Limited Site Investigation

Retail Commercial Property
1712 and 1742 North 48th Street
Lincoln, Nebraska

May 18, 2022
Terracon Project No. A3227004

Prepared for:
Schafer Richardson Inc.
Minneapolis, Minnesota

Prepared by:
Terracon Consultants, Inc.
Lincoln, Nebraska

May 18, 2022

Schafer Richardson Inc.
900 N 3rd Street
Minneapolis, MN 55401-1017

Attn: Mr. Dominik Jenson
P: (612) 305-7095
E: djenson@sr-re.com

Re: Limited Site Investigation
Retail Commercial Property
1712 and 1742 North 48th Street
Lincoln, Nebraska
Terracon Project No. A3217048

Dear Mr. Jenson:

Terracon Consultants, Inc. (Terracon) is pleased to submit our report of Limited Site Investigation (LSI) activities conducted at the above-referenced site. The report presents data from field activities that included the advancement of borings and collection of soil and groundwater samples for chemical analysis. The LSI activities were conducted to evaluate findings identified in Terracon's Phase I Environmental Site Assessment (ESA – Report No. A3227004) dated February 4, 2022.

Terracon conducted the LSI in general accordance with our Proposal (PA3227009) for Limited Site Investigation, dated February 18, 2022. Terracon appreciates this opportunity to provide these services to Schafer Richardson Inc. Should you have questions or require additional information, please contact our office at 402-466-3911.

Sincerely,
Terracon Consultants, Inc.

Thomas L. Thomssen
Project Scientist

David M. Svingen
Senior Project Manager

TLT/DMS:tlt/nm

Distribution: Addressee (PDF)

Attachments

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1.0 PROJECT INFORMATION

The site is located at 1712 and 1742 North 48th Street in Lincoln, Lancaster County, Nebraska. The site consists of approximately 2.23 acres of land that is currently developed with a 4,656 square-foot retail/storage building, a 4,164 square-foot storage/warehouse, three other storage/warehouse buildings ranging from 396 to 1,200 square-feet, and a 648 square-foot retail building (former gas station), paved parking lots, and vacant land. The site is currently unoccupied. The site location is depicted on a Topographic/Location Map included as Exhibit 1 in Appendix A. A Site Diagram is included as Exhibit 2 in Appendix A.

2.0 SCOPE OF SERVICES

The client requested Terracon conduct an LSI at the site. The LSI scope was developed based on findings of Terracon's Phase I Environmental Site Assessment (ESA – Report No. A3227004) dated February 4, 2022. The Phase I ESA identified the following recognized environmental condition (REC) in connection with the site

REC/Site Concern	Description
Historical gas station fueling operations (1959-1971)	The presence of former petroleum USTs with historical gas station fueling operations (1959-1971) at the southwest portion of the site represents a REC to the site.
Historical nursery and garden operations (1932-1995)	The historical nursery and garden operations (1932-1995) at the site that included the use, storage, and application of associated chemicals represents a REC to the site.

2.1 Objectives

The objectives of the LSI are as follows:

- To assess the presence of chemicals commonly associated with the identified RECs at concentrations above laboratory reporting limits in the on-site soil and groundwater.

The scope of services was not intended to evaluate every chemical possibly associated with the site. Similarly, the proposed scope was not intended to evaluate the extent or magnitude of contamination, should it be identified during the proposed LSI services.

2.2 Standard of Care

Terracon's services were conducted in a manner consistent with generally accepted practices of the profession undertaken in similar studies in the same geographical area during the same time. Terracon makes no warranties, either express or implied, regarding the findings, conclusions, or recommendations. Please note that Terracon does not warrant the work of laboratories, regulatory agencies, or other third parties supplying information used in the preparation of the report. The LSI services were conducted in general accordance with the scope of services agreed with you, our client, as reflected in our proposal and were not restricted by ASTM E1903-19.

Terracon conducted the field work under a safety plan developed for this project. Work was conducted using United States Environmental Protection Agency (USEPA) Level D work attire consisting of a hard hat, reflective vest, safety glasses, protective gloves, and protective boots. Public and private utilities were notified and located prior to initiating the subsurface assessment by Terracon.

2.3 Additional Scope Limitations

The client should be aware that contaminant concentrations detected in samples collected during the LSI are not necessarily representative of average or maximum concentrations over the entire site. In addition, the lateral and vertical extent of the contamination was not defined as part of the LSI scope.

Findings, conclusions, and recommendations resulting from these services are based upon information derived from the on-site activities and other services conducted under this scope of services; such information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, non-detectable, or not present during these services. We cannot represent that the site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this LSI. Subsurface conditions may vary from those encountered at specific borings or wells or during other surveys, tests, assessments, investigations, or exploratory services. The data, interpretations, findings, and our recommendations are based solely upon data obtained at the time and within the scope of these services.

2.4 Reliance

This report has been prepared for the exclusive use of Schafer Richardson Inc. (client). Authorization for use or reliance by another party (except a governmental entity having jurisdiction

over the site) is prohibited without the express written authorization of the client and Terracon. Unauthorized distribution or reuse is at the sole risk of the client. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, LSI report, and Terracon's Agreement for Services. The limitation of liability defined in the terms and conditions is the aggregate limit of Terracon's liability to the client and relying parties unless otherwise agreed in writing.

3.0 FIELD INVESTIGATION

3.1 Permits and Utility Clearance

In compliance with Nebraska law, a public utility locate (Nebraska One Call) was requested for the site at least 48 hours prior to subsurface drilling and sampling. Site access was arranged by the client. A private utility locator was contracted to locate and mark utilities at the site that were not included as part of Nebraska One Call.

3.2 Boring Advancement

On March 30, 2022, Terracon advanced four borings (B-1 through B-4) using a truck-mounted direct push technology (DPT) Geoprobe™ rig to evaluate soil and groundwater at the site. The approximate locations of the borings are depicted on the Site Diagram as Exhibit 2 in Appendix A. The rationale for the boring locations is as follows:

- Borings B-1, B-2, and B-3 were advanced in the vicinity of historical gas station with fueling operations at the southwest portion of the site.
- Boring B-4 was advanced in the vicinity of historical nursery and garden operations.

Borings B-1 through B-4 were advanced to depths ranging from approximately 20 to 30 feet below ground surface (ft bgs) to collect soil samples for field screening, and soil and groundwater samples for laboratory analysis. Soil screening was conducted to depths ranging from 12 to 20 ft bgs and each of the borings were pushed to greater depths to obtain groundwater samples.

3.3 Soil Sampling

Soil samples were collected continuously from borings B-1 through B-4 and split into 2-foot intervals for field screening, soil classification, and chemical analysis of select samples. Terracon conducted field screening of soil samples for organic vapors using a photoionization detector (PID) equipped with a 10.6 electron-volt (eV) ultraviolet lamp. This device provides a direct reading in parts per million (ppm) isobutylene equivalents. Terracon calibrated the PID in accordance with the manufacturer's recommendations before conducting the field activities. A portion of each soil sample was placed in a wide-mouth glass jar with a screw-on lid. The jar was filled approximately half full of the sample before placing aluminum foil over the opening and screwing on a lid. Each sample was given a minimum of 30 minutes at an ambient temperature

of 60 degrees Fahrenheit or above to equilibrate before screening the headspace of the container with the PID for the presence of organic vapors.

Another portion of each sample interval was, upon collection, immediately transferred to laboratory-provided sample containers and stored in an insulated cooler with ice. Pending the field screening results, Terracon retained the laboratory aliquots for selection of specific samples to submit to the laboratory for analysis. The soil samples collected from B-1 through B-4 submitted for laboratory analysis and the selection criteria are summarized in the following table:

Location	Depth (ft bgs)	Analysis	Selection Criteria/Notes
B-1	10 to 12	VOC, TEH	Highest PID reading (106 ppm) collected from unsaturated, non-smear zone
B-2	8 to 10	VOC, TEH	In absence of PID readings greater than 1 ppm, visual, and/or olfactory indicators of impact, depth selected due to available soil recovery, unsaturated, and non-smear zone.
B-3	16 to 18	VOC, TEH	Highest PID reading (38 ppm) collected from unsaturated, non-smear zone.
B-4	0 to 2	Pesticides, Herbicides, Nitrite/Nitrate, Ammonia	In absence of PID readings greater than 1 ppm, visual, and/or olfactory indicators of impact, depth selected due to available soil recovery, unsaturated, and non-smear zone.
B-4	10-12	Pesticides, Herbicides, Nitrite/Nitrate, Ammonia	In absence of PID readings greater than 1 ppm, visual, and/or olfactory indicators of impact, depth selected due to available soil recovery, unsaturated, and non-smear zone.

Notes: VOC (Volatile Organic Compounds)
TEH (Total Extractable Hydrocarbons)

3.4 Groundwater Sampling

Groundwater levels were measured following boring advancement. The depths to groundwater, as measured in the boreholes, ranged from approximately 11.15 to 24 ft bgs. Groundwater samples were collected using the DPT rig's screen point system and through bailing from temporary monitoring wells that were constructed with 10 feet of 2-inch nominal diameter, 0.01-inch machine-slotted polyvinyl chloride (PVC) well screen with a threaded bottom cap; installation of 2-inch nominal diameter, threaded, flush-joint PVC riser pipe to surface; addition of 16/30-grade silica sand for annular sand pack around the well screen from the bottom of the boring to approximately 2 feet above the top of the well screen; and placement of a hydrated bentonite seal above the sand pack. Groundwater samples were collected in laboratory provided sample

containers and placed on ice in an insulated cooler during field work and shipment to the laboratory.

Soil and groundwater samples were maintained under chain-of-custody during transport and shipment to the laboratory. The soil and groundwater sample containers were packed in ice, shipped via overnight service, and received by Eurofins TestAmerica of Cedar Falls, Iowa, which is a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory.

4.0 RESULTS OF THE FIELD INVESTIGATION

4.1 Geology/Hydrogeology

Regional Physical Characteristics

The elevation of the site is approximately 1,150 feet above mean sea level[1]. The geology of the region is characterized by unconsolidated Quaternary-aged alluvium associated with the Salt Creek alluvial plain. These unconsolidated materials overlie Cretaceous aged Dakota sandstone and shale[2]. Bedrock was not encountered to boring terminus depths during this LSI. The presumed overall groundwater flow direction is anticipated to be parallel to the ground surface topographic gradient, which is generally depicted sloping downward toward the west on the applicable USGS topographic map. Terracon reviewed groundwater data from the south adjoining site which identified groundwater flow to the southwest at that location. Actual groundwater flow direction at the site may vary.

Site Physical Characteristics

In general, the materials encountered below the surface coverings consisted of fill and lean clay to depths of approximately 12 to 16 ft bgs, and to a depth of 20 ft bgs in B-3. Lean clay with some sand was encountered from approximately 8 to 16 ft bgs in B-1. Apparent soil saturation was detected in each of the borings at depths ranging from 12 to 16 feet. However, sufficient groundwater was not present for water sample collection and each of the borings were pushed to depths ranging from 20 to 30 ft bgs to collect groundwater samples. Site specific stratigraphy is described in the boring logs included as Appendix C. In-situ transitions between soil types shown on the boring logs may be gradual with changes in soil types across the site.

4.2 Field Screening

The field screening results are summarized on the boring logs in Appendix C. Samples collected for field screening were collected from both unsaturated and potentially saturated soil if a sufficient sample volume was recovered. PID readings ranged from less than 1 ppm to 106 ppm, with the highest reading reported at B-1 (10 to 12 ft bgs), and a moderate odor was noted at depths from 4 to 8 feet below ground surface.

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[1] Lincoln, Nebraska Quadrangle, U.S. Geological Survey (USGS), 1980 (1:24,000).
[2] Bedrock Geology of Nebraska, University of Nebraska Conservation and Survey Division, 1986.

Visual and/or olfactory indications of contamination, such as discolored soil or petroleum/chemical odors, were not observed during the advancement of B-2 through B-4; however, PID responses of up to 38 ppm were detected at B-3 (each PID response for B-2 and B-4 was less than 1 ppm).

