	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Hexachloroethane	<0.20		0.20	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Indeno[1,2,3-cd]pyrene	<0.040		0.040	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Isophorone	<0.20		0.20	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2-Methylnaphthalene	**0.053**	**J**	0.081	0.0074	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2-Methylphenol	<0.20		0.20	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
3 & 4 Methylphenol	<0.20		0.20	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Naphthalene	**0.26**		0.040	0.0062	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2-Nitroaniline	<0.20		0.20	0.054	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
3-Nitroaniline	<0.40		0.40	0.12	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
4-Nitroaniline	<0.40		0.40	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Nitrobenzene	<0.040		0.040	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2-Nitrophenol	<0.40		0.40	0.095	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1

Client Sample ID: OPT-2-7 (0-1')

Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-13

Matrix: Solid
Percent Solids: 82.0

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.81		0.81	0.38	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
N-Nitrosodi-n-propylamine	<0.081		0.081	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
N-Nitrosodiphenylamine	<0.20		0.20	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Pentachlorophenol	<0.81		0.81	0.64	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Phenanthrene	<0.040		0.040	0.0056	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Phenol	<0.20		0.20	0.089	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
Pyrene	<0.040		0.040	0.0080	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,4,5-Trichlorophenol	<0.40		0.40	0.091	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1
2,4,6-Trichlorophenol	<0.40		0.40	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*74*		*43 - 145*	*07/08/19 07:34*	*07/09/19 20:01*	*1*
2-Fluorophenol	*82*		*31 - 166*	*07/08/19 07:34*	*07/09/19 20:01*	*1*
Nitrobenzene-d5	*69*		*37 - 147*	*07/08/19 07:34*	*07/09/19 20:01*	*1*
Phenol-d5	*75*		*30 - 153*	*07/08/19 07:34*	*07/09/19 20:01*	*1*
Terphenyl-d14	*94*		*42 - 157*	*07/08/19 07:34*	*07/09/19 20:01*	*1*
2,4,6-Tribromophenol	*90*		*31 - 143*	*07/08/19 07:34*	*07/09/19 20:01*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.33**	**J**	1.2	0.23	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Arsenic	**6.2**		0.58	0.20	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Barium	**78**		0.58	0.066	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Beryllium	**0.68**		0.23	0.054	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Cadmium	**0.31**	**B**	0.12	0.021	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Chromium	**19**		0.58	0.29	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Cobalt	**12**		0.29	0.076	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Copper	**18**	**B**	0.58	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Iron	**20000**	**B**	12	6.0	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Lead	**23**		0.29	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Manganese	**390**		0.58	0.084	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Nickel	**25**		0.58	0.17	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Selenium	**0.82**	**B**	0.58	0.34	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Silver	**3.7**		0.29	0.075	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Thallium	**0.95**		0.58	0.29	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Vanadium	**28**		0.29	0.069	mg/Kg	☼	07/02/19 07:49	07/02/19 17:50	1
Zinc	**69**		1.2	0.51	mg/Kg	☼	07/02/19 07:49	07/03/19 18:58	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:19	1
Barium	**0.52**		0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:19	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:19	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:19	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:26	1
Cobalt	**0.036**		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:19	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:19	1
Iron	**0.77**		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:19	1

Client Sample ID: OPT-2-7 (0-1')

Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-13

Matrix: Solid
Percent Solids: 82.0

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:19	1
Nickel	**0.021**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:19	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:19	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:19	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:19	1
Zinc	**0.090**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:19	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:38	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:38	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:53	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.023**		0.019	0.0064	mg/Kg	☼	07/03/19 15:00	07/05/19 08:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.19**	**J H**	0.52	0.18	mg/Kg	☼	07/11/19 13:55	07/11/19 16:56	1
pH	**7.9**		0.2	0.2	SU			07/02/19 15:09	1
Chloride	**8600**		600	510	mg/Kg	☼	07/08/19 19:30	07/09/19 23:36	250

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-7 (1-6')
Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-14
Matrix: Solid
Percent Solids: 89.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.47		0.47	0.081	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Benzene	<0.012		0.012	0.0069	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Bromodichloromethane	<0.047		0.047	0.018	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Bromoform	<0.047		0.047	0.023	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Bromomethane	<0.14		0.14	0.037	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
2-Butanone (MEK)	<0.24		0.24	0.10	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Carbon disulfide	<0.094		0.094	0.038	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Carbon tetrachloride	<0.047		0.047	0.018	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Chlorobenzene	<0.047		0.047	0.018	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Chloroethane	<0.047		0.047	0.024	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Chloroform	<0.094		0.094	0.017	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Chloromethane	<0.047		0.047	0.015	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
cis-1,2-Dichloroethene	<0.047		0.047	0.019	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
cis-1,3-Dichloropropene	<0.047		0.047	0.020	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Dibromochloromethane	<0.047		0.047	0.023	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,1-Dichloroethane	<0.047		0.047	0.019	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,2-Dichloroethane	<0.047		0.047	0.018	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,1-Dichloroethene	<0.047		0.047	0.018	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,2-Dichloropropane	<0.047		0.047	0.020	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,3-Dichloropropene, Total	<0.047		0.047	0.020	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Ethylbenzene	**0.68**		0.012	0.0086	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
2-Hexanone	<0.24		0.24	0.073	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Methylene Chloride	<0.24		0.24	0.077	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
4-Methyl-2-pentanone (MIBK)	<0.24		0.24	0.10	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Methyl tert-butyl ether	<0.047		0.047	0.019	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Styrene	<0.047		0.047	0.018	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,1,2,2-Tetrachloroethane	<0.047		0.047	0.019	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Tetrachloroethene	<0.047		0.047	0.017	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Toluene	<0.012		0.012	0.0069	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
trans-1,2-Dichloroethene	<0.047		0.047	0.016	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
trans-1,3-Dichloropropene	<0.047		0.047	0.017	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,1,1-Trichloroethane	<0.047		0.047	0.018	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
1,1,2-Trichloroethane	<0.047		0.047	0.017	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Trichloroethene	<0.024		0.024	0.0077	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Vinyl acetate	<0.094		0.094	0.043	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Vinyl chloride	<0.047		0.047	0.012	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50
Xylenes, Total	**0.37**		0.024	0.010	mg/Kg	☼	06/26/19 09:30	07/09/19 15:13	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*	*06/26/19 09:30*	*07/09/19 15:13*	*50*
Dibromofluoromethane	*104*		*75 - 120*	*06/26/19 09:30*	*07/09/19 15:13*	*50*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*	*06/26/19 09:30*	*07/09/19 15:13*	*50*
Toluene-d8 (Surr)	*94*		*75 - 120*	*06/26/19 09:30*	*07/09/19 15:13*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.017**	**J**	0.037	0.0066	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Acenaphthylene	<0.037		0.037	0.0049	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Anthracene	<0.037		0.037	0.0062	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Benzo[a]anthracene	**0.011**	**J**	0.037	0.0050	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1

Client Sample ID: OPT-2-7 (1-6')
Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-14
Matrix: Solid
Percent Solids: 89.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.012**	**J**	0.037	0.0071	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Benzo[b]fluoranthene	**0.016**	**J**	0.037	0.0080	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Benzo[g,h,i]perylene	<0.037		0.037	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Benzo[k]fluoranthene	<0.037		0.037	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Bis(2-chloroethoxy)methane	<0.19		0.19	0.038	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Bis(2-chloroethyl)ether	<0.19		0.19	0.055	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Bis(2-ethylhexyl) phthalate	**0.092**	**J**	0.19	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
4-Bromophenyl phenyl ether	<0.19		0.19	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Butyl benzyl phthalate	<0.19		0.19	0.070	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Carbazole	<0.19		0.19	0.092	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
4-Chloroaniline	<0.74		0.74	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2-Chloronaphthalene	<0.19		0.19	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2-Chlorophenol	<0.19		0.19	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
4-Chlorophenyl phenyl ether	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Chrysene	**0.026**	**J**	0.037	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0071	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Dibenzofuran	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
1,2-Dichlorobenzene	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
1,3-Dichlorobenzene	<0.19		0.19	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
1,4-Dichlorobenzene	<0.19		0.19	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
3,3'-Dichlorobenzidine	<0.19		0.19	0.052	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,4-Dichlorophenol	<0.37		0.37	0.088	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Diethyl phthalate	<0.19		0.19	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Dimethyl phthalate	<0.19		0.19	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Di-n-butyl phthalate	<0.19		0.19	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
4,6-Dinitro-2-methylphenol	<0.74		0.74	0.30	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,4-Dinitrophenol	<0.74		0.74	0.65	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,4-Dinitrotoluene	<0.19		0.19	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,6-Dinitrotoluene	<0.19		0.19	0.073	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Di-n-octyl phthalate	<0.19		0.19	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Fluoranthene	**0.012**	**J**	0.037	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Fluorene	**0.014**	**J**	0.037	0.0052	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Hexachlorobenzene	<0.074		0.074	0.0086	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Hexachlorobutadiene	<0.19		0.19	0.058	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Hexachlorocyclopentadiene	<0.74		0.74	0.21	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Hexachloroethane	<0.19		0.19	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Indeno[1,2,3-cd]pyrene	<0.037		0.037	0.0096	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Isophorone	<0.19		0.19	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2-Methylnaphthalene	**0.12**		0.074	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2-Methylphenol	<0.19		0.19	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
3 & 4 Methylphenol	<0.19		0.19	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Naphthalene	**1.8**		0.037	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2-Nitroaniline	<0.19		0.19	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
3-Nitroaniline	<0.37		0.37	0.11	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
4-Nitroaniline	<0.37		0.37	0.15	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Nitrobenzene	<0.037		0.037	0.0092	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2-Nitrophenol	<0.37		0.37	0.087	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1

Client Sample ID: OPT-2-7 (1-6')

Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-14

Matrix: Solid
Percent Solids: 89.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.74		0.74	0.35	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
N-Nitrosodi-n-propylamine	<0.074		0.074	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
N-Nitrosodiphenylamine	<0.19		0.19	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,2'-oxybis[1-chloropropane]	<0.19		0.19	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Pentachlorophenol	<0.74		0.74	0.59	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Phenanthrene	**0.039**		0.037	0.0051	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Phenol	<0.19		0.19	0.082	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
Pyrene	**0.039**		0.037	0.0073	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
1,2,4-Trichlorobenzene	<0.19		0.19	0.040	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,4,5-Trichlorophenol	<0.37		0.37	0.084	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 20:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*43 - 145*	*07/08/19 07:34*	*07/09/19 20:31*	*1*
2-Fluorophenol	*85*		*31 - 166*	*07/08/19 07:34*	*07/09/19 20:31*	*1*
Nitrobenzene-d5	*63*		*37 - 147*	*07/08/19 07:34*	*07/09/19 20:31*	*1*
Phenol-d5	*75*		*30 - 153*	*07/08/19 07:34*	*07/09/19 20:31*	*1*
Terphenyl-d14	*93*		*42 - 157*	*07/08/19 07:34*	*07/09/19 20:31*	*1*
2,4,6-Tribromophenol	*76*		*31 - 143*	*07/08/19 07:34*	*07/09/19 20:31*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.42**	**J**	1.1	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Arsenic	**5.2**		0.56	0.19	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Barium	**56**		0.56	0.064	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Beryllium	**0.42**		0.22	0.052	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Cadmium	**0.27**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Chromium	**13**		0.56	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Cobalt	**10**		0.28	0.073	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Copper	**18**	**B**	0.56	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Iron	**14000**	**B**	11	5.8	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Lead	**12**		0.28	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Manganese	**460**		0.56	0.081	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Nickel	**23**		0.56	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Selenium	**0.77**	**B**	0.56	0.33	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Silver	**2.2**		0.28	0.072	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Thallium	<0.56		0.56	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Vanadium	**17**		0.28	0.066	mg/Kg	☼	07/02/19 07:49	07/02/19 17:54	1
Zinc	**36**		1.1	0.49	mg/Kg	☼	07/02/19 07:49	07/03/19 19:02	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:23	1
Barium	**0.59**		0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:23	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:23	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:23	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:30	1
Cobalt	**0.019**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:23	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:23	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:23	1

Client Sample ID: OPT-2-7 (1-6')

Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-14

Matrix: Solid
Percent Solids: 89.5

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:23	1
Nickel	**0.016**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:23	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:23	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:23	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:23	1
Zinc	**0.14**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:23	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:43	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:43	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:54	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.011**	**J**	0.018	0.0061	mg/Kg	☼	07/03/19 15:00	07/05/19 08:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.39**	**J H**	0.51	0.18	mg/Kg	☼	07/11/19 13:55	07/11/19 16:56	1
pH	**8.2**		0.2	0.2	SU			07/02/19 15:12	1
Chloride	**6200**		450	380	mg/Kg	☼	07/08/19 19:30	07/09/19 23:49	200

Client Sample ID: OPT-2-8 (0-1')
Lab Sample ID: 500-165829-15

Date Collected: 06/26/19 10:10
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 84.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.042**		0.018	0.0076	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Benzene	<0.0018		0.0018	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Bromodichloromethane	<0.0018		0.0018	0.00036	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Bromoform	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Bromomethane	<0.0044		0.0044	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
2-Butanone (MEK)	**0.0082**		0.0044	0.0019	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Carbon disulfide	<0.0044		0.0044	0.00091	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Carbon tetrachloride	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Chlorobenzene	<0.0018		0.0018	0.00065	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Chloroethane	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Chloroform	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Chloromethane	<0.0044		0.0044	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
cis-1,2-Dichloroethene	<0.0018		0.0018	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
cis-1,3-Dichloropropene	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Dibromochloromethane	<0.0018		0.0018	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,1-Dichloroethane	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,2-Dichloroethane	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,1-Dichloroethene	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,2-Dichloropropane	<0.0018		0.0018	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,3-Dichloropropene, Total	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Ethylbenzene	<0.0018		0.0018	0.00084	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
2-Hexanone	<0.0044		0.0044	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Methylene Chloride	<0.0044		0.0044	0.0017	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
4-Methyl-2-pentanone (MIBK)	<0.0044		0.0044	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Methyl tert-butyl ether	<0.0018		0.0018	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Styrene	<0.0018		0.0018	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,1,2,2-Tetrachloroethane	<0.0018		0.0018	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Tetrachloroethene	<0.0018		0.0018	0.00060	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Toluene	<0.0018		0.0018	0.00044	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
trans-1,2-Dichloroethene	<0.0018		0.0018	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
trans-1,3-Dichloropropene	<0.0018		0.0018	0.00061	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,1,1-Trichloroethane	<0.0018		0.0018	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
1,1,2-Trichloroethane	<0.0018		0.0018	0.00075	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Trichloroethene	<0.0018		0.0018	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Vinyl acetate	<0.0044		0.0044	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Vinyl chloride	<0.0018		0.0018	0.00078	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1
Xylenes, Total	<0.0035		0.0035	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*75 - 131*	*06/27/19 17:21*	*07/09/19 18:28*	*1*
Dibromofluoromethane	*101*		*75 - 126*	*06/27/19 17:21*	*07/09/19 18:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 134*	*06/27/19 17:21*	*07/09/19 18:28*	*1*
Toluene-d8 (Surr)	*102*		*75 - 124*	*06/27/19 17:21*	*07/09/19 18:28*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.039		0.039	0.0070	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Acenaphthylene	<0.039		0.039	0.0051	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Anthracene	<0.039		0.039	0.0065	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Benzo[a]anthracene	<0.039		0.039	0.0053	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1

Client Sample ID: OPT-2-8 (0-1')
Lab Sample ID: 500-165829-15
Date Collected: 06/26/19 10:10
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	**0.011**	**J**	0.039	0.0076	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Benzo[b]fluoranthene	<0.039		0.039	0.0084	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Benzo[g,h,i]perylene	<0.039		0.039	0.013	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Benzo[k]fluoranthene	<0.039		0.039	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Bis(2-chloroethoxy)methane	<0.20		0.20	0.040	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Bis(2-chloroethyl)ether	<0.20		0.20	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Bis(2-ethylhexyl) phthalate	<0.20		0.20	0.071	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
4-Bromophenyl phenyl ether	<0.20		0.20	0.051	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Butyl benzyl phthalate	<0.20		0.20	0.074	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Carbazole	<0.20		0.20	0.098	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
4-Chloroaniline	<0.79		0.79	0.18	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
4-Chloro-3-methylphenol	<0.39		0.39	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2-Chloronaphthalene	<0.20		0.20	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2-Chlorophenol	<0.20		0.20	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
4-Chlorophenyl phenyl ether	<0.20		0.20	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Chrysene	<0.039		0.039	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Dibenz(a,h)anthracene	<0.039		0.039	0.0075	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Dibenzofuran	<0.20		0.20	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
1,2-Dichlorobenzene	<0.20		0.20	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
1,3-Dichlorobenzene	<0.20		0.20	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
1,4-Dichlorobenzene	<0.20		0.20	0.050	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
3,3'-Dichlorobenzidine	<0.20		0.20	0.055	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,4-Dichlorophenol	<0.39		0.39	0.093	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Diethyl phthalate	<0.20		0.20	0.066	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,4-Dimethylphenol	<0.39		0.39	0.15	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Dimethyl phthalate	<0.20		0.20	0.051	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Di-n-butyl phthalate	<0.20		0.20	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
4,6-Dinitro-2-methylphenol	<0.79		0.79	0.31	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,4-Dinitrophenol	<0.79		0.79	0.69	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,4-Dinitrotoluene	<0.20		0.20	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,6-Dinitrotoluene	<0.20		0.20	0.077	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Di-n-octyl phthalate	<0.20		0.20	0.064	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Fluoranthene	<0.039		0.039	0.0072	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Fluorene	<0.039		0.039	0.0055	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Hexachlorobenzene	<0.079		0.079	0.0090	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Hexachlorobutadiene	<0.20		0.20	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Hexachlorocyclopentadiene	<0.79		0.79	0.22	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Hexachloroethane	<0.20		0.20	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Indeno[1,2,3-cd]pyrene	<0.039		0.039	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Isophorone	<0.20		0.20	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2-Methylnaphthalene	<0.079		0.079	0.0072	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2-Methylphenol	<0.20		0.20	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
3 & 4 Methylphenol	<0.20		0.20	0.065	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Naphthalene	**0.0083**	**J**	0.039	0.0060	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2-Nitroaniline	<0.20		0.20	0.053	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
3-Nitroaniline	<0.39		0.39	0.12	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
4-Nitroaniline	<0.39		0.39	0.16	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Nitrobenzene	<0.039		0.039	0.0097	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2-Nitrophenol	<0.39		0.39	0.092	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1

Client Sample ID: OPT-2-8 (0-1')

Date Collected: 06/26/19 10:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-15

Matrix: Solid
Percent Solids: 84.5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.79		0.79	0.37	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
N-Nitrosodi-n-propylamine	<0.079		0.079	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
N-Nitrosodiphenylamine	<0.20		0.20	0.046	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,2'-oxybis[1-chloropropane]	<0.20		0.20	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Pentachlorophenol	<0.79		0.79	0.63	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Phenanthrene	<0.039		0.039	0.0054	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Phenol	<0.20		0.20	0.087	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
Pyrene	**0.0087**	**J**	0.039	0.0078	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
1,2,4-Trichlorobenzene	<0.20		0.20	0.042	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,4,5-Trichlorophenol	<0.39		0.39	0.089	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1
2,4,6-Trichlorophenol	<0.39		0.39	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*72*		*43 - 145*	*07/08/19 07:34*	*07/09/19 21:01*	*1*
2-Fluorophenol	*77*		*31 - 166*	*07/08/19 07:34*	*07/09/19 21:01*	*1*
Nitrobenzene-d5	*65*		*37 - 147*	*07/08/19 07:34*	*07/09/19 21:01*	*1*
Phenol-d5	*69*		*30 - 153*	*07/08/19 07:34*	*07/09/19 21:01*	*1*
Terphenyl-d14	*94*		*42 - 157*	*07/08/19 07:34*	*07/09/19 21:01*	*1*
2,4,6-Tribromophenol	*80*		*31 - 143*	*07/08/19 07:34*	*07/09/19 21:01*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.39**	**J**	1.1	0.22	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Arsenic	**4.7**		0.56	0.19	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Barium	**66**		0.56	0.064	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Beryllium	**0.60**		0.22	0.052	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Cadmium	**0.26**	**B**	0.11	0.020	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Chromium	**15**		0.56	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Cobalt	**8.5**		0.28	0.073	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Copper	**17**	**B**	0.56	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Iron	**16000**	**B**	11	5.8	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Lead	**20**		0.28	0.13	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Manganese	**280**		0.56	0.081	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Nickel	**18**		0.56	0.16	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Selenium	**0.79**	**B**	0.56	0.33	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Silver	**2.6**		0.28	0.072	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Thallium	**0.40**	**J**	0.56	0.28	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Vanadium	**26**		0.28	0.066	mg/Kg	☼	07/02/19 07:49	07/02/19 17:58	1
Zinc	**52**		1.1	0.49	mg/Kg	☼	07/02/19 07:49	07/03/19 19:06	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:31	1
Barium	**0.59**		0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:31	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:31	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:31	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:34	1
Cobalt	**0.027**		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:31	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:31	1
Iron	**1.4**		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:31	1

Client Sample ID: OPT-2-8 (0-1')

Date Collected: 06/26/19 10:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-15

Matrix: Solid
Percent Solids: 84.5

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:31	1
Nickel	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:31	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:31	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:31	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:31	1
Zinc	**0.039**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:31	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 12:47	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 12:47	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:56	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.032**		0.018	0.0061	mg/Kg	☼	07/03/19 15:00	07/05/19 09:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.20**	**J H**	0.44	0.15	mg/Kg	☼	07/11/19 13:55	07/11/19 16:56	1
pH	**8.2**		0.2	0.2	SU			07/02/19 15:14	1
Chloride	**6500**		540	460	mg/Kg	☼	07/08/19 19:30	07/10/19 00:01	250

Client Sample ID: OPT-2-8 (1-6')
Lab Sample ID: 500-165829-16

Date Collected: 06/26/19 10:10
Matrix: Solid

Date Received: 06/27/19 11:35
Percent Solids: 89.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.0093**	**J**	0.016	0.0070	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Benzene	<0.0016		0.0016	0.00041	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Bromodichloromethane	<0.0016		0.0016	0.00033	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Bromoform	<0.0016		0.0016	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Bromomethane	<0.0040		0.0040	0.0015	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
2-Butanone (MEK)	<0.0040		0.0040	0.0018	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Carbon disulfide	<0.0040		0.0040	0.00084	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Carbon tetrachloride	<0.0016		0.0016	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Chlorobenzene	<0.0016		0.0016	0.00059	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Chloroethane	<0.0040		0.0040	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Chloroform	<0.0016		0.0016	0.00056	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Chloromethane	<0.0040		0.0040	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
cis-1,2-Dichloroethene	<0.0016		0.0016	0.00045	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
cis-1,3-Dichloropropene	<0.0016		0.0016	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Dibromochloromethane	<0.0016		0.0016	0.00053	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,1-Dichloroethane	<0.0016		0.0016	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,2-Dichloroethane	<0.0040		0.0040	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,1-Dichloroethene	<0.0016		0.0016	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,2-Dichloropropane	<0.0016		0.0016	0.00042	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,3-Dichloropropene, Total	<0.0016		0.0016	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Ethylbenzene	<0.0016		0.0016	0.00077	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
2-Hexanone	<0.0040		0.0040	0.0013	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Methylene Chloride	<0.0040		0.0040	0.0016	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
4-Methyl-2-pentanone (MIBK)	<0.0040		0.0040	0.0012	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Methyl tert-butyl ether	<0.0016		0.0016	0.00047	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Styrene	<0.0016		0.0016	0.00049	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,1,2,2-Tetrachloroethane	<0.0016		0.0016	0.00051	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Tetrachloroethene	<0.0016		0.0016	0.00055	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Toluene	<0.0016		0.0016	0.00041	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
trans-1,2-Dichloroethene	<0.0016		0.0016	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
trans-1,3-Dichloropropene	<0.0016		0.0016	0.00057	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,1,1-Trichloroethane	<0.0016		0.0016	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
1,1,2-Trichloroethane	<0.0016		0.0016	0.00069	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Trichloroethene	<0.0016		0.0016	0.00054	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Vinyl acetate	<0.0040		0.0040	0.0014	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Vinyl chloride	<0.0016		0.0016	0.00071	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1
Xylenes, Total	<0.0032		0.0032	0.00052	mg/Kg	☼	06/27/19 17:21	07/09/19 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*75 - 131*	*06/27/19 17:21*	*07/09/19 18:54*	*1*
Dibromofluoromethane	*101*		*75 - 126*	*06/27/19 17:21*	*07/09/19 18:54*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 134*	*06/27/19 17:21*	*07/09/19 18:54*	*1*
Toluene-d8 (Surr)	*102*		*75 - 124*	*06/27/19 17:21*	*07/09/19 18:54*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.037		0.037	0.0066	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Acenaphthylene	<0.037		0.037	0.0048	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Anthracene	<0.037		0.037	0.0061	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Benzo[a]anthracene	<0.037		0.037	0.0049	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-8 (1-6')
Date Collected: 06/26/19 10:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-16
Matrix: Solid
Percent Solids: 89.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.037		0.037	0.0071	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Benzo[b]fluoranthene	<0.037		0.037	0.0079	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Benzo[g,h,i]perylene	<0.037		0.037	0.012	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Benzo[k]fluoranthene	<0.037		0.037	0.011	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Bis(2-chloroethoxy)methane	<0.18		0.18	0.038	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Bis(2-chloroethyl)ether	<0.18		0.18	0.055	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Bis(2-ethylhexyl) phthalate	<0.18		0.18	0.067	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
4-Bromophenyl phenyl ether	<0.18		0.18	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Butyl benzyl phthalate	<0.18		0.18	0.070	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Carbazole	<0.18		0.18	0.092	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
4-Chloroaniline	<0.74		0.74	0.17	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
4-Chloro-3-methylphenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2-Chloronaphthalene	<0.18		0.18	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2-Chlorophenol	<0.18		0.18	0.063	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
4-Chlorophenyl phenyl ether	<0.18		0.18	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Chrysene	<0.037		0.037	0.010	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Dibenz(a,h)anthracene	<0.037		0.037	0.0071	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Dibenzofuran	<0.18		0.18	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
1,2-Dichlorobenzene	<0.18		0.18	0.044	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
1,3-Dichlorobenzene	<0.18		0.18	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
1,4-Dichlorobenzene	<0.18		0.18	0.047	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
3,3'-Dichlorobenzidine	<0.18		0.18	0.051	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,4-Dichlorophenol	<0.37		0.37	0.087	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Diethyl phthalate	<0.18		0.18	0.062	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,4-Dimethylphenol	<0.37		0.37	0.14	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Dimethyl phthalate	<0.18		0.18	0.048	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Di-n-butyl phthalate	<0.18		0.18	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
4,6-Dinitro-2-methylphenol	<0.74		0.74	0.30	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,4-Dinitrophenol	<0.74		0.74	0.65	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,4-Dinitrotoluene	<0.18		0.18	0.058	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,6-Dinitrotoluene	<0.18		0.18	0.072	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Di-n-octyl phthalate	<0.18		0.18	0.060	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Fluoranthene	<0.037		0.037	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Fluorene	<0.037		0.037	0.0052	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Hexachlorobenzene	<0.074		0.074	0.0085	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Hexachlorobutadiene	<0.18		0.18	0.058	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Hexachlorocyclopentadiene	<0.74		0.74	0.21	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Hexachloroethane	<0.18		0.18	0.056	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Indeno[1,2,3-cd]pyrene	<0.037		0.037	0.0095	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Isophorone	<0.18		0.18	0.041	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2-Methylnaphthalene	<0.074		0.074	0.0068	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2-Methylphenol	<0.18		0.18	0.059	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
3 & 4 Methylphenol	<0.18		0.18	0.061	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Naphthalene	<0.037		0.037	0.0057	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2-Nitroaniline	<0.18		0.18	0.049	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
3-Nitroaniline	<0.37		0.37	0.11	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
4-Nitroaniline	<0.37		0.37	0.15	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Nitrobenzene	<0.037		0.037	0.0092	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2-Nitrophenol	<0.37		0.37	0.087	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1

