WENCK File #3035-0005
June 27, 2016

Environmental Site Assessment – Supplemental Soil Investigation

Shady Oak Property
4312 Shady Oak Road and
4292 Oak Drive Lane
Minnetonka, MN 55343

Prepared for:

City of Minnetonka and Hennepin County

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14600 Minnetonka Blvd.
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WENCK ASSOCIATES
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1.0 Purpose and Scope

Wenck Associates, Inc. (Wenck) was authorized by Hennepin County Contaminated Lands Unit and The City of Minnetonka to conduct this Supplemental Soil Investigation Environmental Site Assessment (ESA) of the property located at 4312 Shady Oak Road, Minnetonka, Hennepin County, Minnesota (the Subject Property).

The purpose of the Supplemental Soil Investigation ESA activities described herein was to determine the scope and extent of contaminated soils on the Subject Property that may have been impacted by hazardous substances, pollutants or contaminants at concentrations of potential concern. The potential for such impact was identified during completion of a recent Phase II ESA for the Subject Property.

1.1 SCOPE OF SERVICES

This following scope of services was completed for this Supplemental Soil Investigation ESA:

- Cleared public and private utilities;
- Completed eight (8) soil borings to assess current soil conditions;
- Observed and collected soil samples recovered from the soil borings, created soil boring logs, and field-screened soil for the presence of volatile organics with a photoionization detector (PID);
- Collected a total of eight (8) soil samples for analysis of diesel range organics (DRO), volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), Resource Conservation and Recovery Act (RCRA) metals and/or polychlorinated biphenyls (PCBs);
- Prepared this report.

2.0 Site Description

The Subject Property is located in a commercial/residential area in the City of Minnetonka, MN.

Site Address/Location	**Address:** 4312 Shady Oak Road		**City:** Minnetonka
	County: Hennepin		**State:** Minnesota
	Addition:	**Lot:**	**Block:**
	Ginkels Oakridge Addition	020	002
Property Information	**Size:** 1.6 acres		
	Property Identification Number: 23-117-22-42-0057		
Improvements	The Subject Property has one commercial/retail building with multiple tenant spaces, a paved parking area on the west side of the commercial building, and greenspace.		
Building Information	**Size:** Approximately 25,680-square feet	**Year of Construction:** 1951	
	Description: The building on the 4312 Parcel is two levels. The upper level tenant spaces are accessed from the east side of the building off Shady Oak Road and the lower level tenant spaces are accessed by a walkout basement level on the west side of the building.		
Use of the Property	**Current Use:** The current tenants at the 4312 Parcel consist of Ammo Craft (4314), Tara's Chalet Pizza (4316), Sewing and Alterations (4318), 3x3 Fit (4330), P3 Hair Design (4332), E-Cigs and Accessories (4334), Mission Animal Hospital (4338), Second Hand Hounds (4340 and 4334B), Mid-Tool (4316B), Electric City (4330B and 4332B), and Practical Systems – HVAC (4340B and 4342B)**Past Use:** Historic commercial tenants include machine shops, a dry cleaner, HVAC/building contractors, pizza restaurant and various commercial tenants		
Ownership and Operation of the Property	**Current Ownership & Operation:** The 4312 Shady Oak Road parcel is currently owned by the City of Minnetonka.		

The Subject Property location is depicted in Figure 1. A Site Detail Map showing the Subject Property is provided in Figure 2.

2.1 CURRENT USE OF ADJOINING PROPERTIES

The following land uses were noted on adjoining properties:

Direction	Description
North	Oak Drive Lane and residential properties
South	Vacant Lot and commercial properties
East	Shady Oak Road and commercial properties
West	Residential properties

2.2 PHYSICAL SETTING

2.2.1 Topography

The Subject Property is generally level and is at an elevation of approximately 920-930 feet above mean sea level. Site surface drainage is to the southwest. Historic development may have included grading or filling of the Subject Property to improve the location for construction and drainage.

2.2.2 Geology

Published references describe the surficial geology at the Subject Property as outwash consisting of sand, loamy sand, and gravel (University of Minnesota, 1989).

Surficial bedrock in the vicinity of the Subject Property consists of the Platteville and Glenwood Formations at a depth of approximately 100-150 feet (University of Minnesota, 1989).

2.2.3 Hydrogeology

The general direction of regional groundwater flow in the area of the Subject Property is noted in Minnesota Department of Natural Resources County Geologic Atlas to be to the west towards the Mississippi River. However, local conditions may vary due to surface water features, perched groundwater conditions or artificially created drainage systems. Depth to regional groundwater is noted to be approximately 25 feet below ground surface (MN Department of Natural Resources, 1989).

3.0 Previous Investigations

The following previous environmental reports prepared for the Subject Property were reviewed:

- *Phase I Environmental Site Assessment, Ring Property, 4312-4342 Shady Oak Road, Minnetonka, Minnesota, report prepared for Hennepin County, report prepared by Service Engineering Group, report dated September 21, 2007 (2007 Phase I ESA Report).*
- *Phase I Environmental Site Assessment, Shady Oak Property, 4312 Shady Oak Road and 4292 Oak Drive Lane, Minnetonka, Minnesota, report prepared for the City of Minnetonka, report prepared by Wenck Associates Inc., report dated November 6, 2014 (2014 Phase I ESA Report);*
- *Phase II Environmental Site Assessment, Shady Oak Property, 4312 Shady Oak Road and 4292 Oak Drive Lane, Minnetonka, Minnesota, report prepared for the City of Minnetonka, report prepared by Wenck Associates Inc., Report dated November 13, 2014 (2014 Phase I ESA Report).*
- *Phase I Environmental Site Assessment, Shady Oak Property, 4312 Shady Oak Road and 4292 Oak Drive Lane, Minnetonka, Minnesota, report prepared for the City of Minnetonka, report prepared by Wenck Associates Inc., report dated June 27, 2016 (2016 Phase I ESA Report);*

3.1.1 2007 Phase I ESA Report

The 2007 Phase I ESA Report noted that the tenants at the 4312 Parcel consisted of Knight Machining, Ammocraft Firearms Supply, Chalet Pizza, James Gang Hair, a woodworking shop, Shady Oak Vet, and Practical Systems HVAC. The Phase I notes that these tenants or like-industries, have occupied the 4312 Parcel since at least the 1980's. Prior to that time, other light commercial or service industry tenants have periodically occupied the site including county offices, an antique store, restaurant, furniture store, hardware store, sheet metal workings, dentist office, and a drive in cleaners. The 2007 report notes the cleaners was drop-off only as shown in a 1975 City Directory reviewed by Service Engineering Group.

The 2007 Report stated that there were no identified recognized environmental conditions. The 2007 Report does not mention the septic tank and cesspool system at the Subject Property.

The dry-cleaner noted in City of Minnetonka files for the 2014 Wenck Phase I report is not the same dry-cleaner noted in the 2007 Phase I ESA Report and 1975 City Directory.

3.1.2 2014 Wenck Phase I Report

The 2014 Wenck Phase I Report indicated that the Subject Property consisted of one commercial/retail building with multiple tenant spaces, a single-family residence, a paved parking area on the west side of the commercial building, and greenspace. At the time the 2014 Wenck Phase I Report was prepared the Subject Property was owned by E H Ring Credit Shelter (4312 Parcel) and EGR Premier Properties (4292 Parcel).

According to the 2014 Wenck Phase I Report the tenants at the 4312 Parcel consisted of Ammo Craft (4314), Tara's Chalet Pizza (4316), Sewing and Alterations (4318), 3x3 Fit (4330), P3 Hair Design (4332), E-Cigs and Accessories (4334), Mission Animal Hospital (4338), Second Hand Hounds (4340 and 4334B), Mid-Tool (4316B), Electric City (4330B and 4332B), and Practical Systems – HVAC (4340B and 4342B).

The 2014 Wenck Phase I Report identified the following RECs relative to the Subject Property:

- "The presence of historical machine shop and drycleaner tenants at the Subject Property that handled various oils and solvents and operated at the same time as the former septic and cesspool system is considered an REC.
- Heavy oil staining from a leaking compressor located in the northwest corner of the building in a vacant tenant space is considered an REC."

The 2014 Wenck Phase I Report identified the following items that constituted an business environmental risk at the Subject Property:

- "There is a domestic well located at the Subject Property that is currently not in use on the 4292 Parcel and two wells not in use on the 4312 parcel. According to the Minnesota Department of Health, a well must be in use, be under a maintenance permit, or be sealed by a licensed contractor.

- A former septic system may still be present on the Subject Property at the 4312 Parcel on the west of the building. Septic systems no longer in use should be abandoned/decommissioned in accordance with local regulations. A septic system was not observed on the 4292 Parcel; however, a septic system may also be present on the 4292 Parcel, based on the similar time of construction."

3.1.3 2014 Wenck Phase II Report

The 2014 Wenck Phase II consisted of the advancement of five (5) soil borings to depths of 15 to 30 feet below ground surface (bgs) to assess current soil and groundwater conditions at the Subject Property. Soil samples were collected from five of the borings and analyzed for diesel range organics (DRO), volatile organic compounds (VOCs), and Resource Conservation and Recovery Act (RCRA) metals; four (4) samples for polynuclear aromatic hydrocarbons (PAHs); and one (1) soil samples for PCBs. Groundwater samples were collected from three borings and analyzed for DRO and VOCs. Two soil vapor samples were also collected and analyzed for VOCs using method TO-15. Additionally, Wenck collected three PCB wipe samples from areas where staining was observed in the basement of the 4312 Building noted in the Wenck 2014 Phase I ESA.

During the Phase II investigation fill soils consisting of predominately brown to black silty sand with gravel were encountered to depths of approximately 5 feet bgs in the west parking lot area of the 4312 Building. The fill soil was generally underlain by brown silty sand with gravel. Groundwater was encountered in each boring drilled on the Subject Property at depths of approximately 10 to 20 feet bgs.

The soil investigation results from the 2014 Wenck Phase II compared detected concentrations of RCRA metals, VOCs, PAHs and PCBs to the Minnesota Pollution Control

Agency's Tier 1 Residential and Tier 2 Industrial Soil Reference Values (SRVs). Additionally, MPCA Tier 1 Soil Leaching Values (SLVs) were referenced to evaluate the potential risk to groundwater at the Subject Property from the soil-to-groundwater leaching pathway.

DRO was identified in three of the six soil samples collected at concentrations ranging from 494 mg/kg to 9.99 mg/kg. Various RCRA metals were detected in all of the samples collected and analyzed; however, detected concentrations of metals do not exceed the MPCA SLVs, Residential SRVs, or Industrial SRVs. VOCs were not identified in soil samples above their respective laboratory method reporting limits in any of the soil samples collected. In one of the two samples collected and analyzed for PCBS, total PCBs were detected at 0.265 mg/kg above the MPCA SLV of 0.1 mg/kg. Various PAHS were detected in the soil samples However; none, of the samples were identified to exceed the MPCA Residential or Industrial SRVs or MPCA SLVs for individual PAHs or the BaP equivalent concentrations calculated.

The groundwater analytical data collected during the 2014 Wenck Phase II compared detected concentrations of VOCs to the Minnesota Department of Health's (MDH) and MPCA's Health Risk Limits (HRL) and MDH Health Based Values (HBVs) guidance values to assess potential human health risks from exposures to chemicals in groundwater. There are no established HRLs or HBVs for DRO and GRO.

The VOC tetrachloroethene (PCE), a common drycleaner solvent, was detected in two groundwater samples collected at the Subject Property at concentrations ranging from 1.81 ug/L to 1.23 ug/L. Both detections were below the MPCA HRL/MDH HBV of 5.0 ug/L. DRO was detected in all three temporary wells at 21.2 ug/L, 314 ug/L, and 267 ug/L.

The soil vapor data collected during the 2014 Wenck Phase II was compared to the MPCA's Intrusion Screening Values (ISVs) for Vapor Intrusion Risk. Various VOCs were detected above the method detection limits in the soil vapor samples collected from the Subject Property. PCE was detected at 130 ug/m³ above 10x the Residential ISV, but below 10x the Industrial ISV (*The Residential ISV for PCE as of May 2016 is revised to 3.3 ug/m³*) and trichloroethene (TCE) was detected at 20 ug/m³ equal to 10x the Residential ISV, but below 10x the Industrial ISV (*The Residential ISV for TCE as of May 2016 is revised to 2.1 ug/m³*). The VOC 1,3-butadiene was detected above 10x the Residential ISV in both samples; however, the 2014 Wenck Phase II concluded there was no potential source of 1,3-butadiene and the detection was not indicative of a release at the Subject Property. None of the other detected VOCs exceed 10x the MPCA Residential or Industrial ISVs.

PCBs were detected in one of the wipe samples at a concentration of 25.1 ug/100 cm² from the oil stained concrete under the leaking compressor in the vacant storage space in the northwest corner of the basement of the building on the 4312 Parcel.

The text, tables, and figures portions of the Phase II ESA report are included in **Appendix A**.

3.1.4 2016 Wenck Phase I Report

The Subject Property has one commercial/retail building with multiple tenant spaces, a single-family residence, a paved parking area on the west side of the commercial building,

and greenspace. Both structures were originally built in 1951. Two additions were completed on the commercial structure by 1964.

The building on the 4312 Parcel is two levels and the upper level tenant spaces are accessed from the east side of the building off Shady Oak Road and the lower level tenant spaces are accessed by a walkout basement level on the west side of the building. The current tenants on the upper level consist of Ammo Craft (4314), Chalet Pizza (4316) and Sewing and Alterations (4318); the remaining spaces on the upper level are vacant. The lower level tenant spaces are occupied by Mid-Tool (4316B), Electric City (4330B and 4332B), and Practical Systems – HVAC (4340B and 4342B).

Wenck reviewed building permits and records for the Subject Property at the City of Minnetonka. Dahl's Cleaners and Laundry were noted in the City file as a drycleaner tenant at the Subject Property at the 4312 Parcel building and the file notes a drycleaning machine was installed in 1962.

Wenck also obtained hazardous waste files from Hennepin County Environmental. The records did not reveal any evidence of a release of hazardous materials at the Property or any major handling violations. Wenck reviewed records for Knight Machining, Inc., Mid-Tool, Liberty Tool, Practical Systems, Clean Flo Labs, and Shady Oak Veterinary Clinic.

Chemicals formerly used by Knight Machine included relatively small quantities of Stoddard Solvent, used oil, and metal working fluid. Waste generated by the Shady Oak Veterinary included Used X-Ray film, x-ray fixer, and bio-waste. Clean Flo labs reported to generate approximately 5-gallons per year of mixed lab chemicals. A letter for Mid-Tool from the MCPA noted that Mid-Tool does not generate any waste, but uses cutting oil and Stoddard Solvent in their operations. The chemicals are reportedly consumed in the process or recycled back to the machines.

City files show that the commercial structure on the 4312 Parcel was originally constructed with a septic system consisting of a 10' wide x 40' long x 8' in height septic tank and four 675-gallon concrete cesspools.

Wenck observed a vent pipe on the west side of the building on the 4312 parcel. This pipe may be associated with a former fuel tank or the former septic system.

The Subject Property was identified on the following reviewed regulatory databases in the GeoSearch™ Radius Report: Resource Conservation & Recovery Act – Generator Facilities (RCRAGR05) and Federal Facility Registry System (FRSMN) and Hazardous Waste Generator Sites (HWGS) databases due to a hazardous waste generator licenses. Other nearby sites were noted in the Geosearch report for various databases.

Wenck observed two wells on the 4312 parcel. One well is located under a stairwell in the Practical Systems space and the other well is located outside off the sidewalk north of the Ammo Craft tenant space. Wenck also observed a well in the basement of the residence at the 4292 parcel.

"This Phase I ESA has identified no recognized environmental conditions (RECs) relative to the Subject Property except for the following:

- The presence of historical machine shop and drycleaner tenants at the Subject Property that handled various oils and solvents and operated at the same time as the former septic and cesspool system is considered an REC.
- A Phase II Subsurface Investigation completed at the Subject Property identified DRO, VOCs and PCBs above MPCA and MDH established risk criteria in the soil, groundwater, concrete and soil vapor at the Subject Property. The identified release to multiple materials at the Subject Property is considered a REC.

This Phase I ESA has not identified any controlled recognized environmental conditions (CRECs) or historical recognized environmental conditions (HRECs) relative to the Subject Property.

Although not considered RECs, CRECs, or HRECs; this ESA has revealed the following items that constitute business environmental risks:

- There is a domestic well located at the Subject Property that is currently not in use on the 4292 Parcel and two wells not in use on the 4312 parcel. According to the Minnesota Department of Health, a well must be in use, be under a maintenance permit, or be sealed by a licensed contractor.

- A former septic system may still be present on the Subject Property at the 4312 Parcel on the west of the building. Septic systems no longer in use should be abandoned/decommissioned in accordance with local regulations. A septic system was not observed on the 4292 Parcel; however, a septic system may also be present on the 4292 Parcel, based on the similar time of construction."

4.0 Investigation Methods and Procedures

4.1 FIELD INVESTIGATION RATIONALE

The objective of this investigation was to investigate the scope and extent of soil impacts present at the Subject Property identified in the Wenck Phase II ESA.

Procedures for soil activities followed Wenck's standard operating procedures. Standard operating procedures were adhered to with no deviations during the implementation of the work. Methods and procedures are described below.

4.2 SOIL INVESTIGATION

The soil investigation activities were conducted on May 12, 2016. Investigation activities included the advancement of eight hollow-stem auger borings by Northern Technology, LLC (NTI). All borings were advanced to 31 feet below grade surface (bgs). The boring locations were selected to evaluate subsurface conditions in specific locations to provide good spatial coverage of the site, and to evaluate environmental conditions of the Subject Property. Proposed boring locations were adjusted based on the presence of underground or overhead utilities. The locations of underground utilities were verified prior to drilling to ensure the safe advancement of each boring. The locations of the borings are shown on **Figure 3**.

Soil was collected by NTI from a two-inch diameter, two-foot long split-spoon sampler used in conducting SPT sampling. Upon reaching each interval, the nature of the recovered soil was assessed to conduct soil classification and observed for evidence of potential contamination (i.e., odors, staining, fill material, etc.).

Soil samples were collected from the split-spoon sampler by hand using clean dedicated nitrile gloves and placed into dedicated sealable polyethylene storage bags. Vapor headspace readings were collected using a photoionization detector (PID) equipped with a 10.6 eV source lamp calibrated to an isobutylene gas standard. Soil samples from each boring were collected in dedicated glassware, placed in a cooler with ice and submitted under chain-of-custody control to Test America Laboratories, Inc. in Minneapolis, MN for laboratory analysis.

The boring location rationale and analytical parameters sampled for soil are as follows:

Boring ID	Rationale	Sample Depth	Laboratory Analysis
SB-1	Sample soil for potential impacts related to the former septic system.	0-1.5'	DRO, VOCs, PAHs, RCRA Metals, PCBs
SB-2	Sample soil for potential impacts related to the former septic system.	2-3.5'	DRO, VOCs, PAHs, RCRA Metals, PCBs
SB-3	Sample soil for potential impacts related to the former septic system.	4.5-6'	DRO, VOCs, PAHs, RCRA Metals, PCBs

SB-4	Sample soil for potential impacts related to the leaking compressor.	2-3.5’	DRO, VOCs, PAHs, RCRA Metals, PCBs
SB-5	Sample soil for potential impacts related to the leaking compressor, former drycleaner and potential impacts from fill.	2-3.5’	DRO, VOCs, PAHs, RCRA Metals, PCBs
SB-6	Sample soil for potential impacts related to the leaking compressor, former drycleaner and potential impacts from fill.	2-3.5’	DRO, VOCs, PAHs, RCRA Metals, PCBs
SB-7	Sample soil for potential impacts related to the leaking compressor, former drycleaner and potential impacts from fill.	2-3.5’	DRO, VOCs, PAHs, RCRA Metals, PCBs
SB-8	Sample soil for potential impacts related to the leaking compressor, former drycleaner and potential impacts from fill.	4.5-6’	DRO, VOCs, PAHs, RCRA Metals, PCBs

5.0 Investigation Results

5.1 SOIL

5.1.1 Geology

Wenck encountered approximately four feet of fill soils consisting of mainly dark brown to black silty sand with gravel on the Subject Property with approximately 10 feet of fill in boring SB-8 on the south side of the building. In general, the fill is underlain primarily by brown silty sand with gravel in borings SB-1 through SB-4 and brown to grey sandy clays in borings SB-5 through SB-8. Lenses of organic clay ranging from one inch to two feet in thickness were noted in SB-6 through SB-8 from 9-15 feet below grade. Soil boring logs are included in **Appendix B**.

Published references describe the surficial geology at the Subject Property as outwash consisting of sand, loamy sand, and gravel (University of Minnesota, 1989). Surficial bedrock in the vicinity of the Subject Property consists of the Platteville and Glenwood Formations at a depth of approximately 100-150 feet (University of Minnesota, 1989).

5.1.2 Soil Analytical Results

Soil investigation data compared detected concentrations of RCRA metals, VOCs, PAHs and PCBs to the Minnesota Pollution Control Agency's Tier 1 Residential and Tier 2 Industrial Soil Reference Values (SRVs). Additionally, MPCA Tier 1 Soil Leaching Values (SLVs) were referenced to evaluate the potential risk to groundwater at the Subject Property from the soil-to-groundwater leaching pathway. There are no established MPCA SRVs or SLVs for DRO.

Field Screening
A vapor headspace reading was detected at 11.6 parts per million (ppm) in sample SB-7 (2-3.5') via field screening by PID. Vapor headspace readings for VOCs were not detected above background concentrations via field screening by PID in any of the other soil borings. Vapor headspace readings and field observations are included on the soil boring logs in **Appendix B**.

DRO
DRO was detected in all eight of the soil samples collected and analyzed for DRO. Detections ranged from 0.425 mg/kg in sample SB-4 (2-3.5') to 215 mg/kg in sample SB-7 (2-3.5'). DRO was detected above 100 mg/kg in samples SB-3 (4.5-6') at 108 mg/kg, SB-6 (2-3.5') at 170 mg/kg, and SB-7 (2-3.5') at 215 mg/kg. There is no established limit for DRO in the MPCA SLVs or SRVs.

RCRA Metals
Five of the eight RCRA metals were detected in the eight samples collected and analyzed for RCRA metals with at least three metals identified in each sample. However, detected concentrations of metals do not exceed the MPCA SLVs, Residential SRVs, or Industrial SRVs.

VOCs
PCE was detected at 0.245 mg/kg in sample SB-3 (4.5-6'). No other VOCs were detected above their respective laboratory method reporting limits in any of the other seven soil samples collected and analyzed for VOCs. The detection of PCE exceeds the MPCA SLV, but does not exceed the Residential SRV or Industrial SRV.

PCBs
PCBs were not detected in any of the eight soil samples collected and analyzed for PCBs.

PAHs
Various PAHs were detected above the method reporting limit in six of the eight soil samples collected and analyzed for PAHs. None of the samples were identified to exceed the MPCA Residential or Industrial SRVs or MPCA SLVs for individual PAHs.

Soil sample results are summarized in **Table 1**. Laboratory reports and supporting chain-of-custody documentation are included in **Appendix C**.