5.0 ANALYTICAL RESULTS

5.1 Soil Sampling Results

Three soil samples from varying depths from borings B-1 thorough B-3 submitted to the laboratory were analyzed for VOC by EPA Method 8260 and TEH by Iowa Method OA-2. Two soil samples from varying depths (2' and 10') were analyzed for Pesticides by method 8081E, herbicides by method 8151A, nitrate/nitrogen by method 9056A, and ammonia by method 350.1. Soil analytical results for compounds detected above laboratory reporting limits are summarized in Table 1 in Appendix B. Complete lists of laboratory analytes are provided in the laboratory reports contained in Appendix D. Reported soil concentrations were compared with Nebraska Department of Environment and Energy (NDEE) Risk-Based Corrective Action (RBCA) Tier 1 Risk-Based Screening Levels (RBSL)[3] and NDEE Voluntary Clean-Up Program (VCP) Remediation Goals (RG)[4].

Several relatively low levels of VOCs (ethylbenzene, isopropylbenzene, naphthalene, n-butylbenzene, n-Propylbenzene, sec-Butylbenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, and total xylenes were detected above laboratory reporting limits in the soil sample collected for B-1 (10-12), but the concentration did not exceed RBCA RBSL and/or VCP residential or industrial direct contact RG and soil leaching to groundwater RG. TEH was detected at concentrations above laboratory reporting limits in B-1 and reported as TEH as gasoline (323 mg/kg) and TEH as waste oil (1,050 mg/kg), and a concentration of TEH as waste oil was detected in B-2 (13.6 mg/kg). The NDEE has not established RBSL for TEH unless it is reported as TEH as Diesel or TEH as Motor Oil. The TEH concentrations at B-1 and B-2 do not exceed the strictest RBSL for TEH as Motor Oil, which is 3,173 mg/kg.

Analytes were not detected above laboratory reporting limits in each soil sample submitted for laboratory analysis from B-3, and B-4 (2'). Relatively low levels of chlordane, delta-BHC, Dieldrin, and Heptachlor epoxide) were detected above laboratory reporting limits in the soil sample for B-4 (10') but did not exceed the VCP residential or industrial direct contact RG and soil leaching to groundwater RG.

[3] *NDEE Environmental Guidance Document: Risk Based Corrective Action (RBCA) at Petroleum Release Sites, May 2009.*
[4] *Nebraska Voluntary Clean-Up Program (VCP): Remediation Goals Lookup Table, September 2012.*

5.2 Groundwater Sampling Results

Three groundwater samples submitted to the laboratory were analyzed for VOC by EPA Method 8260 and TEH by Iowa Method OA-2, and one groundwater sample was submitted to the laboratory was analyzed for Pesticides by method 8081E, herbicides by method 8151A, nitrate/nitrogen by method 9056A, and ammonia by method 350.1. Groundwater analytical results for compounds detected above laboratory reporting limits are summarized in Table 2 in Appendix B. Complete lists of laboratory analytes are provided in the laboratory reports contained in Appendix D. Reported groundwater concentrations were compared with potentially applicable NDEE RBCA Tier 1 RBSL and NDEE VCP RG.

Tested analytes were not detected above laboratory reporting limits in the samples collected from B/TMW-1 and B/TMW-4.

Concentrations of acetone, 1,2-Dichloroethane, sec-Butylbenzene, were detected above laboratory reporting limits in the groundwater sample from B/TMW-2, and concentrations of sec-Butylbenzene, were detected above laboratory reporting limits in the groundwater sample from B/TMW-3, but the concentrations did not exceed the RBCA RBSL or VCP RG. Concentrations of TEH as gasoline (2.86 mg/l), and TEH as waste oil (3.82 mg/l) were detected in the groundwater sample from B/TMW-2, and TEH as gasoline (1.95 mg/l) was detected in the groundwater sample from B/TWM-3. The NDEE has not established RBSL for TEH unless it is reported as TEH as Diesel or TEH as Motor Oil.

6.0 CONCLUSION AND RECOMMENDATIONS

The findings of Terracon's Phase I ESA (Report No. A3227004) dated February 4, 2022, were evaluated within the scope of services and the limitations of this LSI. Soil and groundwater samples were collected to evaluate environmental impacts from the use of the site as a historical gas station, and historical nursery and garden.

PID readings were generally low and ranged from approximately <1 ppm to 106 ppm, with the highest readings identified at B-1 located near the historical gas station at the southwest portion of the site. Moderate odors were detected at depths of 4 to 8 feet in B-1, and petroleum odors were not noted while collecting soil samples in B-2 through B-4.

Relatively low levels of VOC were detected in soil above laboratory reporting limits in B-1. Soil samples from B-1 appear to be impacted with petroleum hydrocarbon related compounds (TEH as gasoline, and TEH as waste oil, and in B-2 (TEH as waste oil) above laboratory reporting limits but the concentrations do not exceed potentially applicable RBCA RBSL and/or VCP RG.

Relatively low levels of VOC were detected in groundwater above laboratory reporting limits in B/TMW-2 and B/TWM-3, but the concentrations did not exceed the RBCA RBSL or VCP RG.

Groundwater samples from B/TMW-2 and B/TMW-3 were reported with concentrations of petroleum hydrocarbon related compounds (TEH as gasoline, and TEH as waste oil) above laboratory reporting limits, but the concentrations do not exceed potentially applicable RBCA RBSL and/or VCP RG.

Concentrations of chemicals detected in site soil and groundwater do not appear to represent a significant human health risk from controlled/infrequent direct contact. Based on the findings of the LSI, additional assessment does not appear warranted at this time.

Petroleum hydrocarbon analytes were observed at concentrations that were greater than reporting limits and less than State of Nebraska potentially applicable RBCA and/or VCP RG concentrations. During site redevelopment activities, impacted soils may be observed and Terracon recommends these impacted soils be removed and/or managed. Construction contractors should be made aware of the potential for on-site contamination in order that worker safety be adequately addressed and prepare for dealing with identifying, transporting, and disposing of potentially impacted soil. Terracon can offer assistance by preparing and assisting with implementing a Materials Management Plan (MMP). The MMP will allow for the management and disposal (if necessary) of impacted soil that may be encountered during earthwork conducted as part of the site redevelopment.

7.0 GENERAL COMMENTS

The client should be aware that contaminant concentrations detected in soil and groundwater collected during the LSI are not necessarily representative of average or maximum concentrations over the entire site. In addition, the lateral and vertical extent of the contamination was not defined as part of the LSI scope.

The analysis and opinions presented in this report are based upon data obtained from soil, and groundwater at the indicated locations and depths and from other information discussed in this report. This report does not reflect variations of stratigraphy, geohydrology, or contaminant distribution which may occur between sample locations or across the site. Actual subsurface conditions may vary and may not become evident without further exploration.

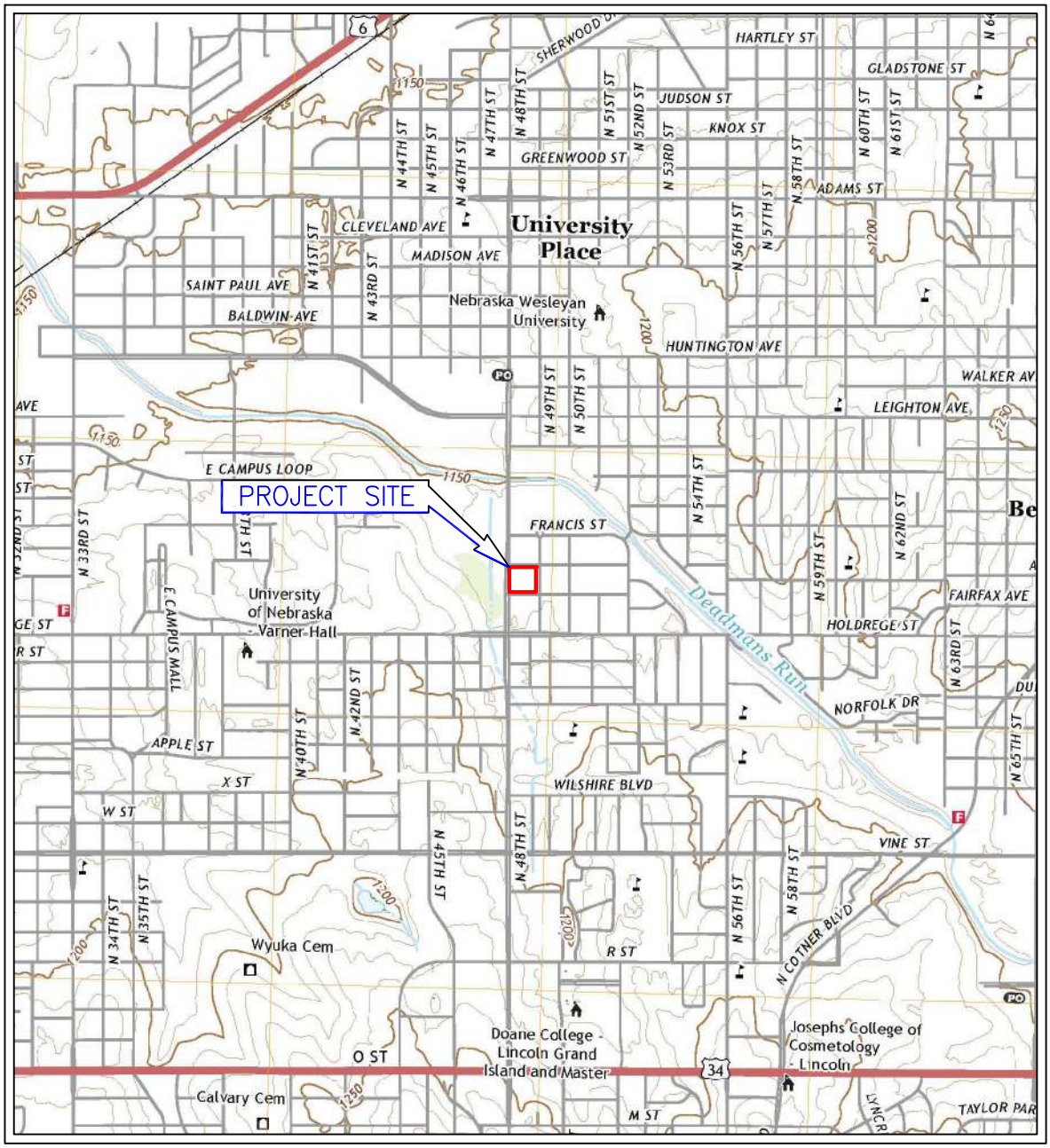
This report is prepared for the exclusive use of our client for specific application to the project and has been prepared in accordance with generally accepted environmental engineering practices and protocols. No warranties, either express or implied, are intended or made. If changes in the nature of site conditions reported herein are observed, the opinions presented in this report are not valid unless the changes are reviewed, and the opinions of this report are modified in writing by Terracon.