Client Sample ID: OPT-2-8 (1-6')
Date Collected: 06/26/19 10:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-16
Matrix: Solid
Percent Solids: 89.3

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.74		0.74	0.35	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
N-Nitrosodi-n-propylamine	<0.074		0.074	0.045	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
N-Nitrosodiphenylamine	<0.18		0.18	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,2'-oxybis[1-chloropropane]	<0.18		0.18	0.043	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Pentachlorophenol	<0.74		0.74	0.59	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Phenanthrene	<0.037		0.037	0.0051	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Phenol	<0.18		0.18	0.082	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
Pyrene	<0.037		0.037	0.0073	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
1,2,4-Trichlorobenzene	<0.18		0.18	0.040	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,4,5-Trichlorophenol	<0.37		0.37	0.084	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1
2,4,6-Trichlorophenol	<0.37		0.37	0.13	mg/Kg	☼	07/08/19 07:34	07/09/19 14:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*43 - 145*	*07/08/19 07:34*	*07/09/19 14:04*	*1*
2-Fluorophenol	*87*		*31 - 166*	*07/08/19 07:34*	*07/09/19 14:04*	*1*
Nitrobenzene-d5	*63*		*37 - 147*	*07/08/19 07:34*	*07/09/19 14:04*	*1*
Phenol-d5	*72*		*30 - 153*	*07/08/19 07:34*	*07/09/19 14:04*	*1*
Terphenyl-d14	*90*		*42 - 157*	*07/08/19 07:34*	*07/09/19 14:04*	*1*
2,4,6-Tribromophenol	*86*		*31 - 143*	*07/08/19 07:34*	*07/09/19 14:04*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.20**	**J**	1.0	0.20	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Arsenic	**7.0**		0.51	0.18	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Barium	**84**		0.51	0.058	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Beryllium	**0.77**		0.21	0.048	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Cadmium	**0.30**	**B**	0.10	0.018	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Chromium	**19**		0.51	0.25	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Cobalt	**11**		0.26	0.067	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Copper	**25**	**B**	0.51	0.14	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Iron	**21000**	**B**	10	5.3	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Lead	**12**		0.26	0.12	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Manganese	**350**		0.51	0.074	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Nickel	**32**		0.51	0.15	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Selenium	**0.41**	**J B**	0.51	0.30	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Silver	**3.5**		0.26	0.066	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Thallium	**0.76**		0.51	0.26	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Vanadium	**26**		0.26	0.061	mg/Kg	☼	07/02/19 07:49	07/02/19 18:02	1
Zinc	**60**		1.0	0.45	mg/Kg	☼	07/02/19 07:49	07/03/19 19:10	1

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 10:27	1
Barium	**0.46**	**J**	0.50	0.050	mg/L		07/05/19 14:58	07/08/19 10:27	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 10:27	1
Cadmium	**0.0021**	**J**	0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 10:27	1
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 11:59	1
Cobalt	**0.016**	**J**	0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:27	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:27	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 10:27	1

Client Sample ID: OPT-2-8 (1-6')

Date Collected: 06/26/19 10:10
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-16

Matrix: Solid
Percent Solids: 89.3

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 10:27	1
Nickel	**0.026**		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:27	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 10:27	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:27	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:27	1
Zinc	**0.35**	**J**	0.50	0.020	mg/L		07/05/19 14:58	07/08/19 10:27	1

Method: 6020A - Metals (ICP/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 13:16	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 13:16	1

Method: 7470A - TCLP Mercury - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 10:58	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.015**	**J**	0.018	0.0061	mg/Kg	☼	07/03/19 15:00	07/05/19 09:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.55	H	0.55	0.19	mg/Kg	☼	07/11/19 13:55	07/11/19 16:57	1
pH	**8.1**		0.2	0.2	SU			07/02/19 15:19	1
Chloride	**4300**		440	370	mg/Kg	☼	07/08/19 19:30	07/10/19 00:14	200

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-1 GW

Date Collected: 06/26/19 13:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-17

Matrix: Water

Method: 8260B - VOC

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.010		0.010	0.0017	mg/L			07/09/19 14:19	1
Benzene	<0.00050		0.00050	0.00015	mg/L			07/09/19 14:19	1
Bromodichloromethane	<0.0010		0.0010	0.00037	mg/L			07/09/19 14:19	1
Bromoform	<0.0010		0.0010	0.00048	mg/L			07/09/19 14:19	1
Bromomethane	<0.0030		0.0030	0.00080	mg/L			07/09/19 14:19	1
Carbon disulfide	<0.0020		0.0020	0.00045	mg/L			07/09/19 14:19	1
Carbon tetrachloride	<0.0010		0.0010	0.00038	mg/L			07/09/19 14:19	1
Chlorobenzene	<0.0010		0.0010	0.00039	mg/L			07/09/19 14:19	1
Chloroethane	<0.0010		0.0010	0.00051	mg/L			07/09/19 14:19	1
Chloroform	<0.0020		0.0020	0.00037	mg/L			07/09/19 14:19	1
Chloromethane	<0.0010		0.0010	0.00032	mg/L			07/09/19 14:19	1
cis-1,2-Dichloroethene	<0.0010		0.0010	0.00041	mg/L			07/09/19 14:19	1
cis-1,3-Dichloropropene	<0.0010		0.0010	0.00042	mg/L			07/09/19 14:19	1
Dibromochloromethane	<0.0010		0.0010	0.00049	mg/L			07/09/19 14:19	1
1,1-Dichloroethane	<0.0010		0.0010	0.00041	mg/L			07/09/19 14:19	1
1,2-Dichloroethane	<0.0010		0.0010	0.00039	mg/L			07/09/19 14:19	1
1,1-Dichloroethene	<0.0010		0.0010	0.00039	mg/L			07/09/19 14:19	1
1,2-Dichloropropane	<0.0010		0.0010	0.00043	mg/L			07/09/19 14:19	1
1,3-Dichloropropene, Total	<0.0010		0.0010	0.00042	mg/L			07/09/19 14:19	1
Ethylbenzene	<0.00050		0.00050	0.00018	mg/L			07/09/19 14:19	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/L			07/09/19 14:19	1
Methylene Chloride	<0.0050		0.0050	0.0016	mg/L			07/09/19 14:19	1
Methyl Ethyl Ketone	<0.0050		0.0050	0.0021	mg/L			07/09/19 14:19	1
methyl isobutyl ketone	<0.0050		0.0050	0.0022	mg/L			07/09/19 14:19	1
Methyl tert-butyl ether	<0.0010		0.0010	0.00039	mg/L			07/09/19 14:19	1
Styrene	<0.0010		0.0010	0.00039	mg/L			07/09/19 14:19	1
1,1,2,2-Tetrachloroethane	<0.0010		0.0010	0.00040	mg/L			07/09/19 14:19	1
Tetrachloroethene	<0.0010		0.0010	0.00037	mg/L			07/09/19 14:19	1
Toluene	<0.00050		0.00050	0.00015	mg/L			07/09/19 14:19	1
trans-1,2-Dichloroethene	<0.0010		0.0010	0.00035	mg/L			07/09/19 14:19	1
trans-1,3-Dichloropropene	<0.0010		0.0010	0.00036	mg/L			07/09/19 14:19	1
1,1,1-Trichloroethane	<0.0010		0.0010	0.00038	mg/L			07/09/19 14:19	1
1,1,2-Trichloroethane	<0.0010		0.0010	0.00035	mg/L			07/09/19 14:19	1
Trichloroethene	<0.00050		0.00050	0.00016	mg/L			07/09/19 14:19	1
Vinyl acetate	<0.0020		0.0020	0.00091	mg/L			07/09/19 14:19	1
Vinyl chloride	<0.0010		0.0010	0.00020	mg/L			07/09/19 14:19	1
Xylenes, Total	<0.0010		0.0010	0.00022	mg/L			07/09/19 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*72 - 124*		*07/09/19 14:19*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*07/09/19 14:19*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*		*07/09/19 14:19*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/09/19 14:19*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.00076		0.00076	0.00023	mg/L		06/28/19 07:39	07/01/19 19:07	1
Acenaphthylene	<0.00076		0.00076	0.00020	mg/L		06/28/19 07:39	07/01/19 19:07	1
Anthracene	<0.00076		0.00076	0.00025	mg/L		06/28/19 07:39	07/01/19 19:07	1
Benzo[a]anthracene	<0.00012		0.00012	0.000043	mg/L		06/28/19 07:39	07/01/19 19:07	1

Client Sample ID: OPT-2-1 GW
Lab Sample ID: 500-165829-17
Date Collected: 06/26/19 13:00
Matrix: Water
Date Received: 06/27/19 11:35

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	<0.00015		0.00015	0.000075	mg/L		06/28/19 07:39	07/01/19 19:07	1
Benzo[b]fluoranthene	<0.00015		0.00015	0.000061	mg/L		06/28/19 07:39	07/01/19 19:07	1
Benzo[g,h,i]perylene	<0.00076		0.00076	0.00028	mg/L		06/28/19 07:39	07/01/19 19:07	1
Benzo[k]fluoranthene	<0.00015		0.00015	0.000048	mg/L		06/28/19 07:39	07/01/19 19:07	1
Bis(2-chloroethoxy)methane	<0.0015		0.0015	0.00021	mg/L		06/28/19 07:39	07/01/19 19:07	1
Bis(2-chloroethyl)ether	<0.0015		0.0015	0.00022	mg/L		06/28/19 07:39	07/01/19 19:07	1
Bis(2-ethylhexyl) phthalate	<0.0076		0.0076	0.0013	mg/L		06/28/19 07:39	07/01/19 19:07	1
4-Bromophenyl phenyl ether	<0.0038		0.0038	0.00041	mg/L		06/28/19 07:39	07/01/19 19:07	1
Butyl benzyl phthalate	<0.0015		0.0015	0.00036	mg/L		06/28/19 07:39	07/01/19 19:07	1
Carbazole	<0.0038		0.0038	0.00027	mg/L		06/28/19 07:39	07/01/19 19:07	1
4-Chloroaniline	<0.0076		0.0076	0.0015	mg/L		06/28/19 07:39	07/01/19 19:07	1
4-Chloro-3-methylphenol	<0.0076		0.0076	0.0017	mg/L		06/28/19 07:39	07/01/19 19:07	1
2-Chloronaphthalene	<0.0015		0.0015	0.00018	mg/L		06/28/19 07:39	07/01/19 19:07	1
2-Chlorophenol	<0.0038		0.0038	0.00042	mg/L		06/28/19 07:39	07/01/19 19:07	1
4-Chlorophenyl phenyl ether	<0.0038		0.0038	0.00048	mg/L		06/28/19 07:39	07/01/19 19:07	1
Chrysene	<0.00015		0.00015	0.000052	mg/L		06/28/19 07:39	07/01/19 19:07	1
Dibenz(a,h)anthracene	<0.00023		0.00023	0.000038	mg/L		06/28/19 07:39	07/01/19 19:07	1
Dibenzofuran	<0.0015		0.0015	0.00020	mg/L		06/28/19 07:39	07/01/19 19:07	1
1,2-Dichlorobenzene	<0.0015		0.0015	0.00019	mg/L		06/28/19 07:39	07/01/19 19:07	1
1,3-Dichlorobenzene	<0.0015		0.0015	0.00016	mg/L		06/28/19 07:39	07/01/19 19:07	1
1,4-Dichlorobenzene	<0.0015		0.0015	0.00016	mg/L		06/28/19 07:39	07/01/19 19:07	1
3,3'-Dichlorobenzidine	<0.0038		0.0038	0.0013	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,4-Dichlorophenol	<0.0076		0.0076	0.0020	mg/L		06/28/19 07:39	07/01/19 19:07	1
Diethyl phthalate	<0.0038		0.0038	0.00027	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,4-Dimethylphenol	<0.0076		0.0076	0.0014	mg/L		06/28/19 07:39	07/01/19 19:07	1
Dimethyl phthalate	<0.0038		0.0038	0.00024	mg/L		06/28/19 07:39	07/01/19 19:07	1
Di-n-butyl phthalate	<0.0038		0.0038	0.00055	mg/L		06/28/19 07:39	07/01/19 19:07	1
4,6-Dinitro-2-methylphenol	<0.015		0.015	0.0045	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,4-Dinitrophenol	<0.015		0.015	0.0065	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,4-Dinitrotoluene	<0.00076		0.00076	0.00019	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,6-Dinitrotoluene	<0.00076		0.00076	0.000056	mg/L		06/28/19 07:39	07/01/19 19:07	1
Di-n-octyl phthalate	<0.0076		0.0076	0.00079	mg/L		06/28/19 07:39	07/01/19 19:07	1
Fluoranthene	<0.00076		0.00076	0.00034	mg/L		06/28/19 07:39	07/01/19 19:07	1
Fluorene	<0.00076		0.00076	0.00018	mg/L		06/28/19 07:39	07/01/19 19:07	1
Hexachlorobenzene	<0.00038		0.00038	0.000060	mg/L		06/28/19 07:39	07/01/19 19:07	1
Hexachlorobutadiene	<0.0038		0.0038	0.00039	mg/L		06/28/19 07:39	07/01/19 19:07	1
Hexachlorocyclopentadiene	<0.015		0.015	0.0048	mg/L		06/28/19 07:39	07/01/19 19:07	1
Hexachloroethane	<0.0038		0.0038	0.00045	mg/L		06/28/19 07:39	07/01/19 19:07	1
Indeno[1,2,3-cd]pyrene	<0.00015		0.00015	0.000057	mg/L		06/28/19 07:39	07/01/19 19:07	1
Isophorone	<0.0015		0.0015	0.00028	mg/L		06/28/19 07:39	07/01/19 19:07	1
2-Methylnaphthalene	<0.0015		0.0015	0.000049	mg/L		06/28/19 07:39	07/01/19 19:07	1
2-Methylphenol	<0.0015		0.0015	0.00023	mg/L		06/28/19 07:39	07/01/19 19:07	1
3 & 4 Methylphenol	<0.0015		0.0015	0.00034	mg/L		06/28/19 07:39	07/01/19 19:07	1
Naphthalene	<0.00076		0.00076	0.00023	mg/L		06/28/19 07:39	07/01/19 19:07	1
2-Nitroaniline	<0.0038		0.0038	0.00097	mg/L		06/28/19 07:39	07/01/19 19:07	1
3-Nitroaniline	<0.0076		0.0076	0.0014	mg/L		06/28/19 07:39	07/01/19 19:07	1
4-Nitroaniline	<0.0076		0.0076	0.0013	mg/L		06/28/19 07:39	07/01/19 19:07	1
Nitrobenzene	<0.00076		0.00076	0.00034	mg/L		06/28/19 07:39	07/01/19 19:07	1
2-Nitrophenol	<0.0076		0.0076	0.0019	mg/L		06/28/19 07:39	07/01/19 19:07	1

Client Sample ID: OPT-2-1 GW
Lab Sample ID: 500-165829-17

Date Collected: 06/26/19 13:00
Matrix: Water
Date Received: 06/27/19 11:35

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Nitrophenol	<0.015		0.015	0.0056	mg/L		06/28/19 07:39	07/01/19 19:07	1
N-Nitrosodi-n-propylamine	<0.00038		0.00038	0.00012	mg/L		06/28/19 07:39	07/01/19 19:07	1
N-Nitrosodiphenylamine	<0.0015		0.0015	0.00028	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,2'-oxybis[1-chloropropane]	<0.0015		0.0015	0.00029	mg/L		06/28/19 07:39	07/01/19 19:07	1
Pentachlorophenol	<0.015		0.015	0.0030	mg/L		06/28/19 07:39	07/01/19 19:07	1
Phenanthrene	<0.00076		0.00076	0.00023	mg/L		06/28/19 07:39	07/01/19 19:07	1
Phenol	<0.0038		0.0038	0.00051	mg/L		06/28/19 07:39	07/01/19 19:07	1
Pyrene	<0.00076		0.00076	0.00032	mg/L		06/28/19 07:39	07/01/19 19:07	1
1,2,4-Trichlorobenzene	<0.0015		0.0015	0.00018	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,4,5-Trichlorophenol	<0.0076		0.0076	0.0019	mg/L		06/28/19 07:39	07/01/19 19:07	1
2,4,6-Trichlorophenol	<0.0038		0.0038	0.00054	mg/L		06/28/19 07:39	07/01/19 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*64*		*34 - 110*	*06/28/19 07:39*	*07/01/19 19:07*	*1*
2-Fluorophenol	*53*		*27 - 110*	*06/28/19 07:39*	*07/01/19 19:07*	*1*
Nitrobenzene-d5	*72*		*36 - 120*	*06/28/19 07:39*	*07/01/19 19:07*	*1*
Phenol-d5	*40*		*20 - 110*	*06/28/19 07:39*	*07/01/19 19:07*	*1*
Terphenyl-d14	*70*		*40 - 145*	*06/28/19 07:39*	*07/01/19 19:07*	*1*
2,4,6-Tribromophenol	*70*		*40 - 145*	*06/28/19 07:39*	*07/01/19 19:07*	*1*

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030	0.0013	mg/L		06/28/19 07:48	06/28/19 18:06	1
Arsenic	**0.024**		0.0010	0.00023	mg/L		06/28/19 07:48	06/28/19 18:06	1
Barium	**0.35**		0.0025	0.00073	mg/L		06/28/19 07:48	06/28/19 18:06	1
Beryllium	<0.0050		0.0050	0.0027	mg/L		06/28/19 07:48	07/02/19 23:36	5
Cadmium	**0.0020**		0.00050	0.00017	mg/L		06/28/19 07:48	06/28/19 18:06	1
Chromium	**0.039**		0.025	0.0057	mg/L		06/28/19 07:48	07/03/19 16:49	5
Cobalt	**0.018**		0.0050	0.0020	mg/L		06/28/19 07:48	07/02/19 23:36	5
Copper	**0.073**	**B**	0.0020	0.00050	mg/L		06/28/19 07:48	06/28/19 18:06	1
Iron	**40**		0.50	0.23	mg/L		06/28/19 07:48	07/02/19 23:36	5
Lead	**0.020**		0.00050	0.00019	mg/L		06/28/19 07:48	06/28/19 18:06	1
Manganese	**3.8**		0.013	0.0040	mg/L		06/28/19 07:48	07/02/19 23:36	5
Nickel	**0.059**		0.010	0.0031	mg/L		06/28/19 07:48	07/02/19 23:36	5
Selenium	**0.0026**		0.0025	0.00098	mg/L		06/28/19 07:48	06/28/19 18:06	1
Silver	**0.00020**	**J**	0.00050	0.00012	mg/L		06/28/19 07:48	06/28/19 18:06	1
Thallium	**0.0011**	**J**	0.0020	0.00057	mg/L		06/28/19 07:48	06/28/19 18:06	1
Vanadium	**0.057**		0.025	0.011	mg/L		06/28/19 07:48	07/02/19 23:36	5
Zinc	**0.14**	**B**	0.020	0.0069	mg/L		06/28/19 07:48	06/28/19 18:06	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.00050		0.00050	0.00012	mg/L		06/28/19 07:48	06/28/19 18:10	1
Arsenic	**0.0039**		0.0010	0.00023	mg/L		06/28/19 07:48	06/28/19 18:10	1
Barium	**0.27**		0.0025	0.00073	mg/L		06/28/19 07:48	06/28/19 18:10	1
Beryllium	<0.0010	^	0.0010	0.00053	mg/L		06/28/19 07:48	06/28/19 18:10	1
Cadmium	**0.00056**		0.00050	0.00017	mg/L		06/28/19 07:48	06/28/19 18:10	1
Cobalt	**0.0058**		0.0010	0.00040	mg/L		06/28/19 07:48	06/28/19 18:10	1
Chromium	<0.0050		0.0050	0.0011	mg/L		06/28/19 07:48	06/28/19 18:10	1
Copper	**0.0052**	**B**	0.0020	0.00050	mg/L		06/28/19 07:48	06/28/19 18:10	1

Client Sample ID: OPT-2-1 GW

Date Collected: 06/26/19 13:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-17

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.22**		0.10	0.047	mg/L		06/28/19 07:48	06/28/19 18:10	1
Manganese	**3.6**		0.0025	0.00079	mg/L		06/28/19 07:48	06/28/19 18:10	1
Nickel	**0.020**		0.0020	0.00063	mg/L		06/28/19 07:48	06/28/19 18:10	1
Lead	<0.00050		0.00050	0.00019	mg/L		06/28/19 07:48	06/28/19 18:10	1
Antimony	<0.0030		0.0030	0.0013	mg/L		06/28/19 07:48	06/28/19 18:10	1
Selenium	**0.0022**	**J**	0.0025	0.00098	mg/L		06/28/19 07:48	06/28/19 18:10	1
Thallium	<0.0020		0.0020	0.00057	mg/L		06/28/19 07:48	06/28/19 18:10	1
Vanadium	**0.0026**	**J**	0.0050	0.0022	mg/L		06/28/19 07:48	06/28/19 18:10	1
Zinc	**0.036**	**B**	0.020	0.0069	mg/L		06/28/19 07:48	06/28/19 18:10	1

Method: 7470A - Mercury

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00033	F1	0.00033	0.00016	mg/L		07/01/19 10:40	07/02/19 08:50	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000098	mg/L		07/01/19 10:40	07/02/19 09:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.16**		0.010	0.0035	mg/L		07/10/19 12:55	07/10/19 16:23	1
Chloride	**8100**		400	340	mg/L			07/10/19 14:07	2000

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
F3	Duplicate RPD exceeds the control limit
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Prep Batch: 492783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	5035	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	5035	

Prep Batch: 493126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	5035	
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	5035	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	5035	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	5035	
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	5035	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	5035	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	5035	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	5035	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	5035	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	5035	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	5035	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	5035	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	5035	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	5035	

Analysis Batch: 493667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	8260B	493126
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	8260B	493126
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	8260B	493126
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	8260B	493126
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	8260B	493126
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	8260B	493126
MB 500-493667/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-493667/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 500-493667/5	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 493869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	8260B	493126
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	8260B	493126
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	8260B	493126
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	8260B	493126
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	8260B	493126
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	8260B	493126
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	8260B	493126
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	8260B	493126
MB 500-493869/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-493869/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 500-493869/5	Lab Control Sample Dup	Total/NA	Solid	8260B	

Analysis Batch: 493870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	8260B	492783
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	8260B	492783
MB 500-493870/6	Method Blank	Total/NA	Solid	8260B	

GC/MS VOA (Continued)

Analysis Batch: 493870 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-493870/4	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 493871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total/NA	Water	8260B	
MB 500-493871/6	Method Blank	Total/NA	Water	8260B	
LCS 500-493871/4	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 492489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total/NA	Water	3510C	
MB 500-492489/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-492489/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-492489/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 492819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total/NA	Water	8270D	492489
MB 500-492489/1-A	Method Blank	Total/NA	Water	8270D	492489
LCS 500-492489/2-A	Lab Control Sample	Total/NA	Water	8270D	492489
LCSD 500-492489/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	492489

Prep Batch: 493683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	3541	
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	3541	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	3541	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	3541	
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	3541	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	3541	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	3541	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	3541	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	3541	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	3541	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	3541	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	3541	
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	3541	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	3541	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	3541	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	3541	
MB 500-493683/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-493683/2-A	Lab Control Sample	Total/NA	Solid	3541	
500-165829-1 MS	OPT-2-1 (0-1')	Total/NA	Solid	3541	
500-165829-1 MSD	OPT-2-1 (0-1')	Total/NA	Solid	3541	

Analysis Batch: 493927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-493683/1-A	Method Blank	Total/NA	Solid	8270D	493683
LCS 500-493683/2-A	Lab Control Sample	Total/NA	Solid	8270D	493683

GC/MS Semi VOA

Analysis Batch: 493974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	8270D	493683
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	8270D	493683
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	8270D	493683
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	8270D	493683
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	8270D	493683
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	8270D	493683
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	8270D	493683
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	8270D	493683
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	8270D	493683
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	8270D	493683
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	8270D	493683
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	8270D	493683
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	8270D	493683

Analysis Batch: 494131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	8270D	493683
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	8270D	493683
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	8270D	493683
500-165829-1 MS	OPT-2-1 (0-1')	Total/NA	Solid	8270D	493683
500-165829-1 MSD	OPT-2-1 (0-1')	Total/NA	Solid	8270D	493683