5.2 GROUNDWATER

5.2.1 Hydrogeology

Groundwater was encountered in each boring drilled on the Subject Property. Groundwater was encountered at approximately 13 feet below ground surface in SB-2 through SB-4 located at a lower elevation on the west side of the building. Groundwater was encountered at approximately 25 feet below grade in borings SB-5 through SB-8 which were drilled on the west side of the building starting at a higher elevation. Groundwater was also encountered at 25 feet below grade in SB-1 which also appears to be at slightly higher elevation.

The general direction of regional groundwater flow in the area of the Subject Property is noted in Minnesota Department of Natural Resources County Geologic Atlas to be to the west towards the Mississippi River. However, local conditions may vary due to surface water features, perched groundwater conditions or artificially created drainage systems. Depth to regional groundwater is noted to be approximately 25 feet below ground surface (MN Department of Natural Resources, 1989).

6.0 Discussion

6.1 SOIL DISCUSSION

The detection of DRO in SB-3 (4.5-6'), SB-6 (2-3.5) and SB-7 (2-3.5) over 100 mg/kg indicates that impacts are concentrated in the surficial fill soil in the northeastern and central portion of the Subject Property but low-level impacts are also present in the fill soil across the Subject Property, along with PCE and PCBs exceeding the MPCA SLV. The lack of further detections of PCBs in any of the soil borings indicates that the extent of PCB contamination appears to be limited to the vicinity of boring GP-1A (0-2'). With the soil detections of PCBs and PCE above the MPCA SLV and the multiple detections of DRO in fill over 100 mg/kg, the future redevelopment of the Subject Property and soil management should be conducted under an approved MPCA Response Action Plan.

The MPCA document "Best Management Practices for the Off-Site Reuse of Unregulated Fill," dated February 2012, defines unregulated fill as excess soil in which a release of contaminants has been identified at concentrations less than the MPCA's most conservative risk-based values. The criteria for unregulated fill are described as the following:

- Soil free from solid waste, debris, asbestos containing material, visual staining, and chemical odor;
- Organic vapors less than 10 ppm as measured by a PID;
- For petroleum impacted soil, less than 100 mg/kg DRO/GRO;
- For contaminants detected in soil, less than the MPCA's Residential SRVs and MPCA Tier 1 SLVs.

Wenck recommends removal of the former septic system components as part of the proposed redevelopment. Additional assessment of soil may be necessary at the time of the removal of the former septic system components.

7.0 Conclusions

Based on the field observations and laboratory analysis of the additional soil samples collected and analyzed from the Subject Property and the previous findings, Wenck submits the following conclusions and recommendations:

1. Enroll the Subject Property in the MPCA Voluntary Investigation and Cleanup (VIC) Program and Petroleum Brownfields (PB) Program;

2. Apply for a No Association Determination related to the elevated detection of PCBs and PCE in soil, PCE and acetone in groundwater, and PCE and TCE in soil vapor from the VIC Program. The submittal will include a proposed actions letter for the proposed use of the Subject Property.

3. When development plans are known, submit a Response Action Plan to the MPCA Voluntary Brownfield Programs (VIC and the Petroleum Brownfield Program) for review and approval.

4. Apply for a Non-tank Closure Letter from the Petroleum Brownfields Program for the low-level detections of DRO in soil and groundwater at the Subject Property.

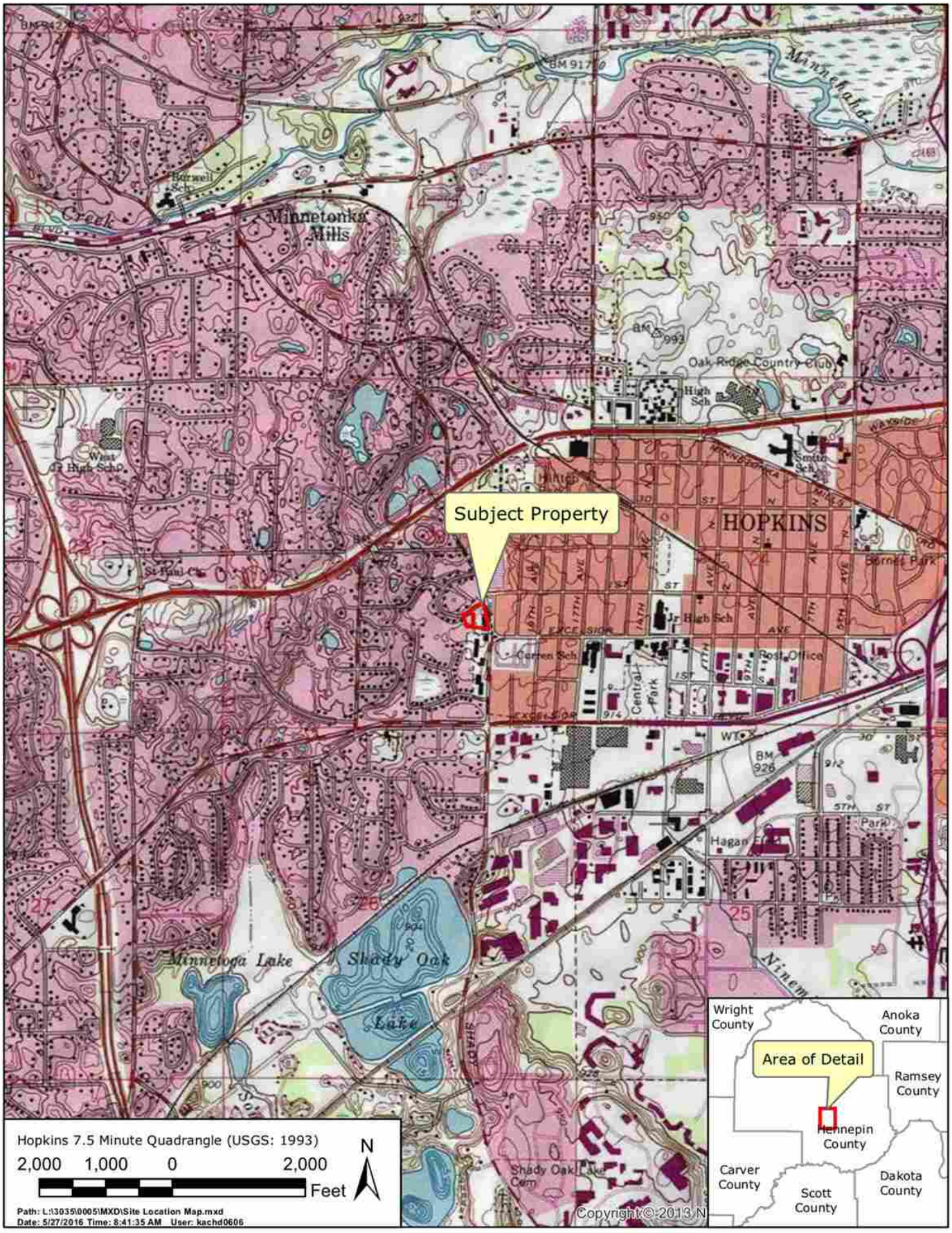
5. Wenck recommends the City remove and dispose of the former septic system as part of future redevelopment as an environmental development response action.

6. Wenck recommends collecting bulk samples of the concrete stained with the PCB containing oil prior to demolition to determine if the concrete will require special handling.

Mark G. Davidson, PG (MN)
Geologist

Adam P. Zobel
Senior Environmental Project Manager

Figures



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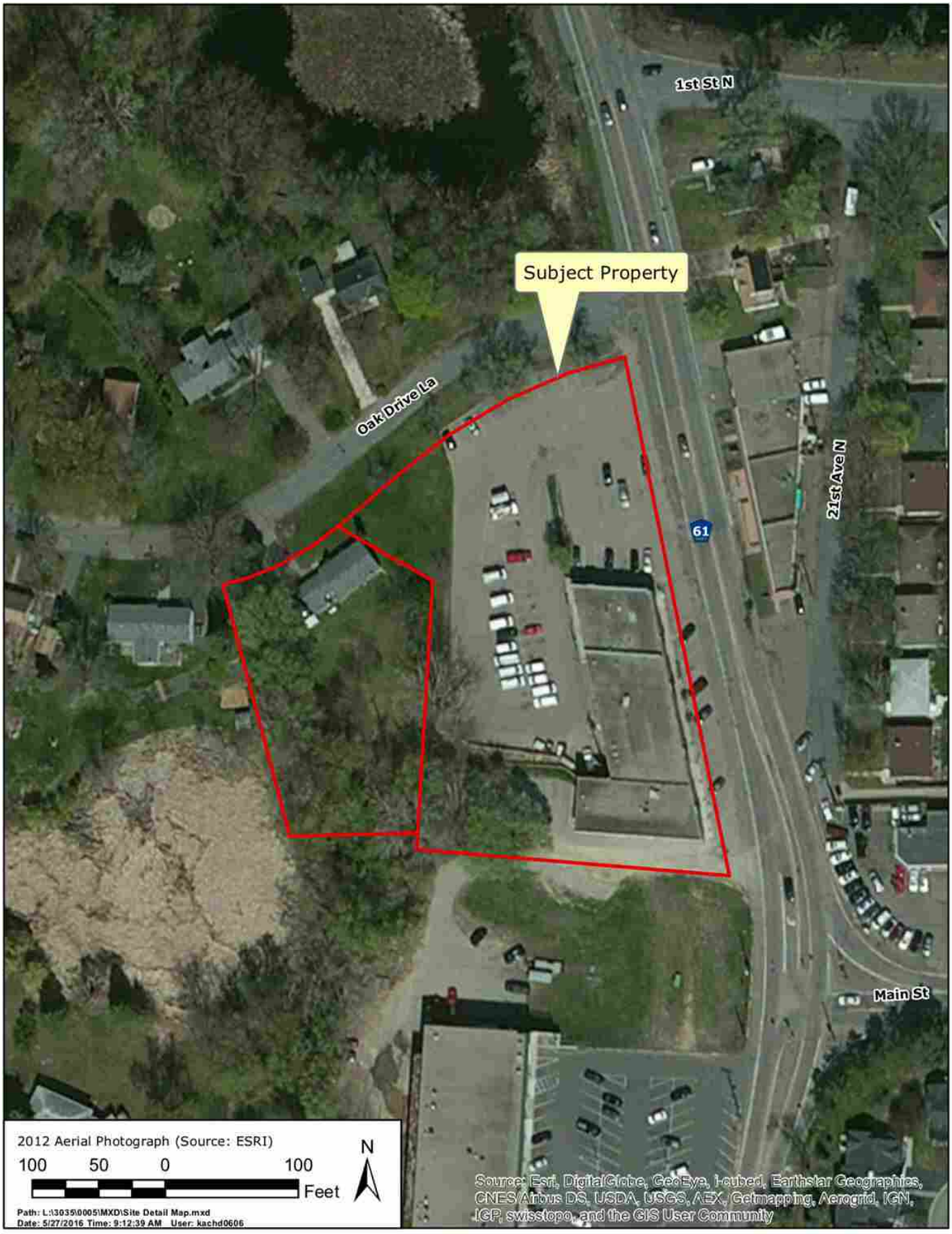
Site Location Map		Figure 1



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Site Detail Map	Responsive partner. Exceptional outcomes.	Figure 2

4132 SHADY OAK ROAD	WENCK ASSOCIATES Responsive partner. Exceptional outcomes.	MAY 2016
Sampling Locations		Figure 3

4132 SHADY OAK ROAD	WENCK ASSOCIATES Responsive partner. Exceptional outcomes.	MAY 2016
Historic Sampling Locations		Figure 4

Tables

Table 1
Soil Analytical Results Summary
4312 Shady Oak Road
Minnetonka, MN
Wenck Project No. 3035-0005
June 2016

Analyte	Units	MPCA SLV	MPCA Residential SRV	MPCA Industrial SRV	GP-1 (10-15') 10/30/2014	GP-1A (0-2') 10/30/2014	GP-2 (10-15') 10/30/2014	GP-3 (0-2') 10/30/2014	GP-4 (4-5') 10/30/2014	GP-5 (3-5') 10/30/2014	SB-1 (0-1.5) 05/12/2016	SB-2 (2-3.5) 05/12/2016	SB-3 (4.5-6) 05/13/2016	SB-4 (2-3.5) 05/13/2016	SB-5 (2-3.5) 05/12/2016	SB-6 (2-3.5) 05/12/2016	SB-7 (2-3.5) 05/12/2016	SB-8 (4.5-6) 05/13/2016
Deisel Range Organics																		
Diesel Range Organics (DRO)	mg/Kg	NE	NE	NE	<7.10	**494**	<6.01	**39.7**	<7.03	**9.99**	**10.2**	**24.9**	**108**	**42.5**	**28.1**	**170**	**215**	**33.2**
Volatile Organic Compounds																		
Tetrachloroethene	mg/Kg	0.04	72	131	ND	ND	ND	ND	ND	ND	< 0.108	< 0.106	**0.245**	< 0.106	< 0.114	< 0.110	< 0.113	< 0.105
Polynuclear Aromatic Hydrocarbons																		
Anthracene	mg/Kg	1300	7880	45400	<0.0104	<0.102	<0.0107	<0.106	<0.0121	NA	< 0.106	< 0.101	< 0.0982	< 0.105	< 0.111	< 0.413	< 0.115	< 0.103
Benzo[a]anthracene	mg/Kg	NE	NE	NE	<0.0104	<0.102	<0.0107	**0.158**	**0.0264**	NA	< 0.106	**0.259**	**0.342**	**0.289**	**0.125**	< 0.413	**0.136**	< 0.103
Benzo[b]fluoranthene	mg/Kg	NE	NE	NE	<0.0104	**0.202**	<0.0107	**0.25**	**0.0456**	NA	< 0.106	**0.463**	**0.484**	**0.482**	**0.322**	< 0.413	**0.222**	**0.139**
Benzo[a]pyrene	mg/Kg	1.4	2	3	<0.0104	**0.133**	<0.0107	**0.2**	**0.0317**	NA	< 0.106	**0.331**	**0.342**	**0.356**	**0.173**	< 0.413	**0.170**	< 0.103
2-Methylnaphthalene	mg/Kg		100	369	<0.0104	<0.102	<0.0107	<0.106	<0.0121	NA	< 0.106	< 0.101	< 0.0982	< 0.105	< 0.111	< 0.413	< 0.115	< 0.103
Naphthalene	mg/Kg	4.5	10	28	<0.0104	<0.102	<0.0107	<0.106	<0.0121	NA	< 0.106	< 0.101	< 0.0982	< 0.105	< 0.111	< 0.413	< 0.115	< 0.103
Acenaphthylene	mg/Kg	NE	NE	NE	<0.0104	<0.102	<0.0107	<0.106	<0.0121	NA	< 0.106	< 0.101	< 0.0982	< 0.105	< 0.111	< 0.413	< 0.115	< 0.103
Acenaphthene	mg/Kg	81	1200	5260	<0.0104	<0.102	<0.0107	<0.106	<0.0121	NA	< 0.106	< 0.101	< 0.0982	< 0.105	< 0.111	< 0.413	< 0.115	< 0.103
Benzo[g,h,i]perylene	mg/Kg	NE	NE	NE	<0.0104	**0.131**	<0.0107	**0.132**	**0.0205**	NA	< 0.106	**0.222**	**0.171**	**0.284**	**0.182**	< 0.413	**0.121**	**0.110**
Indeno[1,2,3-cd]pyrene	mg/Kg	NE	NE	NE	<0.0104	<0.102	<0.0107	<0.106	**0.0177**	NA	< 0.106	**0.185**	**0.125**	**0.203**	**0.138**	< 0.413	< 0.115	< 0.103
Fluorene	mg/Kg	110	850	4120	<0.0104	<0.102	<0.0107	<0.106	<0.0121	NA	< 0.106	< 0.101	< 0.0982	< 0.105	< 0.111	< 0.413	< 0.115	< 0.103
Pyrene	mg/Kg	440	890	5800	<0.0104	**0.115**	<0.0107	**0.133**	**0.0343**	NA	< 0.106	**0.466**	**0.601**	**0.493**	**0.205**	< 0.413	**0.246**	**0.267**
Phenanthrene	mg/Kg	NE	NE	NE	<0.0104	<0.102	<0.0107	<0.106	**0.0374**	NA	< 0.106	**0.141**	**0.197**	**0.113**	< 0.111	< 0.413	< 0.115	**0.157**
Chrysene	mg/Kg	NE	NE	NE	<0.0104	**0.143**	<0.0107	**0.196**	**0.0364**	NA	< 0.106	**0.299**	**0.369**	**0.321**	**0.168**	< 0.413	**0.157**	< 0.103
Benzo[k]fluoranthene	mg/Kg	NE	NE	NE	<0.0104	<0.102	<0.0107	<0.106	**0.0182**	NA	< 0.106	**0.144**	**0.143**	**0.144**	**0.115**	< 0.413	< 0.115	< 0.103
Fluoranthene	mg/Kg	670	1080	6800	<0.0104	**0.152**	<0.0107	**0.129**	**0.0425**	NA	< 0.106	**0.466**	**0.553**	**0.423**	**0.194**	< 0.413	**0.216**	**0.165**
Dibenz(a,h)anthracene	mg/Kg	NE	NE	NE	<0.0104	<0.102	<0.0107	<0.106	<0.0121	NA	< 0.106	< 0.101	< 0.0982	< 0.105	< 0.111	< 0.413	< 0.115	< 0.103
BaP Equivalent Calculation	mg/Kg	1.4	2	3	<0.0104	**0.155**	<0.0107	**0.243**	**0.043**	NA	<0.106	**0.439**	**0.455**	**0.471**	**0.244**	<0.413	**0.207**	**0.014**
Polychlorinated Biphenyls																		
PCB-1260	mg/Kg	0.1	1.2	8	NA	**0.104**	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
PCB-1254	mg/Kg	0.1	1.2	8	NA	**0.161**	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
PCB-1016	mg/Kg	0.1	1.2	8	NA	<0.0532	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
PCB-1268	mg/Kg	0.1	1.2	8	NA	<0.0532	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
PCB-1232	mg/Kg	0.1	1.2	8	NA	<0.0532	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
PCB-1221	mg/Kg	0.1	1.2	8	NA	<0.0532	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
PCB-1248	mg/Kg	0.1	1.2	8	NA	<0.0532	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
PCB-1242	mg/Kg	0.1	1.2	8	NA	<0.0532	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
Polychlorinated biphenyls, Total	mg/Kg	0.1	1.2	8	NA	**0.265**	NA	<0.0538	NA	NA	< 0.0539	< 0.0525	< 0.0524	< 0.0514	< 0.0575	< 0.0548	< 0.0569	< 0.0508
RCRA Metals																		
Chromium	mg/Kg	36 (VI)	87 (VI)	650 (VI)	**6.69**	**5.59**	**11.7**	**10.9**	**17.2**	**13.2**	**16.2**	**12.6**	**14.0**	**11.0**	**13.0**	**14.8**	**13.3**	**10.4**
Cadmium	mg/Kg	8.8	25	200	<0.785	<3.21	<0.838	<0.821	<1.73	<0.861	< 0.992	< 1.91	< 1.76	< 0.981	< 1.13	< 0.911	< 2.24	< 2.02
Barium	mg/Kg	1700	1100	18000	**13.7**	**145**	**28.7**	**43.2**	**164**	**58.6**	**36.7**	**42.5**	**36.7**	**34.1**	**36.0**	**56.3**	**48.4**	**26.0**
Silver	mg/Kg	7.9	160	1300	<0.785	<3.21	<0.838	<0.821	<1.73	<0.861	< 0.992	< 1.91	< 1.76	< 0.981	< 1.13	< 0.911	< 2.24	< 2.02
Selenium	mg/Kg	2.6[a]	160	1300	<5.89	<24.1	<6.28	<6.16	<13.0	<6.45	< 1.04	< 1.04	< 1.04	< 1.01	< 1.13	< 0.963	< 1.01	< 0.898
Lead	mg/Kg	2700	300	700	<3.92	<16.1	<4.19	**4.85**	**30.9**	**11.1**	< 4.96	**16.3**	**8.80**	**9.69**	< 5.67	**9.38**	**15.8**	< 10.1
Arsenic	mg/Kg	5.8	9	20	**1.4**	**2.76**	**1.92**	**2.47**	**4.19**	**3.57**	**2.16**	**2.56**	**1.82**	**2.29**	**2.29**	**2.32**	**2.85**	**2.11**
Mercury	mg/Kg	3.3	0.5	1.5	<0.0183	<0.0204	**0.0211**	<0.0202	<0.0208	<0.0186	< 0.0214	< 0.0211	< 0.0203	< 0.0192	< 0.0212	< 0.0199	< 0.0214	**0.0979**

NA = Not Analyzed
mg/kg = PPM
BOLD = The sample exceeded one or more action limits for that parameter
MPCA = Minnesota Pollution Control Agency
SRV = Soil Reference Value
SLV = Soil Leaching Value
BaP Equivalent = Benzo(a)pyrene equivalent calculation (MPCA September 2006 Version)
NE = Not Established

RCRA = Resource Conservation and Recovery Act
VOCs = Volatile Organic Compounds
PAHs = Polynuclear Aromatic Hydrocarbons
DRO = Diesel Range Organics
PCBs = Polychlorinated Biphenyls

Table 2
Groundwater Analytical Results Summary
4312 Shady Oak Road
Minnetonka, MN
Wenck Project No. 5170-0001/3035-0005
November 2014/June 2016

Analyte	Units	Basis	MDH/MPCA Drinking Water Criteria/HRL/MDH HBV	GP-2 10/30/2014	GP-4 10/30/2014	GP-5 10/30/2014
Diesel Range Organics (DRO)						
Diesel Range Organics (DRO)	ug/L	Total	NE	**21.2**	**314**	**267**
Volatile Organic Compounds (VOCs)						
Tetrachloroethene	ug/L	Total	4	**1.81**	**1.23**	<1.00
Acetone	ug/L	Total	4000	**12.2**	<10.0	<10.0

MPCA = Minnesota Pollution Control Agency
MDH = Minnesota Department of Health
HRL = Health Risk Limit
HBV = Health Based Value
ug/L = parts per billion
NE = Not Established

Table 3
Soil Vapor Results Summary
4312 Shady Oak Road
Minnetonka, MN
Wenck Project No. 5170-0001/3035-0001
November 2014/June 2016

Analyte	10x MPCA Resid ential ISV	10x MPCA Industrial ISV	SV-1 10/30/2014 2:00 PM	SV-2 10/30/2014 4:33 PM
Volatile Organic Compounds EPA Method TO-15 (ug/m³)				
1,1,1-Trichloroethane	50000	100000	ND	**3.1**
1,2,4-Trimethylbenzene	70	200	**2**	ND
1,3-Butadiene	3	27	**4.4**	**11**
Acetone	310000	870000	**23**	**38**
Benzene	46	450	**6.8**	**7**
Cyclohexane	60000	200000	**0.73**	**2**
Ethylbenzene	41	390	**4.4**	**3.3**
m,p-Xylene	1000	3000	**13**	**6.3**
Methyl Ethyl Ketone	50000	100000	**5.4**	**11**
n-Heptane	NE	NE	**4.4**	**5.4**
n-Hexane	20000	60000	**6.3**	**7.3**
Propylene	30000	80000	**28**	**79**
Styrene	10000	30000	**0.91**	ND
Tetrachloroethene	33	330	**130**	ND
Toluene	50000	100000	**32**	**20**
Trichloroethene	20	60	**20**	ND
Trichlorofluoromethane	7000	20000	**1.4**	ND
Xylene, o-	1000	3000	**4.9**	**3**