APPENDIX A – EXHIBITS

Exhibit 1 – Topographic / Location Map

Exhibit 2 – Site Diagram

UNITED STATES - DEPARTMENT OF THE INTERIOR - GEOLOGICAL SURVEY



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1 .5 0 KILOMETERS 1 2

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METERS

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1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

FEET

CONTOUR INTERVAL 10 FEET

NORTH AMERICAN VERTICAL DATUM OF 1988

LINCOLN, NEBRASKA QUADRANGLE 2021 7.5 MINUTE SERIES (TOPOGRAPHIC)

N

Project Mngr: TLT	Project No. A3227004	Terracon Consulting Engineers and Scientists	TOPOGRAPHIC / LOCATION MAP
Drawn By: PAI	Scale: AS SHOWN	3220 N. 20th St., Suite 3 Lincoln, NE 68521	Retail Commercial Property
Checked By: TLT	File No. A3227004C01	PH. (402) 466-3911 FAX. (402) 466-0811	1712 & 1748 North 48th
Approved By: MRH	Date: 1/17/22		LINCOLN NEBRASKA

EXHIBIT 1

IMAGE SOURCE: GOOGLE EARTH PRO, 2021

REV.	DATE	BY	DESCRIPTION

Terracon
Consulting Engineers and Scientists
3220 N. 20th St., Suite 3 Lincoln, NE 68521
PH. (402) 466-3911 FAX. (402) 466-0811

SITE DIAGRAM

Retail Commercial Property

1712 & 1748 North 48th

LINCOLN NEBRASKA

DESIGNED BY:	TLT
DRAWN BY:	PAI
APPVD. BY:	MRH
SCALE:	AS SHOWN
DATE:	1/17/22
JOB NO.	A3227004
ACAD NO.	A3227004C01
EXHIBIT:	2

APPENDIX B – TABLES

Table 1 – Soil Sample Detection Summary

Table 2 – Groundwater Sample Detection Summary

TABLE 1
SOIL SAMPLE DETECTION SUMMARY

Retail Commercial Property
Lincoln, Nebraska
Terracon Project No. A3227004

			TEH mg/kg				VOCs mg/kg											Organochlorine Pesticides (GC) mg/kg			
Sample ID	Depth (ft bgs)	Date Collected	Diesel	Gasoline	Waste Oil	TEH	Acetone	1,2-Dichloroethane	Ethylbenzene	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	1,2,4 - Trimethylbenzene	1,3,5 - Trimethylbenzene	Xylenes, Total	Chlordane (technical)	delta-BHC	Dieldrin	Heptachlor epoxide
B-1	10-12	3/30/2022	<9.81	323	1,050	<14.7	<0.114	<0.0114	0.0143	0.0117	0.0989	0.053	0.0335	0.0128	0.89	0.158	0.0907	NT	NT	NT	NT
B-2	8-10	3/30/2022	<9.54	<9.54	13.6	<14.3	<0.118	<0.0118	<0.0118	<0.0466	<0.0588	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0235	NT	NT	NT	NT
B-3	16-18	3/30/2022	<9.47	<9.47	<9.47	<14.2	<0.108	<0.0108	<0.0108	<0.0108	<0.0541	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0216	NT	NT	NT	NT
B-4	2	3/30/2022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	<0.151	<0.00606	<0.00606	<0.00606
B-4	10	3/30/2022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	0.947	0.0189	0.0262	0.0256 p
[1] **NE RBSL - Soil to Groundwater**			770	NA	152,666	NA	NA	NA	4.37	NA	NA	NA	NA	N/A	NA	NA	147	NA	NA	0.0014	0.082
[1] **NE RBSL - Vapor Inhalation (Commercial, Building Present)**			30,850	NA	NA	NA	NA	NA	61.2	NA	NA	NA	NA	N/A	NA	NA	84.3	NA	NA	0.027	0.0011
[1] **NE RBSL - Vapor Inhalation (Commercial, No Building Present)**			>Sat	NA	NA	NA	NA	NA	>Sat	NA	NA	NA	NA	N/A	NA	NA	>Sat	NA	NA	NA	1.6
[1] **NE RBSL - Surface Soils**			9,520	NA	3,173	NA	NA	NA	>Sat	NA	NA	NA	NA	N/A	NA	NA	>Sat	NA	NA	NA	NA
[2] **NE VCP RG (Residential)**			NA	NA	NA	NA	15,000	0.46	5.8	490	3.8	NA	940	N/A	76	68	140	1.7	N/A	0.034	0.07
[2] **NE VCP RG (Industrial)**			NA	NA	NA	NA	100,000	20	250	9,900	170	NA	24,000	N/A	1,800	1,500	2,500	74	N/A	1.3	3.3

NOTES:
TEH = Total extractable hydrocarbons, analyzed by Method Iowa OA-2
VOC = Volatile organic compounds, analyzed by Method 8260
Pesticides, analyzed by Method 8081B
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
Analytes with concentrations above laboratory reporting levels in at least one sample are listed. Complete lists of laboratory analytes for soil samples are provided in the laboratory reports contained in Appendix D.
"<" indicates less than
NA indicates Not Applicable - regulatory action levels not known to be established.
NT indicates Not Tested - the sample was not tested for that particular group of analytes.
>Sat indicates that the target level is not exceeded for all possible saturated levels in soil.
[1]NDEE Environmental Guidance Document, Risk Based Corrective Action (RBCA) risk-based screening levels (RBSL) for petroleum release sites.
Table 8-5: Soil Leaching to Ground Water Exposure Pathway, Ground Water Flow Rate <0.1 feet/day. The most conservative values are listed.
Table 8-8: Enclosed Space Vapor Inhalation Exposure Pathways, Commercial Exposure, Building Present - Clay. The most conservative values are listed.
Table 8-9: Enclosed Space Vapor Inhalation Exposure Pathways, Commercial Exposure, No Building Present - Clay. The most conservative values are listed.
Table 8-10: Exposures from Contaminated Surface Soils. RBSL from Table 8-10 are only applicable for soil samples collected from 0 to 2.5 ft bgs.
[2]Nebraska Voluntary Clean-Up Program (VCP) Remediation Goals (RG), October 2021, Direct Contact Exposure Pathways (Table A-1)
Bold and shaded values exceed at least one RBSL and/or RG.

TABLE 2
GROUNDWATER SAMPLE DETECTION SUMMARY

Retail Commercial Property
Lincoln, Nebraska
Terracon Project No. A3227004

Sample ID	Depth to Groundwater (ft bgs)	Date Collected	TEH mg/L				VOCs mg/L										
			Diesel	Gasoline	Waste Oil	TEH	Acetone	1,2-Dichloroethane	Ethylbenzene	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	1,2,4 - Trimethylbenzene	1,3,5 - Trimethylbenzene	Xylenes, Total
TMW-1	16.42	3/30/2022	<0.313	<0.313	<0.313	<0.521	<0.0100	<0.00100	<0.00100	<0.00100	<0.00500	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00300
TMW-2	18.33	3/30/2022	<0.125	2.86	3.82	<2.08	0.015	0.00112	<0.00100	<0.00100	<0.00500	<0.00100	<0.00100	0.0024	<0.00100	<0.00100	<0.00300
TMW-3	11.15	3/30/2022	<0.313	1.95	<0.313	<0.521	<0.0100	<0.00100	<0.00100	<0.00100	<0.00500	<0.00100	<0.00100	0.00314	<0.00100	<0.00100	<0.00300
TMW-4	24	3/30/2022	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
[1]**NE RBSL - Ground Water Ingestion**			10	NA	6.66	NA	NA	NA	0.7	NA	NA	NA	NA	NA	NA	NA	10
[1]**NE RBSL - Vapor Inhalation (Commercial)**			>Sol	NA	NA	NA	NA	NA	>Sol	NA	NA	NA	NA	NA	NA	NA	>Sol
[1]**NE RBSL - Vapor Inhalation (Residential)**			6,500	NA	NA	NA	NA	NA	>Sol	NA	NA	NA	NA	NA	NA	NA	137
NE RBSL - Site Specific			NA	NA	NA	NA	NA	NA	>Sol	NA	NA	NA	NA	NA	NA	NA	>Sol
[2]**NE-VCP RG - Direct Contact**			NA	NA	NA	NA	3.5	0.005	0.7	0.11	0.00017	NA	0.16	NA	0.014	0.015	10
[2]**NE-VCP RG - Vapor Intrusion (Residential)**			NA	NA	NA	NA	11,000	0.0045	0.0081	0.63	0.013	NA	1.6	NA	0.16	NA	0.23
[2]**NE-VCP RG - Vapor Intrusion (Industrial)**			NA	NA	NA	NA	180,000	0.2	0.35	11	0.59	NA	26	NA	2.8	NA	3.8

NOTES:
TEH = Total extractable hydrocarbons, analyzed by Method Iowa OA-2
VOC = Volatile organic compounds, analyzed by Method 8260
ft bgs = feet below ground surface
mg/L = milligrams per liter
For groundwater samples submitted for RCRA Metal analysis, two samples were sent to the laboratory: a filtered sample for dissolved metals and an unfiltered sample for total metals.
Depth to groundwater was measured immediately prior to obtaining groundwater samples.
Analytes with concentrations above laboratory reporting levels in at least one sample are listed. Complete lists of laboratory analytes for soil samples are provided in the laboratory reports contained in Appendix D.
"<" indicates less than
NA indicates Not Applicable - regulatory action levels not known to be established.
NT indicates Not Tested - the sample was not tested for that particular group of analytes.
>Sol indicates that the risk level is not exceeded for all possible dissolved levels.
[1]NDEE Environmental Guidance Document, Risk Based Corrective Action (RBCA) risk-based screening levels (RBSL) for petroleum release sites.
Table 8-3: Ground Water Ingestion Exposure Pathway, Ground Water Flow Rate <0.1 feet/day. The most conservative values are listed.
Table 8-6: Enclosed Space Vapor Inhalation Exposure Pathways, Residential Exposure, Building Present - Clay. The most conservative values are listed.
Table 8-8: Enclosed Space Vapor Inhalation Exposure Pathways, Commercial Exposure, Building Present - Clay. The most conservative values are listed.
[2]Nebraska Voluntary Clean-Up Program (VCP) Remediation Goals (RG), September 2018, Direct Contact Exposure Pathways (Table A-1) and Vapor Intrusion Inhalation Pathways (Table A-2)
Bold and shaded values exceed at least one RBSL and/or RG.

APPENDIX C – BORING LOGS

General Notes

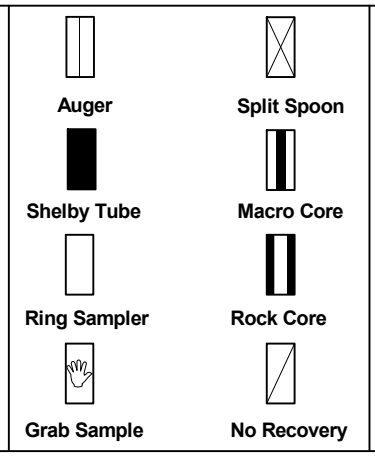
Unified Soil Classification System

Boring Logs

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING



WATER LEVEL

Water Initially Encountered

Water Level After a Specified Period of Time

Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

(HP)	Hand Penetrometer
(T)	Torvane
(b/f)	Standard Penetration Test (blows per foot)
(PID)	Photo-Ionization Detector
(OVA)	Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance Includes gravels, sands and silts.			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance			
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength, Qu, psf**	**Standard Penetration or N-Value Blows/Ft.**	**Ring Sampler Blows/Ft.**
Very Loose	0 - 3	0 - 6	Very Soft	less than 500	0 - 1	< 3
Loose	4 - 9	7 - 18	Soft	500 to 1,000	2 - 4	3 - 4
Medium Dense	10 - 29	19 - 58	Medium-Stiff	1,000 to 2,000	4 - 8	5 - 9
Dense	30 - 50	59 - 98	Stiff	2,000 to 4,000	8 - 15	10 - 18
Very Dense	> 50	≥ 99	Very Stiff	4,000 to 8,000	15 - 30	19 - 42
			Hard	> 8,000	> 30	> 42

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 - 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300 mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm
Silt or Clay	Passing #200 sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 - 12
Modifier	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1 - 10
Medium	11 - 30
High	> 30

Terracon

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or $1 > Cc > 3$ [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel [F,G,H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or $1 > Cc > 3$ [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G,H,I]
			Fines classify as CL or CH		SC	Clayey sand [G,H,I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A" line [J]		CL	Lean clay [K,L,M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K,L,M,N]
			Liquid limit - not dried			Organic silt [K,L,M,O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K,L,M]
			PI plots below "A" line		MH	Elastic Silt [K,L,M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K,L,M,P]
			Liquid limit - not dried			Organic silt [K,L,M,Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