Metals

Prep Batch: 492495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Dissolved	Water	3005A	
500-165829-17	OPT-2-1 GW	Total Recoverable	Water	3005A	
MB 500-492495/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-492495/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 492835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Dissolved	Water	6020A	492495
500-165829-17	OPT-2-1 GW	Total Recoverable	Water	6020A	492495
MB 500-492495/1-A	Method Blank	Total Recoverable	Water	6020A	492495
LCS 500-492495/2-A	Lab Control Sample	Total Recoverable	Water	6020A	492495

Prep Batch: 492871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Dissolved	Water	7470A	
500-165829-17	OPT-2-1 GW	Total/NA	Water	7470A	
MB 500-492871/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-492871/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-165829-17 MS	OPT-2-1 GW	Total/NA	Water	7470A	
500-165829-17 MSD	OPT-2-1 GW	Total/NA	Water	7470A	
500-165829-17 DU	OPT-2-1 GW	Total/NA	Water	7470A	

Prep Batch: 492917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 492917 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	3050B	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	3050B	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	3050B	
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	3050B	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	3050B	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	3050B	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	3050B	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	3050B	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	3050B	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	3050B	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	3050B	
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	3050B	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	3050B	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	3050B	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	3050B	
MB 500-492917/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-492917/2-A	Lab Control Sample	Total/NA	Solid	3050B	
500-165829-10 MS	OPT-2-5 (3-8')	Total/NA	Solid	3050B	
500-165829-10 MSD	OPT-2-5 (3-8')	Total/NA	Solid	3050B	
500-165829-10 DU	OPT-2-5 (3-8')	Total/NA	Solid	3050B	

Analysis Batch: 493045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Dissolved	Water	7470A	492871
500-165829-17	OPT-2-1 GW	Total/NA	Water	7470A	492871
MB 500-492871/12-A	Method Blank	Total/NA	Water	7470A	492871
LCS 500-492871/13-A	Lab Control Sample	Total/NA	Water	7470A	492871
500-165829-17 MS	OPT-2-1 GW	Total/NA	Water	7470A	492871
500-165829-17 MSD	OPT-2-1 GW	Total/NA	Water	7470A	492871
500-165829-17 DU	OPT-2-1 GW	Total/NA	Water	7470A	492871

Analysis Batch: 493192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	6010B	492917
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	6010B	492917
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	6010B	492917
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	6010B	492917
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	6010B	492917
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	6010B	492917
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	6010B	492917
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	6010B	492917
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	6010B	492917
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	6010B	492917
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	6010B	492917
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	6010B	492917
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	6010B	492917
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	6010B	492917
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	6010B	492917
MB 500-492917/1-A	Method Blank	Total/NA	Solid	6010B	492917
LCS 500-492917/2-A	Lab Control Sample	Total/NA	Solid	6010B	492917

Metals (Continued)

Analysis Batch: 493192 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-10 MS	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917
500-165829-10 MSD	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917
500-165829-10 DU	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917

Analysis Batch: 493262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total Recoverable	Water	6020A	492495

Prep Batch: 493270

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	7471B	
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	7471B	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	7471B	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	7471B	
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	7471B	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	7471B	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	7471B	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	7471B	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	7471B	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	7471B	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	7471B	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	7471B	
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	7471B	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	7471B	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	7471B	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	7471B	
MB 500-493270/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-493270/13-A	Lab Control Sample	Total/NA	Solid	7471B	
500-165829-9 MS	OPT-2-5 (0-3')	Total/NA	Solid	7471B	
500-165829-9 MSD	OPT-2-5 (0-3')	Total/NA	Solid	7471B	
500-165829-9 DU	OPT-2-5 (0-3')	Total/NA	Solid	7471B	

Analysis Batch: 493305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	6010B	492917
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	6010B	492917
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	6010B	492917
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	6010B	492917
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	6010B	492917
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	6010B	492917
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	6010B	492917
MB 500-492917/1-A	Method Blank	Total/NA	Solid	6010B	492917
LCS 500-492917/2-A	Lab Control Sample	Total/NA	Solid	6010B	492917

Leach Batch: 493314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	TCLP	Solid	1311	
500-165829-2	OPT-2-1 (1-6')	TCLP	Solid	1311	
500-165829-3	OPT-2-2 (0-1')	TCLP	Solid	1311	
500-165829-4	OPT-2-2 (1-6')	TCLP	Solid	1311	
500-165829-5	OPT-2-3 (0-1')	TCLP	Solid	1311	

Metals (Continued)

Leach Batch: 493314 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-6	OPT-2-3 (1-6')	TCLP	Solid	1311	
500-165829-7	OPT-2-4 (0-3')	TCLP	Solid	1311	
500-165829-8	OPT-2-4 (3-8')	TCLP	Solid	1311	
500-165829-9	OPT-2-5 (0-3')	TCLP	Solid	1311	
500-165829-10	OPT-2-5 (3-8')	TCLP	Solid	1311	
500-165829-11	OPT-2-6 (0-1')	TCLP	Solid	1311	
500-165829-12	OPT-2-6 (1-6')	TCLP	Solid	1311	
500-165829-13	OPT-2-7 (0-1')	TCLP	Solid	1311	
500-165829-14	OPT-2-7 (1-6')	TCLP	Solid	1311	
500-165829-15	OPT-2-8 (0-1')	TCLP	Solid	1311	
500-165829-16	OPT-2-8 (1-6')	TCLP	Solid	1311	
LB 500-493314/1-B	Method Blank	TCLP	Solid	1311	
LB 500-493314/1-C	Method Blank	TCLP	Solid	1311	
500-165829-9 MS	OPT-2-5 (0-3')	TCLP	Solid	1311	
500-165829-15 MS	OPT-2-8 (0-1')	TCLP	Solid	1311	
500-165829-9 DU	OPT-2-5 (0-3')	TCLP	Solid	1311	
500-165829-15 DU	OPT-2-8 (0-1')	TCLP	Solid	1311	

Analysis Batch: 493440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	6010B	492917
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	6010B	492917
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	6010B	492917
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	6010B	492917
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	6010B	492917
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	6010B	492917
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	6010B	492917
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	6010B	492917
500-165829-10 MS	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917
500-165829-10 MSD	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917
500-165829-10 DU	OPT-2-5 (3-8')	Total/NA	Solid	6010B	492917

Analysis Batch: 493500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total Recoverable	Water	6020A	492495

Analysis Batch: 493516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	7471B	493270
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	7471B	493270
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	7471B	493270
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	7471B	493270
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	7471B	493270
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	7471B	493270
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	7471B	493270
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	7471B	493270
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	7471B	493270
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	7471B	493270
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	7471B	493270
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	7471B	493270

Metals (Continued)

Analysis Batch: 493516 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	7471B	493270
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	7471B	493270
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	7471B	493270
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	7471B	493270
MB 500-493270/12-A	Method Blank	Total/NA	Solid	7471B	493270
LCS 500-493270/13-A	Lab Control Sample	Total/NA	Solid	7471B	493270
500-165829-9 MS	OPT-2-5 (0-3')	Total/NA	Solid	7471B	493270
500-165829-9 MSD	OPT-2-5 (0-3')	Total/NA	Solid	7471B	493270
500-165829-9 DU	OPT-2-5 (0-3')	Total/NA	Solid	7471B	493270

Prep Batch: 493557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	TCLP	Solid	3010A	493314
500-165829-2	OPT-2-1 (1-6')	TCLP	Solid	3010A	493314
500-165829-3	OPT-2-2 (0-1')	TCLP	Solid	3010A	493314
500-165829-4	OPT-2-2 (1-6')	TCLP	Solid	3010A	493314
500-165829-5	OPT-2-3 (0-1')	TCLP	Solid	3010A	493314
500-165829-6	OPT-2-3 (1-6')	TCLP	Solid	3010A	493314
500-165829-7	OPT-2-4 (0-3')	TCLP	Solid	3010A	493314
500-165829-8	OPT-2-4 (3-8')	TCLP	Solid	3010A	493314
500-165829-9	OPT-2-5 (0-3')	TCLP	Solid	3010A	493314
500-165829-10	OPT-2-5 (3-8')	TCLP	Solid	3010A	493314
500-165829-11	OPT-2-6 (0-1')	TCLP	Solid	3010A	493314
500-165829-12	OPT-2-6 (1-6')	TCLP	Solid	3010A	493314
500-165829-13	OPT-2-7 (0-1')	TCLP	Solid	3010A	493314
500-165829-14	OPT-2-7 (1-6')	TCLP	Solid	3010A	493314
500-165829-15	OPT-2-8 (0-1')	TCLP	Solid	3010A	493314
500-165829-16	OPT-2-8 (1-6')	TCLP	Solid	3010A	493314
LB 500-493314/1-B	Method Blank	TCLP	Solid	3010A	493314
LCS 500-493557/2-A	Lab Control Sample	Total/NA	Solid	3010A	
500-165829-15 MS	OPT-2-8 (0-1')	TCLP	Solid	3010A	493314
500-165829-15 DU	OPT-2-8 (0-1')	TCLP	Solid	3010A	493314

Prep Batch: 493561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	TCLP	Solid	7470A	493314
500-165829-2	OPT-2-1 (1-6')	TCLP	Solid	7470A	493314
500-165829-3	OPT-2-2 (0-1')	TCLP	Solid	7470A	493314
500-165829-4	OPT-2-2 (1-6')	TCLP	Solid	7470A	493314
500-165829-5	OPT-2-3 (0-1')	TCLP	Solid	7470A	493314
500-165829-6	OPT-2-3 (1-6')	TCLP	Solid	7470A	493314
500-165829-7	OPT-2-4 (0-3')	TCLP	Solid	7470A	493314
500-165829-8	OPT-2-4 (3-8')	TCLP	Solid	7470A	493314
500-165829-9	OPT-2-5 (0-3')	TCLP	Solid	7470A	493314
500-165829-10	OPT-2-5 (3-8')	TCLP	Solid	7470A	493314
500-165829-11	OPT-2-6 (0-1')	TCLP	Solid	7470A	493314
500-165829-12	OPT-2-6 (1-6')	TCLP	Solid	7470A	493314
500-165829-13	OPT-2-7 (0-1')	TCLP	Solid	7470A	493314
500-165829-14	OPT-2-7 (1-6')	TCLP	Solid	7470A	493314
500-165829-15	OPT-2-8 (0-1')	TCLP	Solid	7470A	493314
500-165829-16	OPT-2-8 (1-6')	TCLP	Solid	7470A	493314

Metals (Continued)

Prep Batch: 493561 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 500-493314/1-C	Method Blank	TCLP	Solid	7470A	493314
MB 500-493561/12-A	Method Blank	Total/NA	Solid	7470A	
LCS 500-493561/13-A	Lab Control Sample	Total/NA	Solid	7470A	
500-165829-9 MS	OPT-2-5 (0-3')	TCLP	Solid	7470A	493314
500-165829-9 DU	OPT-2-5 (0-3')	TCLP	Solid	7470A	493314

Analysis Batch: 493763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	TCLP	Solid	7470A	493561
500-165829-2	OPT-2-1 (1-6')	TCLP	Solid	7470A	493561
500-165829-3	OPT-2-2 (0-1')	TCLP	Solid	7470A	493561
500-165829-4	OPT-2-2 (1-6')	TCLP	Solid	7470A	493561
500-165829-5	OPT-2-3 (0-1')	TCLP	Solid	7470A	493561
500-165829-6	OPT-2-3 (1-6')	TCLP	Solid	7470A	493561
500-165829-7	OPT-2-4 (0-3')	TCLP	Solid	7470A	493561
500-165829-8	OPT-2-4 (3-8')	TCLP	Solid	7470A	493561
500-165829-9	OPT-2-5 (0-3')	TCLP	Solid	7470A	493561
500-165829-10	OPT-2-5 (3-8')	TCLP	Solid	7470A	493561
500-165829-11	OPT-2-6 (0-1')	TCLP	Solid	7470A	493561
500-165829-12	OPT-2-6 (1-6')	TCLP	Solid	7470A	493561
500-165829-13	OPT-2-7 (0-1')	TCLP	Solid	7470A	493561
500-165829-14	OPT-2-7 (1-6')	TCLP	Solid	7470A	493561
500-165829-15	OPT-2-8 (0-1')	TCLP	Solid	7470A	493561
500-165829-16	OPT-2-8 (1-6')	TCLP	Solid	7470A	493561
LB 500-493314/1-C	Method Blank	TCLP	Solid	7470A	493561
MB 500-493561/12-A	Method Blank	Total/NA	Solid	7470A	493561
LCS 500-493561/13-A	Lab Control Sample	Total/NA	Solid	7470A	493561
500-165829-9 MS	OPT-2-5 (0-3')	TCLP	Solid	7470A	493561
500-165829-9 DU	OPT-2-5 (0-3')	TCLP	Solid	7470A	493561

Analysis Batch: 493774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	TCLP	Solid	6010B	493557
500-165829-2	OPT-2-1 (1-6')	TCLP	Solid	6010B	493557
500-165829-3	OPT-2-2 (0-1')	TCLP	Solid	6010B	493557
500-165829-4	OPT-2-2 (1-6')	TCLP	Solid	6010B	493557
500-165829-5	OPT-2-3 (0-1')	TCLP	Solid	6010B	493557
500-165829-6	OPT-2-3 (1-6')	TCLP	Solid	6010B	493557
500-165829-7	OPT-2-4 (0-3')	TCLP	Solid	6010B	493557
500-165829-8	OPT-2-4 (3-8')	TCLP	Solid	6010B	493557
500-165829-9	OPT-2-5 (0-3')	TCLP	Solid	6010B	493557
500-165829-10	OPT-2-5 (3-8')	TCLP	Solid	6010B	493557
500-165829-11	OPT-2-6 (0-1')	TCLP	Solid	6010B	493557
500-165829-12	OPT-2-6 (1-6')	TCLP	Solid	6010B	493557
500-165829-13	OPT-2-7 (0-1')	TCLP	Solid	6010B	493557
500-165829-14	OPT-2-7 (1-6')	TCLP	Solid	6010B	493557
500-165829-15	OPT-2-8 (0-1')	TCLP	Solid	6010B	493557
500-165829-16	OPT-2-8 (1-6')	TCLP	Solid	6010B	493557
LB 500-493314/1-B	Method Blank	TCLP	Solid	6010B	493557
LCS 500-493557/2-A	Lab Control Sample	Total/NA	Solid	6010B	493557
500-165829-15 MS	OPT-2-8 (0-1')	TCLP	Solid	6010B	493557

Metals (Continued)

Analysis Batch: 493774 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-15 DU	OPT-2-8 (0-1')	TCLP	Solid	6010B	493557

Analysis Batch: 493802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	TCLP	Solid	6010B	493557
500-165829-2	OPT-2-1 (1-6')	TCLP	Solid	6010B	493557
500-165829-3	OPT-2-2 (0-1')	TCLP	Solid	6010B	493557
500-165829-4	OPT-2-2 (1-6')	TCLP	Solid	6010B	493557
500-165829-5	OPT-2-3 (0-1')	TCLP	Solid	6010B	493557
500-165829-6	OPT-2-3 (1-6')	TCLP	Solid	6010B	493557
500-165829-7	OPT-2-4 (0-3')	TCLP	Solid	6010B	493557
500-165829-8	OPT-2-4 (3-8')	TCLP	Solid	6010B	493557
500-165829-9	OPT-2-5 (0-3')	TCLP	Solid	6010B	493557
500-165829-10	OPT-2-5 (3-8')	TCLP	Solid	6010B	493557
500-165829-11	OPT-2-6 (0-1')	TCLP	Solid	6010B	493557
500-165829-12	OPT-2-6 (1-6')	TCLP	Solid	6010B	493557
500-165829-13	OPT-2-7 (0-1')	TCLP	Solid	6010B	493557
500-165829-14	OPT-2-7 (1-6')	TCLP	Solid	6010B	493557
500-165829-15	OPT-2-8 (0-1')	TCLP	Solid	6010B	493557
500-165829-16	OPT-2-8 (1-6')	TCLP	Solid	6010B	493557
LB 500-493314/1-B	Method Blank	TCLP	Solid	6010B	493557
LCS 500-493557/2-A	Lab Control Sample	Total/NA	Solid	6010B	493557
500-165829-15 MS	OPT-2-8 (0-1')	TCLP	Solid	6010B	493557
500-165829-15 DU	OPT-2-8 (0-1')	TCLP	Solid	6010B	493557

Analysis Batch: 493828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	TCLP	Solid	6020A	493557
500-165829-2	OPT-2-1 (1-6')	TCLP	Solid	6020A	493557
500-165829-3	OPT-2-2 (0-1')	TCLP	Solid	6020A	493557
500-165829-4	OPT-2-2 (1-6')	TCLP	Solid	6020A	493557
500-165829-5	OPT-2-3 (0-1')	TCLP	Solid	6020A	493557
500-165829-6	OPT-2-3 (1-6')	TCLP	Solid	6020A	493557
500-165829-7	OPT-2-4 (0-3')	TCLP	Solid	6020A	493557
500-165829-8	OPT-2-4 (3-8')	TCLP	Solid	6020A	493557
500-165829-9	OPT-2-5 (0-3')	TCLP	Solid	6020A	493557
500-165829-10	OPT-2-5 (3-8')	TCLP	Solid	6020A	493557
500-165829-11	OPT-2-6 (0-1')	TCLP	Solid	6020A	493557
500-165829-12	OPT-2-6 (1-6')	TCLP	Solid	6020A	493557
500-165829-13	OPT-2-7 (0-1')	TCLP	Solid	6020A	493557
500-165829-14	OPT-2-7 (1-6')	TCLP	Solid	6020A	493557
500-165829-15	OPT-2-8 (0-1')	TCLP	Solid	6020A	493557
500-165829-16	OPT-2-8 (1-6')	TCLP	Solid	6020A	493557
LB 500-493314/1-B	Method Blank	TCLP	Solid	6020A	493557
LCS 500-493557/2-A	Lab Control Sample	Total/NA	Solid	6020A	493557
500-165829-15 MS	OPT-2-8 (0-1')	TCLP	Solid	6020A	493557
500-165829-15 DU	OPT-2-8 (0-1')	TCLP	Solid	6020A	493557

General Chemistry

Prep Batch: 492954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	300_Prep	
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	300_Prep	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	300_Prep	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	300_Prep	
MB 500-492954/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 500-492954/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 493033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	Moisture	
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	Moisture	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	Moisture	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	Moisture	
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	Moisture	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	Moisture	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	Moisture	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	Moisture	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	Moisture	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	Moisture	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	Moisture	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	Moisture	
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	Moisture	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	Moisture	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	Moisture	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	Moisture	
500-165829-1 DU	OPT-2-1 (0-1')	Total/NA	Solid	Moisture	

Analysis Batch: 493099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	9045D	
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	9045D	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	9045D	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	9045D	
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	9045D	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	9045D	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	9045D	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	9045D	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	9045D	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	9045D	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	9045D	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	9045D	
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	9045D	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	9045D	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	9045D	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	9045D	
LCS 500-493099/5	Lab Control Sample	Total/NA	Solid	9045D	
LCSD 500-493099/6	Lab Control Sample Dup	Total/NA	Solid	9045D	
500-165829-16 DU	OPT-2-8 (1-6')	Total/NA	Solid	9045D	

General Chemistry

Analysis Batch: 493162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	9056A	492954
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	9056A	492954
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	9056A	492954
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	9056A	492954
MB 500-492954/1-A	Method Blank	Total/NA	Solid	9056A	492954
LCS 500-492954/2-A	Lab Control Sample	Total/NA	Solid	9056A	492954

Prep Batch: 493851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	300_Prep	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	300_Prep	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	300_Prep	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	300_Prep	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	300_Prep	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	300_Prep	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	300_Prep	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	300_Prep	
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	300_Prep	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	300_Prep	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	300_Prep	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	300_Prep	
MB 500-493851/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 500-493851/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Analysis Batch: 494053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	9056A	493851
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	9056A	493851
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	9056A	493851
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	9056A	493851
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	9056A	493851
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	9056A	493851
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	9056A	493851
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	9056A	493851
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	9056A	493851
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	9056A	493851
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	9056A	493851
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	9056A	493851
MB 500-493851/1-A	Method Blank	Total/NA	Solid	9056A	493851
LCS 500-493851/2-A	Lab Control Sample	Total/NA	Solid	9056A	493851

Analysis Batch: 494058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total/NA	Water	9056A	
MB 500-494058/9	Method Blank	Total/NA	Water	9056A	
LCS 500-494058/10	Lab Control Sample	Total/NA	Water	9056A	

Prep Batch: 494196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total/NA	Water	9010B	
MB 500-494196/1-A	Method Blank	Total/NA	Water	9010B	

General Chemistry (Continued)

Prep Batch: 494196 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-494196/2-A	Lab Control Sample	Total/NA	Water	9010B	

Analysis Batch: 494275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-17	OPT-2-1 GW	Total/NA	Water	9014	494196
MB 500-494196/1-A	Method Blank	Total/NA	Water	9014	494196
LCS 500-494196/2-A	Lab Control Sample	Total/NA	Water	9014	494196

Prep Batch: 494411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	9010B	
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	9010B	
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	9010B	
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	9010B	
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	9010B	
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	9010B	
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	9010B	
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	9010B	
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	9010B	
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	9010B	
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	9010B	
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	9010B	
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	9010B	
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	9010B	
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	9010B	
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	9010B	
MB 500-494411/1-A	Method Blank	Total/NA	Solid	9010B	
LCS 500-494411/2-A	Lab Control Sample	Total/NA	Solid	9010B	
500-165829-1 MS	OPT-2-1 (0-1')	Total/NA	Solid	9010B	
500-165829-1 MSD	OPT-2-1 (0-1')	Total/NA	Solid	9010B	

Analysis Batch: 494571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1	OPT-2-1 (0-1')	Total/NA	Solid	9014	494411
500-165829-2	OPT-2-1 (1-6')	Total/NA	Solid	9014	494411
500-165829-3	OPT-2-2 (0-1')	Total/NA	Solid	9014	494411
500-165829-4	OPT-2-2 (1-6')	Total/NA	Solid	9014	494411
500-165829-5	OPT-2-3 (0-1')	Total/NA	Solid	9014	494411
500-165829-6	OPT-2-3 (1-6')	Total/NA	Solid	9014	494411
500-165829-7	OPT-2-4 (0-3')	Total/NA	Solid	9014	494411
500-165829-8	OPT-2-4 (3-8')	Total/NA	Solid	9014	494411
500-165829-9	OPT-2-5 (0-3')	Total/NA	Solid	9014	494411
500-165829-10	OPT-2-5 (3-8')	Total/NA	Solid	9014	494411
500-165829-11	OPT-2-6 (0-1')	Total/NA	Solid	9014	494411
500-165829-12	OPT-2-6 (1-6')	Total/NA	Solid	9014	494411
500-165829-13	OPT-2-7 (0-1')	Total/NA	Solid	9014	494411
500-165829-14	OPT-2-7 (1-6')	Total/NA	Solid	9014	494411
500-165829-15	OPT-2-8 (0-1')	Total/NA	Solid	9014	494411
500-165829-16	OPT-2-8 (1-6')	Total/NA	Solid	9014	494411
MB 500-494411/1-A	Method Blank	Total/NA	Solid	9014	494411
LCS 500-494411/2-A	Lab Control Sample	Total/NA	Solid	9014	494411

General Chemistry (Continued)

Analysis Batch: 494571 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165829-1 MS	OPT-2-1 (0-1')	Total/NA	Solid	9014	494411
500-165829-1 MSD	OPT-2-1 (0-1')	Total/NA	Solid	9014	494411

Surrogate Summary

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Method: 8260B - VOC

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-165829-17	OPT-2-1 GW	95	105	108	95
LCS 500-493871/4	Lab Control Sample	94	100	100	99
MB 500-493871/6	Method Blank	92	106	100	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(75-131)	(75-126)	(70-134)	(75-124)
500-165829-1	OPT-2-1 (0-1')	99	100	123	101
500-165829-2	OPT-2-1 (1-6')	98	94	110	100
500-165829-3	OPT-2-2 (0-1')	98	99	123	99
500-165829-4	OPT-2-2 (1-6')	94	100	119	95
500-165829-5	OPT-2-3 (0-1')	94	100	121	96
500-165829-6	OPT-2-3 (1-6')	95	94	112	99
500-165829-7	OPT-2-4 (0-3')	107	100	102	106
500-165829-8	OPT-2-4 (3-8')	114	98	100	102
500-165829-9	OPT-2-5 (0-3')	113	104	105	100
500-165829-10	OPT-2-5 (3-8')	109	103	100	100
500-165829-11	OPT-2-6 (0-1')	112	83	101	103
500-165829-12	OPT-2-6 (1-6')	113	99	98	101
500-165829-15	OPT-2-8 (0-1')	110	101	102	102
500-165829-16	OPT-2-8 (1-6')	111	101	99	102
LCS 500-493667/4	Lab Control Sample	92	96	107	98
LCS 500-493869/4	Lab Control Sample	106	99	95	101
LCSD 500-493667/5	Lab Control Sample Dup	93	95	111	99
LCSD 500-493869/5	Lab Control Sample Dup	105	102	95	103
MB 500-493667/7	Method Blank	92	95	107	99
MB 500-493869/7	Method Blank	112	100	95	102

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-165829-13	OPT-2-7 (0-1')	96	105	108	96
500-165829-14	OPT-2-7 (1-6')	94	104	111	94