EPA = Environmental Protection Agency
MPCA = Minnesota Pollution Control Agency
PRP = Petroleum Remediation Program
ISV = Intrusion Screening Value
BOLD Parameter Exceeds Action Level
VOCs = Volatile Organic Compounds
NE = Not Established

Appendix A

Soil Boring Logs

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-1

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt					
		SW		CLAYEY SAND, red-brown, with gravel, moist (fill).		100	1.2	■	
						70	0.8		
5	925	SC		SANDY CLAY, dark grey, soft, with gravel, moist.		80	1.0		
		SW		CLAYEY SAND, red-brown, with gravel, moist. Medium stiff.		5	1.3		
10	920					90	0.5		
						60	0.8		
15	915	SC		SANDY CLAY, grey-brown, some gravel, medium stiff, moist.		40	1.0		
20	910	SC		SANDY CLAY, grey, some gravel, stiff, very moist to wet.		10	0.5		
25	905	SW		SILTY SAND, brown, fine to medium grained, wet.	▼	50	0.6		
30		CL		SANDY CLAY, grey, fine grained, medium stiff, wet.		100	0.3		

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-2

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt		100	0.3		
		SW		SILTY SAND, dark brown, with gravel, moist (fill).		90	0.5	▨	
5	925	SW		SILTY SAND, red-brown, traces of gravel, moist.		40	0.2		
						0	NA		
10	920	SW		SILTY SAND, red-brown, with coarse gravel to cobble, moist.		30	0.3		
		SW		SILTY SAND, brown, fine to medium grained, with gravel, wet.	▼	50	0.2		
15	915	SW		SILTY SAND, brown, coarse grained some gravel, wet.		60	0.3		
20	910					50	0.3		
25	905	SW		SILTY SAND, brown, coarse grained, some gravel and clay, wet.		90	0.3		
30		SW		SAND, Well Graded, brown, some gravel and clay, wet.		30	0.3		

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-3

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt		100	1.5		
		SW		CLAYEY SAND, red-brown, with gravel, moist (fill).					
		SW		SILTY SAND, black, trace of ash, moist (fill).		40	2.8		
5	925					60	3.0		
		SW		SILTY SAND, tan, fine grained, moist.		40	0.2		
				With gravel					
10	920			Fine to medium grained.		40	0.2		
						10	0.3		
15	915	SW		SILTY SAND, brown, coarse grained, with gravel, wet.		80	0.3		
20	910					60	0.2		
25	905					60	0.2		
30				Coarse gravel.		80	0.3		

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-4

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt					
		SW		SILTY SAND, black, with gravel, moist (fill).		100	0.2		
		SW		SILTY SAND, dark brown,with gravel, trace concrete, moist (fill).		40	0.3		
5	925	SW		SILTY SAND, light brown, moist.		40	0.3		
				Medium grained with gravel.		20	0.2		
10	920			Medium to coarse grained with gravel.		30	0.3		
				Coarse gravel.	▼	10	0.2		
15	915	SW		SILTY SAND, brown, coarse grained, small pockets of clay, wet.		60	0.2		
20	910			Medium to coarse grained with gravel.		50	0.3		
25	905					60	0.2		
30				Coarse gravel.		100	0.2		

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-5

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt					
		SW		CLAYEY SAND, red-brown, traces of gravel, moist (fill).		100	0.2		
		SW		SILTY SAND, brown, medium grained, with gravel, moist.		50	0.1		
5	925	SW		SILTY SAND, dark brown, with gravel, moist.		10	0.4		
		SC		SANDY CLAY, red-brown, fine grained, medium stiff, moist.		90	0.1		
10	920					80	0.1		
				Very moist to wet.		80	0.12		
15	915					80	0.2		
				Wet	▼				
20	910					100	0.2		
25	905	CH		CLAY, grey, stiff, some sand, moist.		90	0.2		
30						80			

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-6

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt					
		SW		SILTY SAND, dark brown to black, with gravel, some clay, moist (fill).		100	0.3		
						20	0.2	▨	
5	925	SW		SILTY SAND, brown, medium to coarse grained, with gravel, moist.		5	0.1		
						5	0.3		
10	920	SW		CLAYEY SAND, black, moist, slight organic odor.		20	0.2		
		CL		SANDY CLAY, grey-brown, soft, traces of gravel, moist.		80	0.3		
15	915					90	0.3		
				Medium stiff.					
20	910					60	0.6		
25	905	SW		CLAYEY SAND, brown, with gravel, wet.	▼	60	0.3		
30						40			

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-7

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt					
		SW		SILTY SAND, brown, with gravel, some clay, moist (fill).		100	7.6		
		SW		SILTY SAND, dark brown to black, with gravel, trace ash, moist.		50	11.6		
5	925	SW		SILTY SAND, red-brown, with gravel , moist.		50	5.3		
		SC		SANDY CLAY, red-brown, some gravel, medium stiff, moist.		90	1.3		
10	920			Stiff with trace gravel.		30	0.8		
		SC		SANDY CLAY, black, traces of gravel, moist, slight organic odor.		70	0.8		
15	915	SC		SANDY CLAY, dark grey, traces of gravel, medium stiff, moist.		100	0.6		
20	910	SC		SANDY CLAY, red-brown, fine grained, traces of gravel, medium stiff, moist.		100	0.7		
25	905	SW		CLAYEY SAND, brown, fine to coarse grained, some gravel, wet.	▼	70	0.8		
30				Coarse gravel.		50	0.5		

WENCK ASSOCIATES

Responsive partner. Exceptional outcomes.

LOG OF BORING SB-8

Shady Oak Road
Supplemental Soil Investigation
4312 Shady Oak Road
Minnetonka, MN
Project # 3035-0005

Date Started	: 5/12/16	Ground Elevation	: 930 ft. ASL
Date Completed	: 5/12/16	Drilling Company	: NTI
Hole Diameter	: 6"	Driller(s)	: Carl and Dan
Drilling Method	: Hollow Stem Auger	Logged By	: KJJ
Sampling Method	: Split Spoon	Checked By	: MGD

Sample Type: Analytical Soil Sample
Water Levels: ▼ During Drilling

Depth in Feet	Surf. Elev. 930	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (%)	PID Result (ppm)	Analytical Sample	REMARKS
0	930	FB		Asphalt		100	0.6		
		SW		SILTY SAND, dark brown, with gravel, moist (fill). Trace Ash		50	0.4		
5	925					60	0.4	▨	
						40	0.4		
10	920			Trace clay.		90	0.3		
		SW		SILTY SAND, light brown, some gravel, moist.					
		SW		CLAYEY SAND, brown, some gravel, moist.		50	0.4		
15	915	SC		SANDY CLAY, brown, traces of gravel, moist. Black lens with organics		90	0.4		
20	910	SC		SANDY CLAY, brown, with gravel, moist. Higher sand content, tan color.		50	0.4		
25	905	SW		SILTY SAND, brown, coarse grained, with gravel, small pockets of clay, wet.	▼	60	0.5		
30		SC		SILTY SAND, tan, fine to medium grained, some gravel, wet.		50	0.3		

WENCK
Engineers, Scientists, Business Professionals

LOG OF BORING GP-1

City of Minnetonka
Site Investigation
4312 Shady Oak Road
Project # B5170-0001

Date Started	: 10/30/14	Ground Elevation	:
Date Completed	: 10/30/14	Northing Coord.	:
Hole Diameter	: 2"	Easting Coord.	:
Drilling Method	: Geoprobe	Logged By	: DJL
Sampling Method	: Dual Tube	Checked By	: DJL

Sample Type: Analytical Soil Sample; Analytical Water Sample
Water Levels: After Drilling; During Drilling

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (in)	PID Result (PPM)	Analytical Sample	Remarks
0			SILTY SAND with GRAVEL, brown, medium grained,moist, (Fill)		28	0		PID reading for GP-1A (0-2') = 16.7 PPM
5	SM		larger gravel and rocks 5 to 10 feet		5	0		
10	SP		SAND, Poorly Graded, brown, fine to medium grained, wet		24	0		
15			E.O.B. @ 15'					
20								
25								
30								

Notes: Refusal on two attempts at GP-1 location before getting beyond 2', likely resulting from septic tank. 0 to 2' sample of first refusal exhibited a possible petroleum odor - this sample was submitted for laboratory analysis (GP-1A).

WENCK
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LOG OF BORING GP-2

City of Minnetonka
Site Investigation
4312 Shady Oak Road
Project # B5170-0001

Date Started	: 10/30/14	Ground Elevation	:
Date Completed	: 10/30/14	Northing Coord.	:
Hole Diameter	: 2"	Easting Coord.	:
Drilling Method	: Geoprobe	Logged By	: DJL
Sampling Method	: Dual Tube	Checked By	: DJL

Sample Type: Analytical Soil Sample; Analytical Water Sample
Water Levels: After Drilling; During Drilling

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (in)	PID Result (PPM)	Analytical Sample	Remarks
0	SC		SANDY CLAY with GRAVEL, multi-colored, moist, (Fill)		36	0 0		
5	SM		SILTY SAND with GRAVEL & Rocks, multi-colored, wet, (Fill)	▽	3	0		
10					20	0	■	
15	SC		SANDY CLAY, brown, wet, (Fluvial)		49	0 0		
	SM		SILTY SAND, brown, fine to medium grained, wet, (Fluvial) E.O.B. @ 20'					
20								
25								
30								

Notes: 1" PVC screen set at 10 to 20 feet for groundwater sample

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Engineers, Scientists, Business Professionals

LOG OF BORING GP-3

(Page 1 of 1)

City of Minnetonka
Site Investigation
4312 Shady Oak Road
Project # B5170-0001

Date Started	: 10/30/14	Ground Elevation	:
Date Completed	: 10/30/14	Northing Coord.	:
Hole Diameter	: 2"	Easting Coord.	:
Drilling Method	: Geoprobe	Logged By	: DJL
Sampling Method	: Dual Tube	Checked By	: DJL

Sample Type: Analytical Soil Sample; Analytical Water Sample
Water Levels: After Drilling; During Drilling

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (in)	PID Result (PPM)	Analytical Sample	Remarks
0	SM		SILTY SAND, brown to dark brown, fine to medium grained, moist, (Fill)		24	0 0		
5	SP		SAND, Poorly Graded with GRAVEL, brown, fine to medium grained, moist, (Fluvial)		24	0		
10	SM		SILTY SAND with GRAVEL, brown, fine to medium grained, wet at 12' (Fluvial) Rocks 12 to 15 feet E.O.B. @ 15'		21	0 0		
15								
20								
25								
30								

Notes:

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Engineers, Scientists, Business Professionals

LOG OF BORING GP-4

City of Minnetonka
Site Investigation
4312 Shady Oak Road
Project # B5170-0001

Date Started	: 10/30/14	Ground Elevation	:
Date Completed	: 10/30/14	Northing Coord.	:
Hole Diameter	: 2"	Easting Coord.	:
Drilling Method	: Geoprobe	Logged By	: DJL
Sampling Method	: Dual Tube	Checked By	: DJL

Sample Type: Analytical Soil Sample; Analytical Water Sample
Water Levels: After Drilling; During Drilling

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (in)	PID Result (PPM)	Analytical Sample	Remarks
0	SM		SILTY SAND with GRAVEL, brown, fine to medium grained, moist, (Fill)		28	0 0		
5	CL		CLAYdark brown, wet, (Fill)				■	
	SM		SILTY SAND with GRAVEL, brown, fine to medium grained, moist		24	0 0		
10	SP		GRAVELLY SAND, Poorly Graded, brown, fine to medium grained, wet, (Fluvial)	▽	15	0		
15	SP		GRAVELLY SAND, Poorly Graded, grey, fine to medium grained, wet, (Fluvial) E.O.B. @ 20'		24	0 0		
20								
25								
30								

Notes: 1" PVC screen set at 6 to 16 feet for groundwater sample (hole collapsed)

WENCK
Engineers, Scientists, Business Professionals

LOG OF BORING GP-5

City of Minnetonka
Site Investigation
4312 Shady Oak Road
Project # B5170-0001

Date Started	: 10/30/14	Ground Elevation	:
Date Completed	: 10/30/14	Northing Coord.	:
Hole Diameter	: 2"	Easting Coord.	:
Drilling Method	: Geoprobe	Logged By	: DJL
Sampling Method	: Dual Tube	Checked By	: DJL

Sample Type: Analytical Soil Sample; Analytical Water Sample
Water Levels: After Drilling; During Drilling

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	Water Level	Sample Recovery (in)	PID Result (PPM)	Analytical Sample	Remarks
0	SM		SILTY SAND with GRAVEL, dark brown, fine to medium grained, moist, (Fill)		26	0 0	■	
5	OL		ORGANIC CLAY, dark brown, moist		12	0 0		
10	SC		SANDY CLAY, brown, moist		25	0 0		
15	SP		SAND, Poorly Graded with GRAVEL, brown, moist		25	0 0		
20	SP		wet at 20'	▽	36	0 0		
25	SP		SAND, Poorly Graded, grey, wet		20	0 0		
30			E.O.B. @ 30'					

Notes: This location is approximately 10 feet higher in elevation than GP-1 through GP-4.

1" PVC screen set at 17 to 27 feet for groundwater sample

11-13-2014 T:\5170 City of Minnetonka\0001 City of Minnetonka\Phase II ESA\QuickLog\GP-5.bo

Appendix B

Laboratory Reports and Chain-of-Custody Documentation

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Cedar Falls
704 Enterprise Drive
Cedar Falls, IA 50613
Tel: (319)277-2401

TestAmerica Job ID: 310-80618-1
TestAmerica Sample Delivery Group: 3035-0005
Client Project/Site: SHADY OAK - MINNETONKA
Revision: 1

For:
Wenck Associates, Inc
1800 Pioneer Creek Center
Maple Plain, Minnesota 55359

Attn: Adam P Zobel

Authorized for release by:
5/26/2016 4:13:04 PM

Zach Bindert, Project Manager I
(319)277-2401
zach.bindert@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Job ID: 310-80618-1

Laboratory: TestAmerica Cedar Falls

Narrative

Job Narrative
310-80618-1

Comments
This report was revised 5/26/2016. The client questioned a low RL for sample SB-4 (2-3.5) (310-80618-7). The laboratory determined that the initial weight of the sample was entered in the 3550B prep batch incorrectly resulting in a lower reporting limit.

Receipt
The samples were received on 5/14/2016 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

Receipt Exceptions
DRO jar for SB-7 was labeled as SB-12 on the container. The client was contacted and confirmed the correct ID for this sample should be SB-7 (2-3.5)

SB-7 (2-3.5) (310-80618-3)

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D SIM: The following samples was diluted due to the nature of the sample matrix: SB-5 (2-3.5) (310-80618-1), SB-6 (2-3.5) (310-80618-2), SB-7 (2-3.5) (310-80618-3), SB-1 (0-1.5) (310-80618-4), SB-2 (2-3.5) (310-80618-5) and SB-3 (4.5-6) (310-80618-6). Elevated reporting limits (RLs) are provided.

Method 8270D SIM: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) sample: (310-80548-B-9-A MS). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported.

Method(s) 8270D SIM: The following samples was diluted due to the nature of the sample matrix: SB-4 (2-3.5) (310-80618-7) and SB-8 (4.5-6) (310-80618-8). Elevated reporting limits (RLs) are provided.

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

GC Semi VOA
Method 8082A: The laboratory control sample (LCS) for preparation batch 310-127604 and analytical batch 310-127842 recovered outside control limits for the following analytes: PCB-1016 and PCB-1260. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8082A: The surrogate recovery for the blank associated with preparation batch 310-127604 and analytical batch 310-127842 was outside the upper control limits. All associated sample surrogates fell within acceptance criteria; therefore, the data have been reported.

Method WI-DRO: The laboratory control sample duplicate (LCSD) for preparation batch 310-127730 and analytical batch 310-127812 recovered outside control limits for the following analytes: Diesel Range Organics (DRO). These analytes were biased low in the LCSD and all associated samples have been rerun for confirmation; therefore, the data have been reported.

Method WI-DRO: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 310-127730 recovered outside control limits for the following analytes: Diesel Range Organics (DRO).

Method WI-DRO: Significant peaks, readily distinguished from background, were detected in the following samples within five minutes after the end of the analytical window defined by the last component eluting in the Diesel Range Organics (DRO) mix (i.e., n-Octacosane): SB-5 (2-3.5) (310-80618-1), SB-6 (2-3.5) (310-80618-2), SB-7 (2-3.5) (310-80618-3), SB-1 (0-1.5) (310-80618-4), SB-2 (2-3.5) (310-80618-5), SB-3 (4.5-6) (310-80618-6), SB-4 (2-3.5) (310-80618-7) and SB-8 (4.5-6) (310-80618-8).

Method WI-DRO: The laboratory control sample duplicate (LCSD) for preparation batch 310-127730 and analytical batch 310-127986

Job ID: 310-80618-1 (Continued)

Laboratory: TestAmerica Cedar Falls (Continued)

recovered outside control limits for the following analytes: Diesel Range Organics (DRO). These analytes were biased low in the LCSD and all associated samples have been rerun for confirmation; 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.

Metals
Method 6010C: The following samples was diluted due to the presence of an interferent: SB-7 (2-3.5) (310-80618-3), SB-2 (2-3.5) (310-80618-5), SB-3 (4.5-6) (310-80618-6) and SB-8 (4.5-6) (310-80618-8). Elevated reporting limits (RLs) are provided.

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

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

Sample Summary

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-80618-1	SB-5 (2-3.5)	Solid	05/12/16 10:00	05/14/16 09:15
310-80618-2	SB-6 (2-3.5)	Solid	05/12/16 11:00	05/14/16 09:15
310-80618-3	SB-7 (2-3.5)	Solid	05/12/16 12:00	05/14/16 09:15
310-80618-4	SB-1 (0-1.5)	Solid	05/12/16 14:00	05/14/16 09:15
310-80618-5	SB-2 (2-3.5)	Solid	05/12/16 15:30	05/14/16 09:15
310-80618-6	SB-3 (4.5-6)	Solid	05/13/16 09:30	05/14/16 09:15
310-80618-7	SB-4 (2-3.5)	Solid	05/13/16 11:00	05/14/16 09:15
310-80618-8	SB-8 (4.5-6)	Solid	05/13/16 15:00	05/14/16 09:15
310-80618-9	MeOH Trip Blank	Solid	05/13/16 00:00	05/14/16 09:15

Detection Summary

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: SB-5 (2-3.5) — Lab Sample ID: 310-80618-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.125		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.173		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.322		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.182		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	0.115		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Chrysene	0.168		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.194		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.138		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.205		0.111		mg/Kg	10	☼	8270D SIM	Total/NA
Diesel Range Organics (DRO)	28.1	*	4.22		mg/Kg	1	☼	WI-DRO	Total/NA
Barium	36.0		0.567		mg/Kg	1	☼	6010C	Total/NA
Chromium	13.0		1.13		mg/Kg	1	☼	6010C	Total/NA
Arsenic	2.29		0.677		mg/Kg	12	☼	7010	Total/NA

Client Sample ID: SB-6 (2-3.5) — Lab Sample ID: 310-80618-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO)	170	*	23.3		mg/Kg	1	☼	WI-DRO	Total/NA
Barium	56.3		0.455		mg/Kg	1	☼	6010C	Total/NA
Chromium	14.8		0.911		mg/Kg	1	☼	6010C	Total/NA
Lead	9.38		4.55		mg/Kg	1	☼	6010C	Total/NA
Arsenic	2.32		0.578		mg/Kg	12	☼	7010	Total/NA

Client Sample ID: SB-7 (2-3.5) — Lab Sample ID: 310-80618-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.136		0.115		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.170		0.115		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.222		0.115		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.121		0.115		mg/Kg	10	☼	8270D SIM	Total/NA
Chrysene	0.157		0.115		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.216		0.115		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.246		0.115		mg/Kg	10	☼	8270D SIM	Total/NA
Diesel Range Organics (DRO)	215	*	22.6		mg/Kg	1	☼	WI-DRO	Total/NA
Barium	48.4		1.12		mg/Kg	2	☼	6010C	Total/NA
Chromium	13.3		2.24		mg/Kg	2	☼	6010C	Total/NA
Lead	15.8		11.2		mg/Kg	2	☼	6010C	Total/NA
Arsenic	2.85		0.606		mg/Kg	12	☼	7010	Total/NA

Client Sample ID: SB-1 (0-1.5) — Lab Sample ID: 310-80618-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics (DRO)	10.2	*	5.17		mg/Kg	1	☼	WI-DRO	Total/NA
Barium	36.7		0.496		mg/Kg	1	☼	6010C	Total/NA
Chromium	16.2		0.992		mg/Kg	1	☼	6010C	Total/NA
Arsenic	2.16		0.626		mg/Kg	12	☼	7010	Total/NA

Client Sample ID: SB-2 (2-3.5) — Lab Sample ID: 310-80618-5

This Detection Summary does not include radiochemical test results.