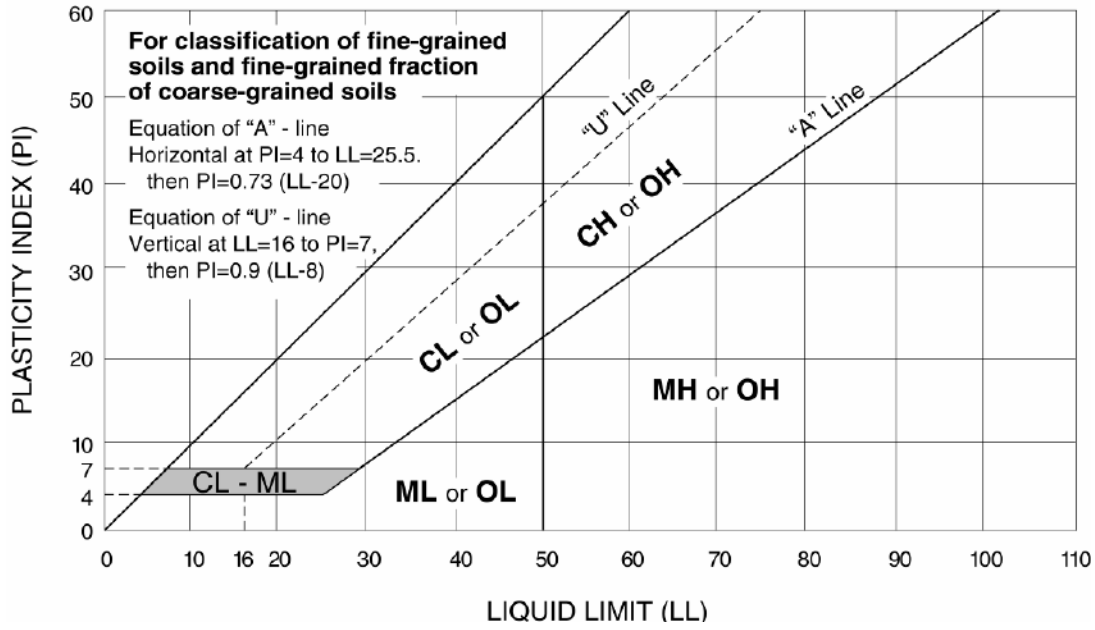
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



Terracon

BORING LOG NO. B-1

PROJECT: Retail Commercial Property

CLIENT: SCHAFER RICHARDSON INC.

SITE: 1712 & 1742 NORTH 48th STREET
Lincoln, NE

LOCATION See Site Diagram (Exhibit 2, Appendix A)

Latitude: 40.829631° Longitude: -96.653278°

DEPTH	MATERIAL DESCRIPTION	RECOVERY (In.)	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
0.5	**TOPSOIL**	0		
	LEAN CLAY (CL), brown	12	9	
4.0				
	LEAN CLAY (CL), light brown, moderate odor	24	22	
		24	51	
8.0				
	LEAN CLAY (CL), with sand, light brown	24	18	
		24	106	B-1 10-12
		24	13	
16.0		24	4	
	Boring pushed to 30 ft, no soil samples collected.			
30.0				
	Boring Terminated at 30 Feet			

DEPTH (ft): 5, 10, 15, 20, 25, 30

WATER LEVEL OBSERVATIONS: ▽ 16.42 ft WS

SAMPLE TYPE

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Direct Push Technology

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

See Appendices for explanation of symbols and abbreviations.

Notes:
Soil descriptions are based on visual observations made by the field crew. Actual conditions may vary.

WATER LEVEL OBSERVATIONS

▽ *16.42 ft WS*

Terracon
3220 N 20th St, Ste 3
Lincoln, NE

Boring Started: 03-30-2022 | Boring Completed: 03-30-2022

Drill Rig: Geoprobe | Driller: PM

Project No.: A3227004 | Exhibit: C-3

BORING LOG NO. B-2

PROJECT: Retail Commercial Property

CLIENT: SCHAFER RICHARDSON INC.

SITE: 1712 & 1742 NORTH 48th STREET
Lincoln, NE

LOCATION See Site Diagram (Exhibit 2, Appendix A)

Latitude: 40.829767° Longitude: -96.653331°

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	0.5	**ASPHALTIC CEMENT CONCRETE**						
		LEAN CLAY (CL), light brown				0		
						24	<1	
			5			24	<1	
						24	<1	
						24	<1	B-2 8-10
			10			24	<1	
	12.0	Boring pushed to 20 ft, no soil samples collected.						
			15	▽				
	20.0	***Boring Terminated at 20 Feet***	20					

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Direct Push Technology

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

See Appendices for explanation of symbols and abbreviations.

Notes:
Soil descriptions are based on visual observations made by the field crew. Actual conditions may vary.

WATER LEVEL OBSERVATIONS

▽ *18.33 ft WS*

Terracon
3220 N 20th St, Ste 3
Lincoln, NE

Boring Started: 03-30-2022 | Boring Completed: 03-30-2022

Drill Rig: Geoprobe | Driller: PM

Project No.: A3227004 | Exhibit: C-4

BORING LOG NO. B-3

PROJECT: Retail Commercial Property

CLIENT: SCHAFER RICHARDSON INC.

SITE: 1712 & 1742 NORTH 48th STREET
Lincoln, NE

LOCATION See Site Diagram (Exhibit 2, Appendix A)

Latitude: 40.829651° Longitude: -96.653604°

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	0.5	**PORTLAND CEMENT CONCRETE**						
		LEAN CLAY (CL), dark brown				24	<1	
						24	<1	
			5			24	<1	
						24	<1	
	8.0					24	9	
		LEAN CLAY (CL), light grayish brown	10	▽		24	10	
						24	7	
			15			24	11	
						24	38	B-3 16-18
	20.0					24	30	
		Boring pushed to 24 ft, no soil samples collected.	20					
	24.0							
		Boring Terminated at 24 Feet						

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Direct Push Technology

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

See Appendices for explanation of symbols and abbreviations.

Notes:
Soil descriptions are based on visual observations made by the field crew. Actual conditions may vary.

WATER LEVEL OBSERVATIONS

▽ *11.15 ft WD*

Terracon
3220 N 20th St, Ste 3
Lincoln, NE

Boring Started: 03-30-2022 | Boring Completed: 03-30-2022

Drill Rig: Geoprobe | Driller: PM

Project No.: A3227004 | Exhibit: C-5

BORING LOG NO. B-4

PROJECT: Retail Commercial Property

CLIENT: SCHAFER RICHARDSON INC.

SITE: 1712 & 1742 NORTH 48th STREET
Lincoln, NE

LOCATION See Site Diagram (Exhibit 2, Appendix A)

Latitude: 40.830044° Longitude: -96.653019°

GRAPHIC LOG	DEPTH	MATERIAL DESCRIPTION	DEPTH (ft)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	OVA/PID (ppm)	SAMPLE SENT TO LAB (ID NUMBER)
	0.5	**TOPSOIL**				0		B-4 0-2
		LEAN CLAY (CL), light brown				10	<1	
			5			24	<1	
						24	<1	
						0		
			10			24	<1	B-4 10-12
	12.0	Boring pushed to 24 ft, no soil samples collected.						
			15					
			20	▽				
	24.0	***Boring Terminated at 24 Feet***						

The stratification lines represent the approximate transition between differing soil types and/or rock types; in-situ these transitions may be gradual or may occur at different depths than shown.

Hammer Type: Automatic

Advancement Method:
Direct Push Technology

Abandonment Method:
Boring backfilled with bentonite chips upon completion.

See Appendices for explanation of symbols and abbreviations.

Notes:
Soil descriptions are based on visual observations made by the field crew. Actual conditions may vary.

WATER LEVEL OBSERVATIONS

▽ *24 ft WD*

Terracon
3220 N 20th St, Ste 3
Lincoln, NE

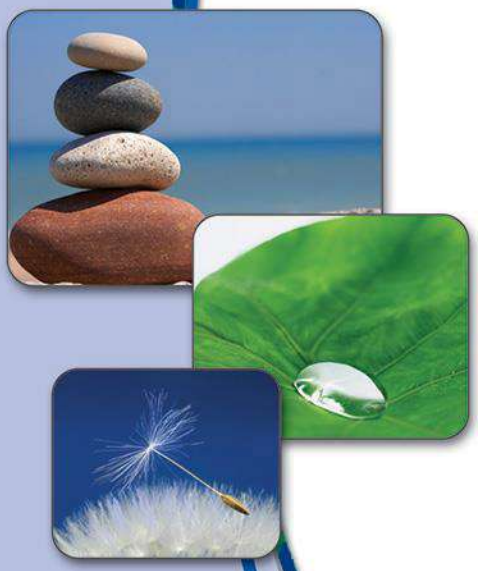
Boring Started: 03-30-2022 | Boring Completed: 03-30-2022

Drill Rig: Geoprobe | Driller: PM

Project No.: A3227004 | Exhibit: C-6

APPENDIX D – ANALYTICAL REPORTS AND CHAIN OF CUSTODY RECORDS

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Tel: (319)277-2401

Laboratory Job ID: 310-228056-1
Laboratory Sample Delivery Group: A3227004
Client Project/Site: Retail Commercial Property

For:
Terracon Consulting Eng & Scientists
3220 N 20th Street
Lincoln, Nebraska 68521

Attn: Thomas Thomssen

Authorized for release by:
4/18/2022 4:24:58 PM

Shawn Hayes, Senior Project Manager
(319)229-8211
Shawn.Hayes@et.eurofinsus.com

Table of Contents

Job ID: 310-228056-1

Laboratory: Eurofins Cedar Falls

Narrative

Job Narrative
310-228056-1

Comments
No additional comments.

Receipt
The samples were received on 3/31/2022 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.8º C.

GC/MS VOA
Method 8260D: The continuing calibration verification (CCV) associated with batch 310-348769 recovered above the upper control limit for Carbon disulfide(22.3%D), 1,2,4-Trichlorobenzene(23.0%D), 1,1-Dichloroethene(22.3%D), and Methyl tert-butyl ether(20.8%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-348769/3).

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-348769 recovered above the upper control limit for Vinyl chloride(20.9%D) and Trichlorofluoromethane(22.5%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-348769/4).

Method 8260D: The continuing calibration verification (CCV) associated with batch 310-348769 recovered above the upper control limit for n-Butylbenzene(22.6%D). The LCS associated with this CCV passes CCV criteria for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 310-348769/3).

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

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

GC Semi VOA
Method 8081B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 310-348635 and analytical batch 310-348789 recovered outside control limits for the following analyte: beta-BHC. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8081B: Surrogate recovery for the following sample was outside control limits: B-4 (10') (310-228056-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8081B: The following sample was diluted due to the nature of the sample matrix: B-4 (10') (310-228056-5). Elevated reporting limits (RLs) are provided.

Method 8151A: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 500-650115 and analytical batch 500-650175 recovered outside control limits for the following analytes: Silvex (2,4,5-TP), 2,4-D and 2,4,5-T.

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

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

Organic Prep
Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-348435. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

Method 3510C: Elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: TMW-2

Job ID: 310-228056-1 (Continued)

Laboratory: Eurofins Cedar Falls (Continued)

(310-228056-7).

Method 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-348635. The laboratory control sample (LCS) was performed in duplicate (LCSD) to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or 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: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
310-228056-1	B-1 (10-12')	Solid	03/30/22 12:56	03/31/22 09:30
310-228056-2	B-2 (8-10')	Solid	03/30/22 11:15	03/31/22 09:30
310-228056-3	B-3 (16-18')	Solid	03/30/22 10:06	03/31/22 09:30
310-228056-4	B-4 (2')	Solid	03/30/22 14:33	03/31/22 09:30
310-228056-5	B-4 (10')	Solid	03/30/22 14:46	03/31/22 09:30
310-228056-6	TMW-1	Water	03/30/22 14:10	03/31/22 09:30
310-228056-7	TMW-2	Water	03/30/22 15:45	03/31/22 09:30
310-228056-8	TMW-3	Water	03/30/22 10:38	03/31/22 09:30
310-228056-9	TMW-4	Water	03/30/22 15:10	03/31/22 09:30

Detection Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-1 (10-12') — Lab Sample ID: 310-228056-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.0143		0.0114		mg/Kg	1		8260D	Total/NA
Isopropylbenzene	0.0117		0.0114		mg/Kg	1		8260D	Total/NA
Naphthalene	0.0989		0.0569		mg/Kg	1		8260D	Total/NA
n-Butylbenzene	0.0530		0.0114		mg/Kg	1		8260D	Total/NA
n-Propylbenzene	0.0335		0.0114		mg/Kg	1		8260D	Total/NA
sec-Butylbenzene	0.0128		0.0114		mg/Kg	1		8260D	Total/NA
1,2,4-Trimethylbenzene	0.890		0.0114		mg/Kg	1		8260D	Total/NA
1,3,5-Trimethylbenzene	0.158		0.0114		mg/Kg	1		8260D	Total/NA
Xylenes, Total	0.0907		0.0228		mg/Kg	1		8260D	Total/NA
Gasoline	323		9.81		mg/Kg	1		OA-2	Total/NA
Waste Oil	1050		9.81		mg/Kg	1		OA-2	Total/NA

Client Sample ID: B-2 (8-10') — Lab Sample ID: 310-228056-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Waste Oil	13.6		9.54		mg/Kg	1		OA-2	Total/NA

Client Sample ID: B-3 (16-18') — Lab Sample ID: 310-228056-3

No Detections.