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
LCS 500-493870/4	Lab Control Sample	94	100	100	99
MB 500-493870/6	Method Blank	92	106	100	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)	(31-143)
500-165829-1	OPT-2-1 (0-1')	71	107	69	49	81	79
500-165829-1 MS	OPT-2-1 (0-1')	78	119	77	93	83	90
500-165829-1 MSD	OPT-2-1 (0-1')	74	109	74	87	76	82
500-165829-2	OPT-2-1 (1-6')	88	97	81	54	89	48
500-165829-3	OPT-2-2 (0-1')	80	91	77	73	92	92
500-165829-4	OPT-2-2 (1-6')	73	124	74	98	86	66
500-165829-5	OPT-2-3 (0-1')	69	74	64	63	73	85
500-165829-6	OPT-2-3 (1-6')	78	80	71	60	77	76
500-165829-7	OPT-2-4 (0-3')	72	86	68	71	90	92
500-165829-8	OPT-2-4 (3-8')	75	85	81	67	86	63
500-165829-9	OPT-2-5 (0-3')	72	83	69	68	88	88
500-165829-10	OPT-2-5 (3-8')	83	90	76	71	91	92
500-165829-11	OPT-2-6 (0-1')	71	87	67	71	80	101
500-165829-12	OPT-2-6 (1-6')	79	120	79	48	94	80
500-165829-13	OPT-2-7 (0-1')	74	82	69	75	94	90
500-165829-14	OPT-2-7 (1-6')	73	85	63	75	93	76
500-165829-15	OPT-2-8 (0-1')	72	77	65	69	94	80
500-165829-16	OPT-2-8 (1-6')	68	87	63	72	90	86
LCS 500-493683/2-A	Lab Control Sample	85	120	85	98	85	80
MB 500-493683/1-A	Method Blank	81	122	80	95	87	70

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPHL	TBP
Lab Sample ID	Client Sample ID	(34-110)	(27-110)	(36-120)	(20-110)	(40-145)	(40-145)
500-165829-17	OPT-2-1 GW	64	53	72	40	70	70
LCS 500-492489/2-A	Lab Control Sample	70	71	82	56	85	65

Surrogate Summary

Client: Wood E&I Solutions Inc
Job ID: 500-165829-1
Project/Site: IDOT - Grayslake - WO 049

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
		FBP	2FP	NBZ	PHL	TPHL	TBP		
Lab Sample ID	Client Sample ID	(34-110)	(27-110)	(36-120)	(20-110)	(40-145)	(40-145)		
LCSD 500-492489/3-A	Lab Control Sample Dup	76	79	85	60	84	68		
MB 500-492489/1-A	Method Blank	73	75	80	48	93	56		

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8260B - VOC

Lab Sample ID: MB 500-493871/6
Matrix: Water
Analysis Batch: 493871

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.010		0.010	0.0017	mg/L			07/09/19 10:10	1
Benzene	<0.00050		0.00050	0.00015	mg/L			07/09/19 10:10	1
Bromodichloromethane	<0.0010		0.0010	0.00037	mg/L			07/09/19 10:10	1
Bromoform	<0.0010		0.0010	0.00048	mg/L			07/09/19 10:10	1
Bromomethane	<0.0030		0.0030	0.00080	mg/L			07/09/19 10:10	1
Carbon disulfide	<0.0020		0.0020	0.00045	mg/L			07/09/19 10:10	1
Carbon tetrachloride	<0.0010		0.0010	0.00038	mg/L			07/09/19 10:10	1
Chlorobenzene	<0.0010		0.0010	0.00039	mg/L			07/09/19 10:10	1
Chloroethane	<0.0010		0.0010	0.00051	mg/L			07/09/19 10:10	1
Chloroform	<0.0020		0.0020	0.00037	mg/L			07/09/19 10:10	1
Chloromethane	<0.0010		0.0010	0.00032	mg/L			07/09/19 10:10	1
cis-1,2-Dichloroethene	<0.0010		0.0010	0.00041	mg/L			07/09/19 10:10	1
cis-1,3-Dichloropropene	<0.0010		0.0010	0.00042	mg/L			07/09/19 10:10	1
Dibromochloromethane	<0.0010		0.0010	0.00049	mg/L			07/09/19 10:10	1
1,1-Dichloroethane	<0.0010		0.0010	0.00041	mg/L			07/09/19 10:10	1
1,2-Dichloroethane	<0.0010		0.0010	0.00039	mg/L			07/09/19 10:10	1
1,1-Dichloroethene	<0.0010		0.0010	0.00039	mg/L			07/09/19 10:10	1
1,2-Dichloropropane	<0.0010		0.0010	0.00043	mg/L			07/09/19 10:10	1
1,3-Dichloropropene, Total	<0.0010		0.0010	0.00042	mg/L			07/09/19 10:10	1
Ethylbenzene	<0.00050		0.00050	0.00018	mg/L			07/09/19 10:10	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/L			07/09/19 10:10	1
Methyl Ethyl Ketone	<0.0050		0.0050	0.0021	mg/L			07/09/19 10:10	1
Methylene Chloride	<0.0050		0.0050	0.0016	mg/L			07/09/19 10:10	1
methyl isobutyl ketone	<0.0050		0.0050	0.0022	mg/L			07/09/19 10:10	1
Methyl tert-butyl ether	<0.0010		0.0010	0.00039	mg/L			07/09/19 10:10	1
Styrene	<0.0010		0.0010	0.00039	mg/L			07/09/19 10:10	1
1,1,2,2-Tetrachloroethane	<0.0010		0.0010	0.00040	mg/L			07/09/19 10:10	1
Tetrachloroethene	<0.0010		0.0010	0.00037	mg/L			07/09/19 10:10	1
Toluene	<0.00050		0.00050	0.00015	mg/L			07/09/19 10:10	1
trans-1,2-Dichloroethene	<0.0010		0.0010	0.00035	mg/L			07/09/19 10:10	1
trans-1,3-Dichloropropene	<0.0010		0.0010	0.00036	mg/L			07/09/19 10:10	1
1,1,1-Trichloroethane	<0.0010		0.0010	0.00038	mg/L			07/09/19 10:10	1
1,1,2-Trichloroethane	<0.0010		0.0010	0.00035	mg/L			07/09/19 10:10	1
Trichloroethene	<0.00050		0.00050	0.00016	mg/L			07/09/19 10:10	1
Vinyl acetate	<0.0020		0.0020	0.00091	mg/L			07/09/19 10:10	1
Vinyl chloride	<0.0010		0.0010	0.00020	mg/L			07/09/19 10:10	1
Xylenes, Total	<0.0010		0.0010	0.00022	mg/L			07/09/19 10:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*		*07/09/19 10:10*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/09/19 10:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*		*07/09/19 10:10*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/09/19 10:10*	*1*

Method: 8260B - VOC (Continued)

Lab Sample ID: LCS 500-493871/4
Matrix: Water
Analysis Batch: 493871

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0372		mg/L		74	40 - 143
Benzene	0.0500	0.0484		mg/L		97	70 - 120
Bromodichloromethane	0.0500	0.0505		mg/L		101	69 - 120
Bromoform	0.0500	0.0616		mg/L		123	56 - 132
Bromomethane	0.0500	0.0428		mg/L		86	40 - 152
Carbon disulfide	0.0500	0.0490		mg/L		98	66 - 120
Carbon tetrachloride	0.0500	0.0643		mg/L		129	59 - 133
Chlorobenzene	0.0500	0.0454		mg/L		91	70 - 120
Chloroethane	0.0500	0.0384		mg/L		77	48 - 136
Chloroform	0.0500	0.0467		mg/L		93	70 - 120
Chloromethane	0.0500	0.0369		mg/L		74	56 - 152
cis-1,2-Dichloroethene	0.0500	0.0465		mg/L		93	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0467		mg/L		93	64 - 127
Dibromochloromethane	0.0500	0.0541		mg/L		108	68 - 125
1,1-Dichloroethane	0.0500	0.0456		mg/L		91	70 - 125
1,2-Dichloroethane	0.0500	0.0455		mg/L		91	68 - 127
1,1-Dichloroethene	0.0500	0.0487		mg/L		97	67 - 122
1,2-Dichloropropane	0.0500	0.0436		mg/L		87	67 - 130
Ethylbenzene	0.0500	0.0515		mg/L		103	70 - 123
2-Hexanone	0.0500	0.0380		mg/L		76	54 - 146
Methyl Ethyl Ketone	0.0500	0.0333		mg/L		67	46 - 144
Methylene Chloride	0.0500	0.0454		mg/L		91	69 - 125
methyl isobutyl ketone	0.0500	0.0370		mg/L		74	55 - 139
Methyl tert-butyl ether	0.0500	0.0487		mg/L		97	55 - 123
Styrene	0.0500	0.0481		mg/L		96	70 - 120
1,1,2,2-Tetrachloroethane	0.0500	0.0511		mg/L		102	62 - 140
Tetrachloroethene	0.0500	0.0498		mg/L		100	70 - 128
Toluene	0.0500	0.0452		mg/L		90	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0481		mg/L		96	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0493		mg/L		99	62 - 128
1,1,1-Trichloroethane	0.0500	0.0543		mg/L		109	70 - 125
1,1,2-Trichloroethane	0.0500	0.0465		mg/L		93	71 - 130
Trichloroethene	0.0500	0.0481		mg/L		96	70 - 125
Vinyl acetate	0.0500	0.0570		mg/L		114	43 - 133
Vinyl chloride	0.0500	0.0406		mg/L		81	64 - 126
Xylenes, Total	0.100	0.0965		mg/L		97	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*100*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*
Toluene-d8 (Surr)	*99*		*75 - 120*

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-493667/7
Matrix: Solid
Analysis Batch: 493667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.020		0.020	0.0087	mg/Kg			07/07/19 20:27	1
Benzene	<0.0020		0.0020	0.00051	mg/Kg			07/07/19 20:27	1
Bromodichloromethane	<0.0020		0.0020	0.00041	mg/Kg			07/07/19 20:27	1
Bromoform	<0.0020		0.0020	0.00058	mg/Kg			07/07/19 20:27	1
Bromomethane	<0.0050		0.0050	0.0019	mg/Kg			07/07/19 20:27	1
Carbon disulfide	<0.0050		0.0050	0.0010	mg/Kg			07/07/19 20:27	1
Carbon tetrachloride	<0.0020		0.0020	0.00058	mg/Kg			07/07/19 20:27	1
Chlorobenzene	<0.0020		0.0020	0.00074	mg/Kg			07/07/19 20:27	1
Chloroethane	<0.0050		0.0050	0.0015	mg/Kg			07/07/19 20:27	1
Chloroform	<0.0020		0.0020	0.00069	mg/Kg			07/07/19 20:27	1
Chloromethane	<0.0050		0.0050	0.0020	mg/Kg			07/07/19 20:27	1
cis-1,2-Dichloroethene	<0.0020		0.0020	0.00056	mg/Kg			07/07/19 20:27	1
cis-1,3-Dichloropropene	<0.0020		0.0020	0.00060	mg/Kg			07/07/19 20:27	1
Dibromochloromethane	<0.0020		0.0020	0.00065	mg/Kg			07/07/19 20:27	1
1,1-Dichloroethane	<0.0020		0.0020	0.00069	mg/Kg			07/07/19 20:27	1
1,2-Dichloroethane	<0.0050		0.0050	0.0016	mg/Kg			07/07/19 20:27	1
1,1-Dichloroethene	<0.0020		0.0020	0.00069	mg/Kg			07/07/19 20:27	1
1,2-Dichloropropane	<0.0020		0.0020	0.00052	mg/Kg			07/07/19 20:27	1
1,3-Dichloropropene, Total	<0.0020		0.0020	0.00070	mg/Kg			07/07/19 20:27	1
Ethylbenzene	<0.0020		0.0020	0.00096	mg/Kg			07/07/19 20:27	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/Kg			07/07/19 20:27	1
2-Butanone (MEK)	<0.0050		0.0050	0.0022	mg/Kg			07/07/19 20:27	1
Methylene Chloride	<0.0050		0.0050	0.0020	mg/Kg			07/07/19 20:27	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050	0.0015	mg/Kg			07/07/19 20:27	1
Methyl tert-butyl ether	<0.0020		0.0020	0.00059	mg/Kg			07/07/19 20:27	1
Styrene	<0.0020		0.0020	0.00060	mg/Kg			07/07/19 20:27	1
1,1,2,2-Tetrachloroethane	<0.0020		0.0020	0.00064	mg/Kg			07/07/19 20:27	1
Tetrachloroethene	<0.0020		0.0020	0.00068	mg/Kg			07/07/19 20:27	1
Toluene	<0.0020		0.0020	0.00051	mg/Kg			07/07/19 20:27	1
trans-1,2-Dichloroethene	<0.0020		0.0020	0.00089	mg/Kg			07/07/19 20:27	1
trans-1,3-Dichloropropene	<0.0020		0.0020	0.00070	mg/Kg			07/07/19 20:27	1
1,1,1-Trichloroethane	<0.0020		0.0020	0.00067	mg/Kg			07/07/19 20:27	1
1,1,2-Trichloroethane	<0.0020		0.0020	0.00086	mg/Kg			07/07/19 20:27	1
Trichloroethene	<0.0020		0.0020	0.00068	mg/Kg			07/07/19 20:27	1
Vinyl acetate	<0.0050		0.0050	0.0017	mg/Kg			07/07/19 20:27	1
Vinyl chloride	<0.0020		0.0020	0.00089	mg/Kg			07/07/19 20:27	1
Xylenes, Total	<0.0040		0.0040	0.00064	mg/Kg			07/07/19 20:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*75 - 131*		*07/07/19 20:27*	*1*
Dibromofluoromethane	*95*		*75 - 126*		*07/07/19 20:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 134*		*07/07/19 20:27*	*1*
Toluene-d8 (Surr)	*99*		*75 - 124*		*07/07/19 20:27*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-493667/4
Matrix: Solid
Analysis Batch: 493667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0507		mg/Kg		101	40 - 150
Benzene	0.0500	0.0419		mg/Kg		84	70 - 125
Bromodichloromethane	0.0500	0.0433		mg/Kg		87	67 - 129
Bromoform	0.0500	0.0450		mg/Kg		90	68 - 136
Bromomethane	0.0500	0.0444		mg/Kg		89	70 - 130
Carbon disulfide	0.0500	0.0437		mg/Kg		87	70 - 129
Carbon tetrachloride	0.0500	0.0425		mg/Kg		85	75 - 125
Chlorobenzene	0.0500	0.0411		mg/Kg		82	50 - 150
Chloroethane	0.0500	0.0566		mg/Kg		113	75 - 125
Chloroform	0.0500	0.0441		mg/Kg		88	57 - 135
Chloromethane	0.0500	0.0432		mg/Kg		86	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0415		mg/Kg		83	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0420		mg/Kg		84	70 - 125
Dibromochloromethane	0.0500	0.0418		mg/Kg		84	69 - 125
1,1-Dichloroethane	0.0500	0.0461		mg/Kg		92	70 - 125
1,2-Dichloroethane	0.0500	0.0515		mg/Kg		103	70 - 130
1,1-Dichloroethene	0.0500	0.0411		mg/Kg		82	70 - 120
1,2-Dichloropropane	0.0500	0.0446		mg/Kg		89	70 - 125
Ethylbenzene	0.0500	0.0420		mg/Kg		84	61 - 136
2-Hexanone	0.0500	0.0435		mg/Kg		87	48 - 146
2-Butanone (MEK)	0.0500	0.0418		mg/Kg		84	47 - 138
Methylene Chloride	0.0500	0.0401		mg/Kg		80	70 - 126
4-Methyl-2-pentanone (MIBK)	0.0500	0.0444		mg/Kg		89	50 - 148
Methyl tert-butyl ether	0.0500	0.0438		mg/Kg		88	50 - 140
Styrene	0.0500	0.0408		mg/Kg		82	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0435		mg/Kg		87	70 - 122
Tetrachloroethene	0.0500	0.0444		mg/Kg		89	70 - 124
Toluene	0.0500	0.0429		mg/Kg		86	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0419		mg/Kg		84	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0421		mg/Kg		84	70 - 125
1,1,1-Trichloroethane	0.0500	0.0439		mg/Kg		88	70 - 128
1,1,2-Trichloroethane	0.0500	0.0446		mg/Kg		89	70 - 125
Trichloroethene	0.0500	0.0394		mg/Kg		79	70 - 125
Vinyl acetate	0.0500	0.0269		mg/Kg		54	40 - 153
Vinyl chloride	0.0500	0.0442		mg/Kg		88	70 - 125
Xylenes, Total	0.100	0.0849		mg/Kg		85	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*92*		*75 - 131*
Dibromofluoromethane	*96*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 134*
Toluene-d8 (Surr)	*98*		*75 - 124*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-493667/5
Matrix: Solid
Analysis Batch: 493667

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			0.0500	0.0516		mg/Kg		103	40 - 150	2	30
Benzene			0.0500	0.0436		mg/Kg		87	70 - 125	4	30
Bromodichloromethane			0.0500	0.0472		mg/Kg		94	67 - 129	9	30
Bromoform			0.0500	0.0495		mg/Kg		99	68 - 136	9	30
Bromomethane			0.0500	0.0431		mg/Kg		86	70 - 130	3	30
Carbon disulfide			0.0500	0.0456		mg/Kg		91	70 - 129	4	30
Carbon tetrachloride			0.0500	0.0449		mg/Kg		90	75 - 125	6	30
Chlorobenzene			0.0500	0.0431		mg/Kg		86	50 - 150	5	30
Chloroethane			0.0500	0.0543		mg/Kg		109	75 - 125	4	30
Chloroform			0.0500	0.0461		mg/Kg		92	57 - 135	4	30
Chloromethane			0.0500	0.0405		mg/Kg		81	70 - 125	6	30
cis-1,2-Dichloroethene			0.0500	0.0445		mg/Kg		89	70 - 125	7	30
cis-1,3-Dichloropropene			0.0500	0.0454		mg/Kg		91	70 - 125	8	30
Dibromochloromethane			0.0500	0.0450		mg/Kg		90	69 - 125	7	30
1,1-Dichloroethane			0.0500	0.0477		mg/Kg		95	70 - 125	3	30
1,2-Dichloroethane			0.0500	0.0543		mg/Kg		109	70 - 130	5	30
1,1-Dichloroethene			0.0500	0.0432		mg/Kg		86	70 - 120	5	30
1,2-Dichloropropane			0.0500	0.0466		mg/Kg		93	70 - 125	4	30
Ethylbenzene			0.0500	0.0438		mg/Kg		88	61 - 136	4	30
2-Hexanone			0.0500	0.0488		mg/Kg		98	48 - 146	12	30
2-Butanone (MEK)			0.0500	0.0437		mg/Kg		87	47 - 138	4	30
Methylene Chloride			0.0500	0.0416		mg/Kg		83	70 - 126	4	30
4-Methyl-2-pentanone (MIBK)			0.0500	0.0493		mg/Kg		99	50 - 148	10	30
Methyl tert-butyl ether			0.0500	0.0463		mg/Kg		93	50 - 140	5	30
Styrene			0.0500	0.0430		mg/Kg		86	70 - 125	5	30
1,1,2,2-Tetrachloroethane			0.0500	0.0471		mg/Kg		94	70 - 122	8	30
Tetrachloroethene			0.0500	0.0473		mg/Kg		95	70 - 124	6	30
Toluene			0.0500	0.0455		mg/Kg		91	70 - 125	6	30
trans-1,2-Dichloroethene			0.0500	0.0440		mg/Kg		88	70 - 125	5	30
trans-1,3-Dichloropropene			0.0500	0.0467		mg/Kg		93	70 - 125	10	30
1,1,1-Trichloroethane			0.0500	0.0470		mg/Kg		94	70 - 128	7	30
1,1,2-Trichloroethane			0.0500	0.0473		mg/Kg		95	70 - 125	6	30
Trichloroethene			0.0500	0.0404		mg/Kg		81	70 - 125	3	30
Vinyl acetate			0.0500	0.0278		mg/Kg		56	40 - 153	4	30
Vinyl chloride			0.0500	0.0424		mg/Kg		85	70 - 125	4	30
Xylenes, Total			0.100	0.0890		mg/Kg		89	53 - 147	5	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*75 - 131*
Dibromofluoromethane	*95*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 134*
Toluene-d8 (Surr)	*99*		*75 - 124*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-493869/7
Matrix: Solid
Analysis Batch: 493869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.020		0.020	0.0087	mg/Kg			07/09/19 12:03	1
Benzene	<0.0020		0.0020	0.00051	mg/Kg			07/09/19 12:03	1
Bromodichloromethane	<0.0020		0.0020	0.00041	mg/Kg			07/09/19 12:03	1
Bromoform	<0.0020		0.0020	0.00058	mg/Kg			07/09/19 12:03	1
Bromomethane	<0.0050		0.0050	0.0019	mg/Kg			07/09/19 12:03	1
Carbon disulfide	<0.0050		0.0050	0.0010	mg/Kg			07/09/19 12:03	1
Carbon tetrachloride	<0.0020		0.0020	0.00058	mg/Kg			07/09/19 12:03	1
Chlorobenzene	<0.0020		0.0020	0.00074	mg/Kg			07/09/19 12:03	1
Chloroethane	<0.0050		0.0050	0.0015	mg/Kg			07/09/19 12:03	1
Chloroform	<0.0020		0.0020	0.00069	mg/Kg			07/09/19 12:03	1
Chloromethane	<0.0050		0.0050	0.0020	mg/Kg			07/09/19 12:03	1
cis-1,2-Dichloroethene	<0.0020		0.0020	0.00056	mg/Kg			07/09/19 12:03	1
cis-1,3-Dichloropropene	<0.0020		0.0020	0.00060	mg/Kg			07/09/19 12:03	1
Dibromochloromethane	<0.0020		0.0020	0.00065	mg/Kg			07/09/19 12:03	1
1,1-Dichloroethane	<0.0020		0.0020	0.00069	mg/Kg			07/09/19 12:03	1
1,2-Dichloroethane	<0.0050		0.0050	0.0016	mg/Kg			07/09/19 12:03	1
1,1-Dichloroethene	<0.0020		0.0020	0.00069	mg/Kg			07/09/19 12:03	1
1,2-Dichloropropane	<0.0020		0.0020	0.00052	mg/Kg			07/09/19 12:03	1
1,3-Dichloropropene, Total	<0.0020		0.0020	0.00070	mg/Kg			07/09/19 12:03	1
Ethylbenzene	<0.0020		0.0020	0.00096	mg/Kg			07/09/19 12:03	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/Kg			07/09/19 12:03	1
2-Butanone (MEK)	<0.0050		0.0050	0.0022	mg/Kg			07/09/19 12:03	1
Methylene Chloride	<0.0050		0.0050	0.0020	mg/Kg			07/09/19 12:03	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050	0.0015	mg/Kg			07/09/19 12:03	1
Methyl tert-butyl ether	<0.0020		0.0020	0.00059	mg/Kg			07/09/19 12:03	1
Styrene	<0.0020		0.0020	0.00060	mg/Kg			07/09/19 12:03	1
1,1,2,2-Tetrachloroethane	<0.0020		0.0020	0.00064	mg/Kg			07/09/19 12:03	1
Tetrachloroethene	<0.0020		0.0020	0.00068	mg/Kg			07/09/19 12:03	1
Toluene	<0.0020		0.0020	0.00051	mg/Kg			07/09/19 12:03	1
trans-1,2-Dichloroethene	<0.0020		0.0020	0.00089	mg/Kg			07/09/19 12:03	1
trans-1,3-Dichloropropene	<0.0020		0.0020	0.00070	mg/Kg			07/09/19 12:03	1
1,1,1-Trichloroethane	<0.0020		0.0020	0.00067	mg/Kg			07/09/19 12:03	1
1,1,2-Trichloroethane	<0.0020		0.0020	0.00086	mg/Kg			07/09/19 12:03	1
Trichloroethene	<0.0020		0.0020	0.00068	mg/Kg			07/09/19 12:03	1
Vinyl acetate	<0.0050		0.0050	0.0017	mg/Kg			07/09/19 12:03	1
Vinyl chloride	<0.0020		0.0020	0.00089	mg/Kg			07/09/19 12:03	1
Xylenes, Total	<0.0040		0.0040	0.00064	mg/Kg			07/09/19 12:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*75 - 131*		*07/09/19 12:03*	*1*
Dibromofluoromethane	*100*		*75 - 126*		*07/09/19 12:03*	*1*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 134*		*07/09/19 12:03*	*1*
Toluene-d8 (Surr)	*102*		*75 - 124*		*07/09/19 12:03*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-493869/4
Matrix: Solid
Analysis Batch: 493869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0305		mg/Kg		61	40 - 150
Benzene	0.0500	0.0462		mg/Kg		92	70 - 125
Bromodichloromethane	0.0500	0.0487		mg/Kg		97	67 - 129
Bromoform	0.0500	0.0512		mg/Kg		102	68 - 136
Bromomethane	0.0500	0.0440		mg/Kg		88	70 - 130
Carbon disulfide	0.0500	0.0518		mg/Kg		104	70 - 129
Carbon tetrachloride	0.0500	0.0488		mg/Kg		98	75 - 125
Chlorobenzene	0.0500	0.0514		mg/Kg		103	50 - 150
Chloroethane	0.0500	0.0452		mg/Kg		90	75 - 125
Chloroform	0.0500	0.0508		mg/Kg		102	57 - 135
Chloromethane	0.0500	0.0526		mg/Kg		105	70 - 125
cis-1,2-Dichloroethene	0.0500	0.0512		mg/Kg		102	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0475		mg/Kg		95	70 - 125
Dibromochloromethane	0.0500	0.0478		mg/Kg		96	69 - 125
1,1-Dichloroethane	0.0500	0.0504		mg/Kg		101	70 - 125
1,2-Dichloroethane	0.0500	0.0472		mg/Kg		94	70 - 130
1,1-Dichloroethene	0.0500	0.0487		mg/Kg		97	70 - 120
1,2-Dichloropropane	0.0500	0.0488		mg/Kg		98	70 - 125
Ethylbenzene	0.0500	0.0502		mg/Kg		100	61 - 136
2-Hexanone	0.0500	0.0441		mg/Kg		88	48 - 146
2-Butanone (MEK)	0.0500	0.0347		mg/Kg		69	47 - 138
Methylene Chloride	0.0500	0.0519		mg/Kg		104	70 - 126
4-Methyl-2-pentanone (MIBK)	0.0500	0.0418		mg/Kg		84	50 - 148
Methyl tert-butyl ether	0.0500	0.0519		mg/Kg		104	50 - 140
Styrene	0.0500	0.0473		mg/Kg		95	70 - 125
1,1,2,2-Tetrachloroethane	0.0500	0.0550		mg/Kg		110	70 - 122
Tetrachloroethene	0.0500	0.0520		mg/Kg		104	70 - 124
Toluene	0.0500	0.0483		mg/Kg		97	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0492		mg/Kg		98	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0471		mg/Kg		94	70 - 125
1,1,1-Trichloroethane	0.0500	0.0516		mg/Kg		103	70 - 128
1,1,2-Trichloroethane	0.0500	0.0490		mg/Kg		98	70 - 125
Trichloroethene	0.0500	0.0487		mg/Kg		97	70 - 125
Vinyl acetate	0.0500	0.0494		mg/Kg		99	40 - 153
Vinyl chloride	0.0500	0.0493		mg/Kg		99	70 - 125
Xylenes, Total	0.100	0.0979		mg/Kg		98	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*75 - 131*
Dibromofluoromethane	*99*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 134*
Toluene-d8 (Surr)	*101*		*75 - 124*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-493869/5
Matrix: Solid
Analysis Batch: 493869