Client Sample ID: SB-2 (2-3.5) (Continued) — Lab Sample ID: 310-80618-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.259		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.331		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.463		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.222		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	0.144		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Chrysene	0.299		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.466		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.185		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Phenanthrene	0.141		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.466		0.101		mg/Kg	10	☼	8270D SIM	Total/NA
Diesel Range Organics (DRO)	24.9	*	3.90		mg/Kg	1	☼	WI-DRO	Total/NA
Barium	42.5		0.953		mg/Kg	2	☼	6010C	Total/NA
Chromium	12.6		1.91		mg/Kg	2	☼	6010C	Total/NA
Lead	16.3		9.53		mg/Kg	2	☼	6010C	Total/NA
Arsenic	2.56		0.626		mg/Kg	12	☼	7010	Total/NA

Client Sample ID: SB-3 (4.5-6) — Lab Sample ID: 310-80618-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.245		0.103		mg/Kg	1	☼	8260B	Total/NA
Benzo[a]anthracene	0.342		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.342		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.484		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.171		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	0.143		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Chrysene	0.369		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.553		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.125		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Phenanthrene	0.197		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.601		0.0982		mg/Kg	10	☼	8270D SIM	Total/NA
Diesel Range Organics (DRO)	108	*	22.2		mg/Kg	1	☼	WI-DRO	Total/NA
Barium	36.7		0.878		mg/Kg	2	☼	6010C	Total/NA
Chromium	14.0		1.76		mg/Kg	2	☼	6010C	Total/NA
Lead	8.80		8.78		mg/Kg	2	☼	6010C	Total/NA
Arsenic	1.82		0.623		mg/Kg	12	☼	7010	Total/NA

Client Sample ID: SB-4 (2-3.5) — Lab Sample ID: 310-80618-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	0.289		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[a]pyrene	0.356		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[b]fluoranthene	0.482		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.284		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[k]fluoranthene	0.144		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Chrysene	0.321		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.423		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.203		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Phenanthrene	0.113		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.493		0.105		mg/Kg	10	☼	8270D SIM	Total/NA
Diesel Range Organics (DRO)	42.5	*	18.1		mg/Kg	1	☼	WI-DRO	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: SB-4 (2-3.5) (Continued) — Lab Sample ID: 310-80618-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	34.1		0.491		mg/Kg	1	☼	6010C	Total/NA
Chromium	11.0		0.981		mg/Kg	1	☼	6010C	Total/NA
Lead	9.69		4.91		mg/Kg	1	☼	6010C	Total/NA
Arsenic	2.29		0.608		mg/Kg	12	☼	7010	Total/NA

Client Sample ID: SB-8 (4.5-6) — Lab Sample ID: 310-80618-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[b]fluoranthene	0.139		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Benzo[g,h,i]perylene	0.110		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Fluoranthene	0.165		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Phenanthrene	0.157		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Pyrene	0.267		0.103		mg/Kg	10	☼	8270D SIM	Total/NA
Diesel Range Organics (DRO)	33.2	*	4.22		mg/Kg	1	☼	WI-DRO	Total/NA
Barium	26.0		1.01		mg/Kg	2	☼	6010C	Total/NA
Chromium	10.4		2.02		mg/Kg	2	☼	6010C	Total/NA
Arsenic	2.11		0.539		mg/Kg	12	☼	7010	Total/NA
Mercury	0.0979		0.0183		mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: MeOH Trip Blank — Lab Sample ID: 310-80618-9

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: SB-5 (2-3.5)
Date Collected: 05/12/16 10:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.572		0.572		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Allyl chloride	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Benzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Bromobenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Bromochloromethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Bromodichloromethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Bromoform	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Bromomethane	<0.572		0.572		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
2-Butanone (MEK)	<0.286		0.286		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Carbon tetrachloride	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Chlorobenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Chlorodibromomethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Chloroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Chloroform	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Chloromethane	<0.286		0.286		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
2-Chlorotoluene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
4-Chlorotoluene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
cis-1,2-Dichloroethene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
cis-1,3-Dichloropropene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2-Dibromo-3-Chloropropane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2-Dibromoethane (EDB)	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Dibromomethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2-Dichlorobenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,3-Dichlorobenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,4-Dichlorobenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Dichlorodifluoromethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,1-Dichloroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2-Dichloroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,1-Dichloroethene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Dichlorofluoromethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2-Dichloropropane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,3-Dichloropropane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
2,2-Dichloropropane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,1-Dichloropropene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Diethyl ether	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Ethylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Hexachlorobutadiene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Isopropylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Methylene Chloride	<0.286		0.286		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
4-Methyl-2-pentanone (MIBK)	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Methyl tert-butyl ether	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Naphthalene	<0.286		0.286		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
n-Butylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
N-Propylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
p-Isopropyltoluene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
sec-Butylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Styrene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
tert-Butylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,1,1,2-Tetrachloroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1

Client Sample ID: SB-5 (2-3.5)
Date Collected: 05/12/16 10:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-1
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Tetrachloroethene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Tetrahydrofuran	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Toluene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
trans-1,2-Dichloroethene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
trans-1,3-Dichloropropene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2,3-Trichlorobenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2,4-Trichlorobenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,1,1-Trichloroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,1,2-Trichloroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Trichloroethene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Trichlorofluoromethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2,3-Trichloropropane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,1,2-Trichlorotrifluoroethane	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,2,4-Trimethylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
1,3,5-Trimethylbenzene	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Vinyl chloride	<0.114		0.114		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1
Xylenes, Total	<0.172		0.172		mg/Kg	☼	05/18/16 07:38	05/18/16 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 135*	*05/18/16 07:38*	*05/18/16 23:07*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*	*05/18/16 07:38*	*05/18/16 23:07*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*05/18/16 07:38*	*05/18/16 23:07*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Acenaphthylene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Anthracene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Benzo[a]anthracene	**0.125**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Benzo[a]pyrene	**0.173**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Benzo[b]fluoranthene	**0.322**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Benzo[g,h,i]perylene	**0.182**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Benzo[k]fluoranthene	**0.115**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Chrysene	**0.168**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Dibenz(a,h)anthracene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Fluoranthene	**0.194**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Fluorene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Indeno[1,2,3-cd]pyrene	**0.138**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
2-Methylnaphthalene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Naphthalene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Phenanthrene	<0.111		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10
Pyrene	**0.205**		0.111		mg/Kg	☼	05/16/16 13:52	05/17/16 19:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*75*		*10 - 110*	*05/16/16 13:52*	*05/17/16 19:05*	*10*
Nitrobenzene-d5 (Surr)	*57*		*10 - 110*	*05/16/16 13:52*	*05/17/16 19:05*	*10*
Terphenyl-d14 (Surr)	*79*		*20 - 110*	*05/16/16 13:52*	*05/17/16 19:05*	*10*

Client Sample ID: SB-5 (2-3.5)

Date Collected: 05/12/16 10:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-1

Matrix: Solid

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
PCB-1221	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
PCB-1232	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
PCB-1242	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
PCB-1248	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
PCB-1254	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
PCB-1260	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
PCB-1268	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1
Polychlorinated biphenyls, Total	<0.0575		0.0575		mg/Kg	☼	05/24/16 10:09	05/24/16 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*48*		*10 - 110*	*05/24/16 10:09*	*05/24/16 18:41*	*1*
Tetrachloro-m-xylene	*50*		*10 - 110*	*05/24/16 10:09*	*05/24/16 18:41*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**28.1**	*	4.22		mg/Kg	☼	05/16/16 14:00	05/17/16 19:39	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**36.0**		0.567		mg/Kg	☼	05/17/16 10:00	05/17/16 19:00	1
Cadmium	<1.13		1.13		mg/Kg	☼	05/17/16 10:00	05/17/16 19:00	1
Chromium	**13.0**		1.13		mg/Kg	☼	05/17/16 10:00	05/17/16 19:00	1
Lead	<5.67		5.67		mg/Kg	☼	05/17/16 10:00	05/17/16 19:00	1
Silver	<1.13		1.13		mg/Kg	☼	05/17/16 10:00	05/17/16 19:00	1

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.29**		0.677		mg/Kg	☼	05/17/16 10:00	05/18/16 14:07	12
Selenium	<1.13		1.13		mg/Kg	☼	05/17/16 10:00	05/17/16 12:15	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0212		0.0212		mg/Kg	☼	05/16/16 14:10	05/17/16 12:53	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.2**		0.1		%			05/16/16 09:56	1
Percent Solids	**86.8**		0.1		%			05/16/16 09:56	1

Client Sample ID: SB-6 (2-3.5)
Date Collected: 05/12/16 11:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.552		0.552		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Allyl chloride	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Benzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Bromobenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Bromochloromethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Bromodichloromethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Bromoform	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Bromomethane	<0.552		0.552		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
2-Butanone (MEK)	<0.276		0.276		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Carbon tetrachloride	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Chlorobenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Chlorodibromomethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Chloroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Chloroform	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Chloromethane	<0.276		0.276		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
2-Chlorotoluene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
4-Chlorotoluene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
cis-1,2-Dichloroethene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
cis-1,3-Dichloropropene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2-Dibromo-3-Chloropropane	<0.110	F1 F2	0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2-Dibromoethane (EDB)	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Dibromomethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2-Dichlorobenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,3-Dichlorobenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,4-Dichlorobenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Dichlorodifluoromethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,1-Dichloroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2-Dichloroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,1-Dichloroethene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Dichlorofluoromethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2-Dichloropropane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,3-Dichloropropane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
2,2-Dichloropropane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,1-Dichloropropene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Diethyl ether	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Ethylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Hexachlorobutadiene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Isopropylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Methylene Chloride	<0.276		0.276		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
4-Methyl-2-pentanone (MIBK)	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Methyl tert-butyl ether	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Naphthalene	<0.276		0.276		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
n-Butylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
N-Propylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
p-Isopropyltoluene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
sec-Butylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Styrene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
tert-Butylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,1,1,2-Tetrachloroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1

Client Sample ID: SB-6 (2-3.5)
Date Collected: 05/12/16 11:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-2
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Tetrachloroethene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Tetrahydrofuran	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Toluene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
trans-1,2-Dichloroethene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
trans-1,3-Dichloropropene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2,3-Trichlorobenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2,4-Trichlorobenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,1,1-Trichloroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,1,2-Trichloroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Trichloroethene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Trichlorofluoromethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2,3-Trichloropropane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,1,2-Trichlorotrifluoroethane	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,2,4-Trimethylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
1,3,5-Trimethylbenzene	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Vinyl chloride	<0.110		0.110		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1
Xylenes, Total	<0.166		0.166		mg/Kg	☼	05/18/16 07:38	05/18/16 23:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 135*	*05/18/16 07:38*	*05/18/16 23:32*	*1*
Dibromofluoromethane (Surr)	*96*		*80 - 120*	*05/18/16 07:38*	*05/18/16 23:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*05/18/16 07:38*	*05/18/16 23:32*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Acenaphthylene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Anthracene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Benzo[a]anthracene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Benzo[a]pyrene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Benzo[b]fluoranthene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Benzo[g,h,i]perylene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Benzo[k]fluoranthene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Chrysene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Dibenz(a,h)anthracene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Fluoranthene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Fluorene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Indeno[1,2,3-cd]pyrene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
2-Methylnaphthalene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Naphthalene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Phenanthrene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10
Pyrene	<0.413		0.413		mg/Kg	☼	05/16/16 13:52	05/17/16 19:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*71*		*10 - 110*	*05/16/16 13:52*	*05/17/16 19:27*	*10*
Nitrobenzene-d5 (Surr)	*49*		*10 - 110*	*05/16/16 13:52*	*05/17/16 19:27*	*10*
Terphenyl-d14 (Surr)	*93*		*20 - 110*	*05/16/16 13:52*	*05/17/16 19:27*	*10*

Client Sample ID: SB-6 (2-3.5)

Date Collected: 05/12/16 11:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-2

Matrix: Solid

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0548	*	0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
PCB-1221	<0.0548		0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
PCB-1232	<0.0548		0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
PCB-1242	<0.0548		0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
PCB-1248	<0.0548		0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
PCB-1254	<0.0548		0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
PCB-1260	<0.0548	*	0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
PCB-1268	<0.0548		0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1
Polychlorinated biphenyls, Total	<0.0548		0.0548		mg/Kg	☼	05/16/16 13:54	05/17/16 17:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*71*		*10 - 110*	*05/16/16 13:54*	*05/17/16 17:57*	*1*
Tetrachloro-m-xylene	*62*		*10 - 110*	*05/16/16 13:54*	*05/17/16 17:57*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**170**	*	23.3		mg/Kg	☼	05/16/16 14:00	05/17/16 20:15	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**56.3**		0.455		mg/Kg	☼	05/17/16 10:00	05/17/16 19:02	1
Cadmium	<0.911		0.911		mg/Kg	☼	05/17/16 10:00	05/17/16 19:02	1
Chromium	**14.8**		0.911		mg/Kg	☼	05/17/16 10:00	05/17/16 19:02	1
Lead	**9.38**		4.55		mg/Kg	☼	05/17/16 10:00	05/17/16 19:02	1
Silver	<0.911		0.911		mg/Kg	☼	05/17/16 10:00	05/17/16 19:02	1

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.32**		0.578		mg/Kg	☼	05/17/16 10:00	05/18/16 14:18	12
Selenium	<0.963		0.963		mg/Kg	☼	05/17/16 10:00	05/17/16 12:18	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0199		0.0199		mg/Kg	☼	05/16/16 14:10	05/17/16 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**9.0**		0.1		%			05/16/16 09:56	1
Percent Solids	**91.0**		0.1		%			05/16/16 09:56	1

Client Sample ID: SB-7 (2-3.5)
Date Collected: 05/12/16 12:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-3
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.566		0.566		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Allyl chloride	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Benzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Bromobenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Bromochloromethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Bromodichloromethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Bromoform	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Bromomethane	<0.566		0.566		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
2-Butanone (MEK)	<0.283		0.283		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Carbon tetrachloride	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Chlorobenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Chlorodibromomethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Chloroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Chloroform	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Chloromethane	<0.283		0.283		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
2-Chlorotoluene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
4-Chlorotoluene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
cis-1,2-Dichloroethene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
cis-1,3-Dichloropropene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2-Dibromo-3-Chloropropane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2-Dibromoethane (EDB)	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Dibromomethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2-Dichlorobenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,3-Dichlorobenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,4-Dichlorobenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Dichlorodifluoromethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,1-Dichloroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2-Dichloroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,1-Dichloroethene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Dichlorofluoromethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2-Dichloropropane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,3-Dichloropropane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
2,2-Dichloropropane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,1-Dichloropropene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Diethyl ether	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Ethylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Hexachlorobutadiene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Isopropylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Methylene Chloride	<0.283		0.283		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
4-Methyl-2-pentanone (MIBK)	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Methyl tert-butyl ether	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Naphthalene	<0.283		0.283		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
n-Butylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
N-Propylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
p-Isopropyltoluene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
sec-Butylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Styrene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
tert-Butylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,1,1,2-Tetrachloroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1

Client Sample ID: SB-7 (2-3.5)

Date Collected: 05/12/16 12:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Tetrachloroethene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Tetrahydrofuran	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Toluene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
trans-1,2-Dichloroethene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
trans-1,3-Dichloropropene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2,3-Trichlorobenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2,4-Trichlorobenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,1,1-Trichloroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,1,2-Trichloroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Trichloroethene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Trichlorofluoromethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2,3-Trichloropropane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,1,2-Trichlorotrifluoroethane	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,2,4-Trimethylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
1,3,5-Trimethylbenzene	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Vinyl chloride	<0.113		0.113		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1
Xylenes, Total	<0.170		0.170		mg/Kg	☼	05/18/16 07:38	05/18/16 23:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*	*05/18/16 07:38*	*05/18/16 23:56*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*	*05/18/16 07:38*	*05/18/16 23:56*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*05/18/16 07:38*	*05/18/16 23:56*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Acenaphthylene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Anthracene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Benzo[a]anthracene	**0.136**		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Benzo[a]pyrene	**0.170**		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Benzo[b]fluoranthene	**0.222**		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Benzo[g,h,i]perylene	**0.121**		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Benzo[k]fluoranthene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Chrysene	**0.157**		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Dibenz(a,h)anthracene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Fluoranthene	**0.216**		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Fluorene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Indeno[1,2,3-cd]pyrene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
2-Methylnaphthalene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Naphthalene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Phenanthrene	<0.115		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10
Pyrene	**0.246**		0.115		mg/Kg	☼	05/16/16 13:52	05/17/16 19:50	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*20*		*10 - 110*	*05/16/16 13:52*	*05/17/16 19:50*	*10*
Nitrobenzene-d5 (Surr)	*13*		*10 - 110*	*05/16/16 13:52*	*05/17/16 19:50*	*10*
Terphenyl-d14 (Surr)	*24*		*20 - 110*	*05/16/16 13:52*	*05/17/16 19:50*	*10*

Client Sample ID: SB-7 (2-3.5)

Date Collected: 05/12/16 12:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-3

Matrix: Solid

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0569	*	0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
PCB-1221	<0.0569		0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
PCB-1232	<0.0569		0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
PCB-1242	<0.0569		0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
PCB-1248	<0.0569		0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
PCB-1254	<0.0569		0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
PCB-1260	<0.0569	*	0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
PCB-1268	<0.0569		0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1
Polychlorinated biphenyls, Total	<0.0569		0.0569		mg/Kg	☼	05/16/16 13:54	05/17/16 18:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*66*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:08*	*1*
Tetrachloro-m-xylene	*61*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:08*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**215**	*	22.6		mg/Kg	☼	05/16/16 14:00	05/17/16 20:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**48.4**		1.12		mg/Kg	☼	05/17/16 10:00	05/17/16 21:03	2
Cadmium	<2.24		2.24		mg/Kg	☼	05/17/16 10:00	05/17/16 21:03	2
Chromium	**13.3**		2.24		mg/Kg	☼	05/17/16 10:00	05/17/16 21:03	2
Lead	**15.8**		11.2		mg/Kg	☼	05/17/16 10:00	05/17/16 21:03	2
Silver	<2.24		2.24		mg/Kg	☼	05/17/16 10:00	05/17/16 21:03	2

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.85**		0.606		mg/Kg	☼	05/17/16 10:00	05/18/16 14:22	12
Selenium	<1.01		1.01		mg/Kg	☼	05/17/16 10:00	05/17/16 12:22	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0214		0.0214		mg/Kg	☼	05/16/16 14:10	05/17/16 12:56	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**13.4**		0.1		%			05/16/16 09:56	1
Percent Solids	**86.6**		0.1		%			05/16/16 09:56	1

Client Sample ID: SB-1 (0-1.5)
Date Collected: 05/12/16 14:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.541		0.541		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Allyl chloride	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Benzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Bromobenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Bromochloromethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Bromodichloromethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Bromoform	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Bromomethane	<0.541		0.541		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
2-Butanone (MEK)	<0.271		0.271		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Carbon tetrachloride	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Chlorobenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Chlorodibromomethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Chloroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Chloroform	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Chloromethane	<0.271		0.271		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
2-Chlorotoluene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
4-Chlorotoluene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
cis-1,2-Dichloroethene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
cis-1,3-Dichloropropene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2-Dibromo-3-Chloropropane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2-Dibromoethane (EDB)	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Dibromomethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2-Dichlorobenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,3-Dichlorobenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,4-Dichlorobenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Dichlorodifluoromethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,1-Dichloroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2-Dichloroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,1-Dichloroethene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Dichlorofluoromethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2-Dichloropropane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,3-Dichloropropane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
2,2-Dichloropropane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,1-Dichloropropene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Diethyl ether	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Ethylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Hexachlorobutadiene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Isopropylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Methylene Chloride	<0.271		0.271		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
4-Methyl-2-pentanone (MIBK)	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Methyl tert-butyl ether	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Naphthalene	<0.271		0.271		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
n-Butylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
N-Propylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
p-Isopropyltoluene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
sec-Butylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Styrene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
tert-Butylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,1,1,2-Tetrachloroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1

Client Sample ID: SB-1 (0-1.5)
Date Collected: 05/12/16 14:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-4
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Tetrachloroethene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Tetrahydrofuran	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Toluene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
trans-1,2-Dichloroethene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
trans-1,3-Dichloropropene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2,3-Trichlorobenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2,4-Trichlorobenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,1,1-Trichloroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,1,2-Trichloroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Trichloroethene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Trichlorofluoromethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2,3-Trichloropropane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,1,2-Trichlorotrifluoroethane	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,2,4-Trimethylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
1,3,5-Trimethylbenzene	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Vinyl chloride	<0.108		0.108		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1
Xylenes, Total	<0.162		0.162		mg/Kg	☼	05/18/16 07:38	05/19/16 00:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 135*	*05/18/16 07:38*	*05/19/16 00:20*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*	*05/18/16 07:38*	*05/19/16 00:20*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*05/18/16 07:38*	*05/19/16 00:20*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Acenaphthylene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Anthracene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Benzo[a]anthracene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Benzo[a]pyrene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Benzo[b]fluoranthene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Benzo[g,h,i]perylene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Benzo[k]fluoranthene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Chrysene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Dibenz(a,h)anthracene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Fluoranthene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Fluorene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Indeno[1,2,3-cd]pyrene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
2-Methylnaphthalene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Naphthalene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Phenanthrene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10
Pyrene	<0.106		0.106		mg/Kg	☼	05/16/16 13:52	05/17/16 20:12	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*78*		*10 - 110*	*05/16/16 13:52*	*05/17/16 20:12*	*10*
Nitrobenzene-d5 (Surr)	*58*		*10 - 110*	*05/16/16 13:52*	*05/17/16 20:12*	*10*
Terphenyl-d14 (Surr)	*84*		*20 - 110*	*05/16/16 13:52*	*05/17/16 20:12*	*10*

Client Sample ID: SB-1 (0-1.5)

Date Collected: 05/12/16 14:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-4

Matrix: Solid

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0539	*	0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
PCB-1221	<0.0539		0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
PCB-1232	<0.0539		0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
PCB-1242	<0.0539		0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
PCB-1248	<0.0539		0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
PCB-1254	<0.0539		0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
PCB-1260	<0.0539	*	0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
PCB-1268	<0.0539		0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1
Polychlorinated biphenyls, Total	<0.0539		0.0539		mg/Kg	☼	05/16/16 13:54	05/17/16 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*65*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:18*	*1*
Tetrachloro-m-xylene	*63*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:18*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**10.2**	*	5.17		mg/Kg	☼	05/16/16 14:00	05/17/16 21:28	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**36.7**		0.496		mg/Kg	☼	05/17/16 10:00	05/17/16 19:06	1
Cadmium	<0.992		0.992		mg/Kg	☼	05/17/16 10:00	05/17/16 19:06	1
Chromium	**16.2**		0.992		mg/Kg	☼	05/17/16 10:00	05/17/16 19:06	1
Lead	<4.96		4.96		mg/Kg	☼	05/17/16 10:00	05/17/16 19:06	1
Silver	<0.992		0.992		mg/Kg	☼	05/17/16 10:00	05/17/16 19:06	1

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.16**		0.626		mg/Kg	☼	05/17/16 10:00	05/18/16 14:26	12
Selenium	<1.04		1.04		mg/Kg	☼	05/17/16 10:00	05/17/16 12:25	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0214		0.0214		mg/Kg	☼	05/16/16 14:10	05/17/16 12:58	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**8.7**		0.1		%			05/16/16 09:56	1
Percent Solids	**91.3**		0.1		%			05/16/16 09:56	1

Client Sample ID: SB-2 (2-3.5)
Date Collected: 05/12/16 15:30
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.530		0.530		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Allyl chloride	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Benzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Bromobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Bromochloromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Bromodichloromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Bromoform	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Bromomethane	<0.530		0.530		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
2-Butanone (MEK)	<0.265		0.265		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Carbon tetrachloride	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Chlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Chlorodibromomethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Chloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Chloroform	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Chloromethane	<0.265		0.265		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
2-Chlorotoluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
4-Chlorotoluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
cis-1,2-Dichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
cis-1,3-Dichloropropene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2-Dibromo-3-Chloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2-Dibromoethane (EDB)	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Dibromomethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2-Dichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,3-Dichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,4-Dichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Dichlorodifluoromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,1-Dichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2-Dichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,1-Dichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Dichlorofluoromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2-Dichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,3-Dichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
2,2-Dichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,1-Dichloropropene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Diethyl ether	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Ethylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Hexachlorobutadiene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Isopropylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Methylene Chloride	<0.265		0.265		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
4-Methyl-2-pentanone (MIBK)	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Methyl tert-butyl ether	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Naphthalene	<0.265		0.265		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
n-Butylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
N-Propylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
p-Isopropyltoluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
sec-Butylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Styrene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
tert-Butylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,1,1,2-Tetrachloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1

Client Sample ID: SB-2 (2-3.5)
Date Collected: 05/12/16 15:30
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Tetrachloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Tetrahydrofuran	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Toluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
trans-1,2-Dichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
trans-1,3-Dichloropropene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2,3-Trichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2,4-Trichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,1,1-Trichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,1,2-Trichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Trichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Trichlorofluoromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2,3-Trichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,1,2-Trichlorotrifluoroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,2,4-Trimethylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
1,3,5-Trimethylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Vinyl chloride	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1
Xylenes, Total	<0.159		0.159		mg/Kg	☼	05/18/16 07:38	05/19/16 00:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*70 - 135*	*05/18/16 07:38*	*05/19/16 00:44*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*	*05/18/16 07:38*	*05/19/16 00:44*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*	*05/18/16 07:38*	*05/19/16 00:44*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.101		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Acenaphthylene	<0.101		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Anthracene	<0.101		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Benzo[a]anthracene	**0.259**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Benzo[a]pyrene	**0.331**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Benzo[b]fluoranthene	**0.463**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Benzo[g,h,i]perylene	**0.222**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Benzo[k]fluoranthene	**0.144**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Chrysene	**0.299**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Dibenz(a,h)anthracene	<0.101		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Fluoranthene	**0.466**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Fluorene	<0.101		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Indeno[1,2,3-cd]pyrene	**0.185**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
2-Methylnaphthalene	<0.101		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Naphthalene	<0.101		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Phenanthrene	**0.141**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10
Pyrene	**0.466**		0.101		mg/Kg	☼	05/16/16 13:52	05/17/16 20:34	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*72*		*10 - 110*	*05/16/16 13:52*	*05/17/16 20:34*	*10*
Nitrobenzene-d5 (Surr)	*53*		*10 - 110*	*05/16/16 13:52*	*05/17/16 20:34*	*10*
Terphenyl-d14 (Surr)	*78*		*20 - 110*	*05/16/16 13:52*	*05/17/16 20:34*	*10*