Client Sample ID: B-4 (2') — Lab Sample ID: 310-228056-4

No Detections.

Client Sample ID: B-4 (10') — Lab Sample ID: 310-228056-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlordane (technical)	0.947		0.303		mg/Kg	2		8081B	Total/NA
delta-BHC	0.0189		0.00606		mg/Kg	1		8081B	Total/NA
Dieldrin	0.0262		0.00606		mg/Kg	1		8081B	Total/NA
Heptachlor epoxide	0.0256	p	0.00606		mg/Kg	1		8081B	Total/NA

Client Sample ID: TMW-1 — Lab Sample ID: 310-228056-6

No Detections.

Client Sample ID: TMW-2 — Lab Sample ID: 310-228056-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	0.0150		0.0100		mg/L	1		8260D	Total/NA
1,2-Dichloroethane	0.00112		0.00100		mg/L	1		8260D	Total/NA
sec-Butylbenzene	0.00240		0.00100		mg/L	1		8260D	Total/NA
Gasoline	2.86		1.25		mg/L	1		OA-2	Total/NA
Waste Oil	3.82		1.25		mg/L	1		OA-2	Total/NA

Client Sample ID: TMW-3 — Lab Sample ID: 310-228056-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
sec-Butylbenzene	0.00314		0.00100		mg/L	1		8260D	Total/NA
Gasoline	1.95		0.313		mg/L	1		OA-2	Total/NA

Client Sample ID: TMW-4 — Lab Sample ID: 310-228056-9

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-1 (10-12')
Date Collected: 03/30/22 12:56
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-1
Matrix: Solid

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.114		0.114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Benzene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Bromobenzene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Bromochloromethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Bromodichloromethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Bromoform	<0.0228		0.0228		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Bromomethane	<0.0456		0.0456		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
2-Butanone (MEK)	<0.0456		0.0456		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Carbon disulfide	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Carbon tetrachloride	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Chlorobenzene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Chlorodibromomethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Chloroethane	<0.0456		0.0456		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Chloroform	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Chloromethane	<0.0456		0.0456		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
2-Chlorotoluene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
4-Chlorotoluene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
cis-1,2-Dichloroethene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
cis-1,3-Dichloropropene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2-Dibromo-3-chloropropane	<0.0228		0.0228		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2-Dibromoethane (EDB)	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Dibromomethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2-Dichlorobenzene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,3-Dichlorobenzene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,4-Dichlorobenzene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Dichlorodifluoromethane	<0.0342		0.0342		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,1-Dichloroethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2-Dichloroethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,1-Dichloroethene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2-Dichloropropane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,3-Dichloropropane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
2,2-Dichloropropane	<0.0456		0.0456		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,1-Dichloropropene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Ethylbenzene	**0.0143**		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Hexachlorobutadiene	<0.0569		0.0569		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Hexane	<0.0569		0.0569		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Isopropylbenzene	**0.0117**		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Methylene chloride	<0.114		0.114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Methyl tert-butyl ether	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Naphthalene	**0.0989**		0.0569		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
n-Butylbenzene	**0.0530**		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
n-Propylbenzene	**0.0335**		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
p-Isopropyltoluene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
sec-Butylbenzene	**0.0128**		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Styrene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
tert-Butylbenzene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,1,1,2-Tetrachloroethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,1,2,2-Tetrachloroethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Tetrachloroethene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1

Client Sample ID: B-1 (10-12')

Date Collected: 03/30/22 12:56
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
trans-1,2-Dichloroethene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
trans-1,3-Dichloropropene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2,3-Trichlorobenzene	<0.0228		0.0228		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2,4-Trichlorobenzene	<0.0228		0.0228		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,1,1-Trichloroethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,1,2-Trichloroethane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Trichloroethene	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Trichlorofluoromethane	<0.0456		0.0456		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2,3-Trichloropropane	<0.0114		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,2,4-Trimethylbenzene	**0.890**		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
1,3,5-Trimethylbenzene	**0.158**		0.0114		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Vinyl chloride	<0.0228		0.0228		mg/Kg		04/05/22 07:40	04/05/22 13:13	1
Xylenes, Total	**0.0907**		0.0228		mg/Kg		04/05/22 07:40	04/05/22 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*77 - 120*	*04/05/22 07:40*	*04/05/22 13:13*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 123*	*04/05/22 07:40*	*04/05/22 13:13*	*1*
Toluene-d8 (Surr)	*97*		*76 - 120*	*04/05/22 07:40*	*04/05/22 13:13*	*1*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**323**		9.81		mg/Kg		04/01/22 07:50	04/04/22 20:54	1
Diesel	<9.81	F1	9.81		mg/Kg		04/01/22 07:50	04/04/22 20:54	1
Waste Oil	**1050**		9.81		mg/Kg		04/01/22 07:50	04/04/22 20:54	1
Total Extractable Hydrocarbons	<14.7		14.7		mg/Kg		04/01/22 07:50	04/04/22 20:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*19*		*12 - 126*	*04/01/22 07:50*	*04/04/22 20:54*	*1*

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-2 (8-10')
Date Collected: 03/30/22 11:15
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-2
Matrix: Solid

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.118		0.118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Benzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Bromobenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Bromochloromethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Bromodichloromethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Bromoform	<0.0235		0.0235		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Bromomethane	<0.0471		0.0471		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
2-Butanone (MEK)	<0.0471		0.0471		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Carbon disulfide	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Carbon tetrachloride	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Chlorobenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Chlorodibromomethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Chloroethane	<0.0471		0.0471		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Chloroform	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Chloromethane	<0.0471		0.0471		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
2-Chlorotoluene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
4-Chlorotoluene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
cis-1,2-Dichloroethene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
cis-1,3-Dichloropropene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2-Dibromo-3-chloropropane	<0.0235		0.0235		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2-Dibromoethane (EDB)	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Dibromomethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2-Dichlorobenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,3-Dichlorobenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,4-Dichlorobenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Dichlorodifluoromethane	<0.0353		0.0353		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,1-Dichloroethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2-Dichloroethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,1-Dichloroethene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2-Dichloropropane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,3-Dichloropropane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
2,2-Dichloropropane	<0.0471		0.0471		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,1-Dichloropropene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Ethylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Hexachlorobutadiene	<0.0588		0.0588		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Hexane	<0.0588		0.0588		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Isopropylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Methylene chloride	<0.118		0.118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Methyl tert-butyl ether	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Naphthalene	<0.0588		0.0588		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
n-Butylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
n-Propylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
p-Isopropyltoluene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
sec-Butylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Styrene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
tert-Butylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,1,1,2-Tetrachloroethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,1,2,2-Tetrachloroethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Tetrachloroethene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1

Client Sample ID: B-2 (8-10')

Date Collected: 03/30/22 11:15
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-2

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
trans-1,2-Dichloroethene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
trans-1,3-Dichloropropene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2,3-Trichlorobenzene	<0.0235		0.0235		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2,4-Trichlorobenzene	<0.0235		0.0235		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,1,1-Trichloroethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,1,2-Trichloroethane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Trichloroethene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Trichlorofluoromethane	<0.0471		0.0471		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2,3-Trichloropropane	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,2,4-Trimethylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
1,3,5-Trimethylbenzene	<0.0118		0.0118		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Vinyl chloride	<0.0235		0.0235		mg/Kg		04/05/22 07:40	04/05/22 13:38	1
Xylenes, Total	<0.0235		0.0235		mg/Kg		04/05/22 07:40	04/05/22 13:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*77 - 120*	*04/05/22 07:40*	*04/05/22 13:38*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 123*	*04/05/22 07:40*	*04/05/22 13:38*	*1*
Toluene-d8 (Surr)	*98*		*76 - 120*	*04/05/22 07:40*	*04/05/22 13:38*	*1*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.54		9.54		mg/Kg		04/01/22 07:50	04/05/22 18:17	1
Diesel	<9.54		9.54		mg/Kg		04/01/22 07:50	04/05/22 18:17	1
Waste Oil	**13.6**		9.54		mg/Kg		04/01/22 07:50	04/05/22 18:17	1
Total Extractable Hydrocarbons	<14.3		14.3		mg/Kg		04/01/22 07:50	04/05/22 18:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*39*		*12 - 126*	*04/01/22 07:50*	*04/05/22 18:17*	*1*

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-3 (16-18')
Date Collected: 03/30/22 10:06
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-3
Matrix: Solid

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.108		0.108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Benzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Bromobenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Bromochloromethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Bromodichloromethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Bromoform	<0.0216		0.0216		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Bromomethane	<0.0433		0.0433		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
2-Butanone (MEK)	<0.0433		0.0433		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Carbon disulfide	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Carbon tetrachloride	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Chlorobenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Chlorodibromomethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Chloroethane	<0.0433		0.0433		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Chloroform	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Chloromethane	<0.0433		0.0433		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
2-Chlorotoluene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
4-Chlorotoluene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
cis-1,2-Dichloroethene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
cis-1,3-Dichloropropene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2-Dibromo-3-chloropropane	<0.0216		0.0216		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2-Dibromoethane (EDB)	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Dibromomethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2-Dichlorobenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,3-Dichlorobenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,4-Dichlorobenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Dichlorodifluoromethane	<0.0325		0.0325		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,1-Dichloroethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2-Dichloroethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,1-Dichloroethene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2-Dichloropropane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,3-Dichloropropane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
2,2-Dichloropropane	<0.0433		0.0433		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,1-Dichloropropene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Ethylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Hexachlorobutadiene	<0.0541		0.0541		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Hexane	<0.0541		0.0541		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Isopropylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Methylene chloride	<0.108		0.108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Methyl tert-butyl ether	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Naphthalene	<0.0541		0.0541		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
n-Butylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
n-Propylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
p-Isopropyltoluene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
sec-Butylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Styrene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
tert-Butylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,1,1,2-Tetrachloroethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,1,2,2-Tetrachloroethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Tetrachloroethene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1

Client Sample ID: B-3 (16-18')

Date Collected: 03/30/22 10:06
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-3

Matrix: Solid

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
trans-1,2-Dichloroethene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
trans-1,3-Dichloropropene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2,3-Trichlorobenzene	<0.0216		0.0216		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2,4-Trichlorobenzene	<0.0216		0.0216		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,1,1-Trichloroethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,1,2-Trichloroethane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Trichloroethene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Trichlorofluoromethane	<0.0433		0.0433		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2,3-Trichloropropane	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,2,4-Trimethylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
1,3,5-Trimethylbenzene	<0.0108		0.0108		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Vinyl chloride	<0.0216		0.0216		mg/Kg		04/05/22 07:40	04/05/22 14:03	1
Xylenes, Total	<0.0216		0.0216		mg/Kg		04/05/22 07:40	04/05/22 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*77 - 120*	*04/05/22 07:40*	*04/05/22 14:03*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 123*	*04/05/22 07:40*	*04/05/22 14:03*	*1*
Toluene-d8 (Surr)	*100*		*76 - 120*	*04/05/22 07:40*	*04/05/22 14:03*	*1*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.47		9.47		mg/Kg		04/01/22 07:50	04/04/22 21:23	1
Diesel	<9.47		9.47		mg/Kg		04/01/22 07:50	04/04/22 21:23	1
Waste Oil	<9.47		9.47		mg/Kg		04/01/22 07:50	04/04/22 21:23	1
Total Extractable Hydrocarbons	<14.2		14.2		mg/Kg		04/01/22 07:50	04/04/22 21:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*55*		*12 - 126*	*04/01/22 07:50*	*04/04/22 21:23*	*1*