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone			0.0500	0.0311		mg/Kg		62	40 - 150	2	30
Benzene			0.0500	0.0471		mg/Kg		94	70 - 125	2	30
Bromodichloromethane			0.0500	0.0478		mg/Kg		96	67 - 129	2	30
Bromoform			0.0500	0.0484		mg/Kg		97	68 - 136	6	30
Bromomethane			0.0500	0.0433		mg/Kg		87	70 - 130	2	30
Carbon disulfide			0.0500	0.0509		mg/Kg		102	70 - 129	2	30
Carbon tetrachloride			0.0500	0.0482		mg/Kg		96	75 - 125	1	30
Chlorobenzene			0.0500	0.0523		mg/Kg		105	50 - 150	2	30
Chloroethane			0.0500	0.0461		mg/Kg		92	75 - 125	2	30
Chloroform			0.0500	0.0498		mg/Kg		100	57 - 135	2	30
Chloromethane			0.0500	0.0525		mg/Kg		105	70 - 125	0	30
cis-1,2-Dichloroethene			0.0500	0.0504		mg/Kg		101	70 - 125	2	30
cis-1,3-Dichloropropene			0.0500	0.0487		mg/Kg		97	70 - 125	2	30
Dibromochloromethane			0.0500	0.0470		mg/Kg		94	69 - 125	2	30
1,1-Dichloroethane			0.0500	0.0504		mg/Kg		101	70 - 125	0	30
1,2-Dichloroethane			0.0500	0.0465		mg/Kg		93	70 - 130	1	30
1,1-Dichloroethene			0.0500	0.0477		mg/Kg		95	70 - 120	2	30
1,2-Dichloropropane			0.0500	0.0480		mg/Kg		96	70 - 125	2	30
Ethylbenzene			0.0500	0.0522		mg/Kg		104	61 - 136	4	30
2-Hexanone			0.0500	0.0431		mg/Kg		86	48 - 146	2	30
2-Butanone (MEK)			0.0500	0.0370		mg/Kg		74	47 - 138	6	30
Methylene Chloride			0.0500	0.0510		mg/Kg		102	70 - 126	2	30
4-Methyl-2-pentanone (MIBK)			0.0500	0.0435		mg/Kg		87	50 - 148	4	30
Methyl tert-butyl ether			0.0500	0.0491		mg/Kg		98	50 - 140	6	30
Styrene			0.0500	0.0468		mg/Kg		94	70 - 125	1	30
1,1,2,2-Tetrachloroethane			0.0500	0.0508		mg/Kg		102	70 - 122	8	30
Tetrachloroethene			0.0500	0.0518		mg/Kg		104	70 - 124	0	30
Toluene			0.0500	0.0485		mg/Kg		97	70 - 125	0	30
trans-1,2-Dichloroethene			0.0500	0.0494		mg/Kg		99	70 - 125	0	30
trans-1,3-Dichloropropene			0.0500	0.0471		mg/Kg		94	70 - 125	0	30
1,1,1-Trichloroethane			0.0500	0.0516		mg/Kg		103	70 - 128	0	30
1,1,2-Trichloroethane			0.0500	0.0481		mg/Kg		96	70 - 125	2	30
Trichloroethene			0.0500	0.0489		mg/Kg		98	70 - 125	0	30
Vinyl acetate			0.0500	0.0487		mg/Kg		97	40 - 153	2	30
Vinyl chloride			0.0500	0.0487		mg/Kg		97	70 - 125	1	30
Xylenes, Total			0.100	0.0990		mg/Kg		99	53 - 147	1	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*75 - 131*
Dibromofluoromethane	*102*		*75 - 126*
1,2-Dichloroethane-d4 (Surr)	*95*		*70 - 134*
Toluene-d8 (Surr)	*103*		*75 - 124*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-493870/6
Matrix: Solid
Analysis Batch: 493870

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.010		0.010	0.0017	mg/Kg			07/09/19 10:10	1
Benzene	<0.00025		0.00025	0.00015	mg/Kg			07/09/19 10:10	1
Bromodichloromethane	<0.0010		0.0010	0.00037	mg/Kg			07/09/19 10:10	1
Bromoform	<0.0010		0.0010	0.00048	mg/Kg			07/09/19 10:10	1
Bromomethane	<0.0030		0.0030	0.00080	mg/Kg			07/09/19 10:10	1
Carbon disulfide	<0.0020		0.0020	0.00080	mg/Kg			07/09/19 10:10	1
Carbon tetrachloride	<0.0010		0.0010	0.00038	mg/Kg			07/09/19 10:10	1
Chlorobenzene	<0.0010		0.0010	0.00039	mg/Kg			07/09/19 10:10	1
Chloroethane	<0.0010		0.0010	0.00050	mg/Kg			07/09/19 10:10	1
Chloroform	<0.0020		0.0020	0.00037	mg/Kg			07/09/19 10:10	1
Chloromethane	<0.0010		0.0010	0.00032	mg/Kg			07/09/19 10:10	1
cis-1,2-Dichloroethene	<0.0010		0.0010	0.00041	mg/Kg			07/09/19 10:10	1
cis-1,3-Dichloropropene	<0.0010		0.0010	0.00042	mg/Kg			07/09/19 10:10	1
Dibromochloromethane	<0.0010		0.0010	0.00049	mg/Kg			07/09/19 10:10	1
1,1-Dichloroethane	<0.0010		0.0010	0.00041	mg/Kg			07/09/19 10:10	1
1,2-Dichloroethane	<0.0010		0.0010	0.00039	mg/Kg			07/09/19 10:10	1
1,1-Dichloroethene	<0.0010		0.0010	0.00039	mg/Kg			07/09/19 10:10	1
1,2-Dichloropropane	<0.0010		0.0010	0.00043	mg/Kg			07/09/19 10:10	1
1,3-Dichloropropene, Total	<0.0010		0.0010	0.00042	mg/Kg			07/09/19 10:10	1
Ethylbenzene	<0.00025		0.00025	0.00018	mg/Kg			07/09/19 10:10	1
2-Hexanone	<0.0050		0.0050	0.0016	mg/Kg			07/09/19 10:10	1
2-Butanone (MEK)	<0.0050		0.0050	0.0021	mg/Kg			07/09/19 10:10	1
Methylene Chloride	<0.0050		0.0050	0.0016	mg/Kg			07/09/19 10:10	1
4-Methyl-2-pentanone (MIBK)	<0.0050		0.0050	0.0022	mg/Kg			07/09/19 10:10	1
Methyl tert-butyl ether	<0.0010		0.0010	0.00039	mg/Kg			07/09/19 10:10	1
Styrene	<0.0010		0.0010	0.00039	mg/Kg			07/09/19 10:10	1
1,1,2,2-Tetrachloroethane	<0.0010		0.0010	0.00040	mg/Kg			07/09/19 10:10	1
Tetrachloroethene	<0.0010		0.0010	0.00037	mg/Kg			07/09/19 10:10	1
Toluene	<0.00025		0.00025	0.00015	mg/Kg			07/09/19 10:10	1
trans-1,2-Dichloroethene	<0.0010		0.0010	0.00035	mg/Kg			07/09/19 10:10	1
trans-1,3-Dichloropropene	<0.0010		0.0010	0.00036	mg/Kg			07/09/19 10:10	1
1,1,1-Trichloroethane	<0.0010		0.0010	0.00038	mg/Kg			07/09/19 10:10	1
1,1,2-Trichloroethane	<0.0010		0.0010	0.00035	mg/Kg			07/09/19 10:10	1
Trichloroethene	<0.00050		0.00050	0.00016	mg/Kg			07/09/19 10:10	1
Vinyl acetate	<0.0020		0.0020	0.00090	mg/Kg			07/09/19 10:10	1
Vinyl chloride	<0.0010		0.0010	0.00026	mg/Kg			07/09/19 10:10	1
Xylenes, Total	<0.00050		0.00050	0.00022	mg/Kg			07/09/19 10:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*		*07/09/19 10:10*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/09/19 10:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*		*07/09/19 10:10*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/09/19 10:10*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-493870/4
Matrix: Solid
Analysis Batch: 493870

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0500	0.0372		mg/Kg		74	40 - 143
Benzene	0.0500	0.0484		mg/Kg		97	70 - 120
Bromodichloromethane	0.0500	0.0505		mg/Kg		101	69 - 120
Bromoform	0.0500	0.0616		mg/Kg		123	56 - 132
Bromomethane	0.0500	0.0428		mg/Kg		86	40 - 152
Carbon disulfide	0.0500	0.0490		mg/Kg		98	66 - 120
Carbon tetrachloride	0.0500	0.0643		mg/Kg		129	59 - 133
Chlorobenzene	0.0500	0.0454		mg/Kg		91	70 - 120
Chloroethane	0.0500	0.0384		mg/Kg		77	48 - 136
Chloroform	0.0500	0.0467		mg/Kg		93	70 - 120
Chloromethane	0.0500	0.0369		mg/Kg		74	56 - 152
cis-1,2-Dichloroethene	0.0500	0.0465		mg/Kg		93	70 - 125
cis-1,3-Dichloropropene	0.0500	0.0467		mg/Kg		93	64 - 127
Dibromochloromethane	0.0500	0.0541		mg/Kg		108	68 - 125
1,1-Dichloroethane	0.0500	0.0456		mg/Kg		91	70 - 125
1,2-Dichloroethane	0.0500	0.0455		mg/Kg		91	68 - 127
1,1-Dichloroethene	0.0500	0.0487		mg/Kg		97	67 - 122
1,2-Dichloropropane	0.0500	0.0436		mg/Kg		87	67 - 130
Ethylbenzene	0.0500	0.0515		mg/Kg		103	70 - 123
2-Hexanone	0.0500	0.0380		mg/Kg		76	54 - 146
2-Butanone (MEK)	0.0500	0.0333		mg/Kg		67	46 - 144
Methylene Chloride	0.0500	0.0454		mg/Kg		91	69 - 125
4-Methyl-2-pentanone (MIBK)	0.0500	0.0370		mg/Kg		74	55 - 139
Methyl tert-butyl ether	0.0500	0.0487		mg/Kg		97	55 - 123
Styrene	0.0500	0.0481		mg/Kg		96	70 - 120
1,1,2,2-Tetrachloroethane	0.0500	0.0511		mg/Kg		102	62 - 140
Tetrachloroethene	0.0500	0.0498		mg/Kg		100	70 - 128
Toluene	0.0500	0.0452		mg/Kg		90	70 - 125
trans-1,2-Dichloroethene	0.0500	0.0481		mg/Kg		96	70 - 125
trans-1,3-Dichloropropene	0.0500	0.0493		mg/Kg		99	62 - 128
1,1,1-Trichloroethane	0.0500	0.0543		mg/Kg		109	70 - 125
1,1,2-Trichloroethane	0.0500	0.0465		mg/Kg		93	71 - 130
Trichloroethene	0.0500	0.0481		mg/Kg		96	70 - 125
Vinyl acetate	0.0500	0.0570		mg/Kg		114	43 - 133
Vinyl chloride	0.0500	0.0406		mg/Kg		81	64 - 126
Xylenes, Total	0.100	0.0965		mg/Kg		97	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*100*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*
Toluene-d8 (Surr)	*99*		*75 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-492489/1-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492489

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.00080		0.00080	0.00025	mg/L		06/28/19 07:39	07/01/19 14:06	1
Acenaphthylene	<0.00080		0.00080	0.00021	mg/L		06/28/19 07:39	07/01/19 14:06	1
Anthracene	<0.00080		0.00080	0.00027	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[a]anthracene	<0.00013		0.00013	0.000045	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[a]pyrene	<0.00016		0.00016	0.000079	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[b]fluoranthene	<0.00016		0.00016	0.000065	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[g,h,i]perylene	<0.00080		0.00080	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
Benzo[k]fluoranthene	<0.00016		0.00016	0.000051	mg/L		06/28/19 07:39	07/01/19 14:06	1
Bis(2-chloroethoxy)methane	<0.0016		0.0016	0.00023	mg/L		06/28/19 07:39	07/01/19 14:06	1
Bis(2-chloroethyl)ether	<0.0016		0.0016	0.00023	mg/L		06/28/19 07:39	07/01/19 14:06	1
Bis(2-ethylhexyl) phthalate	<0.0080		0.0080	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Bromophenyl phenyl ether	<0.0040		0.0040	0.00043	mg/L		06/28/19 07:39	07/01/19 14:06	1
Butyl benzyl phthalate	<0.0016		0.0016	0.00038	mg/L		06/28/19 07:39	07/01/19 14:06	1
Carbazole	<0.0040		0.0040	0.00028	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Chloroaniline	<0.0080		0.0080	0.0016	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Chloro-3-methylphenol	<0.0080		0.0080	0.0018	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Chloronaphthalene	<0.0016		0.0016	0.00019	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Chlorophenol	<0.0040		0.0040	0.00045	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Chlorophenyl phenyl ether	<0.0040		0.0040	0.00051	mg/L		06/28/19 07:39	07/01/19 14:06	1
Chrysene	<0.00016		0.00016	0.000055	mg/L		06/28/19 07:39	07/01/19 14:06	1
Dibenz(a,h)anthracene	<0.00024		0.00024	0.000041	mg/L		06/28/19 07:39	07/01/19 14:06	1
Dibenzofuran	<0.0016		0.0016	0.00021	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,2-Dichlorobenzene	<0.0016		0.0016	0.00020	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,3-Dichlorobenzene	<0.0016		0.0016	0.00017	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,4-Dichlorobenzene	<0.0016		0.0016	0.00017	mg/L		06/28/19 07:39	07/01/19 14:06	1
3,3'-Dichlorobenzidine	<0.0040		0.0040	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dichlorophenol	<0.0080		0.0080	0.0021	mg/L		06/28/19 07:39	07/01/19 14:06	1
Diethyl phthalate	<0.0040		0.0040	0.00029	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dimethylphenol	<0.0080		0.0080	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
Dimethyl phthalate	<0.0040		0.0040	0.00025	mg/L		06/28/19 07:39	07/01/19 14:06	1
Di-n-butyl phthalate	<0.0040		0.0040	0.00058	mg/L		06/28/19 07:39	07/01/19 14:06	1
4,6-Dinitro-2-methylphenol	<0.016		0.016	0.0047	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dinitrophenol	<0.016		0.016	0.0069	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4-Dinitrotoluene	<0.00080		0.00080	0.00020	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,6-Dinitrotoluene	<0.00080		0.00080	0.000059	mg/L		06/28/19 07:39	07/01/19 14:06	1
Di-n-octyl phthalate	<0.0080		0.0080	0.00084	mg/L		06/28/19 07:39	07/01/19 14:06	1
Fluoranthene	<0.00080		0.00080	0.00036	mg/L		06/28/19 07:39	07/01/19 14:06	1
Fluorene	<0.00080		0.00080	0.00020	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachlorobenzene	<0.00040		0.00040	0.000064	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachlorobutadiene	<0.0040		0.0040	0.00041	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachlorocyclopentadiene	<0.016		0.016	0.0051	mg/L		06/28/19 07:39	07/01/19 14:06	1
Hexachloroethane	<0.0040		0.0040	0.00048	mg/L		06/28/19 07:39	07/01/19 14:06	1
Indeno[1,2,3-cd]pyrene	<0.00016		0.00016	0.000060	mg/L		06/28/19 07:39	07/01/19 14:06	1
Isophorone	<0.0016		0.0016	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Methylnaphthalene	<0.0016		0.0016	0.000052	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Methylphenol	<0.0016		0.0016	0.00024	mg/L		06/28/19 07:39	07/01/19 14:06	1
3 & 4 Methylphenol	<0.0016		0.0016	0.00036	mg/L		06/28/19 07:39	07/01/19 14:06	1
Naphthalene	<0.00080		0.00080	0.00025	mg/L		06/28/19 07:39	07/01/19 14:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-492489/1-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492489

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	<0.0040		0.0040	0.0010	mg/L		06/28/19 07:39	07/01/19 14:06	1
3-Nitroaniline	<0.0080		0.0080	0.0014	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Nitroaniline	<0.0080		0.0080	0.0013	mg/L		06/28/19 07:39	07/01/19 14:06	1
Nitrobenzene	<0.00080		0.00080	0.00036	mg/L		06/28/19 07:39	07/01/19 14:06	1
2-Nitrophenol	<0.0080		0.0080	0.0020	mg/L		06/28/19 07:39	07/01/19 14:06	1
4-Nitrophenol	<0.016		0.016	0.0059	mg/L		06/28/19 07:39	07/01/19 14:06	1
N-Nitrosodi-n-propylamine	<0.00040		0.00040	0.00012	mg/L		06/28/19 07:39	07/01/19 14:06	1
N-Nitrosodiphenylamine	<0.0016		0.0016	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,2'-oxybis[1-chloropropane]	<0.0016		0.0016	0.00030	mg/L		06/28/19 07:39	07/01/19 14:06	1
Pentachlorophenol	<0.016		0.016	0.0032	mg/L		06/28/19 07:39	07/01/19 14:06	1
Phenanthrene	<0.00080		0.00080	0.00024	mg/L		06/28/19 07:39	07/01/19 14:06	1
Phenol	<0.0040		0.0040	0.00054	mg/L		06/28/19 07:39	07/01/19 14:06	1
Pyrene	<0.00080		0.00080	0.00034	mg/L		06/28/19 07:39	07/01/19 14:06	1
1,2,4-Trichlorobenzene	<0.0016		0.0016	0.00019	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4,5-Trichlorophenol	<0.0080		0.0080	0.0021	mg/L		06/28/19 07:39	07/01/19 14:06	1
2,4,6-Trichlorophenol	<0.0040		0.0040	0.00057	mg/L		06/28/19 07:39	07/01/19 14:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*34 - 110*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
2-Fluorophenol	*75*		*27 - 110*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
Nitrobenzene-d5	*80*		*36 - 120*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
Phenol-d5	*48*		*20 - 110*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
Terphenyl-d14	*93*		*40 - 145*	*06/28/19 07:39*	*07/01/19 14:06*	*1*
2,4,6-Tribromophenol	*56*		*40 - 145*	*06/28/19 07:39*	*07/01/19 14:06*	*1*

Lab Sample ID: LCS 500-492489/2-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.0320	0.0218		mg/L		68	46 - 110
Acenaphthylene	0.0320	0.0223		mg/L		70	47 - 113
Anthracene	0.0320	0.0266		mg/L		83	67 - 118
Benzo[a]anthracene	0.0320	0.0257		mg/L		80	70 - 126
Benzo[a]pyrene	0.0320	0.0313		mg/L		98	70 - 135
Benzo[b]fluoranthene	0.0320	0.0291		mg/L		91	69 - 136
Benzo[g,h,i]perylene	0.0320	0.0288		mg/L		90	70 - 135
Benzo[k]fluoranthene	0.0320	0.0280		mg/L		87	70 - 133
Bis(2-chloroethoxy)methane	0.0320	0.0247		mg/L		77	59 - 118
Bis(2-chloroethyl)ether	0.0320	0.0227		mg/L		71	54 - 112
Bis(2-ethylhexyl) phthalate	0.0320	0.0330		mg/L		103	69 - 136
4-Bromophenyl phenyl ether	0.0320	0.0215		mg/L		67	58 - 120
Butyl benzyl phthalate	0.0320	0.0323		mg/L		101	68 - 135
Carbazole	0.0320	0.0280		mg/L		87	61 - 145
4-Chloroaniline	0.0320	0.0234		mg/L		73	35 - 128
4-Chloro-3-methylphenol	0.0320	0.0256		mg/L		80	64 - 128
2-Chloronaphthalene	0.0320	0.0192		mg/L		60	39 - 110
2-Chlorophenol	0.0320	0.0231		mg/L		72	59 - 110

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-492489/2-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorophenyl phenyl ether	0.0320	0.0222		mg/L		69	48 - 116
Chrysene	0.0320	0.0251		mg/L		78	68 - 129
Dibenz(a,h)anthracene	0.0320	0.0294		mg/L		92	70 - 134
Dibenzofuran	0.0320	0.0221		mg/L		69	51 - 110
1,2-Dichlorobenzene	0.0320	0.0148		mg/L		46	26 - 110
1,3-Dichlorobenzene	0.0320	0.0153		mg/L		48	22 - 110
1,4-Dichlorobenzene	0.0320	0.0154		mg/L		48	23 - 110
3,3'-Dichlorobenzidine	0.0320	0.0232		mg/L		72	60 - 132
2,4-Dichlorophenol	0.0320	0.0219		mg/L		69	58 - 120
Diethyl phthalate	0.0320	0.0264		mg/L		83	62 - 123
2,4-Dimethylphenol	0.0320	0.0234		mg/L		73	51 - 115
Dimethyl phthalate	0.0320	0.0257		mg/L		80	63 - 122
Di-n-butyl phthalate	0.0320	0.0290		mg/L		91	69 - 129
4,6-Dinitro-2-methylphenol	0.0640	0.0553		mg/L		86	50 - 129
2,4-Dinitrophenol	0.0640	0.0542		mg/L		85	37 - 130
2,4-Dinitrotoluene	0.0320	0.0260		mg/L		81	63 - 129
2,6-Dinitrotoluene	0.0320	0.0259		mg/L		81	63 - 129
Di-n-octyl phthalate	0.0320	0.0306		mg/L		96	68 - 137
Fluoranthene	0.0320	0.0260		mg/L		81	68 - 126
Fluorene	0.0320	0.0227		mg/L		71	53 - 120
Hexachlorobenzene	0.0320	0.0204		mg/L		64	61 - 126
Hexachlorobutadiene	0.0320	0.0135		mg/L		42	20 - 100
Hexachlorocyclopentadiene	0.0320	0.0143	J	mg/L		45	10 - 105
Hexachloroethane	0.0320	0.0153		mg/L		48	20 - 100
Indeno[1,2,3-cd]pyrene	0.0320	0.0307		mg/L		96	65 - 133
Isophorone	0.0320	0.0256		mg/L		80	54 - 127
2-Methylnaphthalene	0.0320	0.0177		mg/L		55	34 - 110
2-Methylphenol	0.0320	0.0241		mg/L		75	53 - 115
3 & 4 Methylphenol	0.0320	0.0238		mg/L		74	50 - 116
Naphthalene	0.0320	0.0173		mg/L		54	36 - 110
2-Nitroaniline	0.0320	0.0297		mg/L		93	59 - 138
3-Nitroaniline	0.0320	0.0209		mg/L		65	47 - 123
4-Nitroaniline	0.0320	0.0215		mg/L		67	35 - 110
Nitrobenzene	0.0320	0.0231		mg/L		72	54 - 121
2-Nitrophenol	0.0320	0.0221		mg/L		69	59 - 115
4-Nitrophenol	0.0640	0.0331		mg/L		52	20 - 110
N-Nitrosodi-n-propylamine	0.0320	0.0258		mg/L		81	47 - 131
N-Nitrosodiphenylamine	0.0320	0.0259		mg/L		81	66 - 120
2,2'-oxybis[1-chloropropane]	0.0320	0.0265		mg/L		83	38 - 140
Pentachlorophenol	0.0640	0.0379		mg/L		59	42 - 148
Phenanthrene	0.0320	0.0261		mg/L		81	65 - 120
Phenol	0.0320	0.0181		mg/L		57	33 - 100
Pyrene	0.0320	0.0283		mg/L		88	70 - 126
1,2,4-Trichlorobenzene	0.0320	0.0149		mg/L		47	26 - 110
2,4,5-Trichlorophenol	0.0320	0.0249		mg/L		78	63 - 124
2,4,6-Trichlorophenol	0.0320	0.0236		mg/L		74	62 - 121

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-492489/2-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492489

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*34 - 110*
2-Fluorophenol	*71*		*27 - 110*
Nitrobenzene-d5	*82*		*36 - 120*
Phenol-d5	*56*		*20 - 110*
Terphenyl-d14	*85*		*40 - 145*
2,4,6-Tribromophenol	*65*		*40 - 145*