Client Sample ID: SB-2 (2-3.5)

Lab Sample ID: 310-80618-5

Date Collected: 05/12/16 15:30

Matrix: Solid

Date Received: 05/14/16 09:15

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0525	*	0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
PCB-1221	<0.0525		0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
PCB-1232	<0.0525		0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
PCB-1242	<0.0525		0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
PCB-1248	<0.0525		0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
PCB-1254	<0.0525		0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
PCB-1260	<0.0525	*	0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
PCB-1268	<0.0525		0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1
Polychlorinated biphenyls, Total	<0.0525		0.0525		mg/Kg	☼	05/16/16 13:54	05/17/16 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*65*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:29*	*1*
Tetrachloro-m-xylene	*62*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:29*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**24.9**	*	3.90		mg/Kg	☼	05/16/16 14:00	05/17/16 22:04	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**42.5**		0.953		mg/Kg	☼	05/17/16 10:00	05/17/16 21:06	2
Cadmium	<1.91		1.91		mg/Kg	☼	05/17/16 10:00	05/17/16 21:06	2
Chromium	**12.6**		1.91		mg/Kg	☼	05/17/16 10:00	05/17/16 21:06	2
Lead	**16.3**		9.53		mg/Kg	☼	05/17/16 10:00	05/17/16 21:06	2
Silver	<1.91		1.91		mg/Kg	☼	05/17/16 10:00	05/17/16 21:06	2

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.56**		0.626		mg/Kg	☼	05/17/16 10:00	05/18/16 14:30	12
Selenium	<1.04		1.04		mg/Kg	☼	05/17/16 10:00	05/17/16 12:35	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0211		0.0211		mg/Kg	☼	05/16/16 14:10	05/17/16 13:02	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**7.2**		0.1		%			05/16/16 09:56	1
Percent Solids	**92.8**		0.1		%			05/16/16 09:56	1

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: SB-3 (4.5-6)
Date Collected: 05/13/16 09:30
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.517		0.517		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Allyl chloride	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Benzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Bromobenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Bromochloromethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Bromodichloromethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Bromoform	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Bromomethane	<0.517		0.517		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
2-Butanone (MEK)	<0.259		0.259		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Carbon tetrachloride	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Chlorobenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Chlorodibromomethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Chloroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Chloroform	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Chloromethane	<0.259		0.259		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
2-Chlorotoluene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
4-Chlorotoluene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
cis-1,2-Dichloroethene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
cis-1,3-Dichloropropene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2-Dibromo-3-Chloropropane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2-Dibromoethane (EDB)	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Dibromomethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2-Dichlorobenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,3-Dichlorobenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,4-Dichlorobenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Dichlorodifluoromethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,1-Dichloroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2-Dichloroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,1-Dichloroethene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Dichlorofluoromethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2-Dichloropropane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,3-Dichloropropane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
2,2-Dichloropropane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,1-Dichloropropene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Diethyl ether	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Ethylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Hexachlorobutadiene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Isopropylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Methylene Chloride	<0.259		0.259		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
4-Methyl-2-pentanone (MIBK)	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Methyl tert-butyl ether	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Naphthalene	<0.259		0.259		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
n-Butylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
N-Propylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
p-Isopropyltoluene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
sec-Butylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Styrene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
tert-Butylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,1,1,2-Tetrachloroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1

Client Sample ID: SB-3 (4.5-6)
Date Collected: 05/13/16 09:30
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-6
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Tetrachloroethene	**0.245**		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Tetrahydrofuran	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Toluene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
trans-1,2-Dichloroethene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
trans-1,3-Dichloropropene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2,3-Trichlorobenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2,4-Trichlorobenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,1,1-Trichloroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,1,2-Trichloroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Trichloroethene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Trichlorofluoromethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2,3-Trichloropropane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,1,2-Trichlorotrifluoroethane	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,2,4-Trimethylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
1,3,5-Trimethylbenzene	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Vinyl chloride	<0.103		0.103		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1
Xylenes, Total	<0.155		0.155		mg/Kg	☼	05/18/16 07:38	05/19/16 01:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 135*	*05/18/16 07:38*	*05/19/16 01:08*	*1*
Dibromofluoromethane (Surr)	*95*		*80 - 120*	*05/18/16 07:38*	*05/19/16 01:08*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*05/18/16 07:38*	*05/19/16 01:08*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.0982		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Acenaphthylene	<0.0982		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Anthracene	<0.0982		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Benzo[a]anthracene	**0.342**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Benzo[a]pyrene	**0.342**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Benzo[b]fluoranthene	**0.484**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Benzo[g,h,i]perylene	**0.171**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Benzo[k]fluoranthene	**0.143**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Chrysene	**0.369**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Dibenz(a,h)anthracene	<0.0982		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Fluoranthene	**0.553**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Fluorene	<0.0982		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Indeno[1,2,3-cd]pyrene	**0.125**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
2-Methylnaphthalene	<0.0982		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Naphthalene	<0.0982		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Phenanthrene	**0.197**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10
Pyrene	**0.601**		0.0982		mg/Kg	☼	05/16/16 13:52	05/17/16 20:57	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*69*		*10 - 110*	*05/16/16 13:52*	*05/17/16 20:57*	*10*
Nitrobenzene-d5 (Surr)	*54*		*10 - 110*	*05/16/16 13:52*	*05/17/16 20:57*	*10*
Terphenyl-d14 (Surr)	*70*		*20 - 110*	*05/16/16 13:52*	*05/17/16 20:57*	*10*

Client Sample ID: SB-3 (4.5-6)

Date Collected: 05/13/16 09:30
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-6

Matrix: Solid

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0524	*	0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
PCB-1221	<0.0524		0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
PCB-1232	<0.0524		0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
PCB-1242	<0.0524		0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
PCB-1248	<0.0524		0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
PCB-1254	<0.0524		0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
PCB-1260	<0.0524	*	0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
PCB-1268	<0.0524		0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1
Polychlorinated biphenyls, Total	<0.0524		0.0524		mg/Kg	☼	05/16/16 13:54	05/17/16 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*57*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:39*	*1*
Tetrachloro-m-xylene	*53*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:39*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**108**	*	22.2		mg/Kg	☼	05/16/16 14:00	05/17/16 22:40	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**36.7**		0.878		mg/Kg	☼	05/17/16 10:00	05/17/16 21:08	2
Cadmium	<1.76		1.76		mg/Kg	☼	05/17/16 10:00	05/17/16 21:08	2
Chromium	**14.0**		1.76		mg/Kg	☼	05/17/16 10:00	05/17/16 21:08	2
Lead	**8.80**		8.78		mg/Kg	☼	05/17/16 10:00	05/17/16 21:08	2
Silver	<1.76		1.76		mg/Kg	☼	05/17/16 10:00	05/17/16 21:08	2

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.82**		0.623		mg/Kg	☼	05/17/16 10:00	05/18/16 14:38	12
Selenium	<1.04		1.04		mg/Kg	☼	05/17/16 10:00	05/17/16 12:41	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0203		0.0203		mg/Kg	☼	05/16/16 14:10	05/17/16 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**5.6**		0.1		%			05/16/16 09:56	1
Percent Solids	**94.4**		0.1		%			05/16/16 09:56	1

Client Sample ID: SB-4 (2-3.5)
Date Collected: 05/13/16 11:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.532		0.532		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Allyl chloride	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Benzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Bromobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Bromochloromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Bromodichloromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Bromoform	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Bromomethane	<0.532		0.532		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
2-Butanone (MEK)	<0.266		0.266		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Carbon tetrachloride	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Chlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Chlorodibromomethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Chloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Chloroform	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Chloromethane	<0.266		0.266		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
2-Chlorotoluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
4-Chlorotoluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
cis-1,2-Dichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
cis-1,3-Dichloropropene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2-Dibromo-3-Chloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2-Dibromoethane (EDB)	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Dibromomethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2-Dichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,3-Dichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,4-Dichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Dichlorodifluoromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,1-Dichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2-Dichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,1-Dichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Dichlorofluoromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2-Dichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,3-Dichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
2,2-Dichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,1-Dichloropropene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Diethyl ether	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Ethylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Hexachlorobutadiene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Isopropylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Methylene Chloride	<0.266		0.266		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
4-Methyl-2-pentanone (MIBK)	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Methyl tert-butyl ether	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Naphthalene	<0.266		0.266		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
n-Butylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
N-Propylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
p-Isopropyltoluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
sec-Butylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Styrene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
tert-Butylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,1,1,2-Tetrachloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1

Client Sample ID: SB-4 (2-3.5)
Date Collected: 05/13/16 11:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-7
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Tetrachloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Tetrahydrofuran	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Toluene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
trans-1,2-Dichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
trans-1,3-Dichloropropene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2,3-Trichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2,4-Trichlorobenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,1,1-Trichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,1,2-Trichloroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Trichloroethene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Trichlorofluoromethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2,3-Trichloropropane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,1,2-Trichlorotrifluoroethane	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,2,4-Trimethylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
1,3,5-Trimethylbenzene	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Vinyl chloride	<0.106		0.106		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1
Xylenes, Total	<0.160		0.160		mg/Kg	☼	05/18/16 07:38	05/19/16 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 135*	*05/18/16 07:38*	*05/19/16 01:32*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*	*05/18/16 07:38*	*05/19/16 01:32*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*05/18/16 07:38*	*05/19/16 01:32*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.105		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Acenaphthylene	<0.105		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Anthracene	<0.105		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Benzo[a]anthracene	**0.289**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Benzo[a]pyrene	**0.356**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Benzo[b]fluoranthene	**0.482**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Benzo[g,h,i]perylene	**0.284**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Benzo[k]fluoranthene	**0.144**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Chrysene	**0.321**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Dibenz(a,h)anthracene	<0.105		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Fluoranthene	**0.423**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Fluorene	<0.105		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Indeno[1,2,3-cd]pyrene	**0.203**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
2-Methylnaphthalene	<0.105		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Naphthalene	<0.105		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Phenanthrene	**0.113**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10
Pyrene	**0.493**		0.105		mg/Kg	☼	05/16/16 13:52	05/18/16 15:37	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*79*		*10 - 110*	*05/16/16 13:52*	*05/18/16 15:37*	*10*
Nitrobenzene-d5 (Surr)	*62*		*10 - 110*	*05/16/16 13:52*	*05/18/16 15:37*	*10*
Terphenyl-d14 (Surr)	*78*		*20 - 110*	*05/16/16 13:52*	*05/18/16 15:37*	*10*

Client Sample ID: SB-4 (2-3.5)

Date Collected: 05/13/16 11:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-7

Matrix: Solid

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0514	*	0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
PCB-1221	<0.0514		0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
PCB-1232	<0.0514		0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
PCB-1242	<0.0514		0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
PCB-1248	<0.0514		0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
PCB-1254	<0.0514		0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
PCB-1260	<0.0514	*	0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
PCB-1268	<0.0514		0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1
Polychlorinated biphenyls, Total	<0.0514		0.0514		mg/Kg	☼	05/16/16 13:54	05/17/16 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*59*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:50*	*1*
Tetrachloro-m-xylene	*54*		*10 - 110*	*05/16/16 13:54*	*05/17/16 18:50*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**42.5**	*	18.1		mg/Kg	☼	05/16/16 14:00	05/17/16 23:16	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**34.1**		0.491		mg/Kg	☼	05/17/16 10:00	05/17/16 19:14	1
Cadmium	<0.981		0.981		mg/Kg	☼	05/17/16 10:00	05/17/16 19:14	1
Chromium	**11.0**		0.981		mg/Kg	☼	05/17/16 10:00	05/17/16 19:14	1
Lead	**9.69**		4.91		mg/Kg	☼	05/17/16 10:00	05/17/16 19:14	1
Silver	<0.981		0.981		mg/Kg	☼	05/17/16 10:00	05/17/16 19:14	1

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.29**		0.608		mg/Kg	☼	05/17/16 10:00	05/18/16 14:41	12
Selenium	<1.01		1.01		mg/Kg	☼	05/17/16 10:00	05/17/16 12:44	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0192		0.0192		mg/Kg	☼	05/16/16 14:10	05/17/16 13:05	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**5.0**		0.1		%			05/16/16 09:56	1
Percent Solids	**95.0**		0.1		%			05/16/16 09:56	1

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: SB-8 (4.5-6)
Date Collected: 05/13/16 15:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.523		0.523		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Allyl chloride	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Benzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Bromobenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Bromochloromethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Bromodichloromethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Bromoform	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Bromomethane	<0.523		0.523		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
2-Butanone (MEK)	<0.261		0.261		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Carbon tetrachloride	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Chlorobenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Chlorodibromomethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Chloroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Chloroform	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Chloromethane	<0.261		0.261		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
2-Chlorotoluene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
4-Chlorotoluene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
cis-1,2-Dichloroethene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
cis-1,3-Dichloropropene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2-Dibromo-3-Chloropropane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2-Dibromoethane (EDB)	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Dibromomethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2-Dichlorobenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,3-Dichlorobenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,4-Dichlorobenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Dichlorodifluoromethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,1-Dichloroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2-Dichloroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,1-Dichloroethene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Dichlorofluoromethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2-Dichloropropane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,3-Dichloropropane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
2,2-Dichloropropane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,1-Dichloropropene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Diethyl ether	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Ethylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Hexachlorobutadiene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Isopropylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Methylene Chloride	<0.261		0.261		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
4-Methyl-2-pentanone (MIBK)	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Methyl tert-butyl ether	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Naphthalene	<0.261		0.261		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
n-Butylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
N-Propylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
p-Isopropyltoluene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
sec-Butylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Styrene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
tert-Butylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,1,1,2-Tetrachloroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1

Client Sample ID: SB-8 (4.5-6)
Date Collected: 05/13/16 15:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Tetrachloroethene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Tetrahydrofuran	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Toluene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
trans-1,2-Dichloroethene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
trans-1,3-Dichloropropene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2,3-Trichlorobenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2,4-Trichlorobenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,1,1-Trichloroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,1,2-Trichloroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Trichloroethene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Trichlorofluoromethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2,3-Trichloropropane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,1,2-Trichlorotrifluoroethane	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,2,4-Trimethylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
1,3,5-Trimethylbenzene	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Vinyl chloride	<0.105		0.105		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1
Xylenes, Total	<0.157		0.157		mg/Kg	☼	05/18/16 07:38	05/19/16 01:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 135*	*05/18/16 07:38*	*05/19/16 01:56*	*1*
Dibromofluoromethane (Surr)	*94*		*80 - 120*	*05/18/16 07:38*	*05/19/16 01:56*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*	*05/18/16 07:38*	*05/19/16 01:56*	*1*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Acenaphthylene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Anthracene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Benzo[a]anthracene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Benzo[a]pyrene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Benzo[b]fluoranthene	**0.139**		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Benzo[g,h,i]perylene	**0.110**		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Benzo[k]fluoranthene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Chrysene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Dibenz(a,h)anthracene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Fluoranthene	**0.165**		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Fluorene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Indeno[1,2,3-cd]pyrene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
2-Methylnaphthalene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Naphthalene	<0.103		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Phenanthrene	**0.157**		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10
Pyrene	**0.267**		0.103		mg/Kg	☼	05/16/16 13:52	05/18/16 16:00	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*68*		*10 - 110*	*05/16/16 13:52*	*05/18/16 16:00*	*10*
Nitrobenzene-d5 (Surr)	*52*		*10 - 110*	*05/16/16 13:52*	*05/18/16 16:00*	*10*
Terphenyl-d14 (Surr)	*69*		*20 - 110*	*05/16/16 13:52*	*05/18/16 16:00*	*10*

Client Sample ID: SB-8 (4.5-6)

Date Collected: 05/13/16 15:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-8

Matrix: Solid

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0508	*	0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
PCB-1221	<0.0508		0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
PCB-1232	<0.0508		0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
PCB-1242	<0.0508		0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
PCB-1248	<0.0508		0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
PCB-1254	<0.0508		0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
PCB-1260	<0.0508	*	0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
PCB-1268	<0.0508		0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1
Polychlorinated biphenyls, Total	<0.0508		0.0508		mg/Kg	☼	05/16/16 13:54	05/17/16 19:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*64*		*10 - 110*	*05/16/16 13:54*	*05/17/16 19:00*	*1*
Tetrachloro-m-xylene	*60*		*10 - 110*	*05/16/16 13:54*	*05/17/16 19:00*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	**33.2**	*	4.22		mg/Kg	☼	05/16/16 14:00	05/17/16 23:52	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**26.0**		1.01		mg/Kg	☼	05/17/16 10:00	05/17/16 21:10	2
Cadmium	<2.02		2.02		mg/Kg	☼	05/17/16 10:00	05/17/16 21:10	2
Chromium	**10.4**		2.02		mg/Kg	☼	05/17/16 10:00	05/17/16 21:10	2
Lead	<10.1		10.1		mg/Kg	☼	05/17/16 10:00	05/17/16 21:10	2
Silver	<2.02		2.02		mg/Kg	☼	05/17/16 10:00	05/17/16 21:10	2

Method: 7010 - Metals (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.11**		0.539		mg/Kg	☼	05/17/16 10:00	05/18/16 14:45	12
Selenium	<0.898		0.898		mg/Kg	☼	05/17/16 10:00	05/17/16 12:48	4

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0979**		0.0183		mg/Kg	☼	05/16/16 14:10	05/17/16 13:07	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**5.3**		0.1		%			05/16/16 09:56	1
Percent Solids	**94.7**		0.1		%			05/16/16 09:56	1

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: MeOH Trip Blank
Date Collected: 05/13/16 00:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.500		0.500		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Allyl chloride	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Benzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Bromobenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Bromochloromethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Bromodichloromethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Bromoform	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Bromomethane	<0.500		0.500		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
2-Butanone (MEK)	<0.250		0.250		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Carbon tetrachloride	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Chlorobenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Chlorodibromomethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Chloroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Chloroform	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Chloromethane	<0.250		0.250		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
2-Chlorotoluene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
4-Chlorotoluene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
cis-1,2-Dichloroethene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
cis-1,3-Dichloropropene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2-Dibromo-3-Chloropropane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2-Dibromoethane (EDB)	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Dibromomethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2-Dichlorobenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,3-Dichlorobenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,4-Dichlorobenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Dichlorodifluoromethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,1-Dichloroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2-Dichloroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,1-Dichloroethene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Dichlorofluoromethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2-Dichloropropane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,3-Dichloropropane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
2,2-Dichloropropane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,1-Dichloropropene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Diethyl ether	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Ethylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Hexachlorobutadiene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Isopropylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Methylene Chloride	<0.250		0.250		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
4-Methyl-2-pentanone (MIBK)	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Methyl tert-butyl ether	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Naphthalene	<0.250		0.250		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
n-Butylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
N-Propylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
p-Isopropyltoluene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
sec-Butylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Styrene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
tert-Butylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,1,1,2-Tetrachloroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: MeOH Trip Blank
Date Collected: 05/13/16 00:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-9
Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Tetrachloroethene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Tetrahydrofuran	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Toluene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
trans-1,2-Dichloroethene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
trans-1,3-Dichloropropene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2,3-Trichlorobenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2,4-Trichlorobenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,1,1-Trichloroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,1,2-Trichloroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Trichloroethene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Trichlorofluoromethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2,3-Trichloropropane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,1,2-Trichlorotrifluoroethane	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,2,4-Trimethylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
1,3,5-Trimethylbenzene	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Vinyl chloride	<0.100		0.100		mg/Kg		05/18/16 07:38	05/19/16 02:21	1
Xylenes, Total	<0.150		0.150		mg/Kg		05/18/16 07:38	05/19/16 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 135*	*05/18/16 07:38*	*05/19/16 02:21*	*1*
Dibromofluoromethane (Surr)	*92*		*80 - 120*	*05/18/16 07:38*	*05/19/16 02:21*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*	*05/18/16 07:38*	*05/19/16 02:21*	*1*

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
X	Surrogate is outside control limits

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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)

Surrogate Summary

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

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

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-135)	(80-120)	(80-120)
310-80618-1	SB-5 (2-3.5)	100	95	100
310-80618-2	SB-6 (2-3.5)	98	96	101
310-80618-2 MS	SB-6 (2-3.5)	100	101	101
310-80618-2 MSD	SB-6 (2-3.5)	99	98	101
310-80618-3	SB-7 (2-3.5)	102	94	100
310-80618-4	SB-1 (0-1.5)	100	95	101
310-80618-5	SB-2 (2-3.5)	102	95	103
310-80618-6	SB-3 (4.5-6)	98	95	101
310-80618-7	SB-4 (2-3.5)	98	93	100
310-80618-8	SB-8 (4.5-6)	98	94	99
310-80618-9	MeOH Trip Blank	99	92	101
LCS 310-127938/2-A	Lab Control Sample	101	101	101
MB 310-127938/1-A	Method Blank	98	93	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPH
Lab Sample ID	Client Sample ID	(10-110)	(10-110)	(20-110)
310-80618-1	SB-5 (2-3.5)	75	57	79
310-80618-2	SB-6 (2-3.5)	71	49	93
310-80618-3	SB-7 (2-3.5)	20	13	24
310-80618-4	SB-1 (0-1.5)	78	58	84
310-80618-5	SB-2 (2-3.5)	72	53	78
310-80618-6	SB-3 (4.5-6)	69	54	70
310-80618-7	SB-4 (2-3.5)	79	62	78
310-80618-8	SB-8 (4.5-6)	68	52	69
LCS 310-127606/2-A	Lab Control Sample	63	55	72
MB 310-127606/1-A	Method Blank	70	60	76

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPH = Terphenyl-d14 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB1	TCX1
Lab Sample ID	Client Sample ID	(10-110)	(10-110)
310-80618-1	SB-5 (2-3.5)	48	50
310-80618-2	SB-6 (2-3.5)	71	62
310-80618-3	SB-7 (2-3.5)	66	61

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	DCB1 (10-110)	TCX1 (10-110)								
310-80618-4	SB-1 (0-1.5)	65	63								
310-80618-5	SB-2 (2-3.5)	65	62								
310-80618-6	SB-3 (4.5-6)	57	53								
310-80618-7	SB-4 (2-3.5)	59	54								
310-80618-8	SB-8 (4.5-6)	64	60								
LCS 310-127604/2-A	Lab Control Sample	102	92								
LCS 310-128653/2-A	Lab Control Sample	49	45								
MB 310-127604/1-A	Method Blank	111 X	107								
MB 310-128653/1-A	Method Blank	51	52								

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

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

Lab Sample ID: MB 310-127938/1-A
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127938