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-4 (2')
Date Collected: 03/30/22 14:33
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-4
Matrix: Solid

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
alpha-BHC	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
beta-BHC	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Chlordane (technical)	<0.151		0.151		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
4,4'-DDD	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
4,4'-DDE	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
4,4'-DDT	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
delta-BHC	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Dieldrin	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Endosulfan I	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Endosulfan II	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Endosulfan sulfate	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Endrin	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Endrin aldehyde	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
gamma-BHC (Lindane)	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Heptachlor	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Heptachlor epoxide	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Methoxychlor	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:38	1
Toxaphene	<0.151		0.151		mg/Kg		04/05/22 07:33	04/08/22 13:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*129*		*10 - 129*	*04/05/22 07:33*	*04/08/22 13:38*	*1*
Tetrachloro-m-xylene (Surr)	*97*		*10 - 110*	*04/05/22 07:33*	*04/08/22 13:38*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<0.327		0.327		mg/Kg		04/13/22 13:56	04/18/22 10:45	10
Silvex (2,4,5-TP)	<0.327		0.327		mg/Kg		04/13/22 13:56	04/18/22 10:45	10
2,4,5-T	<0.327		0.327		mg/Kg		04/13/22 13:56	04/18/22 10:45	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCAA	*86*		*25 - 120*	*04/13/22 13:56*	*04/18/22 10:45*	*10*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<9.33		9.33		mg/Kg			04/05/22 16:39	10
Nitrite as N	<9.33		9.33		mg/Kg			04/05/22 16:39	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<48.2		48.2		mg/Kg		04/06/22 13:33	04/06/22 19:30	1

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-4 (10')

Date Collected: 03/30/22 14:46
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-5

Matrix: Solid

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
alpha-BHC	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
beta-BHC	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Chlordane (technical)	**0.947**		0.303		mg/Kg		04/05/22 07:33	04/14/22 13:13	2
4,4'-DDD	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
4,4'-DDE	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
4,4'-DDT	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
delta-BHC	**0.0189**		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Dieldrin	**0.0262**		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Endosulfan I	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Endosulfan II	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Endosulfan sulfate	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Endrin	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Endrin aldehyde	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
gamma-BHC (Lindane)	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Heptachlor	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Heptachlor epoxide	**0.0256**	**p**	0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Methoxychlor	<0.00606		0.00606		mg/Kg		04/05/22 07:33	04/08/22 13:54	1
Toxaphene	<0.151		0.151		mg/Kg		04/05/22 07:33	04/08/22 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*183*	*S1+*	*10 - 129*	*04/05/22 07:33*	*04/08/22 13:54*	*1*
Tetrachloro-m-xylene (Surr)	*131*	*S1+*	*10 - 110*	*04/05/22 07:33*	*04/08/22 13:54*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<0.326		0.326		mg/Kg		04/13/22 13:56	04/18/22 11:05	10
Silvex (2,4,5-TP)	<0.326		0.326		mg/Kg		04/13/22 13:56	04/18/22 11:05	10
2,4,5-T	<0.326		0.326		mg/Kg		04/13/22 13:56	04/18/22 11:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCAA	*99*		*25 - 120*	*04/13/22 13:56*	*04/18/22 11:05*	*10*

Method: 9056A - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<9.57		9.57		mg/Kg			04/05/22 16:54	10
Nitrite as N	<9.57		9.57		mg/Kg			04/05/22 16:54	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<48.3		48.3		mg/Kg		04/06/22 13:33	04/06/22 19:31	1

Client Sample ID: TMW-1

Date Collected: 03/30/22 14:10
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-6

Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0100		0.0100		mg/L			04/06/22 01:17	1
Benzene	<0.000500		0.000500		mg/L			04/06/22 01:17	1
Bromobenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Bromochloromethane	<0.00500		0.00500		mg/L			04/06/22 01:17	1
Bromodichloromethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Bromoform	<0.00500		0.00500		mg/L			04/06/22 01:17	1
Bromomethane	<0.00400		0.00400		mg/L			04/06/22 01:17	1
2-Butanone (MEK)	<0.0100		0.0100		mg/L			04/06/22 01:17	1
Carbon disulfide	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Carbon tetrachloride	<0.00200		0.00200		mg/L			04/06/22 01:17	1
Chlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Chlorodibromomethane	<0.00500		0.00500		mg/L			04/06/22 01:17	1
Chloroethane	<0.00400		0.00400		mg/L			04/06/22 01:17	1
Chloroform	<0.00300		0.00300		mg/L			04/06/22 01:17	1
Chloromethane	<0.00300		0.00300		mg/L			04/06/22 01:17	1
2-Chlorotoluene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
4-Chlorotoluene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
cis-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
cis-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/06/22 01:17	1
1,2-Dibromo-3-chloropropane	<0.00500		0.00500		mg/L			04/06/22 01:17	1
1,2-Dibromoethane (EDB)	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Dibromomethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,2-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,3-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,4-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Dichlorodifluoromethane	<0.00300		0.00300		mg/L			04/06/22 01:17	1
1,1-Dichloroethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,2-Dichloroethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,1-Dichloroethene	<0.00200		0.00200		mg/L			04/06/22 01:17	1
1,2-Dichloropropane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,3-Dichloropropane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
2,2-Dichloropropane	<0.00400		0.00400		mg/L			04/06/22 01:17	1
1,1-Dichloropropene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Ethylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Hexachlorobutadiene	<0.00500		0.00500		mg/L			04/06/22 01:17	1
Hexane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Isopropylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Methylene chloride	<0.00500		0.00500		mg/L			04/06/22 01:17	1
Methyl tert-butyl ether	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Naphthalene	<0.00500		0.00500		mg/L			04/06/22 01:17	1
n-Butylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
n-Propylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
p-Isopropyltoluene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
sec-Butylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Styrene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
tert-Butylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,1,1,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,1,2,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Tetrachloroethene	<0.00100		0.00100		mg/L			04/06/22 01:17	1

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: TMW-1
Date Collected: 03/30/22 14:10
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-6
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
trans-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
trans-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/06/22 01:17	1
1,2,3-Trichlorobenzene	<0.00500		0.00500		mg/L			04/06/22 01:17	1
1,2,4-Trichlorobenzene	<0.00500		0.00500		mg/L			04/06/22 01:17	1
1,1,1-Trichloroethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,1,2-Trichloroethane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Trichloroethene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Trichlorofluoromethane	<0.00400		0.00400		mg/L			04/06/22 01:17	1
1,2,3-Trichloropropane	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,2,4-Trimethylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
1,3,5-Trimethylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Vinyl chloride	<0.00100		0.00100		mg/L			04/06/22 01:17	1
Xylenes, Total	<0.00300		0.00300		mg/L			04/06/22 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*04/06/22 01:17*	*1*
Dibromofluoromethane (Surr)	*104*		*79 - 120*		*04/06/22 01:17*	*1*
Toluene-d8 (Surr)	*97*		*79 - 120*		*04/06/22 01:17*	*1*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<0.313		0.313		mg/L		04/01/22 07:34	04/05/22 19:02	1
Diesel	<0.313		0.313		mg/L		04/01/22 07:34	04/05/22 19:02	1
Waste Oil	<0.313		0.313		mg/L		04/01/22 07:34	04/05/22 19:02	1
Total Extractable Hydrocarbons	<0.521		0.521		mg/L		04/01/22 07:34	04/05/22 19:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*88*		*17 - 120*	*04/01/22 07:34*	*04/05/22 19:02*	*1*

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: TMW-2
Date Collected: 03/30/22 15:45
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-7
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**0.0150**		0.0100		mg/L			04/06/22 01:40	1
Benzene	<0.000500		0.000500		mg/L			04/06/22 01:40	1
Bromobenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Bromochloromethane	<0.00500		0.00500		mg/L			04/06/22 01:40	1
Bromodichloromethane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Bromoform	<0.00500		0.00500		mg/L			04/06/22 01:40	1
Bromomethane	<0.00400		0.00400		mg/L			04/06/22 01:40	1
2-Butanone (MEK)	<0.0100		0.0100		mg/L			04/06/22 01:40	1
Carbon disulfide	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Carbon tetrachloride	<0.00200		0.00200		mg/L			04/06/22 01:40	1
Chlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Chlorodibromomethane	<0.00500		0.00500		mg/L			04/06/22 01:40	1
Chloroethane	<0.00400		0.00400		mg/L			04/06/22 01:40	1
Chloroform	<0.00300		0.00300		mg/L			04/06/22 01:40	1
Chloromethane	<0.00300		0.00300		mg/L			04/06/22 01:40	1
2-Chlorotoluene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
4-Chlorotoluene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
cis-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
cis-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/06/22 01:40	1
1,2-Dibromo-3-chloropropane	<0.00500		0.00500		mg/L			04/06/22 01:40	1
1,2-Dibromoethane (EDB)	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Dibromomethane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,2-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,3-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,4-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Dichlorodifluoromethane	<0.00300		0.00300		mg/L			04/06/22 01:40	1
1,1-Dichloroethane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,2-Dichloroethane	**0.00112**		0.00100		mg/L			04/06/22 01:40	1
1,1-Dichloroethene	<0.00200		0.00200		mg/L			04/06/22 01:40	1
1,2-Dichloropropane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,3-Dichloropropane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
2,2-Dichloropropane	<0.00400		0.00400		mg/L			04/06/22 01:40	1
1,1-Dichloropropene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Ethylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Hexachlorobutadiene	<0.00500		0.00500		mg/L			04/06/22 01:40	1
Hexane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Isopropylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Methylene chloride	<0.00500		0.00500		mg/L			04/06/22 01:40	1
Methyl tert-butyl ether	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Naphthalene	<0.00500		0.00500		mg/L			04/06/22 01:40	1
n-Butylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
n-Propylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
p-Isopropyltoluene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
sec-Butylbenzene	**0.00240**		0.00100		mg/L			04/06/22 01:40	1
Styrene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
tert-Butylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,1,1,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,1,2,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Tetrachloroethene	<0.00100		0.00100		mg/L			04/06/22 01:40	1

Client Sample ID: TMW-2

Date Collected: 03/30/22 15:45
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-7

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
trans-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
trans-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/06/22 01:40	1
1,2,3-Trichlorobenzene	<0.00500		0.00500		mg/L			04/06/22 01:40	1
1,2,4-Trichlorobenzene	<0.00500		0.00500		mg/L			04/06/22 01:40	1
1,1,1-Trichloroethane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,1,2-Trichloroethane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Trichloroethene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Trichlorofluoromethane	<0.00400		0.00400		mg/L			04/06/22 01:40	1
1,2,3-Trichloropropane	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,2,4-Trimethylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
1,3,5-Trimethylbenzene	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Vinyl chloride	<0.00100		0.00100		mg/L			04/06/22 01:40	1
Xylenes, Total	<0.00300		0.00300		mg/L			04/06/22 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*04/06/22 01:40*	*1*
Dibromofluoromethane (Surr)	*94*		*79 - 120*		*04/06/22 01:40*	*1*
Toluene-d8 (Surr)	*99*		*79 - 120*		*04/06/22 01:40*	*1*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**2.86**		1.25		mg/L		04/01/22 07:34	04/05/22 19:17	1
Diesel	<1.25		1.25		mg/L		04/01/22 07:34	04/05/22 19:17	1
Waste Oil	**3.82**		1.25		mg/L		04/01/22 07:34	04/05/22 19:17	1
Total Extractable Hydrocarbons	<2.08		2.08		mg/L		04/01/22 07:34	04/05/22 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*100*		*17 - 120*	*04/01/22 07:34*	*04/05/22 19:17*	*1*