Lab Sample ID: LCSD 500-492489/3-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	0.0320	0.0237		mg/L		74	46 - 110	8	20
Acenaphthylene	0.0320	0.0237		mg/L		74	47 - 113	6	20
Anthracene	0.0320	0.0278		mg/L		87	67 - 118	4	20
Benzo[a]anthracene	0.0320	0.0257		mg/L		80	70 - 126	0	20
Benzo[a]pyrene	0.0320	0.0328		mg/L		103	70 - 135	5	20
Benzo[b]fluoranthene	0.0320	0.0303		mg/L		95	69 - 136	4	20
Benzo[g,h,i]perylene	0.0320	0.0302		mg/L		94	70 - 135	5	20
Benzo[k]fluoranthene	0.0320	0.0307		mg/L		96	70 - 133	9	20
Bis(2-chloroethoxy)methane	0.0320	0.0269		mg/L		84	59 - 118	8	20
Bis(2-chloroethyl)ether	0.0320	0.0250		mg/L		78	54 - 112	10	20
Bis(2-ethylhexyl) phthalate	0.0320	0.0341		mg/L		106	69 - 136	3	20
4-Bromophenyl phenyl ether	0.0320	0.0229		mg/L		72	58 - 120	7	20
Butyl benzyl phthalate	0.0320	0.0329		mg/L		103	68 - 135	2	20
Carbazole	0.0320	0.0296		mg/L		93	61 - 145	6	20
4-Chloroaniline	0.0320	0.0248		mg/L		77	35 - 128	6	20
4-Chloro-3-methylphenol	0.0320	0.0285		mg/L		89	64 - 128	11	20
2-Chloronaphthalene	0.0320	0.0206		mg/L		64	39 - 110	7	20
2-Chlorophenol	0.0320	0.0251		mg/L		78	59 - 110	8	20
4-Chlorophenyl phenyl ether	0.0320	0.0223		mg/L		70	48 - 116	1	20
Chrysene	0.0320	0.0275		mg/L		86	68 - 129	9	20
Dibenz(a,h)anthracene	0.0320	0.0301		mg/L		94	70 - 134	2	20
Dibenzofuran	0.0320	0.0235		mg/L		74	51 - 110	6	20
1,2-Dichlorobenzene	0.0320	0.0165		mg/L		52	26 - 110	11	20
1,3-Dichlorobenzene	0.0320	0.0165		mg/L		52	22 - 110	8	20
1,4-Dichlorobenzene	0.0320	0.0160		mg/L		50	23 - 110	4	20
3,3'-Dichlorobenzidine	0.0320	0.0247		mg/L		77	60 - 132	6	20
2,4-Dichlorophenol	0.0320	0.0234		mg/L		73	58 - 120	7	20
Diethyl phthalate	0.0320	0.0280		mg/L		88	62 - 123	6	20
2,4-Dimethylphenol	0.0320	0.0251		mg/L		78	51 - 115	7	20
Dimethyl phthalate	0.0320	0.0278		mg/L		87	63 - 122	8	20
Di-n-butyl phthalate	0.0320	0.0302		mg/L		94	69 - 129	4	20
4,6-Dinitro-2-methylphenol	0.0640	0.0563		mg/L		88	50 - 129	2	20
2,4-Dinitrophenol	0.0640	0.0488		mg/L		76	37 - 130	10	20
2,4-Dinitrotoluene	0.0320	0.0274		mg/L		86	63 - 129	5	20
2,6-Dinitrotoluene	0.0320	0.0276		mg/L		86	63 - 129	6	20
Di-n-octyl phthalate	0.0320	0.0324		mg/L		101	68 - 137	6	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-492489/3-A
Matrix: Water
Analysis Batch: 492819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 492489

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoranthene	0.0320	0.0267		mg/L		83	68 - 126	3	20
Fluorene	0.0320	0.0252		mg/L		79	53 - 120	10	20
Hexachlorobenzene	0.0320	0.0223		mg/L		70	61 - 126	9	20
Hexachlorobutadiene	0.0320	0.0140		mg/L		44	20 - 100	4	20
Hexachlorocyclopentadiene	0.0320	0.0156	J	mg/L		49	10 - 105	8	20
Hexachloroethane	0.0320	0.0166		mg/L		52	20 - 100	8	20
Indeno[1,2,3-cd]pyrene	0.0320	0.0331		mg/L		103	65 - 133	8	20
Isophorone	0.0320	0.0273		mg/L		85	54 - 127	6	20
2-Methylnaphthalene	0.0320	0.0186		mg/L		58	34 - 110	5	20
2-Methylphenol	0.0320	0.0263		mg/L		82	53 - 115	9	20
3 & 4 Methylphenol	0.0320	0.0270		mg/L		85	50 - 116	13	20
Naphthalene	0.0320	0.0191		mg/L		60	36 - 110	10	20
2-Nitroaniline	0.0320	0.0317		mg/L		99	59 - 138	6	20
3-Nitroaniline	0.0320	0.0231		mg/L		72	47 - 123	10	20
4-Nitroaniline	0.0320	0.0219		mg/L		69	35 - 110	2	20
Nitrobenzene	0.0320	0.0257		mg/L		80	54 - 121	11	20
2-Nitrophenol	0.0320	0.0244		mg/L		76	59 - 115	10	20
4-Nitrophenol	0.0640	0.0363		mg/L		57	20 - 110	9	20
N-Nitrosodi-n-propylamine	0.0320	0.0293		mg/L		91	47 - 131	13	20
N-Nitrosodiphenylamine	0.0320	0.0274		mg/L		86	66 - 120	6	20
2,2'-oxybis[1-chloropropane]	0.0320	0.0294		mg/L		92	38 - 140	10	20
Pentachlorophenol	0.0640	0.0411		mg/L		64	42 - 148	8	20
Phenanthrene	0.0320	0.0272		mg/L		85	65 - 120	4	20
Phenol	0.0320	0.0184		mg/L		58	33 - 100	2	20
Pyrene	0.0320	0.0288		mg/L		90	70 - 126	2	20
1,2,4-Trichlorobenzene	0.0320	0.0153		mg/L		48	26 - 110	2	20
2,4,5-Trichlorophenol	0.0320	0.0265		mg/L		83	63 - 124	6	20
2,4,6-Trichlorophenol	0.0320	0.0252		mg/L		79	62 - 121	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*76*		*34 - 110*
2-Fluorophenol	*79*		*27 - 110*
Nitrobenzene-d5	*85*		*36 - 120*
Phenol-d5	*60*		*20 - 110*
Terphenyl-d14	*84*		*40 - 145*
2,4,6-Tribromophenol	*68*		*40 - 145*

Lab Sample ID: MB 500-493683/1-A
Matrix: Solid
Analysis Batch: 493927

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.033		0.033	0.0060	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Acenaphthylene	<0.033		0.033	0.0044	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Anthracene	<0.033		0.033	0.0056	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Benzo[a]anthracene	<0.033		0.033	0.0045	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Benzo[a]pyrene	<0.033		0.033	0.0064	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Benzo[b]fluoranthene	<0.033		0.033	0.0072	mg/Kg		07/08/19 07:34	07/09/19 14:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-493683/1-A
Matrix: Solid
Analysis Batch: 493927

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[g,h,i]perylene	<0.033		0.033	0.011	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Benzo[k]fluoranthene	<0.033		0.033	0.0098	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Bis(2-chloroethoxy)methane	<0.17		0.17	0.034	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Bis(2-chloroethyl)ether	<0.17		0.17	0.050	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Bis(2-ethylhexyl) phthalate	<0.17		0.17	0.061	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
4-Bromophenyl phenyl ether	<0.17		0.17	0.044	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Butyl benzyl phthalate	<0.17		0.17	0.063	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Carbazole	<0.17		0.17	0.083	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
4-Chloroaniline	<0.67		0.67	0.16	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
4-Chloro-3-methylphenol	<0.33		0.33	0.11	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2-Chloronaphthalene	<0.17		0.17	0.037	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2-Chlorophenol	<0.17		0.17	0.057	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
4-Chlorophenyl phenyl ether	<0.17		0.17	0.039	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Chrysene	<0.033		0.033	0.0091	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Dibenz(a,h)anthracene	<0.033		0.033	0.0064	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Dibenzofuran	<0.17		0.17	0.039	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
1,2-Dichlorobenzene	<0.17		0.17	0.040	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
1,3-Dichlorobenzene	<0.17		0.17	0.037	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
1,4-Dichlorobenzene	<0.17		0.17	0.043	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
3,3'-Dichlorobenzidine	<0.17		0.17	0.047	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,4-Dichlorophenol	<0.33		0.33	0.079	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Diethyl phthalate	<0.17		0.17	0.056	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,4-Dimethylphenol	<0.33		0.33	0.13	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Dimethyl phthalate	<0.17		0.17	0.043	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Di-n-butyl phthalate	<0.17		0.17	0.051	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
4,6-Dinitro-2-methylphenol	<0.67		0.67	0.27	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,4-Dinitrophenol	<0.67		0.67	0.59	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,4-Dinitrotoluene	<0.17		0.17	0.053	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,6-Dinitrotoluene	<0.17		0.17	0.065	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Di-n-octyl phthalate	<0.17		0.17	0.054	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Fluoranthene	<0.033		0.033	0.0062	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Fluorene	<0.033		0.033	0.0047	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Hexachlorobenzene	<0.067		0.067	0.0077	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Hexachlorobutadiene	<0.17		0.17	0.052	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Hexachlorocyclopentadiene	<0.67		0.67	0.19	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Hexachloroethane	<0.17		0.17	0.051	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Indeno[1,2,3-cd]pyrene	<0.033		0.033	0.0086	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Isophorone	<0.17		0.17	0.037	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2-Methylnaphthalene	<0.067		0.067	0.0061	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2-Methylphenol	<0.17		0.17	0.053	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
3 & 4 Methylphenol	<0.17		0.17	0.055	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Naphthalene	<0.033		0.033	0.0051	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2-Nitroaniline	<0.17		0.17	0.045	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
3-Nitroaniline	<0.33		0.33	0.10	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
4-Nitroaniline	<0.33		0.33	0.14	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Nitrobenzene	<0.033		0.033	0.0083	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2-Nitrophenol	<0.33		0.33	0.079	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
4-Nitrophenol	<0.67		0.67	0.32	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
N-Nitrosodi-n-propylamine	<0.067		0.067	0.041	mg/Kg		07/08/19 07:34	07/09/19 14:20	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-493683/1-A
Matrix: Solid
Analysis Batch: 493927

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	<0.17		0.17	0.039	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,2'-oxybis[1-chloropropane]	<0.17		0.17	0.039	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Pentachlorophenol	<0.67		0.67	0.53	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Phenanthrene	<0.033		0.033	0.0046	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Phenol	<0.17		0.17	0.074	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
Pyrene	<0.033		0.033	0.0066	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
1,2,4-Trichlorobenzene	<0.17		0.17	0.036	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,4,5-Trichlorophenol	<0.33		0.33	0.076	mg/Kg		07/08/19 07:34	07/09/19 14:20	1
2,4,6-Trichlorophenol	<0.33		0.33	0.11	mg/Kg		07/08/19 07:34	07/09/19 14:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*81*		*43 - 145*	*07/08/19 07:34*	*07/09/19 14:20*	*1*
2-Fluorophenol	*122*		*31 - 166*	*07/08/19 07:34*	*07/09/19 14:20*	*1*
Nitrobenzene-d5	*80*		*37 - 147*	*07/08/19 07:34*	*07/09/19 14:20*	*1*
Phenol-d5	*95*		*30 - 153*	*07/08/19 07:34*	*07/09/19 14:20*	*1*
Terphenyl-d14	*87*		*42 - 157*	*07/08/19 07:34*	*07/09/19 14:20*	*1*
2,4,6-Tribromophenol	*70*		*31 - 143*	*07/08/19 07:34*	*07/09/19 14:20*	*1*

Lab Sample ID: LCS 500-493683/2-A
Matrix: Solid
Analysis Batch: 493927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.33	1.15		mg/Kg		86	65 - 124
Acenaphthylene	1.33	1.17		mg/Kg		87	68 - 120
Anthracene	1.33	1.16		mg/Kg		87	70 - 114
Benzo[a]anthracene	1.33	1.16		mg/Kg		87	67 - 122
Benzo[a]pyrene	1.33	1.25		mg/Kg		94	65 - 133
Benzo[b]fluoranthene	1.33	1.15		mg/Kg		86	69 - 129
Benzo[g,h,i]perylene	1.33	1.23		mg/Kg		92	72 - 131
Benzo[k]fluoranthene	1.33	1.18		mg/Kg		88	68 - 127
Bis(2-chloroethoxy)methane	1.33	1.15		mg/Kg		87	60 - 112
Bis(2-chloroethyl)ether	1.33	1.05		mg/Kg		79	55 - 111
Bis(2-ethylhexyl) phthalate	1.33	1.31		mg/Kg		98	72 - 131
4-Bromophenyl phenyl ether	1.33	1.15		mg/Kg		86	68 - 118
Butyl benzyl phthalate	1.33	1.17		mg/Kg		88	71 - 129
Carbazole	1.33	1.47		mg/Kg		110	65 - 142
4-Chloroaniline	1.33	0.999		mg/Kg		75	30 - 150
4-Chloro-3-methylphenol	1.33	1.19		mg/Kg		90	65 - 122
2-Chloronaphthalene	1.33	1.14		mg/Kg		85	69 - 114
2-Chlorophenol	1.33	1.19		mg/Kg		90	64 - 110
4-Chlorophenyl phenyl ether	1.33	1.13		mg/Kg		85	62 - 119
Chrysene	1.33	1.10		mg/Kg		83	63 - 120
Dibenz(a,h)anthracene	1.33	1.24		mg/Kg		93	64 - 131
Dibenzofuran	1.33	1.12		mg/Kg		84	66 - 115
1,2-Dichlorobenzene	1.33	1.08		mg/Kg		81	62 - 110
1,3-Dichlorobenzene	1.33	1.10		mg/Kg		83	65 - 124
1,4-Dichlorobenzene	1.33	1.11		mg/Kg		83	61 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-493683/2-A
Matrix: Solid
Analysis Batch: 493927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
3,3'-Dichlorobenzidine	1.33	1.12		mg/Kg		84	35 - 128
2,4-Dichlorophenol	1.33	1.16		mg/Kg		87	58 - 120
Diethyl phthalate	1.33	1.19		mg/Kg		90	58 - 120
2,4-Dimethylphenol	1.33	1.11		mg/Kg		83	60 - 110
Dimethyl phthalate	1.33	1.15		mg/Kg		86	69 - 116
Di-n-butyl phthalate	1.33	1.24		mg/Kg		93	65 - 120
4,6-Dinitro-2-methylphenol	2.67	1.21		mg/Kg		45	10 - 110
2,4-Dinitrophenol	2.67	0.660	J	mg/Kg		25	10 - 100
2,4-Dinitrotoluene	1.33	1.28		mg/Kg		96	69 - 124
2,6-Dinitrotoluene	1.33	1.16		mg/Kg		87	70 - 123
Di-n-octyl phthalate	1.33	1.33		mg/Kg		100	68 - 134
Fluoranthene	1.33	1.16		mg/Kg		87	62 - 120
Fluorene	1.33	1.14		mg/Kg		85	62 - 120
Hexachlorobenzene	1.33	1.17		mg/Kg		88	63 - 124
Hexachlorobutadiene	1.33	1.17		mg/Kg		88	56 - 120
Hexachlorocyclopentadiene	1.33	0.490	J	mg/Kg		37	10 - 133
Hexachloroethane	1.33	1.13		mg/Kg		85	60 - 114
Indeno[1,2,3-cd]pyrene	1.33	1.26		mg/Kg		95	68 - 130
Isophorone	1.33	1.16		mg/Kg		87	55 - 110
2-Methylnaphthalene	1.33	1.07		mg/Kg		80	69 - 112
2-Methylphenol	1.33	1.13		mg/Kg		85	60 - 120
3 & 4 Methylphenol	1.33	1.18		mg/Kg		89	57 - 120
Naphthalene	1.33	1.10		mg/Kg		83	63 - 110
2-Nitroaniline	1.33	1.28		mg/Kg		96	57 - 124
3-Nitroaniline	1.33	1.05		mg/Kg		79	40 - 122
4-Nitroaniline	1.33	1.22		mg/Kg		92	60 - 160
Nitrobenzene	1.33	1.25		mg/Kg		94	60 - 116
2-Nitrophenol	1.33	1.18		mg/Kg		89	60 - 120
4-Nitrophenol	2.67	2.31		mg/Kg		87	30 - 122
N-Nitrosodi-n-propylamine	1.33	1.19		mg/Kg		89	56 - 118
N-Nitrosodiphenylamine	1.33	1.20		mg/Kg		90	65 - 112
2,2'-oxybis[1-chloropropane]	1.33	1.10		mg/Kg		82	40 - 124
Pentachlorophenol	2.67	1.74		mg/Kg		65	13 - 112
Phenanthrene	1.33	1.11		mg/Kg		83	62 - 120
Phenol	1.33	1.20		mg/Kg		90	56 - 122
Pyrene	1.33	1.14		mg/Kg		85	61 - 128
1,2,4-Trichlorobenzene	1.33	1.17		mg/Kg		88	66 - 117
2,4,5-Trichlorophenol	1.33	1.16		mg/Kg		87	50 - 120
2,4,6-Trichlorophenol	1.33	1.13		mg/Kg		85	57 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*43 - 145*
2-Fluorophenol	*120*		*31 - 166*
Nitrobenzene-d5	*85*		*37 - 147*
Phenol-d5	*98*		*30 - 153*
Terphenyl-d14	*85*		*42 - 157*
2,4,6-Tribromophenol	*80*		*31 - 143*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165829-1 MS
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-2-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	<0.041		1.68	1.34		mg/Kg	☼	80	65 - 124
Acenaphthylene	<0.041		1.68	1.40		mg/Kg	☼	83	68 - 120
Anthracene	<0.041		1.68	1.42		mg/Kg	☼	85	70 - 114
Benzo[a]anthracene	0.0073	J	1.68	1.42		mg/Kg	☼	84	67 - 122
Benzo[a]pyrene	0.012	J	1.68	1.53		mg/Kg	☼	90	65 - 133
Benzo[b]fluoranthene	0.015	J	1.68	1.42		mg/Kg	☼	84	69 - 129
Benzo[g,h,i]perylene	<0.041	F1	1.68	1.34		mg/Kg	☼	80	72 - 131
Benzo[k]fluoranthene	<0.041		1.68	1.50		mg/Kg	☼	90	68 - 127
Bis(2-chloroethoxy)methane	<0.21		1.68	1.35		mg/Kg	☼	81	60 - 112
Bis(2-chloroethyl)ether	<0.21	F1 F2	1.68	1.30		mg/Kg	☼	78	55 - 111
Bis(2-ethylhexyl) phthalate	<0.21		1.68	1.67		mg/Kg	☼	100	72 - 131
4-Bromophenyl phenyl ether	<0.21		1.68	1.41		mg/Kg	☼	84	68 - 118
Butyl benzyl phthalate	<0.21		1.68	1.47		mg/Kg	☼	88	71 - 129
Carbazole	<0.21		1.68	1.79		mg/Kg	☼	107	65 - 142
4-Chloroaniline	<0.84		1.68	1.02		mg/Kg	☼	61	30 - 150
4-Chloro-3-methylphenol	<0.41		1.68	1.43		mg/Kg	☼	85	65 - 122
2-Chloronaphthalene	<0.21		1.68	1.34		mg/Kg	☼	80	69 - 114
2-Chlorophenol	<0.21		1.68	1.41		mg/Kg	☼	84	64 - 110
4-Chlorophenyl phenyl ether	<0.21		1.68	1.42		mg/Kg	☼	85	62 - 119
Chrysene	<0.041		1.68	1.38		mg/Kg	☼	82	63 - 120
Dibenz(a,h)anthracene	<0.041		1.68	1.36		mg/Kg	☼	81	64 - 131
Dibenzofuran	<0.21		1.68	1.36		mg/Kg	☼	81	66 - 115
1,2-Dichlorobenzene	<0.21		1.68	1.27		mg/Kg	☼	76	62 - 110
1,3-Dichlorobenzene	<0.21		1.68	1.27		mg/Kg	☼	76	60 - 110
1,4-Dichlorobenzene	<0.21		1.68	1.27		mg/Kg	☼	76	61 - 110
3,3'-Dichlorobenzidine	<0.21		1.68	0.951		mg/Kg	☼	57	35 - 128
2,4-Dichlorophenol	<0.41		1.68	1.51		mg/Kg	☼	90	58 - 120
Diethyl phthalate	<0.21		1.68	1.42		mg/Kg	☼	85	58 - 120
2,4-Dimethylphenol	<0.41		1.68	1.34		mg/Kg	☼	80	60 - 110
Dimethyl phthalate	<0.21		1.68	1.39		mg/Kg	☼	83	69 - 116
Di-n-butyl phthalate	<0.21		1.68	1.52		mg/Kg	☼	91	65 - 120
4,6-Dinitro-2-methylphenol	<0.84	F2	3.35	1.04		mg/Kg	☼	31	10 - 110
2,4-Dinitrophenol	<0.84	F1	3.35	<0.84	F1	mg/Kg	☼	0	10 - 100
2,4-Dinitrotoluene	<0.21		1.68	1.56		mg/Kg	☼	93	69 - 124
2,6-Dinitrotoluene	<0.21		1.68	1.41		mg/Kg	☼	84	70 - 123
Di-n-octyl phthalate	<0.21		1.68	1.66		mg/Kg	☼	99	68 - 134
Fluoranthene	0.011	J	1.68	1.40		mg/Kg	☼	83	62 - 120
Fluorene	<0.041		1.68	1.34		mg/Kg	☼	80	62 - 120
Hexachlorobenzene	<0.084		1.68	1.43		mg/Kg	☼	85	63 - 124
Hexachlorobutadiene	<0.21		1.68	1.38		mg/Kg	☼	82	56 - 120
Hexachlorocyclopentadiene	<0.84	F1	1.68	<0.84	F1	mg/Kg	☼	0	10 - 133
Hexachloroethane	<0.21		1.68	1.26		mg/Kg	☼	75	60 - 114
Indeno[1,2,3-cd]pyrene	<0.041		1.68	1.38		mg/Kg	☼	82	68 - 130
Isophorone	<0.21		1.68	1.40		mg/Kg	☼	83	55 - 110
2-Methylnaphthalene	<0.084		1.68	1.25		mg/Kg	☼	74	69 - 112
2-Methylphenol	<0.21		1.68	1.35		mg/Kg	☼	80	60 - 120
3 & 4 Methylphenol	<0.21		1.68	1.41		mg/Kg	☼	84	57 - 120
Naphthalene	<0.041		1.68	1.29		mg/Kg	☼	77	63 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165829-1 MS
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-2-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Nitroaniline	<0.21		1.68	1.60		mg/Kg	☼	95	57 - 124
3-Nitroaniline	<0.41		1.68	1.31		mg/Kg	☼	78	40 - 122
4-Nitroaniline	<0.41		1.68	1.22		mg/Kg	☼	73	60 - 160
Nitrobenzene	<0.041		1.68	1.48		mg/Kg	☼	88	60 - 116
2-Nitrophenol	<0.41		1.68	1.40		mg/Kg	☼	84	60 - 120
4-Nitrophenol	<0.84		3.35	2.97		mg/Kg	☼	89	30 - 122
N-Nitrosodi-n-propylamine	<0.084		1.68	1.45		mg/Kg	☼	87	56 - 118
N-Nitrosodiphenylamine	<0.21		1.68	1.44		mg/Kg	☼	86	65 - 112
2,2'-oxybis[1-chloropropane]	<0.21		1.68	1.38		mg/Kg	☼	82	40 - 124
Pentachlorophenol	<0.84		3.35	2.41		mg/Kg	☼	72	13 - 112
Phenanthrene	<0.041		1.68	1.35		mg/Kg	☼	81	62 - 120
Phenol	<0.21		1.68	1.51		mg/Kg	☼	90	56 - 122
Pyrene	0.012	J	1.68	1.40		mg/Kg	☼	83	61 - 128
1,2,4-Trichlorobenzene	<0.21		1.68	1.39		mg/Kg	☼	83	66 - 117
2,4,5-Trichlorophenol	<0.41		1.68	1.49		mg/Kg	☼	89	50 - 120
2,4,6-Trichlorophenol	<0.41		1.68	1.46		mg/Kg	☼	87	57 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*78*		*43 - 145*
2-Fluorophenol	*119*		*31 - 166*
Nitrobenzene-d5	*77*		*37 - 147*
Phenol-d5	*93*		*30 - 153*
Terphenyl-d14	*83*		*42 - 157*
2,4,6-Tribromophenol	*90*		*31 - 143*