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.457		0.457		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Allyl chloride	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Benzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Bromobenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Bromochloromethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Bromodichloromethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Bromoform	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Bromomethane	<0.457		0.457		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
2-Butanone (MEK)	<0.228		0.228		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Carbon tetrachloride	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Chlorobenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Chlorodibromomethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Chloroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Chloroform	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Chloromethane	<0.228		0.228		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
2-Chlorotoluene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
4-Chlorotoluene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
cis-1,2-Dichloroethene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
cis-1,3-Dichloropropene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2-Dibromo-3-Chloropropane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2-Dibromoethane (EDB)	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Dibromomethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2-Dichlorobenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,3-Dichlorobenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,4-Dichlorobenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Dichlorodifluoromethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,1-Dichloroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2-Dichloroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,1-Dichloroethene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Dichlorofluoromethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2-Dichloropropane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,3-Dichloropropane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
2,2-Dichloropropane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,1-Dichloropropene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Diethyl ether	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Ethylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Hexachlorobutadiene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Isopropylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Methylene Chloride	<0.228		0.228		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
4-Methyl-2-pentanone (MIBK)	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Methyl tert-butyl ether	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Naphthalene	<0.228		0.228		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
n-Butylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
N-Propylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
p-Isopropyltoluene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
sec-Butylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Styrene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
tert-Butylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1

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

Lab Sample ID: MB 310-127938/1-A
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127938

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,1,2,2-Tetrachloroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Tetrachloroethene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Tetrahydrofuran	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Toluene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
trans-1,2-Dichloroethene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
trans-1,3-Dichloropropene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2,3-Trichlorobenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2,4-Trichlorobenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,1,1-Trichloroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,1,2-Trichloroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Trichloroethene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Trichlorofluoromethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2,3-Trichloropropane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,1,2-Trichlorotrifluoroethane	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,2,4-Trimethylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
1,3,5-Trimethylbenzene	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Vinyl chloride	<0.0914		0.0914		mg/Kg		05/18/16 07:38	05/18/16 21:55	1
Xylenes, Total	<0.137		0.137		mg/Kg		05/18/16 07:38	05/18/16 21:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*70 - 135*	*05/18/16 07:38*	*05/18/16 21:55*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*	*05/18/16 07:38*	*05/18/16 21:55*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*	*05/18/16 07:38*	*05/18/16 21:55*	*1*

Lab Sample ID: LCS 310-127938/2-A
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	1.84	2.150		mg/Kg		117	70 - 150
Allyl chloride	0.919	1.013		mg/Kg		110	65 - 150
Benzene	0.919	1.027		mg/Kg		112	65 - 145
Bromobenzene	0.919	1.006		mg/Kg		109	65 - 135
Bromochloromethane	0.919	1.056		mg/Kg		115	65 - 150
Bromodichloromethane	0.919	0.9908		mg/Kg		108	55 - 150
Bromoform	0.919	0.8720		mg/Kg		95	55 - 135
2-Butanone (MEK)	1.84	1.960		mg/Kg		107	55 - 150
Carbon tetrachloride	0.919	0.9959		mg/Kg		108	60 - 145
Chlorobenzene	0.919	1.021		mg/Kg		111	70 - 135
Chlorodibromomethane	0.919	0.9430		mg/Kg		103	55 - 135
Chloroform	0.919	0.9990		mg/Kg		109	65 - 145
2-Chlorotoluene	0.919	1.001		mg/Kg		109	70 - 130
4-Chlorotoluene	0.919	0.9963		mg/Kg		108	70 - 130
cis-1,2-Dichloroethene	0.919	1.008		mg/Kg		110	65 - 145
cis-1,3-Dichloropropene	0.919	0.9991		mg/Kg		109	65 - 140
1,2-Dibromo-3-Chloropropane	0.919	0.8645		mg/Kg		94	45 - 140
1,2-Dibromoethane (EDB)	0.919	1.011		mg/Kg		110	65 - 140

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

Lab Sample ID: LCS 310-127938/2-A
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127938

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromomethane	0.919	1.049		mg/Kg		114	65 - 150
1,2-Dichlorobenzene	0.919	1.015		mg/Kg		110	65 - 135
1,3-Dichlorobenzene	0.919	1.033		mg/Kg		112	65 - 135
1,4-Dichlorobenzene	0.919	1.001		mg/Kg		109	65 - 135
1,1-Dichloroethane	0.919	1.014		mg/Kg		110	65 - 150
1,2-Dichloroethane	0.919	1.005		mg/Kg		109	60 - 150
1,1-Dichloroethene	0.919	1.005		mg/Kg		109	65 - 145
1,2-Dichloropropane	0.919	1.010		mg/Kg		110	65 - 150
1,3-Dichloropropane	0.919	1.012		mg/Kg		110	65 - 140
2,2-Dichloropropane	0.919	0.9508		mg/Kg		103	65 - 150
1,1-Dichloropropene	0.919	1.020		mg/Kg		111	70 - 140
Diethyl ether	0.919	1.048		mg/Kg		114	60 - 150
Ethylbenzene	0.919	1.044		mg/Kg		114	70 - 135
Hexachlorobutadiene	0.919	0.9781		mg/Kg		106	50 - 145
Isopropylbenzene	0.919	1.043		mg/Kg		114	70 - 135
Methylene Chloride	0.919	1.026		mg/Kg		112	55 - 150
4-Methyl-2-pentanone (MIBK)	1.84	2.055		mg/Kg		112	50 - 145
Methyl tert-butyl ether	0.919	1.050		mg/Kg		114	65 - 150
Naphthalene	0.919	0.9781		mg/Kg		106	50 - 145
n-Butylbenzene	0.919	1.010		mg/Kg		110	65 - 135
N-Propylbenzene	0.919	1.036		mg/Kg		113	70 - 135
p-Isopropyltoluene	0.919	1.003		mg/Kg		109	65 - 135
sec-Butylbenzene	0.919	1.011		mg/Kg		110	65 - 130
Styrene	0.919	1.011		mg/Kg		110	70 - 135
tert-Butylbenzene	0.919	0.9962		mg/Kg		108	65 - 135
1,1,1,2-Tetrachloroethane	0.919	1.015		mg/Kg		110	65 - 130
1,1,2,2-Tetrachloroethane	0.919	1.043		mg/Kg		113	60 - 140
Tetrachloroethene	0.919	1.057		mg/Kg		115	65 - 140
Tetrahydrofuran	1.84	2.096		mg/Kg		114	55 - 150
Toluene	0.919	1.043		mg/Kg		114	70 - 135
trans-1,2-Dichloroethene	0.919	1.024		mg/Kg		111	65 - 145
trans-1,3-Dichloropropene	0.919	1.002		mg/Kg		109	65 - 140
1,2,3-Trichlorobenzene	0.919	1.009		mg/Kg		110	55 - 140
1,2,4-Trichlorobenzene	0.919	1.001		mg/Kg		109	50 - 140
1,1,1-Trichloroethane	0.919	1.011		mg/Kg		110	65 - 145
1,1,2-Trichloroethane	0.919	1.019		mg/Kg		111	65 - 140
Trichloroethene	0.919	1.049		mg/Kg		114	65 - 145
1,2,3-Trichloropropane	0.919	1.049		mg/Kg		114	60 - 140
1,1,2-Trichlorotrifluoroethane	0.919	1.033		mg/Kg		112	60 - 150
1,2,4-Trimethylbenzene	0.919	0.9839		mg/Kg		107	65 - 130
1,3,5-Trimethylbenzene	0.919	0.9828		mg/Kg		107	70 - 130
Xylenes, Total	1.84	2.022		mg/Kg		110	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 135*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

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

Lab Sample ID: 310-80618-2 MS
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: SB-6 (2-3.5)
Prep Type: Total/NA
Prep Batch: 127938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	<0.552		2.04	1.725		mg/Kg	☼	84	70 - 150
Allyl chloride	<0.110		1.02	0.8868		mg/Kg	☼	87	65 - 150
Benzene	<0.110		1.02	0.9489		mg/Kg	☼	93	65 - 145
Bromobenzene	<0.110		1.02	0.9407		mg/Kg	☼	92	65 - 135
Bromochloromethane	<0.110		1.02	0.9280		mg/Kg	☼	91	65 - 150
Bromodichloromethane	<0.110		1.02	0.8962		mg/Kg	☼	88	55 - 105
Bromoform	<0.110		1.02	0.7418		mg/Kg	☼	73	55 - 135
2-Butanone (MEK)	<0.276		2.04	1.571		mg/Kg	☼	77	55 - 150
Carbon tetrachloride	<0.110		1.02	0.9209		mg/Kg	☼	90	60 - 145
Chlorobenzene	<0.110		1.02	0.9383		mg/Kg	☼	92	70 - 135
Chlorodibromomethane	<0.110		1.02	0.7994		mg/Kg	☼	78	55 - 135
Chloroform	<0.110		1.02	0.9409		mg/Kg	☼	92	65 - 145
2-Chlorotoluene	<0.110		1.02	0.9204		mg/Kg	☼	90	70 - 130
4-Chlorotoluene	<0.110		1.02	0.9378		mg/Kg	☼	92	70 - 130
cis-1,2-Dichloroethene	<0.110		1.02	0.9360		mg/Kg	☼	92	65 - 145
cis-1,3-Dichloropropene	<0.110		1.02	0.8967		mg/Kg	☼	88	65 - 140
1,2-Dibromo-3-Chloropropane	<0.110	F1 F2	1.02	0.3845	F1	mg/Kg	☼	38	45 - 140
1,2-Dibromoethane (EDB)	<0.110		1.02	0.8982		mg/Kg	☼	88	65 - 140
Dibromomethane	<0.110		1.02	0.8963		mg/Kg	☼	88	65 - 150
1,2-Dichlorobenzene	<0.110		1.02	0.9580		mg/Kg	☼	94	65 - 135
1,3-Dichlorobenzene	<0.110		1.02	0.9381		mg/Kg	☼	92	65 - 135
1,4-Dichlorobenzene	<0.110		1.02	0.9651		mg/Kg	☼	94	65 - 135
1,1-Dichloroethane	<0.110		1.02	0.9498		mg/Kg	☼	93	65 - 150
1,2-Dichloroethane	<0.110		1.02	0.9121		mg/Kg	☼	89	60 - 150
1,1-Dichloroethene	<0.110		1.02	0.9270		mg/Kg	☼	91	65 - 145
1,2-Dichloropropane	<0.110		1.02	0.9272		mg/Kg	☼	91	65 - 150
1,3-Dichloropropane	<0.110		1.02	0.9203		mg/Kg	☼	90	65 - 140
2,2-Dichloropropane	<0.110		1.02	0.8142		mg/Kg	☼	80	65 - 150
1,1-Dichloropropene	<0.110		1.02	0.9564		mg/Kg	☼	94	70 - 140
Diethyl ether	<0.110		1.02	0.9133		mg/Kg	☼	89	60 - 150
Ethylbenzene	<0.110		1.02	0.9654		mg/Kg	☼	95	70 - 135
Hexachlorobutadiene	<0.110		1.02	0.9360		mg/Kg	☼	92	50 - 145
Isopropylbenzene	<0.110		1.02	0.9714		mg/Kg	☼	95	70 - 135
Methylene Chloride	<0.276		1.02	0.9693		mg/Kg	☼	95	55 - 150
4-Methyl-2-pentanone (MIBK)	<0.110		2.04	1.707		mg/Kg	☼	84	50 - 145
Methyl tert-butyl ether	<0.110		1.02	0.9060		mg/Kg	☼	89	65 - 150
Naphthalene	<0.276		1.02	0.8520		mg/Kg	☼	83	50 - 145
n-Butylbenzene	<0.110		1.02	0.9484		mg/Kg	☼	93	65 - 135
N-Propylbenzene	<0.110		1.02	0.9749		mg/Kg	☼	95	70 - 135
p-Isopropyltoluene	<0.110		1.02	0.9454		mg/Kg	☼	93	65 - 135
sec-Butylbenzene	<0.110		1.02	0.9356		mg/Kg	☼	92	65 - 130
Styrene	<0.110		1.02	0.9297		mg/Kg	☼	91	70 - 135
tert-Butylbenzene	<0.110		1.02	0.9142		mg/Kg	☼	90	65 - 135
1,1,1,2-Tetrachloroethane	<0.110		1.02	0.9144		mg/Kg	☼	90	65 - 130
1,1,2,2-Tetrachloroethane	<0.110		1.02	0.9302		mg/Kg	☼	91	60 - 140
Tetrachloroethene	<0.110		1.02	1.050		mg/Kg	☼	103	65 - 140
Tetrahydrofuran	<0.110		2.04	1.763		mg/Kg	☼	86	55 - 150
Toluene	<0.110		1.02	0.9692		mg/Kg	☼	95	70 - 135

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

Lab Sample ID: 310-80618-2 MS
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: SB-6 (2-3.5)
Prep Type: Total/NA
Prep Batch: 127938

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	<0.110		1.02	0.9492		mg/Kg	☼	93	65 - 145
trans-1,3-Dichloropropene	<0.110		1.02	0.8585		mg/Kg	☼	84	65 - 140
1,2,3-Trichlorobenzene	<0.110		1.02	0.9050		mg/Kg	☼	89	55 - 140
1,2,4-Trichlorobenzene	<0.110		1.02	0.9173		mg/Kg	☼	90	50 - 140
1,1,1-Trichloroethane	<0.110		1.02	0.9466		mg/Kg	☼	93	65 - 145
1,1,2-Trichloroethane	<0.110		1.02	0.9320		mg/Kg	☼	91	65 - 140
Trichloroethene	<0.110		1.02	0.9830		mg/Kg	☼	96	65 - 145
1,2,3-Trichloropropane	<0.110		1.02	0.9519		mg/Kg	☼	93	60 - 140
1,1,2-Trichlorotrifluoroethane	<0.110		1.02	0.9719		mg/Kg	☼	95	60 - 150
1,2,4-Trimethylbenzene	<0.110		1.02	0.9269		mg/Kg	☼	91	65 - 130
1,3,5-Trimethylbenzene	<0.110		1.02	0.9063		mg/Kg	☼	89	70 - 130
Xylenes, Total	<0.166		2.04	1.894		mg/Kg	☼	93	70 - 135

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 135*
Dibromofluoromethane (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 310-80618-2 MSD
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: SB-6 (2-3.5)
Prep Type: Total/NA
Prep Batch: 127938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	<0.552		2.10	1.757		mg/Kg	☼	84	70 - 150	2	40
Allyl chloride	<0.110		1.05	0.9076		mg/Kg	☼	86	65 - 150	2	35
Benzene	<0.110		1.05	0.9501		mg/Kg	☼	91	65 - 145	0	15
Bromobenzene	<0.110		1.05	0.9377		mg/Kg	☼	89	65 - 135	0	20
Bromochloromethane	<0.110		1.05	0.9420		mg/Kg	☼	90	65 - 150	2	20
Bromodichloromethane	<0.110		1.05	0.9013		mg/Kg	☼	86	55 - 105	1	20
Bromoform	<0.110		1.05	0.7836		mg/Kg	☼	75	55 - 135	5	25
2-Butanone (MEK)	<0.276		2.10	1.662		mg/Kg	☼	79	55 - 150	6	30
Carbon tetrachloride	<0.110		1.05	0.9224		mg/Kg	☼	88	60 - 145	0	30
Chlorobenzene	<0.110		1.05	0.9305		mg/Kg	☼	89	70 - 135	1	15
Chlorodibromomethane	<0.110		1.05	0.8166		mg/Kg	☼	78	55 - 135	2	20
Chloroform	<0.110		1.05	0.9374		mg/Kg	☼	89	65 - 145	0	20
2-Chlorotoluene	<0.110		1.05	0.9064		mg/Kg	☼	86	70 - 130	2	15
4-Chlorotoluene	<0.110		1.05	0.9170		mg/Kg	☼	87	70 - 130	2	20
cis-1,2-Dichloroethene	<0.110		1.05	0.9279		mg/Kg	☼	88	65 - 145	1	20
cis-1,3-Dichloropropene	<0.110		1.05	0.8966		mg/Kg	☼	85	65 - 140	0	20
1,2-Dibromo-3-Chloropropane	<0.110	F1 F2	1.05	0.8547	F2	mg/Kg	☼	81	45 - 140	76	40
1,2-Dibromoethane (EDB)	<0.110		1.05	0.9291		mg/Kg	☼	89	65 - 140	3	20
Dibromomethane	<0.110		1.05	0.9249		mg/Kg	☼	88	65 - 150	3	25
1,2-Dichlorobenzene	<0.110		1.05	0.9551		mg/Kg	☼	91	65 - 135	0	20
1,3-Dichlorobenzene	<0.110		1.05	0.9306		mg/Kg	☼	89	65 - 135	1	20
1,4-Dichlorobenzene	<0.110		1.05	0.9373		mg/Kg	☼	89	65 - 135	3	20
1,1-Dichloroethane	<0.110		1.05	0.9328		mg/Kg	☼	89	65 - 150	2	20
1,2-Dichloroethane	<0.110		1.05	0.9192		mg/Kg	☼	88	60 - 150	1	20
1,1-Dichloroethene	<0.110		1.05	0.9248		mg/Kg	☼	88	65 - 145	0	20

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

Lab Sample ID: 310-80618-2 MSD
Matrix: Solid
Analysis Batch: 127941

Client Sample ID: SB-6 (2-3.5)
Prep Type: Total/NA
Prep Batch: 127938

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloropropane	<0.110		1.05	0.9344		mg/Kg	☼	89	65 - 150	1	15
1,3-Dichloropropane	<0.110		1.05	0.9213		mg/Kg	☼	88	65 - 140	0	20
2,2-Dichloropropane	<0.110		1.05	0.8121		mg/Kg	☼	77	65 - 150	0	20
1,1-Dichloropropene	<0.110		1.05	0.9664		mg/Kg	☼	92	70 - 140	1	20
Diethyl ether	<0.110		1.05	0.9408		mg/Kg	☼	90	60 - 150	3	25
Ethylbenzene	<0.110		1.05	0.9709		mg/Kg	☼	93	70 - 135	1	20
Hexachlorobutadiene	<0.110		1.05	0.9521		mg/Kg	☼	91	50 - 145	2	25
Isopropylbenzene	<0.110		1.05	0.9694		mg/Kg	☼	92	70 - 135	0	20
Methylene Chloride	<0.276		1.05	0.9672		mg/Kg	☼	92	55 - 150	0	25
4-Methyl-2-pentanone (MIBK)	<0.110		2.10	1.802		mg/Kg	☼	86	50 - 145	5	40
Methyl tert-butyl ether	<0.110		1.05	0.9367		mg/Kg	☼	89	65 - 150	3	20
Naphthalene	<0.276		1.05	0.9278		mg/Kg	☼	88	50 - 145	9	30
n-Butylbenzene	<0.110		1.05	0.9254		mg/Kg	☼	88	65 - 135	2	20
N-Propylbenzene	<0.110		1.05	0.9599		mg/Kg	☼	91	70 - 135	2	20
p-Isopropyltoluene	<0.110		1.05	0.9196		mg/Kg	☼	88	65 - 135	3	20
sec-Butylbenzene	<0.110		1.05	0.9154		mg/Kg	☼	87	65 - 130	2	20
Styrene	<0.110		1.05	0.9305		mg/Kg	☼	89	70 - 135	0	20
tert-Butylbenzene	<0.110		1.05	0.8905		mg/Kg	☼	85	65 - 135	3	20
1,1,1,2-Tetrachloroethane	<0.110		1.05	0.9096		mg/Kg	☼	87	65 - 130	1	20
1,1,2,2-Tetrachloroethane	<0.110		1.05	1.003		mg/Kg	☼	96	60 - 140	8	25
Tetrachloroethene	<0.110		1.05	1.045		mg/Kg	☼	100	65 - 140	1	25
Tetrahydrofuran	<0.110		2.10	1.881		mg/Kg	☼	90	55 - 150	6	30
Toluene	<0.110		1.05	0.9647		mg/Kg	☼	92	70 - 135	0	20
trans-1,2-Dichloroethene	<0.110		1.05	0.9603		mg/Kg	☼	92	65 - 145	1	20
trans-1,3-Dichloropropene	<0.110		1.05	0.8633		mg/Kg	☼	82	65 - 140	1	20
1,2,3-Trichlorobenzene	<0.110		1.05	0.9485		mg/Kg	☼	90	55 - 140	5	25
1,2,4-Trichlorobenzene	<0.110		1.05	0.9573		mg/Kg	☼	91	50 - 140	4	25
1,1,1-Trichloroethane	<0.110		1.05	0.9415		mg/Kg	☼	90	65 - 145	1	20
1,1,2-Trichloroethane	<0.110		1.05	0.9469		mg/Kg	☼	90	65 - 140	2	20
Trichloroethene	<0.110		1.05	0.9764		mg/Kg	☼	93	65 - 145	1	20
1,2,3-Trichloropropane	<0.110		1.05	0.9377		mg/Kg	☼	89	60 - 140	2	30
1,1,2-Trichlorotrifluoroethane	<0.110		1.05	0.9634		mg/Kg	☼	92	60 - 150	1	40
1,2,4-Trimethylbenzene	<0.110		1.05	0.9183		mg/Kg	☼	87	65 - 130	1	20
1,3,5-Trimethylbenzene	<0.110		1.05	0.9015		mg/Kg	☼	86	70 - 130	1	20
Xylenes, Total	<0.166		2.10	1.909		mg/Kg	☼	91	70 - 135	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*70 - 135*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL)

Lab Sample ID: MB 310-127606/1-A
Matrix: Solid
Analysis Batch: 127803

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127606

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Acenaphthylene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Anthracene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Benzo[a]anthracene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Benzo[a]pyrene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Benzo[b]fluoranthene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Benzo[g,h,i]perylene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Benzo[k]fluoranthene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Chrysene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Dibenz(a,h)anthracene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Fluoranthene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Fluorene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Indeno[1,2,3-cd]pyrene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
2-Methylnaphthalene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Naphthalene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Phenanthrene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1
Pyrene	<0.00944		0.00944		mg/Kg		05/13/16 19:34	05/17/16 14:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*70*		*10 - 110*	*05/13/16 19:34*	*05/17/16 14:14*	*1*
Nitrobenzene-d5 (Surr)	*60*		*10 - 110*	*05/13/16 19:34*	*05/17/16 14:14*	*1*
Terphenyl-d14 (Surr)	*76*		*20 - 110*	*05/13/16 19:34*	*05/17/16 14:14*	*1*

Lab Sample ID: LCS 310-127606/2-A
Matrix: Solid
Analysis Batch: 127803

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127606

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.188	0.08576		mg/Kg		46	20 - 110
Acenaphthylene	0.188	0.09680		mg/Kg		52	20 - 110
Anthracene	0.188	0.1158		mg/Kg		62	30 - 110
Benzo[a]anthracene	0.188	0.1247		mg/Kg		66	50 - 110
Benzo[a]pyrene	0.188	0.1213		mg/Kg		65	45 - 110
Benzo[b]fluoranthene	0.188	0.1265		mg/Kg		67	40 - 110
Benzo[g,h,i]perylene	0.188	0.1288		mg/Kg		69	20 - 110
Benzo[k]fluoranthene	0.188	0.1042		mg/Kg		56	45 - 110
Chrysene	0.188	0.1079		mg/Kg		58	45 - 110
Dibenz(a,h)anthracene	0.188	0.1292		mg/Kg		69	10 - 110
Fluoranthene	0.188	0.1219		mg/Kg		65	40 - 110
Fluorene	0.188	0.08913		mg/Kg		48	25 - 110
Indeno[1,2,3-cd]pyrene	0.188	0.1301		mg/Kg		69	40 - 110
2-Methylnaphthalene	0.188	0.1070		mg/Kg		57	15 - 110
Naphthalene	0.188	0.1147		mg/Kg		61	15 - 110
Phenanthrene	0.188	0.1084		mg/Kg		58	25 - 110
Pyrene	0.188	0.1153		mg/Kg		61	40 - 110