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: TMW-3
Date Collected: 03/30/22 10:38
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-8
Matrix: Water

Method: 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0100		0.0100		mg/L			04/06/22 02:02	1
Benzene	<0.000500		0.000500		mg/L			04/06/22 02:02	1
Bromobenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Bromochloromethane	<0.00500		0.00500		mg/L			04/06/22 02:02	1
Bromodichloromethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Bromoform	<0.00500		0.00500		mg/L			04/06/22 02:02	1
Bromomethane	<0.00400		0.00400		mg/L			04/06/22 02:02	1
2-Butanone (MEK)	<0.0100		0.0100		mg/L			04/06/22 02:02	1
Carbon disulfide	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Carbon tetrachloride	<0.00200		0.00200		mg/L			04/06/22 02:02	1
Chlorobenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Chlorodibromomethane	<0.00500		0.00500		mg/L			04/06/22 02:02	1
Chloroethane	<0.00400		0.00400		mg/L			04/06/22 02:02	1
Chloroform	<0.00300		0.00300		mg/L			04/06/22 02:02	1
Chloromethane	<0.00300		0.00300		mg/L			04/06/22 02:02	1
2-Chlorotoluene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
4-Chlorotoluene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
cis-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
cis-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/06/22 02:02	1
1,2-Dibromo-3-chloropropane	<0.00500		0.00500		mg/L			04/06/22 02:02	1
1,2-Dibromoethane (EDB)	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Dibromomethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,2-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,3-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,4-Dichlorobenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Dichlorodifluoromethane	<0.00300		0.00300		mg/L			04/06/22 02:02	1
1,1-Dichloroethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,2-Dichloroethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,1-Dichloroethene	<0.00200		0.00200		mg/L			04/06/22 02:02	1
1,2-Dichloropropane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,3-Dichloropropane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
2,2-Dichloropropane	<0.00400		0.00400		mg/L			04/06/22 02:02	1
1,1-Dichloropropene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Ethylbenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Hexachlorobutadiene	<0.00500		0.00500		mg/L			04/06/22 02:02	1
Hexane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Isopropylbenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Methylene chloride	<0.00500		0.00500		mg/L			04/06/22 02:02	1
Methyl tert-butyl ether	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Naphthalene	<0.00500		0.00500		mg/L			04/06/22 02:02	1
n-Butylbenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
n-Propylbenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
p-Isopropyltoluene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
sec-Butylbenzene	**0.00314**		0.00100		mg/L			04/06/22 02:02	1
Styrene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
tert-Butylbenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,1,1,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,1,2,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Tetrachloroethene	<0.00100		0.00100		mg/L			04/06/22 02:02	1

Client Sample ID: TMW-3

Date Collected: 03/30/22 10:38
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-8

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
trans-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
trans-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/06/22 02:02	1
1,2,3-Trichlorobenzene	<0.00500		0.00500		mg/L			04/06/22 02:02	1
1,2,4-Trichlorobenzene	<0.00500		0.00500		mg/L			04/06/22 02:02	1
1,1,1-Trichloroethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,1,2-Trichloroethane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Trichloroethene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Trichlorofluoromethane	<0.00400		0.00400		mg/L			04/06/22 02:02	1
1,2,3-Trichloropropane	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,2,4-Trimethylbenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
1,3,5-Trimethylbenzene	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Vinyl chloride	<0.00100		0.00100		mg/L			04/06/22 02:02	1
Xylenes, Total	<0.00300		0.00300		mg/L			04/06/22 02:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*04/06/22 02:02*	*1*
Dibromofluoromethane (Surr)	*94*		*79 - 120*		*04/06/22 02:02*	*1*
Toluene-d8 (Surr)	*101*		*79 - 120*		*04/06/22 02:02*	*1*

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	**1.95**		0.313		mg/L		04/01/22 07:34	04/05/22 02:26	1
Diesel	<0.313		0.313		mg/L		04/01/22 07:34	04/05/22 02:26	1
Waste Oil	<0.313		0.313		mg/L		04/01/22 07:34	04/05/22 02:26	1
Total Extractable Hydrocarbons	<0.521		0.521		mg/L		04/01/22 07:34	04/05/22 02:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*96*		*17 - 120*	*04/01/22 07:34*	*04/05/22 02:26*	*1*

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: TMW-4

Date Collected: 03/30/22 15:10
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-9

Matrix: Water

Method: 8081B - Organochlorine Pesticides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
alpha-BHC	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
beta-BHC	<0.0000615	*+	0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Chlordane (technical)	<0.00192		0.00192		mg/L		04/04/22 08:23	04/05/22 16:30	1
4,4'-DDD	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
4,4'-DDE	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
4,4'-DDT	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
delta-BHC	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Dieldrin	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Endosulfan I	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Endosulfan II	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Endosulfan sulfate	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Endrin	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Endrin aldehyde	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
gamma-BHC (Lindane)	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Heptachlor	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Heptachlor epoxide	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Methoxychlor	<0.0000615		0.0000615		mg/L		04/04/22 08:23	04/05/22 16:30	1
Toxaphene	<0.00192		0.00192		mg/L		04/04/22 08:23	04/05/22 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*43*		*10 - 110*	*04/04/22 08:23*	*04/05/22 16:30*	*1*
Tetrachloro-m-xylene (Surr)	*85*		*27 - 110*	*04/04/22 08:23*	*04/05/22 16:30*	*1*

Method: 8151A - Herbicides (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<1.11	*1	1.11		ug/L		04/04/22 13:02	04/05/22 11:12	1
Silvex (2,4,5-TP)	<1.11	*1	1.11		ug/L		04/04/22 13:02	04/05/22 11:12	1
2,4,5-T	<1.11	*1	1.11		ug/L		04/04/22 13:02	04/05/22 11:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCAA	*81*		*25 - 130*	*04/04/22 13:02*	*04/05/22 11:12*	*1*

Method: 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.100		0.100		mg/L			03/31/22 14:10	1
Nitrite as N	<0.100		0.100		mg/L			03/31/22 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500		mg/L		04/08/22 13:49	04/08/22 20:25	1

Definitions/Glossary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
S1+	Surrogate recovery exceeds control limits, high biased.

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
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Method: 8260D - Volatile Organic Compounds by GC/MS

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

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(77-120)	(80-123)	(76-120)
310-228056-1	B-1 (10-12')	117	101	97
310-228056-2	B-2 (8-10')	100	102	98
310-228056-3	B-3 (16-18')	100	102	100
LCS 310-348768/2-A	Lab Control Sample	104	107	100
MB 310-348768/1-A	Method Blank	102	110	96

Surrogate Legend

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

Method: 8260D - Volatile Organic Compounds by GC/MS

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

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(80-120)	(79-120)	(79-120)
310-228056-6	TMW-1	102	104	97
310-228056-7	TMW-2	96	94	99
310-228056-8	TMW-3	98	94	101
LCS 310-348820/6	Lab Control Sample	98	102	101
LCS 310-348820/7	Lab Control Sample	101	103	95
MB 310-348820/5	Method Blank	101	102	96

Surrogate Legend

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

Method: 8081B - Organochlorine Pesticides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		DCB2	TCX2
Lab Sample ID	Client Sample ID	(10-129)	(10-110)
310-228056-4	B-4 (2')	129	97
310-228056-5	B-4 (10')	183 S1+	131 S1+
LCS 310-348766/2-A	Lab Control Sample	95	81
MB 310-348766/1-A	Method Blank	100	94

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
		DCB1
Lab Sample ID	Client Sample ID	(10-129)
LCS 310-348766/12-A	Lab Control Sample	75

Surrogate Legend

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DCB1 (10-110)	TCX1 (27-110)
310-228056-9	TMW-4	43	85
LCS 310-348635/4-A	Lab Control Sample	49	70
LCSD 310-348635/5-A	Lab Control Sample Dup	76	105
MB 310-348635/1-A	Method Blank	79	82

Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)
TCX = Tetrachloro-m-xylene (Surr)

Method: 8151A - Herbicides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DCPAA1 (25-120)
310-228056-4	B-4 (2')	86
310-228056-5	B-4 (10')	99
LCS 500-651568/2-A	Lab Control Sample	92
MB 500-651568/1-A	Method Blank	81

Surrogate Legend

DCPAA = DCAA

Method: 8151A - Herbicides (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DCPAA1 (25-130)
310-228056-9	TMW-4	81
LCS 500-650115/2-A	Lab Control Sample	88
LCSD 500-650115/3-A	Lab Control Sample Dup	61
MB 500-650115/1-A	Method Blank	78

Surrogate Legend

DCPAA = DCAA

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OTCN (12-126)
310-228056-1	B-1 (10-12')	19
310-228056-1 MS	B-1 (10-12')	97
310-228056-1 MSD	B-1 (10-12')	108
310-228056-2	B-2 (8-10')	39
310-228056-3	B-3 (16-18')	55
LCS 310-348439/2-A	Lab Control Sample	99
MB 310-348439/1-A	Method Blank	111

Surrogate Legend

Surrogate Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

OTCN = n-Octacosane

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	OTCN (17-120)
310-228056-6	TMW-1	88
310-228056-7	TMW-2	100
310-228056-8	TMW-3	96
LCS 310-348435/2-A	Lab Control Sample	90
LCSD 310-348435/3-A	Lab Control Sample Dup	105
MB 310-348435/1-A	Method Blank	114

Surrogate Legend

OTCN = n-Octacosane

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-348768/1-A
Matrix: Solid
Analysis Batch: 348769

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348768

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.109		0.109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Benzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Bromobenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Bromochloromethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Bromodichloromethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Bromoform	<0.0219		0.0219		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Bromomethane	<0.0437		0.0437		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
2-Butanone (MEK)	<0.0437		0.0437		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Carbon disulfide	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Carbon tetrachloride	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Chlorobenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Chlorodibromomethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Chloroethane	<0.0437		0.0437		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Chloroform	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Chloromethane	<0.0437		0.0437		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
2-Chlorotoluene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
4-Chlorotoluene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
cis-1,2-Dichloroethene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
cis-1,3-Dichloropropene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2-Dibromo-3-chloropropane	<0.0219		0.0219		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2-Dibromoethane (EDB)	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Dibromomethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2-Dichlorobenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,3-Dichlorobenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,4-Dichlorobenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Dichlorodifluoromethane	<0.0328		0.0328		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,1-Dichloroethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2-Dichloroethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,1-Dichloroethene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2-Dichloropropane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,3-Dichloropropane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
2,2-Dichloropropane	<0.0437		0.0437		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,1-Dichloropropene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Ethylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Hexachlorobutadiene	<0.0547		0.0547		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Hexane	<0.0547		0.0547		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Isopropylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Methylene chloride	<0.109		0.109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Methyl tert-butyl ether	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Naphthalene	<0.0547		0.0547		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
n-Butylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
n-Propylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
p-Isopropyltoluene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
sec-Butylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Styrene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
tert-Butylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,1,1,2-Tetrachloroethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,1,2,2-Tetrachloroethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1

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

Lab Sample ID: MB 310-348768/1-A
Matrix: Solid
Analysis Batch: 348769

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348768

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Toluene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
trans-1,2-Dichloroethene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
trans-1,3-Dichloropropene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2,3-Trichlorobenzene	<0.0219		0.0219		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2,4-Trichlorobenzene	<0.0219		0.0219		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,1,1-Trichloroethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,1,2-Trichloroethane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Trichloroethene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Trichlorofluoromethane	<0.0437		0.0437		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2,3-Trichloropropane	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,2,4-Trimethylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
1,3,5-Trimethylbenzene	<0.0109		0.0109		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Vinyl chloride	<0.0219		0.0219		mg/Kg		04/05/22 07:40	04/05/22 11:08	1
Xylenes, Total	<0.0219		0.0219		mg/Kg		04/05/22 07:40	04/05/22 11:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*77 - 120*	*04/05/22 07:40*	*04/05/22 11:08*	*1*
Dibromofluoromethane (Surr)	*110*		*80 - 123*	*04/05/22 07:40*	*04/05/22 11:08*	*1*
Toluene-d8 (Surr)	*96*		*76 - 120*	*04/05/22 07:40*	*04/05/22 11:08*	*1*