Lab Sample ID: 500-165829-1 MSD
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-2-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	<0.041		1.68	1.34		mg/Kg	☼	80	65 - 124	0	30
Acenaphthylene	<0.041		1.68	1.36		mg/Kg	☼	81	68 - 120	3	30
Anthracene	<0.041		1.68	1.41		mg/Kg	☼	84	70 - 114	1	30
Benzo[a]anthracene	0.0073	J	1.68	1.36		mg/Kg	☼	80	67 - 122	4	30
Benzo[a]pyrene	0.012	J	1.68	1.46		mg/Kg	☼	86	65 - 133	5	30
Benzo[b]fluoranthene	0.015	J	1.68	1.36		mg/Kg	☼	80	69 - 129	4	30
Benzo[g,h,i]perylene	<0.041	F1	1.68	1.15	F1	mg/Kg	☼	69	72 - 131	15	30
Benzo[k]fluoranthene	<0.041		1.68	1.44		mg/Kg	☼	86	68 - 127	5	30
Bis(2-chloroethoxy)methane	<0.21		1.68	1.34		mg/Kg	☼	80	60 - 112	1	30
Bis(2-chloroethyl)ether	<0.21	F1 F2	1.68	0.842	F1 F2	mg/Kg	☼	50	55 - 111	43	30
Bis(2-ethylhexyl) phthalate	<0.21		1.68	1.57		mg/Kg	☼	94	72 - 131	6	30
4-Bromophenyl phenyl ether	<0.21		1.68	1.37		mg/Kg	☼	82	68 - 118	3	30
Butyl benzyl phthalate	<0.21		1.68	1.40		mg/Kg	☼	83	71 - 129	5	30
Carbazole	<0.21		1.68	1.74		mg/Kg	☼	104	65 - 142	3	30
4-Chloroaniline	<0.84		1.68	0.924		mg/Kg	☼	55	30 - 150	10	30
4-Chloro-3-methylphenol	<0.41		1.68	1.39		mg/Kg	☼	83	65 - 122	3	30
2-Chloronaphthalene	<0.21		1.68	1.31		mg/Kg	☼	78	69 - 114	2	30
2-Chlorophenol	<0.21		1.68	1.39		mg/Kg	☼	83	64 - 110	2	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165829-1 MSD
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-2-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chlorophenyl phenyl ether	<0.21		1.68	1.37		mg/Kg	☼	82	62 - 119	3	30
Chrysene	<0.041		1.68	1.29		mg/Kg	☼	77	63 - 120	6	30
Dibenz(a,h)anthracene	<0.041		1.68	1.20		mg/Kg	☼	72	64 - 131	12	30
Dibenzofuran	<0.21		1.68	1.34		mg/Kg	☼	80	66 - 115	2	30
1,2-Dichlorobenzene	<0.21		1.68	1.19		mg/Kg	☼	71	62 - 110	6	30
1,3-Dichlorobenzene	<0.21		1.68	1.16		mg/Kg	☼	69	60 - 110	9	30
1,4-Dichlorobenzene	<0.21		1.68	1.16		mg/Kg	☼	69	61 - 110	9	30
3,3'-Dichlorobenzidine	<0.21		1.68	0.905		mg/Kg	☼	54	35 - 128	5	30
2,4-Dichlorophenol	<0.41		1.68	1.44		mg/Kg	☼	86	58 - 120	5	30
Diethyl phthalate	<0.21		1.68	1.38		mg/Kg	☼	82	58 - 120	3	30
2,4-Dimethylphenol	<0.41		1.68	1.31		mg/Kg	☼	78	60 - 110	2	30
Dimethyl phthalate	<0.21		1.68	1.34		mg/Kg	☼	80	69 - 116	4	30
Di-n-butyl phthalate	<0.21		1.68	1.46		mg/Kg	☼	87	65 - 120	4	30
4,6-Dinitro-2-methylphenol	<0.84	F2	3.35	0.628	J F2	mg/Kg	☼	19	10 - 110	49	30
2,4-Dinitrophenol	<0.84	F1	3.35	<0.84	F1	mg/Kg	☼	0	10 - 100	NC	30
2,4-Dinitrotoluene	<0.21		1.68	1.44		mg/Kg	☼	86	69 - 124	8	30
2,6-Dinitrotoluene	<0.21		1.68	1.32		mg/Kg	☼	79	70 - 123	7	30
Di-n-octyl phthalate	<0.21		1.68	1.64		mg/Kg	☼	98	68 - 134	1	30
Fluoranthene	0.011	J	1.68	1.36		mg/Kg	☼	80	62 - 120	3	30
Fluorene	<0.041		1.68	1.32		mg/Kg	☼	79	62 - 120	2	30
Hexachlorobenzene	<0.084		1.68	1.39		mg/Kg	☼	83	63 - 124	3	30
Hexachlorobutadiene	<0.21		1.68	1.33		mg/Kg	☼	79	56 - 120	4	30
Hexachlorocyclopentadiene	<0.84	F1	1.68	<0.84	F1	mg/Kg	☼	0	10 - 133	NC	30
Hexachloroethane	<0.21		1.68	1.14		mg/Kg	☼	68	60 - 114	10	30
Indeno[1,2,3-cd]pyrene	<0.041		1.68	1.23		mg/Kg	☼	74	68 - 130	11	30
Isophorone	<0.21		1.68	1.35		mg/Kg	☼	80	55 - 110	4	30
2-Methylnaphthalene	<0.084		1.68	1.19		mg/Kg	☼	71	69 - 112	4	30
2-Methylphenol	<0.21		1.68	1.31		mg/Kg	☼	78	60 - 120	3	30
3 & 4 Methylphenol	<0.21		1.68	1.35		mg/Kg	☼	80	57 - 120	5	30
Naphthalene	<0.041		1.68	1.26		mg/Kg	☼	75	63 - 110	3	30
2-Nitroaniline	<0.21		1.68	1.54		mg/Kg	☼	92	57 - 124	4	30
3-Nitroaniline	<0.41		1.68	1.26		mg/Kg	☼	75	40 - 122	4	30
4-Nitroaniline	<0.41		1.68	1.26		mg/Kg	☼	75	60 - 160	3	30
Nitrobenzene	<0.041		1.68	1.43		mg/Kg	☼	85	60 - 116	3	30
2-Nitrophenol	<0.41		1.68	1.29		mg/Kg	☼	77	60 - 120	8	30
4-Nitrophenol	<0.84		3.35	2.74		mg/Kg	☼	82	30 - 122	8	30
N-Nitrosodi-n-propylamine	<0.084		1.68	1.35		mg/Kg	☼	80	56 - 118	7	30
N-Nitrosodiphenylamine	<0.21		1.68	1.40		mg/Kg	☼	83	65 - 112	3	30
2,2'-oxybis[1-chloropropane]	<0.21		1.68	1.31		mg/Kg	☼	78	40 - 124	5	30
Pentachlorophenol	<0.84		3.35	2.45		mg/Kg	☼	73	13 - 112	2	30
Phenanthrene	<0.041		1.68	1.32		mg/Kg	☼	79	62 - 120	2	30
Phenol	<0.21		1.68	1.47		mg/Kg	☼	88	56 - 122	3	30
Pyrene	0.012	J	1.68	1.34		mg/Kg	☼	79	61 - 128	4	30
1,2,4-Trichlorobenzene	<0.21		1.68	1.34		mg/Kg	☼	80	66 - 117	4	30
2,4,5-Trichlorophenol	<0.41		1.68	1.42		mg/Kg	☼	85	50 - 120	5	30
2,4,6-Trichlorophenol	<0.41		1.68	1.43		mg/Kg	☼	85	57 - 120	2	30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-165829-1 MSD
Matrix: Solid
Analysis Batch: 494131

Client Sample ID: OPT-2-1 (0-1')
Prep Type: Total/NA
Prep Batch: 493683

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl	*74*		*43 - 145*
2-Fluorophenol	*109*		*31 - 166*
Nitrobenzene-d5	*74*		*37 - 147*
Phenol-d5	*87*		*30 - 153*
Terphenyl-d14	*76*		*42 - 157*
2,4,6-Tribromophenol	*82*		*31 - 143*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 500-492917/1-A
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<2.0		2.0	0.39	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Arsenic	<1.0		1.0	0.34	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Barium	<1.0		1.0	0.11	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Beryllium	<0.40		0.40	0.093	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Cadmium	0.174	J	0.20	0.036	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Chromium	<1.0		1.0	0.50	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Cobalt	<0.50		0.50	0.13	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Copper	0.475	J	1.0	0.28	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Iron	14.4	J	20	10	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Lead	<0.50		0.50	0.23	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Manganese	<1.0		1.0	0.15	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Nickel	<1.0		1.0	0.29	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Selenium	0.888	J	1.0	0.59	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Silver	<0.50		0.50	0.13	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Thallium	<1.0		1.0	0.50	mg/Kg		07/02/19 07:49	07/02/19 16:21	1
Vanadium	<0.50		0.50	0.12	mg/Kg		07/02/19 07:49	07/02/19 16:21	1

Lab Sample ID: MB 500-492917/1-A
Matrix: Solid
Analysis Batch: 493305

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	0.885	J	2.0	0.88	mg/Kg		07/02/19 07:49	07/03/19 11:35	1

Lab Sample ID: LCS 500-492917/2-A
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	45.1		mg/Kg		90	80 - 120
Arsenic	10.0	8.31		mg/Kg		83	80 - 120
Barium	200	194		mg/Kg		97	80 - 120
Beryllium	5.00	4.67		mg/Kg		93	80 - 120
Cadmium	5.00	4.79		mg/Kg		96	80 - 120
Chromium	20.0	19.7		mg/Kg		98	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-492917/2-A
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	50.0	49.6		mg/Kg		99	80 - 120
Copper	25.0	27.9		mg/Kg		111	80 - 120
Iron	100	100		mg/Kg		100	80 - 120
Lead	10.0	9.07		mg/Kg		91	80 - 120
Manganese	50.0	48.2		mg/Kg		96	80 - 120
Nickel	50.0	48.4		mg/Kg		97	80 - 120
Selenium	10.0	8.54		mg/Kg		85	80 - 120
Silver	5.00	4.41		mg/Kg		88	80 - 120
Thallium	10.0	8.33		mg/Kg		83	80 - 120
Vanadium	50.0	48.1		mg/Kg		96	80 - 120

Lab Sample ID: LCS 500-492917/2-A
Matrix: Solid
Analysis Batch: 493305

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	50.0	44.9		mg/Kg		90	80 - 120

Lab Sample ID: 500-165829-10 MS
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: OPT-2-5 (3-8')
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.37	J F1	26.7	3.75	F1	mg/Kg	☼	13	75 - 125
Arsenic	6.9	F1	5.35	8.59	F1	mg/Kg	☼	31	75 - 125
Barium	21		107	117		mg/Kg	☼	90	75 - 125
Beryllium	0.56		2.67	3.18		mg/Kg	☼	98	75 - 125
Cadmium	0.32	F1 B	2.67	2.31	F1	mg/Kg	☼	74	75 - 125
Chromium	14		10.7	23.8		mg/Kg	☼	92	75 - 125
Cobalt	13	F1	26.7	32.1	F1	mg/Kg	☼	72	75 - 125
Copper	22	B	13.4	33.3		mg/Kg	☼	81	75 - 125
Iron	20000	B	53.5	19900	4	mg/Kg	☼	4	75 - 125
Lead	14	F1	5.35	14.5	F1	mg/Kg	☼	0.3	75 - 125
Manganese	560		26.7	549	4	mg/Kg	☼	-47	75 - 125
Nickel	31	F1	26.7	44.0	F1	mg/Kg	☼	50	75 - 125
Selenium	0.68	F1 B	5.35	3.57	F1	mg/Kg	☼	54	75 - 125
Silver	2.5		2.67	5.38		mg/Kg	☼	107	75 - 125
Thallium	0.59	F1	5.35	3.81	F1	mg/Kg	☼	60	75 - 125
Vanadium	19		26.7	41.6		mg/Kg	☼	85	75 - 125

Lab Sample ID: 500-165829-10 MS
Matrix: Solid
Analysis Batch: 493440

Client Sample ID: OPT-2-5 (3-8')
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	50		26.7	77.1		mg/Kg	☼	101	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-165829-10 MSD
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: OPT-2-5 (3-8')
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.37	J F1	28.2	3.94	F1	mg/Kg	☼	13	75 - 125	5	20
Arsenic	6.9	F1	5.64	9.14	F1	mg/Kg	☼	39	75 - 125	6	20
Barium	21		113	123		mg/Kg	☼	90	75 - 125	5	20
Beryllium	0.56		2.82	3.19		mg/Kg	☼	93	75 - 125	0	20
Cadmium	0.32	F1 B	2.82	2.37	F1	mg/Kg	☼	73	75 - 125	2	20
Chromium	14		11.3	24.1		mg/Kg	☼	90	75 - 125	2	20
Cobalt	13	F1	28.2	33.3	F1	mg/Kg	☼	73	75 - 125	4	20
Copper	22	B	14.1	34.9		mg/Kg	☼	88	75 - 125	5	20
Iron	20000	B	56.4	20800	4	mg/Kg	☼	1658	75 - 125	5	20
Lead	14	F1	5.64	15.7	F1	mg/Kg	☼	21	75 - 125	8	20
Manganese	560		28.2	581	4	mg/Kg	☼	71	75 - 125	6	20
Nickel	31	F1	28.2	45.4	F1	mg/Kg	☼	53	75 - 125	3	20
Selenium	0.68	F1 B	5.64	3.52	F1	mg/Kg	☼	50	75 - 125	1	20
Silver	2.5		2.82	5.44		mg/Kg	☼	104	75 - 125	1	20
Thallium	0.59	F1	5.64	3.95	F1	mg/Kg	☼	60	75 - 125	4	20
Vanadium	19		28.2	42.8		mg/Kg	☼	85	75 - 125	3	20

Lab Sample ID: 500-165829-10 MSD
Matrix: Solid
Analysis Batch: 493440

Client Sample ID: OPT-2-5 (3-8')
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Zinc	50		28.2	78.7		mg/Kg	☼	101	75 - 125	2	20

Lab Sample ID: 500-165829-10 DU
Matrix: Solid
Analysis Batch: 493192

Client Sample ID: OPT-2-5 (3-8')
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	0.37	J F1	<1.1		mg/Kg	☼	NC	20
Arsenic	6.9	F1	6.21		mg/Kg	☼	11	20
Barium	21		52.6	F3	mg/Kg	☼	84	20
Beryllium	0.56		0.580		mg/Kg	☼	3	20
Cadmium	0.32	F1 B	0.334		mg/Kg	☼	4	20
Chromium	14		13.7		mg/Kg	☼	2	20
Cobalt	13	F1	11.1		mg/Kg	☼	14	20
Copper	22	B	21.7		mg/Kg	☼	3	20
Iron	20000	B	19900		mg/Kg	☼	0	20
Lead	14	F1	13.9		mg/Kg	☼	4	20
Manganese	560		541		mg/Kg	☼	4	20
Nickel	31	F1	28.1		mg/Kg	☼	9	20
Selenium	0.68	F1 B	0.737		mg/Kg	☼	8	20
Silver	2.5		2.54		mg/Kg	☼	1	20
Thallium	0.59	F1	0.381	J F5	mg/Kg	☼	43	20
Vanadium	19		17.9		mg/Kg	☼	5	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-165829-10 DU
Matrix: Solid
Analysis Batch: 493440

Client Sample ID: OPT-2-5 (3-8')
Prep Type: Total/NA
Prep Batch: 492917

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Zinc	50			49.6		mg/Kg	☼			1	20

Lab Sample ID: LCS 500-493557/2-A
Matrix: Solid
Analysis Batch: 493774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493557

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			0.100	0.0989		mg/L		99	80 - 120		
Barium			0.500	0.513		mg/L		103	80 - 120		
Beryllium			0.0500	0.0488		mg/L		98	80 - 120		
Cadmium			0.0500	0.0493		mg/L		99	80 - 120		
Cobalt			0.500	0.490		mg/L		98	80 - 120		
Copper			0.250	0.254		mg/L		102	80 - 120		
Iron			1.00	1.02		mg/L		102	80 - 120		
Lead			0.100	0.0982		mg/L		98	80 - 120		
Nickel			0.500	0.490		mg/L		98	80 - 120		
Selenium			0.100	0.0921		mg/L		92	80 - 120		
Silver			0.0500	0.0486		mg/L		97	80 - 120		
Vanadium			0.500	0.500		mg/L		100	80 - 120		
Zinc			0.500	0.480	J	mg/L		96	80 - 120		

Lab Sample ID: LCS 500-493557/2-A
Matrix: Solid
Analysis Batch: 493802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493557

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			0.200	0.198		mg/L		99	80 - 120		

Lab Sample ID: LB 500-493314/1-B
Matrix: Solid
Analysis Batch: 493774

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 493557

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050	0.010	mg/L		07/05/19 14:58	07/08/19 09:13	1
Barium	<0.50		0.50	0.050	mg/L		07/05/19 14:58	07/08/19 09:13	1
Beryllium	<0.0040		0.0040	0.0040	mg/L		07/05/19 14:58	07/08/19 09:13	1
Cadmium	<0.0050		0.0050	0.0020	mg/L		07/05/19 14:58	07/08/19 09:13	1
Cobalt	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:13	1
Copper	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:13	1
Iron	<0.40		0.40	0.20	mg/L		07/05/19 14:58	07/08/19 09:13	1
Lead	<0.0075		0.0075	0.0075	mg/L		07/05/19 14:58	07/08/19 09:13	1
Nickel	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:13	1
Selenium	<0.050		0.050	0.020	mg/L		07/05/19 14:58	07/08/19 09:13	1
Silver	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:13	1
Vanadium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 09:13	1
Zinc	<0.50		0.50	0.020	mg/L		07/05/19 14:58	07/08/19 09:13	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LB 500-493314/1-B
Matrix: Solid
Analysis Batch: 493802

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 493557

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	<0.025		0.025	0.010	mg/L		07/05/19 14:58	07/08/19 10:21	1

Lab Sample ID: 500-165829-15 MS
Matrix: Solid
Analysis Batch: 493774

Client Sample ID: OPT-2-8 (0-1')
Prep Type: TCLP
Prep Batch: 493557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.050		0.100	0.107		mg/L		107	75 - 125
Barium	0.59		0.500	1.10		mg/L		103	75 - 125
Beryllium	<0.0040		0.0500	0.0475		mg/L		95	75 - 125
Cadmium	<0.0050		0.0500	0.0552		mg/L		110	75 - 125
Cobalt	0.027		0.500	0.514		mg/L		97	75 - 125
Copper	<0.025		0.250	0.288		mg/L		115	75 - 125
Iron	1.4		1.00	2.32		mg/L		96	75 - 125
Lead	<0.0075		0.100	0.0974		mg/L		97	75 - 125
Nickel	<0.025		0.500	0.494		mg/L		99	75 - 125
Selenium	<0.050		0.100	0.118		mg/L		118	75 - 125
Silver	<0.025		0.0500	0.0582		mg/L		116	75 - 125
Vanadium	<0.025		0.500	0.473		mg/L		95	75 - 125
Zinc	0.039	J	0.500	0.526		mg/L		97	75 - 125

Lab Sample ID: 500-165829-15 MS
Matrix: Solid
Analysis Batch: 493802

Client Sample ID: OPT-2-8 (0-1')
Prep Type: TCLP
Prep Batch: 493557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	<0.025		0.200	0.188		mg/L		94	75 - 125

Lab Sample ID: 500-165829-15 DU
Matrix: Solid
Analysis Batch: 493774

Client Sample ID: OPT-2-8 (0-1')
Prep Type: TCLP
Prep Batch: 493557

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	<0.050		<0.050		mg/L		NC	20
Barium	0.59		0.593		mg/L		0.9	20
Beryllium	<0.0040		<0.0040		mg/L		NC	20
Cadmium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	0.027		0.0276		mg/L		1	20
Copper	<0.025		<0.025		mg/L		NC	20
Iron	1.4		1.38		mg/L		1	20
Lead	<0.0075		<0.0075		mg/L		NC	20
Nickel	<0.025		<0.025		mg/L		NC	20
Selenium	<0.050		<0.050		mg/L		NC	20
Silver	<0.025		<0.025		mg/L		NC	20
Vanadium	<0.025		<0.025		mg/L		NC	20
Zinc	0.039	J	0.0402	J	mg/L		2	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-165829-15 DU
Matrix: Solid
Analysis Batch: 493802

Client Sample ID: OPT-2-8 (0-1')
Prep Type: TCLP
Prep Batch: 493557

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chromium	<0.025		<0.025		mg/L		NC	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: LCS 500-493557/2-A
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493557

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.454		mg/L		91	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120

Lab Sample ID: MB 500-492495/1-A
Matrix: Water
Analysis Batch: 492835

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010	0.00023	mg/L		06/28/19 07:48	06/28/19 17:25	1
Barium	<0.0025		0.0025	0.00073	mg/L		06/28/19 07:48	06/28/19 17:25	1
Beryllium	<0.0010	^	0.0010	0.00053	mg/L		06/28/19 07:48	06/28/19 17:25	1
Cadmium	<0.00050		0.00050	0.00017	mg/L		06/28/19 07:48	06/28/19 17:25	1
Chromium	0.00547		0.0050	0.0011	mg/L		06/28/19 07:48	06/28/19 17:25	1
Cobalt	<0.0010		0.0010	0.00040	mg/L		06/28/19 07:48	06/28/19 17:25	1
Copper	0.00105	J	0.0020	0.00050	mg/L		06/28/19 07:48	06/28/19 17:25	1
Iron	<0.10		0.10	0.047	mg/L		06/28/19 07:48	06/28/19 17:25	1
Manganese	<0.0025		0.0025	0.00079	mg/L		06/28/19 07:48	06/28/19 17:25	1
Lead	<0.00050		0.00050	0.00019	mg/L		06/28/19 07:48	06/28/19 17:25	1
Nickel	<0.0020		0.0020	0.00063	mg/L		06/28/19 07:48	06/28/19 17:25	1
Antimony	<0.0030		0.0030	0.0013	mg/L		06/28/19 07:48	06/28/19 17:25	1
Selenium	<0.0025		0.0025	0.00098	mg/L		06/28/19 07:48	06/28/19 17:25	1
Silver	<0.00050		0.00050	0.00012	mg/L		06/28/19 07:48	06/28/19 17:25	1
Thallium	<0.0020		0.0020	0.00057	mg/L		06/28/19 07:48	06/28/19 17:25	1
Vanadium	<0.0050		0.0050	0.0022	mg/L		06/28/19 07:48	06/28/19 17:25	1
Zinc	0.00772	J	0.020	0.0069	mg/L		06/28/19 07:48	06/28/19 17:25	1

Lab Sample ID: LCS 500-492495/2-A
Matrix: Water
Analysis Batch: 492835

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.101		mg/L		101	80 - 120
Barium	2.00	2.10		mg/L		105	80 - 120
Beryllium	0.0500	0.0528	^	mg/L		106	80 - 120
Cadmium	0.0500	0.0513		mg/L		103	80 - 120
Chromium	0.200	0.205		mg/L		102	80 - 120
Cobalt	0.500	0.514		mg/L		103	80 - 120
Copper	0.250	0.258		mg/L		103	80 - 120
Iron	1.00	1.07		mg/L		107	80 - 120
Manganese	0.500	0.520		mg/L		104	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-492495/2-A
Matrix: Water
Analysis Batch: 492835

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 492495

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.109		mg/L		109	80 - 120
Nickel	0.500	0.518		mg/L		104	80 - 120
Antimony	0.500	0.534		mg/L		107	80 - 120
Selenium	0.100	0.101		mg/L		101	80 - 120
Silver	0.0500	0.0506		mg/L		101	80 - 120
Thallium	0.100	0.107		mg/L		107	80 - 120
Vanadium	0.500	0.505		mg/L		101	80 - 120
Zinc	0.500	0.520		mg/L		104	80 - 120

Lab Sample ID: LB 500-493314/1-B
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 493557

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0060		0.0060	0.0060	mg/L		07/05/19 14:58	07/08/19 11:31	1
Thallium	<0.0020		0.0020	0.0020	mg/L		07/05/19 14:58	07/08/19 11:31	1

Lab Sample ID: 500-165829-15 MS
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: OPT-2-8 (0-1')
Prep Type: TCLP
Prep Batch: 493557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0060		0.500	0.463		mg/L		93	75 - 125
Thallium	<0.0020		0.100	0.102		mg/L		102	75 - 125

Lab Sample ID: 500-165829-15 DU
Matrix: Solid
Analysis Batch: 493828

Client Sample ID: OPT-2-8 (0-1')
Prep Type: TCLP
Prep Batch: 493557

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0060		<0.0060		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20

Method: 7470A - TCLP Mercury

Lab Sample ID: MB 500-493561/12-A
Matrix: Solid
Analysis Batch: 493763

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493561

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 09:19	1

Lab Sample ID: LCS 500-493561/13-A
Matrix: Solid
Analysis Batch: 493763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493561

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00201		mg/L		100	80 - 120

Method: 7470A - TCLP Mercury (Continued)

Lab Sample ID: LB 500-493314/1-C
Matrix: Solid
Analysis Batch: 493763

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 493561

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.00020	mg/L		07/05/19 15:20	07/08/19 09:22	1

Lab Sample ID: 500-165829-9 MS
Matrix: Solid
Analysis Batch: 493763

Client Sample ID: OPT-2-5 (0-3')
Prep Type: TCLP
Prep Batch: 493561

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00111		mg/L		111	75 - 125

Lab Sample ID: 500-165829-9 DU
Matrix: Solid
Analysis Batch: 493763

Client Sample ID: OPT-2-5 (0-3')
Prep Type: TCLP
Prep Batch: 493561

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-492871/12-A
Matrix: Water
Analysis Batch: 493045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492871

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020	0.000098	mg/L		07/01/19 10:40	07/02/19 08:37	1

Lab Sample ID: LCS 500-492871/13-A
Matrix: Water
Analysis Batch: 493045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492871

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00218		mg/L		109	80 - 120

Lab Sample ID: 500-165829-17 MS
Matrix: Water
Analysis Batch: 493045

Client Sample ID: OPT-2-1 GW
Prep Type: Total/NA
Prep Batch: 492871

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00033	F1	0.00167	0.00202		mg/L		121	75 - 125

Lab Sample ID: 500-165829-17 MSD
Matrix: Water
Analysis Batch: 493045

Client Sample ID: OPT-2-1 GW
Prep Type: Total/NA
Prep Batch: 492871

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00033	F1	0.00167	0.00220	F1	mg/L		132	75 - 125	9	20

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 500-165829-17 DU
Matrix: Water
Analysis Batch: 493045

Client Sample ID: OPT-2-1 GW
Prep Type: Total/NA
Prep Batch: 492871

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00033	F1	<0.00033		mg/L		NC	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-493270/12-A
Matrix: Solid
Analysis Batch: 493516

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493270

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.017		0.017	0.0056	mg/Kg		07/03/19 15:00	07/05/19 08:16	1

Lab Sample ID: LCS 500-493270/13-A
Matrix: Solid
Analysis Batch: 493516

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493270

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.159		mg/Kg		96	80 - 120

Lab Sample ID: 500-165829-9 MS
Matrix: Solid
Analysis Batch: 493516

Client Sample ID: OPT-2-5 (0-3')
Prep Type: Total/NA
Prep Batch: 493270

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.025		0.106	0.125		mg/Kg	☼	94	75 - 125

Lab Sample ID: 500-165829-9 MSD
Matrix: Solid
Analysis Batch: 493516

Client Sample ID: OPT-2-5 (0-3')
Prep Type: Total/NA
Prep Batch: 493270

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.025		0.107	0.126		mg/Kg	☼	95	75 - 125	1	20

Lab Sample ID: 500-165829-9 DU
Matrix: Solid
Analysis Batch: 493516

Client Sample ID: OPT-2-5 (0-3')
Prep Type: Total/NA
Prep Batch: 493270

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.025		0.0243		mg/Kg	☼	4	20

Method: 9014 - Cyanide

Lab Sample ID: MB 500-494196/1-A
Matrix: Water
Analysis Batch: 494275

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494196

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010	0.0035	mg/L		07/10/19 12:55	07/10/19 16:16	1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LCS 500-494196/2-A
Matrix: Water
Analysis Batch: 494275

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494196

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.100	0.0882		mg/L		88	85 - 115		

Lab Sample ID: MB 500-494411/1-A
Matrix: Solid
Analysis Batch: 494571

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494411

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.50		0.50	0.17	mg/Kg		07/11/19 13:55	07/11/19 16:50	1

Lab Sample ID: LCS 500-494411/2-A
Matrix: Solid
Analysis Batch: 494571

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494411

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			5.00	4.74		mg/Kg		95	85 - 115		

Lab Sample ID: 500-165829-1 MS
Matrix: Solid
Analysis Batch: 494571

Client Sample ID: OPT-2-1 (0-1')
Prep Type: Total/NA
Prep Batch: 494411

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total	0.57	J H	2.28	2.92		mg/Kg	☼	103	75 - 125		

Lab Sample ID: 500-165829-1 MSD
Matrix: Solid
Analysis Batch: 494571

Client Sample ID: OPT-2-1 (0-1')
Prep Type: Total/NA
Prep Batch: 494411

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.57	J H	2.27	2.69		mg/Kg	☼	93	75 - 125	8	20