Method: 8270D SIM - Semivolatile Organic Compound (GC/MS SIM LL) (Continued)

Lab Sample ID: LCS 310-127606/2-A
Matrix: Solid
Analysis Batch: 127803

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127606

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*63*		*10 - 110*
Nitrobenzene-d5 (Surr)	*55*		*10 - 110*
Terphenyl-d14 (Surr)	*72*		*20 - 110*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 310-127604/1-A
Matrix: Solid
Analysis Batch: 127842

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
PCB-1221	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
PCB-1232	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
PCB-1242	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
PCB-1248	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
PCB-1254	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
PCB-1260	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
PCB-1268	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1
Polychlorinated biphenyls, Total	<0.0497		0.0497		mg/Kg		05/13/16 19:31	05/17/16 16:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*111*	*X*	*10 - 110*	*05/13/16 19:31*	*05/17/16 16:12*	*1*
Tetrachloro-m-xylene	*107*		*10 - 110*	*05/13/16 19:31*	*05/17/16 16:12*	*1*

Lab Sample ID: LCS 310-127604/2-A
Matrix: Solid
Analysis Batch: 127842

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.195	0.2676	*	mg/Kg		137	35 - 110
PCB-1260	0.195	0.2664	*	mg/Kg		137	35 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*102*		*10 - 110*
Tetrachloro-m-xylene	*92*		*10 - 110*

Lab Sample ID: MB 310-128653/1-A
Matrix: Solid
Analysis Batch: 128658

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 128653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1
PCB-1221	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1
PCB-1232	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1
PCB-1242	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1
PCB-1248	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 310-128653/1-A
Matrix: Solid
Analysis Batch: 128658

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 128653

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1254	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1
PCB-1260	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1
PCB-1268	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1
Polychlorinated biphenyls, Total	<0.0492		0.0492		mg/Kg		05/24/16 10:09	05/24/16 17:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*51*		*10 - 110*	*05/24/16 10:09*	*05/24/16 17:48*	*1*
Tetrachloro-m-xylene	*52*		*10 - 110*	*05/24/16 10:09*	*05/24/16 17:48*	*1*

Lab Sample ID: LCS 310-128653/2-A
Matrix: Solid
Analysis Batch: 128658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 128653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	0.199	0.1018		mg/Kg		51	35 - 110
PCB-1260	0.199	0.08752		mg/Kg		44	35 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*49*		*10 - 110*
Tetrachloro-m-xylene	*45*		*10 - 110*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 310-127730/1-A
Matrix: Solid
Analysis Batch: 127812

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127730

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics (DRO)	<6.81		6.81		mg/Kg		05/16/16 14:00	05/17/16 11:42	1

Lab Sample ID: LCS 310-127730/2-A
Matrix: Solid
Analysis Batch: 127812

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics (DRO)	96.9	93.00		mg/Kg		96	70 - 120

Lab Sample ID: LCSD 310-127730/3-A
Matrix: Solid
Analysis Batch: 127812

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 127730

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics (DRO)	97.6	57.95	*	mg/Kg		59	70 - 120	46	20

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 310-127725/1-A
Matrix: Solid
Analysis Batch: 127945

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.461		0.461		mg/Kg		05/17/16 10:00	05/17/16 18:28	1
Cadmium	<0.922		0.922		mg/Kg		05/17/16 10:00	05/17/16 18:28	1
Chromium	<0.922		0.922		mg/Kg		05/17/16 10:00	05/17/16 18:28	1
Lead	<4.61		4.61		mg/Kg		05/17/16 10:00	05/17/16 18:28	1
Silver	<0.922		0.922		mg/Kg		05/17/16 10:00	05/17/16 18:28	1

Lab Sample ID: LCS 310-127725/2-A
Matrix: Solid
Analysis Batch: 127945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 127725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	90.5	84.77		mg/Kg		94	80 - 120
Cadmium	90.5	85.74		mg/Kg		95	80 - 120
Chromium	90.5	85.56		mg/Kg		95	80 - 120
Lead	181	171.1		mg/Kg		95	80 - 120
Silver	90.5	89.14		mg/Kg		99	80 - 120

Lab Sample ID: 310-80618-4 DU
Matrix: Solid
Analysis Batch: 127945

Client Sample ID: SB-1 (0-1.5)
Prep Type: Total/NA
Prep Batch: 127725

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Barium	36.7		37.94		mg/Kg	☼	3	20
Cadmium	<0.992		<0.990		mg/Kg	☼	NC	20
Chromium	16.2		16.33		mg/Kg	☼	1	20
Lead	<4.96		5.490		mg/Kg	☼	NC	20
Silver	<0.992		<0.990		mg/Kg	☼	NC	20

Method: 7010 - Metals (GFAA)

Lab Sample ID: MB 310-127726/1-A
Matrix: Solid
Analysis Batch: 127880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127726

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.233		0.233		mg/Kg		05/17/16 10:00	05/17/16 11:33	1

Lab Sample ID: MB 310-127726/1-A
Matrix: Solid
Analysis Batch: 128080

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 127726

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0465		0.0465		mg/Kg		05/17/16 10:00	05/18/16 13:16	1

Method: 7010 - Metals (GFAA) (Continued)

Lab Sample ID: LCS 310-127726/2-A ^2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127880 — **Prep Batch: 127726**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	3.75	3.486		mg/Kg		93	80 - 120

Lab Sample ID: LCS 310-127726/2-A ^2 — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 128080 — **Prep Batch: 127726**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.87	2.098		mg/Kg		112	80 - 120

Lab Sample ID: 310-80618-5 DU — **Client Sample ID: SB-2 (2-3.5)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127880 — **Prep Batch: 127726**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Selenium	<1.04		<0.980		mg/Kg	☼	NC	20

Lab Sample ID: 310-80618-5 DU — **Client Sample ID: SB-2 (2-3.5)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 128080 — **Prep Batch: 127726**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	2.56		2.670		mg/Kg	☼	4	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 310-127737/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127878 — **Prep Batch: 127737**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0198		0.0198		mg/Kg		05/16/16 14:10	05/17/16 12:27	1

Lab Sample ID: LCS 310-127737/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127878 — **Prep Batch: 127737**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.158	0.1357		mg/Kg		86	80 - 120

Method: Moisture - Percent Moisture

Lab Sample ID: 310-80618-1 DU — **Client Sample ID: SB-5 (2-3.5)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 127696

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	13.2		12.8		%		3	20
Percent Solids	86.8		87.2		%		0.5	20

GC/MS VOA

Prep Batch: 127938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	5035	
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	5035	
310-80618-2 MS	SB-6 (2-3.5)	Total/NA	Solid	5035	
310-80618-2 MSD	SB-6 (2-3.5)	Total/NA	Solid	5035	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	5035	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	5035	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	5035	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	5035	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	5035	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	5035	
310-80618-9	MeOH Trip Blank	Total/NA	Solid	5035	
LCS 310-127938/2-A	Lab Control Sample	Total/NA	Solid	5035	
MB 310-127938/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 127941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	8260B	127938
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	8260B	127938
310-80618-2 MS	SB-6 (2-3.5)	Total/NA	Solid	8260B	127938
310-80618-2 MSD	SB-6 (2-3.5)	Total/NA	Solid	8260B	127938
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	8260B	127938
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	8260B	127938
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	8260B	127938
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	8260B	127938
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	8260B	127938
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	8260B	127938
310-80618-9	MeOH Trip Blank	Total/NA	Solid	8260B	127938
LCS 310-127938/2-A	Lab Control Sample	Total/NA	Solid	8260B	127938
MB 310-127938/1-A	Method Blank	Total/NA	Solid	8260B	127938

GC/MS Semi VOA

Prep Batch: 127606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	3546	
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	3546	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	3546	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	3546	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	3546	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	3546	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	3546	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	3546	
LCS 310-127606/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 310-127606/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 127803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	8270D SIM	127606
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	8270D SIM	127606
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	8270D SIM	127606

GC/MS Semi VOA (Continued)

Analysis Batch: 127803 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	8270D SIM	127606
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	8270D SIM	127606
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	8270D SIM	127606
LCS 310-127606/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	127606
MB 310-127606/1-A	Method Blank	Total/NA	Solid	8270D SIM	127606

Analysis Batch: 127958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	8270D SIM	127606
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	8270D SIM	127606

GC Semi VOA

Prep Batch: 127604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	3546	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	3546	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	3546	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	3546	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	3546	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	3546	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	3546	
LCS 310-127604/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 310-127604/1-A	Method Blank	Total/NA	Solid	3546	

Prep Batch: 127730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	3550B	
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	3550B	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	3550B	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	3550B	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	3550B	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	3550B	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	3550B	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	3550B	
LCS 310-127730/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 310-127730/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 310-127730/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 127812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	WI-DRO	127730
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	WI-DRO	127730
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	WI-DRO	127730
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	WI-DRO	127730
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	WI-DRO	127730
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	WI-DRO	127730
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	WI-DRO	127730
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	WI-DRO	127730
LCS 310-127730/2-A	Lab Control Sample	Total/NA	Solid	WI-DRO	127730

GC Semi VOA (Continued)

Analysis Batch: 127812 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 310-127730/3-A	Lab Control Sample Dup	Total/NA	Solid	WI-DRO	127730
MB 310-127730/1-A	Method Blank	Total/NA	Solid	WI-DRO	127730

Analysis Batch: 127842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	8082A	127604
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	8082A	127604
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	8082A	127604
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	8082A	127604
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	8082A	127604
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	8082A	127604
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	8082A	127604
LCS 310-127604/2-A	Lab Control Sample	Total/NA	Solid	8082A	127604
MB 310-127604/1-A	Method Blank	Total/NA	Solid	8082A	127604

Prep Batch: 128653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	3546	
LCS 310-128653/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 310-128653/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 128658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	8082A	128653
LCS 310-128653/2-A	Lab Control Sample	Total/NA	Solid	8082A	128653
MB 310-128653/1-A	Method Blank	Total/NA	Solid	8082A	128653

Metals

Prep Batch: 127725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	3050B	
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	3050B	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	3050B	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	3050B	
310-80618-4 DU	SB-1 (0-1.5)	Total/NA	Solid	3050B	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	3050B	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	3050B	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	3050B	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	3050B	
LCS 310-127725/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 310-127725/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 127726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	3050B	
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	3050B	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	3050B	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	3050B	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 127726 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-5 DU	SB-2 (2-3.5)	Total/NA	Solid	3050B	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	3050B	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	3050B	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	3050B	
LCS 310-127726/2-A ^2	Lab Control Sample	Total/NA	Solid	3050B	
MB 310-127726/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 127737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	7471B	
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	7471B	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	7471B	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	7471B	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	7471B	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	7471B	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	7471B	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	7471B	
LCS 310-127737/2-A	Lab Control Sample	Total/NA	Solid	7471B	
MB 310-127737/1-A	Method Blank	Total/NA	Solid	7471B	

Analysis Batch: 127878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	7471B	127737
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	7471B	127737
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	7471B	127737
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	7471B	127737
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	7471B	127737
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	7471B	127737
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	7471B	127737
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	7471B	127737
LCS 310-127737/2-A	Lab Control Sample	Total/NA	Solid	7471B	127737
MB 310-127737/1-A	Method Blank	Total/NA	Solid	7471B	127737

Analysis Batch: 127880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	7010	127726
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-5 DU	SB-2 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	7010	127726
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	7010	127726
LCS 310-127726/2-A ^2	Lab Control Sample	Total/NA	Solid	7010	127726
MB 310-127726/1-A	Method Blank	Total/NA	Solid	7010	127726

Analysis Batch: 127945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	6010C	127725
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	6010C	127725

Metals (Continued)

Analysis Batch: 127945 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	6010C	127725
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	6010C	127725
310-80618-4 DU	SB-1 (0-1.5)	Total/NA	Solid	6010C	127725
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	6010C	127725
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	6010C	127725
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	6010C	127725
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	6010C	127725
LCS 310-127725/2-A	Lab Control Sample	Total/NA	Solid	6010C	127725
MB 310-127725/1-A	Method Blank	Total/NA	Solid	6010C	127725

Analysis Batch: 128080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	7010	127726
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-5 DU	SB-2 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	7010	127726
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	7010	127726
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	7010	127726
LCS 310-127726/2-A ^2	Lab Control Sample	Total/NA	Solid	7010	127726
MB 310-127726/1-A	Method Blank	Total/NA	Solid	7010	127726

General Chemistry

Analysis Batch: 127696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-80618-1	SB-5 (2-3.5)	Total/NA	Solid	Moisture	
310-80618-1 DU	SB-5 (2-3.5)	Total/NA	Solid	Moisture	
310-80618-2	SB-6 (2-3.5)	Total/NA	Solid	Moisture	
310-80618-3	SB-7 (2-3.5)	Total/NA	Solid	Moisture	
310-80618-4	SB-1 (0-1.5)	Total/NA	Solid	Moisture	
310-80618-5	SB-2 (2-3.5)	Total/NA	Solid	Moisture	
310-80618-6	SB-3 (4.5-6)	Total/NA	Solid	Moisture	
310-80618-7	SB-4 (2-3.5)	Total/NA	Solid	Moisture	
310-80618-8	SB-8 (4.5-6)	Total/NA	Solid	Moisture	

Client Sample ID: SB-5 (2-3.5)

Lab Sample ID: 310-80618-1

Date Collected: 05/12/16 10:00

Matrix: Solid

Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/18/16 23:07	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127803	05/17/16 19:05	DMD	TAL CF
Total/NA	Prep	3546			128653	05/24/16 10:09	DEM2	TAL CF
Total/NA	Analysis	8082A		1	128658	05/24/16 18:41	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 19:39	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	127945	05/17/16 19:00	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:15	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:07	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 12:53	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Client Sample ID: SB-6 (2-3.5)

Lab Sample ID: 310-80618-2

Date Collected: 05/12/16 11:00

Matrix: Solid

Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/18/16 23:32	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127803	05/17/16 19:27	DMD	TAL CF
Total/NA	Prep	3546			127604	05/16/16 13:54	AJM	TAL CF
Total/NA	Analysis	8082A		1	127842	05/17/16 17:57	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 20:15	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	127945	05/17/16 19:02	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:18	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:18	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 12:54	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Client Sample ID: SB-7 (2-3.5)

Lab Sample ID: 310-80618-3

Date Collected: 05/12/16 12:00
Matrix: Solid
Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/18/16 23:56	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127803	05/17/16 19:50	DMD	TAL CF
Total/NA	Prep	3546			127604	05/16/16 13:54	AJM	TAL CF
Total/NA	Analysis	8082A		1	127842	05/17/16 18:08	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 20:52	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	127945	05/17/16 21:03	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:22	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:22	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 12:56	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Client Sample ID: SB-1 (0-1.5)

Lab Sample ID: 310-80618-4

Date Collected: 05/12/16 14:00
Matrix: Solid
Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/19/16 00:20	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127803	05/17/16 20:12	DMD	TAL CF
Total/NA	Prep	3546			127604	05/16/16 13:54	AJM	TAL CF
Total/NA	Analysis	8082A		1	127842	05/17/16 18:18	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 21:28	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	127945	05/17/16 19:06	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:25	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:26	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 12:58	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Client Sample ID: SB-2 (2-3.5)

Lab Sample ID: 310-80618-5

Date Collected: 05/12/16 15:30
Matrix: Solid
Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/19/16 00:44	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127803	05/17/16 20:34	DMD	TAL CF
Total/NA	Prep	3546			127604	05/16/16 13:54	AJM	TAL CF
Total/NA	Analysis	8082A		1	127842	05/17/16 18:29	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 22:04	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	127945	05/17/16 21:06	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:35	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:30	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 13:02	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Client Sample ID: SB-3 (4.5-6)

Lab Sample ID: 310-80618-6

Date Collected: 05/13/16 09:30
Matrix: Solid
Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/19/16 01:08	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127803	05/17/16 20:57	DMD	TAL CF
Total/NA	Prep	3546			127604	05/16/16 13:54	AJM	TAL CF
Total/NA	Analysis	8082A		1	127842	05/17/16 18:39	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 22:40	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	127945	05/17/16 21:08	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:41	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:38	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 13:04	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Client Sample ID: SB-4 (2-3.5)

Lab Sample ID: 310-80618-7

Date Collected: 05/13/16 11:00
Matrix: Solid
Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/19/16 01:32	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127958	05/18/16 15:37	DMD	TAL CF
Total/NA	Prep	3546			127604	05/16/16 13:54	AJM	TAL CF
Total/NA	Analysis	8082A		1	127842	05/17/16 18:50	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 23:16	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		1	127945	05/17/16 19:14	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:44	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:41	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 13:05	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Client Sample ID: SB-8 (4.5-6)

Lab Sample ID: 310-80618-8

Date Collected: 05/13/16 15:00
Matrix: Solid
Date Received: 05/14/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/19/16 01:56	TCH	TAL CF
Total/NA	Prep	3546			127606	05/16/16 13:52	AJM	TAL CF
Total/NA	Analysis	8270D SIM		10	127958	05/18/16 16:00	DMD	TAL CF
Total/NA	Prep	3546			127604	05/16/16 13:54	AJM	TAL CF
Total/NA	Analysis	8082A		1	127842	05/17/16 19:00	BKT	TAL CF
Total/NA	Prep	3550B			127730	05/16/16 14:00	AJM	TAL CF
Total/NA	Analysis	WI-DRO		1	127812	05/17/16 23:52	LLS	TAL CF
Total/NA	Prep	3050B			127725	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	6010C		2	127945	05/17/16 21:10	OAD	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		4	127880	05/17/16 12:48	CJT	TAL CF
Total/NA	Prep	3050B			127726	05/17/16 10:00	JNR	TAL CF
Total/NA	Analysis	7010		12	128080	05/18/16 14:45	AJG	TAL CF
Total/NA	Prep	7471B			127737	05/16/16 14:10	JNR	TAL CF
Total/NA	Analysis	7471B		1	127878	05/17/16 13:07	SAD	TAL CF
Total/NA	Analysis	Moisture		1	127696	05/16/16 09:56	SAS	TAL CF

Lab Chronicle

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Client Sample ID: MeOH Trip Blank
Date Collected: 05/13/16 00:00
Date Received: 05/14/16 09:15

Lab Sample ID: 310-80618-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			127938	05/18/16 07:38	TCH	TAL CF
Total/NA	Analysis	8260B		1	127941	05/19/16 02:21	TCH	TAL CF

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

Certification Summary

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Laboratory: TestAmerica Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Minnesota	NELAP	5	019-999-319	12-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8082A	3546	Solid	PCB-1268
8260B	5035	Solid	Dichlorofluoromethane
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Wenck Associates, Inc
Project/Site: SHADY OAK - MINNETONKA

TestAmerica Job ID: 310-80618-1
SDG: 3035-0005

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CF
8270D SIM	Semivolatile Organic Compound (GC/MS SIM LL)	SW846	TAL CF
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CF
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CF
6010C	Metals (ICP)	SW846	TAL CF
7010	Metals (GFAA)	SW846	TAL CF
7471B	Mercury (CVAA)	SW846	TAL CF
Moisture	Percent Moisture	EPA	TAL CF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CF = TestAmerica Cedar Falls, 704 Enterprise Drive, Cedar Falls, IA 50613, TEL (319)277-2401

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

310-80618 Chain of Custody

Cooler/Sample Receipt and Temperature

Client Information

Client: WENCK Associates

City/State: Maple Plain, MN | Project: SHADY OAK

Receipt Information

Date/Time Received: 5/14/16 0915 | Received By: ST

Delivery Type: ☐ UPS ☒ FedEx ☐ FedEx Ground ☐ US Mail ☐ Spee-Dee ☐ TA Courier ☐ TA Field Services ☐ Client Drop-off ☐ Other:_____

Condition of Cooler/Containers

Sample(s) received in Cooler? ☒ Yes ☐ No *If yes:* Cooler ID: TA Minneapolis

Multiple Coolers? ☐ Yes ☒ No *If yes:* Cooler # _____ of _____

Cooler Custody Seals Present? ☒ Yes ☐ No *If yes:* Cooler custody seals intact? ☒ Yes ☐ No

Sample Custody Seals Present? ☐ Yes ☐ No *If yes:* Sample custody seals intact? ☐ Yes ☐ No

Trip Blank Present? ☒ Yes ☐ No *If yes:* Which VOA samples are in cooler? ↓

MeOH Blank

Temperature Record

Coolant: ☒ Wet ice ☐ Blue ice ☐ Dry ice ☐ Other:_____ ☐ NONE

Temperature Blank? ☒ Yes ☐ No ID & Bottle Type:

NOTE: If yes, use temp blank for measurement. If no, specify sample ID(s) and bottle type used to take measurement.

Thermometer ID: H | Correction Factor (°C): +0.1°C

Uncorrected Temp (°C): 1.4°C | Corrected Temp (°C): 1.5°C

Exceptions Noted

1) If temperature exceeds criteria, was sample(s) received same day of sampling? ☐ Yes ☐ No
   a) *If yes:* Is there evidence that the chilling process began? ☐ Yes ☐ No

2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles?) ☐ Yes ☐ No

NOTE: If yes, contact PM before proceeding. If no, proceed with login

Additional Comments

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cedar Falls Division
704 Enterprise Drive
Cedar Falls, IA 50613

Phone 319-277-2401 or 800-750-2401
Fax 319-277-2425

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: WENCK ASSOCIATES INC Client #: _____
Address: 1800 PIONEER CREEK CENTER
City/State/Zip Code: MAPLE PLAIN, MN 55359
Project Manager: ADAM ZOBEL
Email Address: AZOBEL@WENCK.COM
Telephone Number: 763-479-5145 Fax: _____
Sampler Name: (Print Name) KELLY JAWORSKI
Sampler Signature:

Project Name: SHADY OAK - MINNETONKA
Project #: 3035-0005
Site/Location ID: MINNETONKA State: MN
Report To: ADAM ZOBEL / KELLY JAWORSKI
Invoice To: _____
Quote #: _____ PO#: _____

TAT
X Standard
___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: Y N
Email Results: (Y) N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify, Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: DRO	8 VOC	PAH	RCRA Metals	PCB	QC Deliverables	REMARKS
SB-5 (2-3.5)	5/12	1000	G		S					X	X		X	X	X	X	X		
SB-6 (2-3.5)	5/12	1100	G		S					X	X		X	X	X	X	X		
SB-7 (2-3.5)	5/12	1200	G		S					X	X		X	X	X	X	X		
SB-1 (0-1.5)	5/12	1400	G		S					X	X		X	X	X	X	X		
SB-2 (2-3.5)	5/12	1530	G		S					X	X		X	X	X	X	X		
SB-3 (4.5-6)	5/13	930	G		S					X	X		X	X	X	X	X		
SB-4 (2-3.5)	5/13	1100	G		S					X	X		X	X	X	X	X		
SB-8 (4.5-6)	5/13	1500	G		S					X	X		X	X	X	X	X		

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

Special Instructions:

LABORATORY COMMENTS:

Relinquished By: KELLY JAWORSKI/WENCK	Date: 5/13	Time: 1325	Received By:	Date: 5/13	Time: 1325
Relinquished By:	Date: 5/13	Time: 1700	Received By:	Date: 5/14	Time: 0915
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

TAL-0033 (0708)

Page 1 of 1

Login Sample Receipt Checklist

Client: Wenck Associates, Inc

Job Number: 310-80618-1
SDG Number: 3035-0005

Login Number: 80618
List Number: 1
Creator: Tuladhar, Sushil X

List Source: TestAmerica Cedar Falls

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
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	
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	Received Trip Blank(s) not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	False	One DRO jar for SB-7 labeled as SB-12 on the container.
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	

WENCK
ASSOCIATES

Responsive partner.
Exceptional outcomes.

Toll Free: 800-472-2232 **Email: wenckmp@wenck.com** **Web: wenck.com**

MINNESOTA
Maple Plain
763-479-4200
Golden Valley
763-252-6800
Windom
507-831-2703
New Hope
800-368-8831
Woodbury
651-294-4580

COLORADO
Denver
602-370-7420

GEORGIA
Roswell
678-987-5840

NORTH DAKOTA
Fargo
701-297-9600
Mandan
701-751-3370
Williston
800-472-2232

SOUTH DAKOTA
Pierre
605-222-1826

WYOMING
Cheyenne
307-634-7848
Sheridan
307-675-1148

WENCK File #3035-0005
June 27, 2016

Environmental Site Assessment – Supplemental Soil Investigation

Shady Oak Property
4312 Shady Oak Road and
4292 Oak Drive Lane
Minnetonka, MN 55343

Prepared for:

City of Minnetonka and Hennepin County

City of Minnetonka
14600 Minnetonka Blvd.
Minnetonka, MN 55345

Hennepin County
Contaminated Lands Unit
701 4th Ave S., Suite 700
Minneapolis, MN 55415

WENCK ASSOCIATES
Responsive partner.
Exceptional outcomes.

Prepared by:

WENCK Associates, Inc.
1800 Pioneer Creek Center
Maple Plain, MN 55359
Phone: 763-479-4200
Fax: 763-479-4242

5.0 Investigation Results

5.1 SOIL

5.1.1 Geology

Wenck encountered approximately four feet of fill soils consisting of mainly dark brown to black silty sand with gravel on the Subject Property with approximately 10 feet of fill in boring SB-8 on the south side of the building. In general, the fill is underlain primarily by brown silty sand with gravel in borings SB-1 through SB-4 and brown to grey sandy clays in borings SB-5 through SB-8. Lenses of organic clay ranging from one inch to two feet in thickness were noted in SB-6 through SB-8 from 9-15 feet below grade. Soil boring logs are included in **Appendix B**.

Published references describe the surficial geology at the Subject Property as outwash consisting of sand, loamy sand, and gravel (University of Minnesota, 1989). Surficial bedrock in the vicinity of the Subject Property consists of the Platteville and Glenwood Formations at a depth of approximately 100-150 feet (University of Minnesota, 1989).

5.1.2 Soil Analytical Results

Soil investigation data compared detected concentrations of RCRA metals, VOCs, PAHs and PCBs to the Minnesota Pollution Control Agency's Tier 1 Residential and Tier 2 Industrial Soil Reference Values (SRVs). Additionally, MPCA Tier 1 Soil Leaching Values (SLVs) were referenced to evaluate the potential risk to groundwater at the Subject Property from the soil-to-groundwater leaching pathway. There are no established MPCA SRVs or SLVs for DRO.

Field Screening
A vapor headspace reading was detected at 11.6 parts per million (ppm) in sample SB-7 (2-3.5') via field screening by PID. Vapor headspace readings for VOCs were not detected above background concentrations via field screening by PID in any of the other soil borings. Vapor headspace readings and field observations are included on the soil boring logs in **Appendix B**.

DRO
DRO was detected in all eight of the soil samples collected and analyzed for DRO. Detections ranged from 0.425 mg/kg in sample SB-4 (2-3.5') to 215 mg/kg in sample SB-7 (2-3.5'). DRO was detected above 100 mg/kg in samples SB-3 (4.5-6') at 108 mg/kg, SB-6 (2-3.5') at 170 mg/kg, and SB-7 (2-3.5') at 215 mg/kg. There is no established limit for DRO in the MPCA SLVs or SRVs.

RCRA Metals
Five of the eight RCRA metals were detected in the eight samples collected and analyzed for RCRA metals with at least three metals identified in each sample. However, detected concentrations of metals do not exceed the MPCA SLVs, Residential SRVs, or Industrial SRVs.

VOCs
PCE was detected at 0.245 mg/kg in sample SB-3 (4.5-6'). No other VOCs were detected above their respective laboratory method reporting limits in any of the other seven soil samples collected and analyzed for VOCs. The detection of PCE exceeds the MPCA SLV, but does not exceed the Residential SRV or Industrial SRV.

PCBs
PCBs were not detected in any of the eight soil samples collected and analyzed for PCBs.

PAHs
Various PAHs were detected above the method reporting limit in six of the eight soil samples collected and analyzed for PAHs. None of the samples were identified to exceed the MPCA Residential or Industrial SRVs or MPCA SLVs for individual PAHs.

Soil sample results are summarized in **Table 1**. Laboratory reports and supporting chain-of-custody documentation are included in **Appendix C**.

5.2 GROUNDWATER

5.2.1 Hydrogeology

Groundwater was encountered in each boring drilled on the Subject Property. Groundwater was encountered at approximately 13 feet below ground surface in SB-2 through SB-4 located at a lower elevation on the west side of the building. Groundwater was encountered at approximately 25 feet below grade in borings SB-5 through SB-8 which were drilled on the west side of the building starting at a higher elevation. Groundwater was also encountered at 25 feet below grade in SB-1 which also appears to be at slightly higher elevation.

The general direction of regional groundwater flow in the area of the Subject Property is noted in Minnesota Department of Natural Resources County Geologic Atlas to be to the west towards the Mississippi River. However, local conditions may vary due to surface water features, perched groundwater conditions or artificially created drainage systems. Depth to regional groundwater is noted to be approximately 25 feet below ground surface (MN Department of Natural Resources, 1989).

6.0 Discussion

6.1 SOIL DISCUSSION

The detection of DRO in SB-3 (4.5-6'), SB-6 (2-3.5) and SB-7 (2-3.5) over 100 mg/kg indicates that impacts are concentrated in the surficial fill soil in the northeastern and central portion of the Subject Property but low-level impacts are also present in the fill soil across the Subject Property, along with PCE and PCBs exceeding the MPCA SLV. The lack of further detections of PCBs in any of the soil borings indicates that the extent of PCB contamination appears to be limited to the vicinity of boring GP-1A (0-2'). With the soil detections of PCBs and PCE above the MPCA SLV and the multiple detections of DRO in fill over 100 mg/kg, the future redevelopment of the Subject Property and soil management should be conducted under an approved MPCA Response Action Plan.

The MPCA document "Best Management Practices for the Off-Site Reuse of Unregulated Fill," dated February 2012, defines unregulated fill as excess soil in which a release of contaminants has been identified at concentrations less than the MPCA's most conservative risk-based values. The criteria for unregulated fill are described as the following:

- Soil free from solid waste, debris, asbestos containing material, visual staining, and chemical odor;
- Organic vapors less than 10 ppm as measured by a PID;
- For petroleum impacted soil, less than 100 mg/kg DRO/GRO;
- For contaminants detected in soil, less than the MPCA's Residential SRVs and MPCA Tier 1 SLVs.

Wenck recommends removal of the former septic system components as part of the proposed redevelopment. Additional assessment of soil may be necessary at the time of the removal of the former septic system components.

7.0 Conclusions

Based on the field observations and laboratory analysis of the additional soil samples collected and analyzed from the Subject Property and the previous findings, Wenck submits the following conclusions and recommendations:

1. Enroll the Subject Property in the MPCA Voluntary Investigation and Cleanup (VIC) Program and Petroleum Brownfields (PB) Program;

2. Apply for a No Association Determination related to the elevated detection of PCBs and PCE in soil, PCE and acetone in groundwater, and PCE and TCE in soil vapor from the VIC Program. The submittal will include a proposed actions letter for the proposed use of the Subject Property.

3. When development plans are known, submit a Response Action Plan to the MPCA Voluntary Brownfield Programs (VIC and the Petroleum Brownfield Program) for review and approval.

4. Apply for a Non-tank Closure Letter from the Petroleum Brownfields Program for the low-level detections of DRO in soil and groundwater at the Subject Property.

5. Wenck recommends the City remove and dispose of the former septic system as part of future redevelopment as an environmental development response action.

6. Wenck recommends collecting bulk samples of the concrete stained with the PCB containing oil prior to demolition to determine if the concrete will require special handling.

Mark G. Davidson, PG (MN)
Geologist

Adam P. Zobel
Senior Environmental Project Manager

WENCK File #3035-0005
June 27, 2016

Phase I Environmental Site Assessment

Shady Oak Properties
4312 Shady Oak Road
and 4292 Oak Drive Lane
Minnetonka, Minnesota

Prepared for:

City of Minnetonka
&
Hennepin County Environmental

14600 Minnetonka Boulevard
Minnetonka, Minnesota
55345

WENCK ASSOCIATES
Responsive partner.
Exceptional outcomes.

Prepared by:

WENCK Associates, Inc.
1800 Pioneer Creek Center
Maple Plain, MN 55359
Phone: 763-479-4200
Fax: 763-479-4242

1.0 Summary

Wenck Associates, Inc. (Wenck) was authorized by Hennepin County Environmental (Hennepin County) to conduct this Phase I Environmental Site Assessment (ESA) of the Shady Oak Properties located at 4312 Shady Oak Road and 4292 Oak Drive Lane, Minnetonka, Hennepin County, Minnesota (the Subject Property). The Subject Property consists of 2.28 acres occupied by an approximately 25,680-square foot commercial building and one single family residence. Access to the Subject Property is from Shady Oak Road and Oak Drive Lane. The Subject Property location is depicted in **Figure 1**. A Site Detail Map of the Subject Property is included as **Figure 2**.

This was conducted in accordance with the American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment Process, Designation E-1527-13 (ASTM Phase I Standard) and satisfies standards and practices set forth in 40 CFR Part 312 – Standards for Conducting All Appropriate Inquiry (AAI Rule) for the purposes of meeting the all appropriate inquiries provisions necessary to qualify for certain landowner liability protections under the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601(35)(B).

Wenck understands that the City of Minnetonka is considering redeveloping the Subject Property for redevelopment. The conclusions contained in this report have been made to assist the City of Minnetonka in evaluating environmental conditions at the present time at the Subject Property.

This Phase I ESA has identified no recognized environmental conditions (RECs) relative to the Subject Property except for the following:

- The presence of historical machine shop and drycleaner tenants at the Subject Property that handled various oils and solvents and operated at the same time as the former septic and cesspool system is considered an REC.
- A Phase II Subsurface Investigation completed at the Subject Property identified DRO, VOCs and PCBs above MPCA and MDH established risk criteria in the soil, groundwater, concrete and soil vapor at the Subject Property. The identified release to multiple materials at the Subject Property is considered a REC.

This Phase I ESA has not identified any controlled recognized environmental conditions (CRECs) or historical recognized environmental conditions (HRECs) relative to the Subject Property.

Although not considered RECs, CRECs, or HRECs; this ESA has revealed the following items that constitute business environmental risks:

- There is a domestic well located at the Subject Property that is currently not in use on the 4292 Parcel and two wells not in use on the 4312 parcel. According to the Minnesota Department of Health, a well must be in use, be under a maintenance permit, or be sealed by a licensed contractor.

- A former septic system may still be present on the Subject Property at the 4312 Parcel on the west of the building. Septic systems no longer in use should be abandoned/decommissioned in accordance with local regulations. A septic system

8.0 Evaluation

8.1 DATA GAPS

Historical information was reviewed back to 1875. Data gaps greater than five years exist from prior to 1875, from 1875 to 1900, from 1900 to 1925 and from 1925 to 1940.

The interviews, historical maps, city directories, fire insurance maps, aerial photographs, and previous environmental reports provide generally good corroborating information that allows an understanding of historical Subject Property use. A research summary is included as **Appendix I**.

Wenck considers the evaluation of the presence of recognized environmental conditions, controlled recognized environmental conditions, and historical recognized environmental conditions to be complete, based on the lack of identified changes in land use during the periods affected by any data gaps of more than five years. Therefore, we do not recommend additional investigation relative to the resolution of those data gaps, as we do not believe it would materially affect our conclusion.

8.2 IDENTIFIED FINDINGS

Wenck was authorized by the City of Minnetonka to conduct this Phase I ESA of the Shady Oak Road property located at 4312 Shady Oak Road and 4292 Oak Drive Lane, Minnetonka, Hennepin County, Minnesota (the Subject Property). The Subject Property consists of 2.28-acres occupied by an approximately 25,680-square foot commercial/retail building and a single family residence. Access to the Subject Property is from Shady Oak Road and Oak Drive Lane.

The Subject Property has one commercial/retail building with multiple tenant spaces, a single-family residence, a paved parking area on the west side of the commercial building, and greenspace. Both structures were originally built in 1951. Two additions were completed on the commercial structure by 1964.

The building on the 4312 Parcel is two levels and the upper level tenant spaces are accessed from the east side of the building off Shady Oak Road and the lower level tenant spaces are accessed by a walkout basement level on the west side of the building. The current tenants on the upper level consist of Ammo Craft (4314), Chalet Pizza (4316) and Sewing and Alterations (4318); the remaining spaces on the upper level are vacant. The lower level tenant spaces are occupied by Mid-Tool (4316B), Electric City (4330B and 4332B), and Practical Systems – HVAC (4340B and 4342B).

Wenck reviewed building permits and records for the Subject Property at the City of Minnetonka. Dahl's Cleaners and Laundry were noted in the City file as a drycleaner tenant at the Subject Property at the 4312 Parcel building and the file notes a drycleaning machine was installed in 1962.

Wenck also obtained hazardous waste files from Hennepin County Environmental. The records did not reveal any evidence of a release of hazardous materials at the Property or

any major handling violations. Wenck reviewed records for Knight Machining, Inc., Mid-Tool, Liberty Tool, Practical Systems, Clean Flo Labs, and Shady Oak Veterinary Clinic.

Chemicals formerly used by Knight Machine included relatively small quantities of Stoddard Solvent, used oil, and metal working fluid. Waste generated by the Shady Oak Veterinary included Used X-Ray film, x-ray fixer, and bio-waste. Clean Flo labs reported to generate approximately 5-gallons per year of mixed lab chemicals. A letter for Mid-Tool from the MCPA noted that Mid-Tool does not generate any waste, but uses cutting oil and Stoddard Solvent in their operations. The chemicals are reportedly consumed in the process or recycled back to the machines.

City files show that the commercial structure on the 4312 Parcel was originally constructed with a septic system consisting of a 10' wide x 40' long x 8' in height septic tank and four 675-gallon concrete cesspools.

Wenck observed a vent pipe on the west side of the building on the 4312 parcel. This pipe may be associated with a former fuel tank or the former septic system.

The Subject Property was identified on the following reviewed regulatory databases in the GeoSearch™ Radius Report: Resource Conservation & Recovery Act – Generator Facilities (RCRAGR05) and Federal Facility Registry System (FRSMN) and Hazardous Waste Generator Sites (HWGS) databases due to a hazardous waste generator licenses. Other nearby sites were noted in the Geosearch report for various databases.

Wenck observed two wells on the 4312 parcel. One well is located under a stairwell in the Practical Systems space and the other well is located outside off the sidewalk north of the Ammo Craft tenant space. Wenck also observed a well in the basement of the residence at the 4292 parcel.

8.3 OPINIONS

We have reviewed the above findings and have come to the following opinions:

- Mapped sites of regulatory interest revealed within the GeoSearch Radius Report are not considered RECs, HRECs, or CRECs. Based on the review of the revealed sites of regulatory interest, including unmapped site listings revealed within search radii defined by the Practice, we identified no material threat of release to the Subject Property from adjacent or upgradient properties.
- City records show a former septic system with four concrete cesspool tanks located on the west side of the building on the 4312 Parcel. The septic system and cesspools were in use until approximately 1977. City records show that a dry-cleaner tenant formerly operated at the Site in the 1960s. Dry-cleaners are known to use hazardous materials including chlorinated solvents. In addition, the various machine shops at the Subject Property historically used small quantities of various oils and solvents. The former septic system and cesspools at the Subject Property represent pathways for potential releases of hazardous materials to the subsurface. The use of the Subject Property as a drycleaner and machine shops with the septic and cesspool system is considered an REC.
- A Phase II Subsurface Investigation completed at the Subject Property identified DRO, VOCs and PCBs above MPCA and MDH established risk criteria in the soil, groundwater, concrete and soil vapor at the Subject Property. The identified release to multiple materials at the Subject Property is considered a REC.

- The vent pipe observed at the Subject Property is likely associated with the former septic system since there is no record of underground storage tanks at the Subject Property, and is not considered an REC.
- Wells at the Subject Property are considered an business environmental risk that may require future sealing.
- The potential presence of septic systems no longer in use at the Subject Property are considered an business environmental risk, that may require future removal or abandonment.

8.4 CONCLUSIONS

Wenck performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of the ASTM Phase I Standards and in accordance with the All Appropriate Inquiry Rule (40 CFR Part 312) of the property and improvements of 4313 Shady Oak Drive and 4292 Oak Drive Lane in Minnetonka, Hennepin County, Minnesota. Any exceptions to, or deletions from, the ASTM Phase I Standards are described in Section 2.3 and Section 2.4 of this report.

This Phase I ESA has revealed no RECs relative to the Subject Property except for the following:

- The presence of historical machine shop and drycleaner tenants at the Subject Property that handled various oils and solvents and operated at the same time as the former septic and cesspool system is considered an REC.
- A Phase II Subsurface Investigation completed at the Subject Property identified DRO, VOCs and PCBs above MPCA and MDH established risk criteria in the soil, groundwater, concrete and soil vapor at the Subject Property. The identified release to multiple materials at the Subject Property is considered a REC.

This Phase I ESA has revealed no CRECs or HRECs relative to the Subject Property.

Although not considered RECs, CRECs, or HRECs; this ESA has revealed the following items that constitute business environmental risks:

- There is a domestic well located at the Subject Property that is currently not in use on the 4292 Parcel and two wells not in use on the 4312 parcel. According to the Minnesota Department of Health, a well must be in use, be under a maintenance permit, or be sealed by a licensed contractor.

- A former septic system may still be present on the Subject Property at the 4312 Parcel on the west of the building. Septic systems no longer in use should be abandoned/decommissioned in accordance with local regulations. A septic system was not observed on the 4292 Parcel; however, a septic system may also be present on the 4292 Parcel, based on the similar time of construction.

9.0 Non-Scope Considerations

Assessments of potential environmental issues or conditions at the Subject Property that may relate to commercial real estate activities, but were not part of this scope of work include the following:

- Asbestos Survey
- Radon Gas Survey
- Lead-Based Paint Assessment
- Lead in Drinking Water Evaluation
- Wetland Delineation
- Regulatory Compliance Audit
- Cultural and Historic Resources Review
- Industrial Hygiene Review
- Health and Safety Assessment
- Ecological Resources Evaluation
- Endangered Species Survey
- Indoor Air Quality Evaluation
- Mold Investigation
- High Voltage Power Lines Assessment

This list is not intended to be all-inclusive and is not intended to imply significance of further investigation into these non-scope items.

Wenck
Engineers • Scientists
Business Professionals

Wenck File #5170-0001

November 13, 2014

Phase II Environmental Site Assessment

Shady Oak Property
4312 Shady Oak Road and 4292 Oak Drive Lane
Minnetonka, Minnesota

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5.0 Investigation Results

5.1 SOIL

5.1.1 Geology

Wenck encountered up to 15 feet of fill soils consisting of mainly dark brown to black silty sand with gravel in the west parking lot near the former septic system in GP-2. Fill was encountered to depths of approximately 2 to 5 feet bg in the other borings. In general, the fill is underlain primarily by brown silty sand with gravel. Organic clay was noted in GP-5 from 5-11 feet below grade. Soil boring logs are included in **Appendix A**.

Published references describe the surficial geology at the Subject Property as outwash consisting of sand, loamy sand, and gravel (University of Minnesota, 1989). Surficial bedrock in the vicinity of the Subject Property consists of the Platteville and Glenwood Formations at a depth of approximately 100-150 feet (University of Minnesota, 1989).

5.1.2 Soil Analytical Results

Soil investigation data compared detected concentrations of RCRA metals, VOCs, PAHs and PCBs to the Minnesota Pollution Control Agency's Tier 1 Residential and Tier 2 Industrial Soil Reference Values (SRVs). Additionally, MPCA Tier 1 Soil Leaching Values (SLVs) were referenced to evaluate the potential risk to groundwater at the Subject Property from the soil-to-groundwater leaching pathway. There are no established MPCA SRVs or SLVs for DRO and GRO.

Field Screening
Vapor headspace readings for VOCs were not detected above background concentrations via field screening by PID in soil borings GP-1, GP-2, GP-3, GP-4, or GP-5. A headspace reading was detected at 16.7 parts per million (ppm) in sample GP-1A (0-2'). GP-1A was terminated at two feet due to obstruction. The obstruction was determined to likely be concrete associated with the former septic system based on the location of the boring. Vapor headspace readings and field observations are included on the soil boring logs in **Appendix A**.

DRO
DRO was detected in three of the six soil samples collected and analyzed for DRO. DRO was detected at 494 mg/kg in sample GP-1A (0-2'), 39.7 mg/kg in sample GP-3 (0-2'), and 9.99 mg/kg in sample GP-5 (3-5').

RCRA Metals
Various RCRA metals were detected in all of the samples collected and analyzed for RCRA metals. However, detected concentrations of metals do not exceed the MPCA SLVs, Residential SRVs, or Industrial SRVs.

7.0 Conclusions

Based on the field observations and laboratory analysis of PCB wipe samples, soil, soil vapor, and groundwater samples collected and analyzed from the Subject Property, Wenck submits the following conclusions:

1. Enroll the Subject Property in the MPCA Voluntary Investigation and Cleanup (VIC) Program and Petroleum Brownfields (PB) Program;

2. Apply for a No Association Determination related to the elevated detection of PCBs in soil, PCE and acetone in groundwater, and PCE and TCE in soil vapor from the VIC Program. The submittal will include a proposed actions letter for the proposed use of the Subject Property.

3. Apply for a Non-tank Closure Letter from the Petroleum Brownfields Program for the low-level detections of DRO in soil and groundwater at the Subject Property.

4. When development plans are known, submit a Response Action Plan to the MCPA Voluntary Brownfield Programs (VIC and the Petroleum Brownfield Program) for review and approval.

5. Wenck recommends the City remove and dispose of the former septic system as part of future redevelopment as an environmental development response action.

6. Wenck recommends cleaning the concrete contaminated with PCB containing oil using approved methods and either fixing the leak in the compressor or replacing the compressor as long as current leases and business operations continue at the Subject Property.

7. Wenck recommends collecting bulk samples of the concrete stained with the PCB containing oil prior to demolition to determine if the concrete will require special handling.

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