Method: 9045D - pH

Lab Sample ID: 500-165829-16 DU
Matrix: Solid
Analysis Batch: 493099

Client Sample ID: OPT-2-8 (1-6')
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.1		8.1		SU		0.2	

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 500-492954/1-A
Matrix: Solid
Analysis Batch: 493162

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 492954

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0	1.7	mg/Kg		07/01/19 13:45	07/02/19 18:54	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 500-492954/2-A
Matrix: Solid
Analysis Batch: 493162

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 492954

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			30.0	31.1		mg/Kg		104	80 - 120		

Lab Sample ID: MB 500-493851/1-A
Matrix: Solid
Analysis Batch: 494053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493851

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0	1.7	mg/Kg		07/08/19 19:30	07/09/19 21:05	1

Lab Sample ID: LCS 500-493851/2-A
Matrix: Solid
Analysis Batch: 494053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493851

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			30.0	29.7		mg/Kg		99	80 - 120		

Lab Sample ID: MB 500-494058/9
Matrix: Water
Analysis Batch: 494058

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.20		0.20	0.17	mg/L			07/10/19 12:16	1

Lab Sample ID: LCS 500-494058/10
Matrix: Water
Analysis Batch: 494058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			3.00	2.95		mg/L		98	80 - 120		

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-1 (0-1')

Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 10:29	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:21	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 11:40	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 09:24	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:38		
					(End)	07/02/19 14:41		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-1 (0-1')

Date Collected: 06/26/19 10:35
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-1

Matrix: Solid
Percent Solids: 79.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493667	07/08/19 02:46	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	494131	07/10/19 13:43	STW	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:29	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493305	07/03/19 11:43	JEF	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:20	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:51		
					(End)	07/11/19 16:51		
Total/NA	Prep	300_Prep			492954	07/01/19 13:45	EAT	TAL CHI
Total/NA	Analysis	9056A		200	493162	07/02/19 19:19	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-1 (1-6')

Lab Sample ID: 500-165829-2

Date Collected: 06/26/19 10:35
Matrix: Solid
Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 10:33	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:25	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 11:44	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 09:26	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:41		
					(End)	07/02/19 14:43		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-1 (1-6')

Lab Sample ID: 500-165829-2

Date Collected: 06/26/19 10:35
Matrix: Solid
Date Received: 06/27/19 11:35
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493667	07/08/19 03:11	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 19:32	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:33	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493305	07/03/19 11:47	JEF	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:23	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:52		
					(End)	07/11/19 16:52		
Total/NA	Prep	300_Prep			492954	07/01/19 13:45	EAT	TAL CHI
Total/NA	Analysis	9056A		50	493162	07/02/19 19:31	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-2 (0-1')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 10:37	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:29	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 11:48	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 09:28	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:43		
					(End)	07/02/19 14:45		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-2 (0-1')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-3

Matrix: Solid
Percent Solids: 80.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493667	07/08/19 03:37	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 14:34	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:37	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493305	07/03/19 11:51	JEF	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:25	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:52		
					(End)	07/11/19 16:52		
Total/NA	Prep	300_Prep			492954	07/01/19 13:45	EAT	TAL CHI
Total/NA	Analysis	9056A		20	493162	07/02/19 19:44	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-2 (1-6')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 10:41	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:33	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 11:52	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 09:29	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:45		
					(End)	07/02/19 14:48		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-2 (1-6')

Date Collected: 06/26/19 11:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-4

Matrix: Solid
Percent Solids: 74.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493667	07/08/19 04:02	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	494131	07/10/19 12:45	STW	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:41	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493305	07/03/19 11:55	JEF	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:27	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:52		
					(End)	07/11/19 16:53		
Total/NA	Prep	300_Prep			492954	07/01/19 13:45	EAT	TAL CHI
Total/NA	Analysis	9056A		100	493162	07/02/19 19:56	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (0-1')

Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 10:45	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:37	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 11:56	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:03	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:48		
					(End)	07/02/19 14:50		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-3 (0-1')

Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-5

Matrix: Solid
Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493667	07/08/19 04:27	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 15:33	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:45	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493305	07/03/19 11:59	JEF	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:29	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:53		
					(End)	07/11/19 16:53		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		10	494053	07/09/19 21:30	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-3 (1-6')

Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 10:58	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:42	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:01	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:04	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:53		
					(End)	07/02/19 14:55		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-3 (1-6')

Date Collected: 06/26/19 11:25
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-6

Matrix: Solid
Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493667	07/08/19 04:52	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 16:03	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 16:57	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493305	07/03/19 12:03	JEF	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:31	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:53		
					(End)	07/11/19 16:53		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		10	494053	07/09/19 21:43	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-4 (0-3')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:02	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:46	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:05	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:06	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:55		
					(End)	07/02/19 14:57		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-4 (0-3')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-7

Matrix: Solid
Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 14:12	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 16:33	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:01	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493305	07/03/19 12:07	JEF	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:33	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:54		
					(End)	07/11/19 16:54		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		100	494053	07/09/19 21:56	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-4 (3-8')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:06	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 09:50	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:09	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:08	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 14:57		
					(End)	07/02/19 15:00		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-4 (3-8')

Date Collected: 06/26/19 12:55
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-8

Matrix: Solid
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 14:38	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 17:03	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:05	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:12	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:40	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:54		
					(End)	07/11/19 16:55		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		10	494053	07/09/19 22:08	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-5 (0-3')

Lab Sample ID: 500-165829-9

Date Collected: 06/26/19 12:20

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:10	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:02	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:22	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:09	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:00		
					(End)	07/02/19 15:02		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-5 (0-3')

Lab Sample ID: 500-165829-9

Date Collected: 06/26/19 12:20

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 73.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 15:04	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 17:32	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:09	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:16	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:42	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:55		
					(End)	07/11/19 16:55		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		200	494053	07/09/19 22:21	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-5 (3-8')

Lab Sample ID: 500-165829-10

Date Collected: 06/26/19 12:20

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:14	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:06	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:26	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:14	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:02		
					(End)	07/02/19 15:05		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-5 (3-8')

Lab Sample ID: 500-165829-10

Date Collected: 06/26/19 12:20

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 88.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 17:11	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 18:02	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:13	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:21	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:50	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:55		
					(End)	07/11/19 16:55		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		200	494053	07/09/19 22:33	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-6 (0-1')

Lab Sample ID: 500-165829-11

Date Collected: 06/26/19 11:50

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:18	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:11	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:30	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:16	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:05		
					(End)	07/02/19 15:07		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-6 (0-1')

Lab Sample ID: 500-165829-11

Date Collected: 06/26/19 11:50

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 77.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 17:37	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 18:32	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:34	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:49	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:52	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:55		
					(End)	07/11/19 16:55		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		500	494053	07/09/19 22:46	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-6 (1-6')

Lab Sample ID: 500-165829-12

Date Collected: 06/26/19 11:50

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:22	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:15	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:34	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:18	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:07		
					(End)	07/02/19 15:09		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-6 (1-6')

Lab Sample ID: 500-165829-12

Date Collected: 06/26/19 11:50

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 86.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 18:03	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	494131	07/10/19 13:14	STW	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:46	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:53	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:54	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:55		
					(End)	07/11/19 16:56		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		200	494053	07/09/19 22:58	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-7 (0-1')

Lab Sample ID: 500-165829-13

Date Collected: 06/26/19 09:30

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:26	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:19	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:38	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:53	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:09		
					(End)	07/02/19 15:12		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-7 (0-1')

Lab Sample ID: 500-165829-13

Date Collected: 06/26/19 09:30

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 82.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			492783	06/26/19 09:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493870	07/09/19 14:46	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 20:01	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:50	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 18:58	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:56	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:56		
					(End)	07/11/19 16:56		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		250	494053	07/09/19 23:36	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-7 (1-6')

Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:30	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:23	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:43	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:54	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:12		
					(End)	07/02/19 15:14		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-7 (1-6')

Date Collected: 06/26/19 09:30
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-14

Matrix: Solid
Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			492783	06/26/19 09:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493870	07/09/19 15:13	PMF	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 20:31	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:54	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 19:02	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 08:59	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:56		
					(End)	07/11/19 16:56		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		200	494053	07/09/19 23:49	EAT	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-8 (0-1')

Lab Sample ID: 500-165829-15

Date Collected: 06/26/19 10:10

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:34	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:31	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 12:47	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:56	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:14		
					(End)	07/02/19 15:17		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-8 (0-1')

Lab Sample ID: 500-165829-15

Date Collected: 06/26/19 10:10

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 84.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 18:28	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 21:01	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 17:58	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 19:06	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 09:05	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:56		
					(End)	07/11/19 16:57		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		250	494053	07/10/19 00:01	EAT	TAL CHI

Client Sample ID: OPT-2-8 (1-6')

Lab Sample ID: 500-165829-16

Date Collected: 06/26/19 10:10

Matrix: Solid

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493802	07/08/19 11:59	JEF	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6010B		1	493774	07/08/19 10:27	EEN	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	3010A			493557	07/05/19 14:58	BDE	TAL CHI
TCLP	Analysis	6020A		1	493828	07/08/19 13:16	FXG	TAL CHI
TCLP	Leach	1311			493314	07/03/19 12:00	GCA	TAL CHI
TCLP	Prep	7470A			493561	07/05/19 15:20	MJG	TAL CHI
TCLP	Analysis	7470A		1	493763	07/08/19 10:58	MJG	TAL CHI
Total/NA	Analysis	9045D		1	493099		SMO	TAL CHI
					(Start)	07/02/19 15:19		
					(End)	07/02/19 15:21		
Total/NA	Analysis	Moisture		1	493033	07/02/19 09:05	LWN	TAL CHI

Client Sample ID: OPT-2-8 (1-6')

Lab Sample ID: 500-165829-16

Date Collected: 06/26/19 10:10

Matrix: Solid

Date Received: 06/27/19 11:35

Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493126	06/27/19 17:21	WRE	TAL CHI
Total/NA	Analysis	8260B		1	493869	07/09/19 18:54	EMA	TAL CHI
Total/NA	Prep	3541			493683	07/08/19 07:34	JVD	TAL CHI
Total/NA	Analysis	8270D		1	493974	07/09/19 14:04	AJD	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493192	07/02/19 18:02	JEF	TAL CHI
Total/NA	Prep	3050B			492917	07/02/19 07:49	SAH	TAL CHI
Total/NA	Analysis	6010B		1	493440	07/03/19 19:10	EEN	TAL CHI
Total/NA	Prep	7471B			493270	07/03/19 15:00	MJG	TAL CHI
Total/NA	Analysis	7471B		1	493516	07/05/19 09:07	MJG	TAL CHI
Total/NA	Prep	9010B			494411	07/11/19 13:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494571		MS	TAL CHI
					(Start)	07/11/19 16:57		
					(End)	07/11/19 16:57		
Total/NA	Prep	300_Prep			493851	07/08/19 19:30	EAT	TAL CHI
Total/NA	Analysis	9056A		200	494053	07/10/19 00:14	EAT	TAL CHI

Client Sample ID: OPT-2-1 GW

Lab Sample ID: 500-165829-17

Date Collected: 06/26/19 13:00

Matrix: Water

Date Received: 06/27/19 11:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	493871	07/09/19 14:19	PMF	TAL CHI

Lab Chronicle

Client: Wood E&I Solutions Inc
Project/Site: IDOT - Grayslake - WO 049

Job ID: 500-165829-1

Client Sample ID: OPT-2-1 GW

Date Collected: 06/26/19 13:00
Date Received: 06/27/19 11:35

Lab Sample ID: 500-165829-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			492489	06/28/19 07:39	JVD	TAL CHI
Total/NA	Analysis	8270D		1	492819	07/01/19 19:07	AJD	TAL CHI
Dissolved	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Dissolved	Analysis	6020A		1	492835	06/28/19 18:10	FXG	TAL CHI
Total Recoverable	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Total Recoverable	Analysis	6020A		1	492835	06/28/19 18:06	FXG	TAL CHI
Total Recoverable	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	493262	07/02/19 23:36	FXG	TAL CHI
Total Recoverable	Prep	3005A			492495	06/28/19 07:48	SAH	TAL CHI
Total Recoverable	Analysis	6020A		5	493500	07/03/19 16:49	FXG	TAL CHI
Dissolved	Prep	7470A			492871	07/01/19 10:40	MJG	TAL CHI
Dissolved	Analysis	7470A		1	493045	07/02/19 09:00	MJG	TAL CHI
Total/NA	Prep	7470A			492871	07/01/19 10:40	MJG	TAL CHI
Total/NA	Analysis	7470A		1	493045	07/02/19 08:50	MJG	TAL CHI
Total/NA	Prep	9010B			494196	07/10/19 12:55	MS	TAL CHI
Total/NA	Analysis	9014		1	494275		MS	TAL CHI
					(Start)	07/10/19 16:23		
					(End)	07/10/19 16:23		
Total/NA	Analysis	9056A		2000	494058	07/10/19 14:07	EAT	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Wood E&I Solutions Inc
Job ID: 500-165829-1
Project/Site: IDOT - Grayslake - WO 049

Laboratory: Eurofins TestAmerica, Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Illinois	NELAP	5	100201	04-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
6020A	3010A	Solid	Antimony
6020A	3010A	Solid	Thallium
7470A	7470A	Solid	Mercury
8260B		Water	1,3-Dichloropropene, Total
8260B	5035	Solid	1,3-Dichloropropene, Total
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

TestAmerica

THE LEADER IN ENVIRONMENTA'

2417 Bond Street, University Park, IL 6
Phone: 708.534.5200 Fax: 708.53

500-165829 COC

Chain of Custody Record

Lab Job #: 500-165829

Chain of Custody Number:

Page 1 of 2

Temperature °C of Cooler: 3.8→2.8, 2.5→1.5, 3.1→2.1, 3.2→2.7, 4.1→3.1

Report To (optional)	Bill To (optional)
Contact: Terence Dixon	Contact:
Company: Wood E+IS	Company:
Address:	Address:
Address:	Address:
Phone: 309-693-5697	Phone:
Fax:	Fax:
E-Mail: Terence.Dixon@woodplc.com	PO#/Reference#

Client: Wood E+IS	Client Project #: 3160150049	Preservative	9 / 8 / 8
Project Name: IDOT-Grayslake-W.O.49		Parameter	VOC; SVOC, Metals, TCLP, pH, solids + more; Cyanide, total and Chloride
Project Location/State: Grayslake, IL	Lab Project #: 500162416		
Sampler: Jacob Strichlin	Lab PM: Richard Wright		

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOC	SVOC, Metals, TCLP, pH, solids + more	Cyanide, total and Chloride	Comments
1		OPT-2-1 (0-1')	6/26/19	10:35	6	S	X	X	X	
2		OPT-2-1 (1-6')	6/26/19	10:35	6	S	X	X	X	
3		OPT-2-2 (0-1')	6/26/19	11:00	6	S	X	X	X	
4		OPT-2-2 (1-6')	6/26/19	11:00	6	S	X	X	X	
5		OPT-2-3 (0-1')	6/26/19	11:25	6	S	X	X	X	
6		OPT-2-3 (1-6')	6/26/19	11:25	6	S	X	X	X	
7		OPT-2-4 (0-3')	6/26/19	12:55	6	S	X	X	X	
8		OPT-2-4 (3-8')	6/26/19	12:55	6	S	X	X	X	
9		OPT-2-5 (0-3')	6/26/19	12:20	6	S	X	X	X	
10		OPT-2-5 (3-8')	6/26/19	12:20	6	S	X	X	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days X 15 Days ___ Other
Requested Due Date: _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1	C Fortney/Clothing	Wood E+IS	6/27/19	10:35		TA	6/27/19	1035
2	P. Neal	TA	6/27/19	1135		TA-CHI	6/27/19	1135
3								

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments:

Lab Comments:

TAL-4124-500 (1209)

7/16/2019

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)

Report To
Contact: Terence Dixon
Company: Wood E+IS
Address:
Address:
Phone: 309-693-5697
Fax:
E-Mail: Terence.Dixon@woodplc.com

(optional)

Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-165829
Chain of Custody Number:
Page 2 of 2
Temperature °C of Cooler:

Client: Wood E+IS
Client Project #:
Project Name: IDOT-Grayslake-W.O.49
Project Location/State: Grayslake, IL
Lab Project #: 500162246
Sampler: Jacob Strickler
Lab PM: Richard Wright

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	9	8	8	3	3	4	8	1	8	Comments
							Parameter	VOC	SVOC, Metals, TCLP, pH, solids +more	SVOC	Total Metals	Dissolved Metals	Cyanide	Chloride	VOC	Cyanide, total and Chloride	
11		OPT-2-6 (0-1')	6/26/19	11:50	6	S		X	X							X	
12		OPT-2-6 (1-6')	6/26/19	11:50	6	S		X	X							X	
13		OPT-2-7 (0-1')	6/26/19	~~11:50~~ 9:30 CP	6	S		X	X							X	
14		OPT-2-7 (1-6')	6/26/19	9:30	6	S		X	X							X	
15		OPT-2-8 (0-1')	6/26/19	10:10	6	S		X	X							X	
16		OPT-2-8 (1-6')	6/26/19	10:10	6	S		X	X							X	
17		OPT-2-1 GW	6/26/19	13:00	9	W				X	X	X	X	X	X		

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days X 15 Days ___ Other
Requested Due Date

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
C Farmer (Courier)	Wood E+IS	6/27/19	10:35	P. Neal	TA	6/27/19	1035
P. Neal	TA	6/27/19	1135	[illegible]	TA-CHI	6/27/19	1135

Lab Courier: TA
Shipped:
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1206)

7/16/2019

Login Sample Receipt Checklist

Client: Wood E&I Solutions Inc

Job Number: 500-165829-1

Login Number: 165829
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.8,1.5,2.1,2.7,3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix D

CCDD 663 Certifications

Illinois Environmental Protection Agency

Bureau of Land • 1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276

Uncontaminated Soil Certification by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil as Fill in a CCDD or Uncontaminated Soil Fill Operation LPC-663

Revised in accordance with 35 Ill. Adm. Code 1100, as amended by PCB R2012-009 (eff. Aug. 27, 2012)

This certification form is to be used by professional engineers and professional geologists to certify, pursuant to 35 Ill. Adm. Code 1100.205(a)(1)(B), that soil (i)

This form may be completed online, saved locally, printed and signed, and submitted to prospective clean construction or demolition debris (CCDD) fill operations or uncontaminated soil fill operations.

I. Source Location Information

(Describe the location of the source of the uncontaminated soil)

Project Name: 2562V-312 Office Phone Number, if available:

Physical Site Location (address, incldluding number and street):
Grayslake Yard (115) Team Section Headquarters

City: Grayslake State: IL Zip Code: 60030

County: Lake Township: Avon

Lat/Long of approximate center of site in decimal degrees (DD.ddddd) to five decimal places (e.g., 40.67890, -90.12345):

Latitude: 42.346333° Longitude: -88.031780°
(Decimal Degrees) (-Decimal Degrees)

Identify how the lat/long data were determined:

☐ GPS ☒ Map Interpolation ☐ Photo Interpolation ☐ Survey ☐ Other

IEPA Site Number(s), if assigned: BOL: BOW: BOA:

II. Owner/Operator Information for Source Site

Site Owner		Site Operator	
Name:	Illinois Department of Transportation	Name:	Illinois Department of Transportation
Street Address:	201 West Center Court	Street Address:	201 West Center Court
PO Box:		PO Box:	
City:	Schaumburg State: IL	City:	Schaumburg State: IL
Zip Code:	60196 Phone: (847)705-4000	Zip Code:	60196 Phone: (847)705-4000
Contact:	Sam Mead	Contact:	Sam Mead
Email, if available:	sam.mead@illinois.gov	Email, if available:	sam.mead@illinois.govreg.larson@illinoi

This Agency is authorized to require this information under Section 4 and Title X of the Environmental Protection Act (415 ILCS 5/4, 5/39). Failure to disclose this information may result in: a civil penalty of not to exceed $50,000 for the violation and an additional civil penalty of not to exceed $10,000 for each day during which the violation continues (415 ILCS 5/42). This form has been approved by the Forms Management Center.

Project Name: 2562V-312

Latitude: 42.346333° Longitude: -88.031780°

Uncontaminated Site Certification

III.

For each item listed below, reference the attachments to this form that provide the required information.

a. A Description of the soil sample points and how they were determined to be sufficient in number and appropriately located 35 Ill. Adm. Code 1100.610(a)]:

Locations OPT-1-2 (0-1'), OPT-1-2 (1-6'), OPT-1-4 (1-6'), OPT-1 (1-6'), OPT-1-7 (0-1'), OPT-1-8 (3-8'), and OPT-2-3 (0-1'), were sampled on the ISGS PESA 2562V-312 site. See Figure 2 and Table 4-2 of the Final Preliminary Site Investigation report for sampling details.

b. Analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to 35 Ill. Adm. Code Part 1100, Subpart F and that the soil pH is within the range of 6.25 to 9.0,including the documentation of chain of custody control, a copy of the lab analysis; the accreditation status of the laboratory performing the analysis; and certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental and the scope of the accreditation [35 Ill. Adm. Code 1100.201(g), 1100.205(a), 1100.610]:

TestAmerica Analytical Report - Job No. 500-165828-1 and 500-165829-1.
Also, refer to Figure 2 of the Final Preliminary Site Investigation report.

IV. Certification Statement, Signature and Seal of Licensed Professional Engineer or Licensed Professional Geologist

I, _____(name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to, all attachments and other information, is to the best of my knowledge and belief, true, accurate and complete.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony.

Company Name: _____

Street Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____

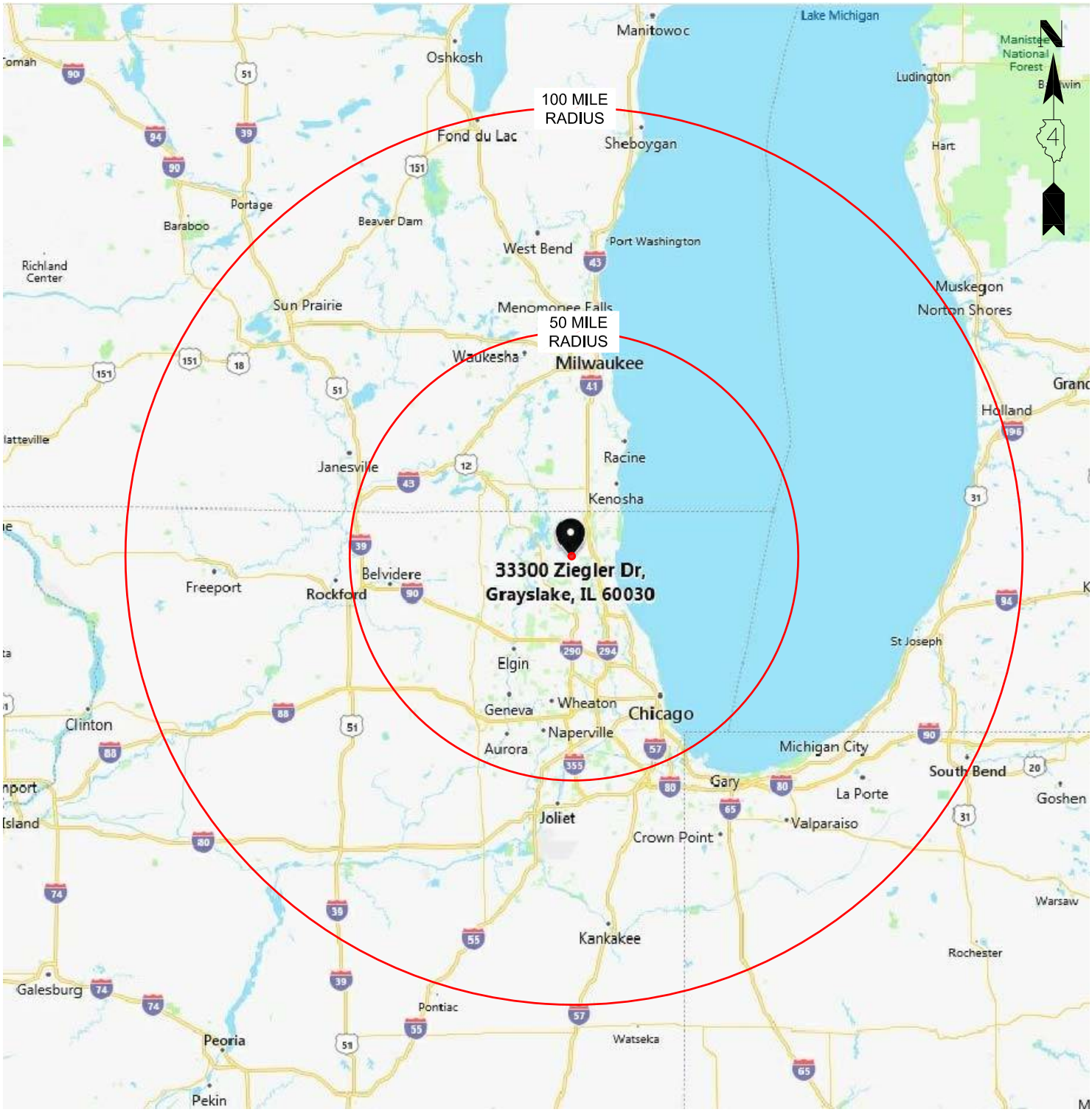
_____
Printed Name:

_____ _____
Licensed Professional Engineer or Licensed Professional Geologist Signature: Date:

P.E. or L.P.G. Seal:

Appendix E

CCDD/USFO Location Map



0 30MILE 60MILE

APPROXIMATE SCALE

DATE:6/12/2019
DRAWING--LOCATION:P:\Env\3160150049\CADD\task 49\wo 49 investigation data summary.dwg

WORK ORDER 49
CCDD LOCATIONS

DESIGNED XXX DRAWN GAP CHECKED XXX DATE 7/19/2019	wood.	4232 N. BRANDYWINE DR. SUITE A PEORIA, ILLINOIS 61614 PH (309) 692-4422 FX (309) 692-9364	**WORK ORDER 49**	CDB JOB #: 630-012-004 DISTRICT 1 33300 N. ZEIGLER DRIVE GRAYSKLAKE, IL