Lab Sample ID: LCS 310-348768/2-A
Matrix: Solid
Analysis Batch: 348769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348768

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	0.189	0.2356		mg/Kg		124	52 - 150
Benzene	0.0947	0.1020		mg/Kg		108	77 - 134
Bromobenzene	0.0947	0.09571		mg/Kg		101	77 - 121
Bromochloromethane	0.0947	0.1104		mg/Kg		117	80 - 135
Bromodichloromethane	0.0947	0.09347		mg/Kg		99	78 - 122
Bromoform	0.0947	0.1029		mg/Kg		109	72 - 122
2-Butanone (MEK)	0.189	0.2106		mg/Kg		111	60 - 150
Carbon disulfide	0.0947	0.1112		mg/Kg		117	61 - 142
Carbon tetrachloride	0.0947	0.1051		mg/Kg		111	77 - 127
Chlorobenzene	0.0947	0.09374		mg/Kg		99	76 - 120
Chlorodibromomethane	0.0947	0.09806		mg/Kg		104	78 - 122
Chloroform	0.0947	0.09762		mg/Kg		103	78 - 127
2-Chlorotoluene	0.0947	0.09752		mg/Kg		103	76 - 121
4-Chlorotoluene	0.0947	0.09462		mg/Kg		100	70 - 120
cis-1,2-Dichloroethene	0.0947	0.1054		mg/Kg		111	74 - 136
cis-1,3-Dichloropropene	0.0947	0.1012		mg/Kg		107	79 - 126
1,2-Dibromo-3-chloropropane	0.0947	0.1024		mg/Kg		108	52 - 150
1,2-Dibromoethane (EDB)	0.0947	0.1001		mg/Kg		106	80 - 125
Dibromomethane	0.0947	0.1056		mg/Kg		112	80 - 130
1,2-Dichlorobenzene	0.0947	0.09389		mg/Kg		99	72 - 122
1,3-Dichlorobenzene	0.0947	0.09332		mg/Kg		99	67 - 124
1,4-Dichlorobenzene	0.0947	0.09292		mg/Kg		98	66 - 124

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

Lab Sample ID: LCS 310-348768/2-A
Matrix: Solid
Analysis Batch: 348769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348768

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethane	0.0947	0.1031		mg/Kg		109	74 - 137
1,2-Dichloroethane	0.0947	0.1071		mg/Kg		113	79 - 132
1,1-Dichloroethene	0.0947	0.1125		mg/Kg		119	62 - 130
1,2-Dichloropropane	0.0947	0.1014		mg/Kg		107	78 - 135
1,3-Dichloropropane	0.0947	0.1053		mg/Kg		111	79 - 139
2,2-Dichloropropane	0.0947	0.1117		mg/Kg		118	54 - 150
1,1-Dichloropropene	0.0947	0.1052		mg/Kg		111	76 - 133
Ethylbenzene	0.0947	0.09819		mg/Kg		104	78 - 122
Hexachlorobutadiene	0.0947	0.08998		mg/Kg		95	41 - 141
Hexane	0.0947	0.09401		mg/Kg		99	36 - 136
Isopropylbenzene	0.0947	0.1004		mg/Kg		106	76 - 120
Methylene chloride	0.0947	0.1079	J	mg/Kg		114	55 - 150
Methyl tert-butyl ether	0.0947	0.1088		mg/Kg		115	73 - 135
Naphthalene	0.0947	0.1067		mg/Kg		113	52 - 150
n-Butylbenzene	0.0947	0.09525		mg/Kg		101	59 - 125
n-Propylbenzene	0.0947	0.09992		mg/Kg		106	74 - 123
p-Isopropyltoluene	0.0947	0.09722		mg/Kg		103	67 - 123
sec-Butylbenzene	0.0947	0.09587		mg/Kg		101	70 - 123
Styrene	0.0947	0.09935		mg/Kg		105	75 - 120
tert-Butylbenzene	0.0947	0.09972		mg/Kg		105	74 - 124
1,1,1,2-Tetrachloroethane	0.0947	0.1001		mg/Kg		106	77 - 121
1,1,2,2-Tetrachloroethane	0.0947	0.1012		mg/Kg		107	80 - 127
Tetrachloroethene	0.0947	0.09682		mg/Kg		102	72 - 121
Toluene	0.0947	0.09856		mg/Kg		104	77 - 121
trans-1,2-Dichloroethene	0.0947	0.1002		mg/Kg		106	71 - 134
trans-1,3-Dichloropropene	0.0947	0.1044		mg/Kg		110	77 - 122
1,2,3-Trichlorobenzene	0.0947	0.09303		mg/Kg		98	47 - 147
1,2,4-Trichlorobenzene	0.0947	0.09539		mg/Kg		101	49 - 139
1,1,1-Trichloroethane	0.0947	0.1064		mg/Kg		112	79 - 132
1,1,2-Trichloroethane	0.0947	0.09923		mg/Kg		105	80 - 124
Trichloroethene	0.0947	0.1010		mg/Kg		107	76 - 132
1,2,3-Trichloropropane	0.0947	0.09928		mg/Kg		105	79 - 126
1,2,4-Trimethylbenzene	0.0947	0.09922		mg/Kg		105	69 - 125
1,3,5-Trimethylbenzene	0.0947	0.09395		mg/Kg		99	70 - 122
Xylenes, Total	0.189	0.2003		mg/Kg		106	76 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*77 - 120*
Dibromofluoromethane (Surr)	*107*		*80 - 123*
Toluene-d8 (Surr)	*100*		*76 - 120*

Lab Sample ID: MB 310-348820/5
Matrix: Water
Analysis Batch: 348820

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.0100		0.0100		mg/L			04/05/22 21:53	1
Benzene	<0.000500		0.000500		mg/L			04/05/22 21:53	1

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

Lab Sample ID: MB 310-348820/5
Matrix: Water
Analysis Batch: 348820

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Bromochloromethane	<0.00500		0.00500		mg/L			04/05/22 21:53	1
Bromodichloromethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Bromoform	<0.00500		0.00500		mg/L			04/05/22 21:53	1
Bromomethane	<0.00400		0.00400		mg/L			04/05/22 21:53	1
2-Butanone (MEK)	<0.0100		0.0100		mg/L			04/05/22 21:53	1
Carbon disulfide	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Carbon tetrachloride	<0.00200		0.00200		mg/L			04/05/22 21:53	1
Chlorobenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Chlorodibromomethane	<0.00500		0.00500		mg/L			04/05/22 21:53	1
Chloroethane	<0.00400		0.00400		mg/L			04/05/22 21:53	1
Chloroform	<0.00300		0.00300		mg/L			04/05/22 21:53	1
Chloromethane	<0.00300		0.00300		mg/L			04/05/22 21:53	1
2-Chlorotoluene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
4-Chlorotoluene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
cis-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
cis-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/05/22 21:53	1
1,2-Dibromo-3-chloropropane	<0.00500		0.00500		mg/L			04/05/22 21:53	1
1,2-Dibromoethane (EDB)	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Dibromomethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,2-Dichlorobenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,3-Dichlorobenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,4-Dichlorobenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Dichlorodifluoromethane	<0.00300		0.00300		mg/L			04/05/22 21:53	1
1,1-Dichloroethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,2-Dichloroethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,1-Dichloroethene	<0.00200		0.00200		mg/L			04/05/22 21:53	1
1,2-Dichloropropane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,3-Dichloropropane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
2,2-Dichloropropane	<0.00400		0.00400		mg/L			04/05/22 21:53	1
1,1-Dichloropropene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Ethylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Hexachlorobutadiene	<0.00500		0.00500		mg/L			04/05/22 21:53	1
Hexane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Isopropylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Methylene chloride	<0.00500		0.00500		mg/L			04/05/22 21:53	1
Methyl tert-butyl ether	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Naphthalene	<0.00500		0.00500		mg/L			04/05/22 21:53	1
n-Butylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
n-Propylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
p-Isopropyltoluene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
sec-Butylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Styrene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
tert-Butylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,1,1,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,1,2,2-Tetrachloroethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Tetrachloroethene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Toluene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
trans-1,2-Dichloroethene	<0.00100		0.00100		mg/L			04/05/22 21:53	1

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

Lab Sample ID: MB 310-348820/5
Matrix: Water
Analysis Batch: 348820

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.00500		0.00500		mg/L			04/05/22 21:53	1
1,2,3-Trichlorobenzene	<0.00500		0.00500		mg/L			04/05/22 21:53	1
1,2,4-Trichlorobenzene	<0.00500		0.00500		mg/L			04/05/22 21:53	1
1,1,1-Trichloroethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,1,2-Trichloroethane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Trichloroethene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Trichlorofluoromethane	<0.00400		0.00400		mg/L			04/05/22 21:53	1
1,2,3-Trichloropropane	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,2,4-Trimethylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
1,3,5-Trimethylbenzene	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Vinyl chloride	<0.00100		0.00100		mg/L			04/05/22 21:53	1
Xylenes, Total	<0.00300		0.00300		mg/L			04/05/22 21:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*04/05/22 21:53*	*1*
Dibromofluoromethane (Surr)	*102*		*79 - 120*		*04/05/22 21:53*	*1*
Toluene-d8 (Surr)	*96*		*79 - 120*		*04/05/22 21:53*	*1*

Lab Sample ID: LCS 310-348820/6
Matrix: Water
Analysis Batch: 348820

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	0.0400	0.04000		mg/L		100	50 - 150
Benzene	0.0200	0.01910		mg/L		96	73 - 127
Bromobenzene	0.0200	0.01843		mg/L		92	68 - 128
Bromochloromethane	0.0200	0.02035		mg/L		102	77 - 140
Bromodichloromethane	0.0200	0.01874		mg/L		94	70 - 122
Bromoform	0.0200	0.01776		mg/L		89	58 - 125
2-Butanone (MEK)	0.0400	0.03782		mg/L		95	49 - 150
Carbon disulfide	0.0200	0.01965		mg/L		98	58 - 140
Carbon tetrachloride	0.0200	0.02023		mg/L		101	66 - 136
Chlorobenzene	0.0200	0.01894		mg/L		95	72 - 124
Chlorodibromomethane	0.0200	0.01795		mg/L		90	66 - 126
Chloroform	0.0200	0.01881		mg/L		94	72 - 125
2-Chlorotoluene	0.0200	0.01851		mg/L		93	68 - 129
4-Chlorotoluene	0.0200	0.01888		mg/L		94	67 - 128
cis-1,2-Dichloroethene	0.0200	0.01894		mg/L		95	71 - 130
cis-1,3-Dichloropropene	0.0200	0.01899		mg/L		95	69 - 122
1,2-Dibromo-3-chloropropane	0.0200	0.01737		mg/L		87	42 - 150
1,2-Dibromoethane (EDB)	0.0200	0.01860		mg/L		93	70 - 129
Dibromomethane	0.0200	0.01933		mg/L		97	71 - 133
1,2-Dichlorobenzene	0.0200	0.01816		mg/L		91	67 - 125
1,3-Dichlorobenzene	0.0200	0.01855		mg/L		93	65 - 128
1,4-Dichlorobenzene	0.0200	0.01827		mg/L		91	66 - 126
1,1-Dichloroethane	0.0200	0.01928		mg/L		96	71 - 131
1,2-Dichloroethane	0.0200	0.01855		mg/L		93	72 - 128
1,1-Dichloroethene	0.0200	0.01982		mg/L		99	64 - 137

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

Lab Sample ID: LCS 310-348820/6
Matrix: Water
Analysis Batch: 348820

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloropropane	0.0200	0.01892		mg/L		95	71 - 130
1,3-Dichloropropane	0.0200	0.01858		mg/L		93	72 - 130
2,2-Dichloropropane	0.0200	0.01793		mg/L		90	33 - 150
1,1-Dichloropropene	0.0200	0.02012		mg/L		101	72 - 130
Ethylbenzene	0.0200	0.01963		mg/L		98	73 - 127
Hexachlorobutadiene	0.0200	0.01869		mg/L		93	48 - 150
Hexane	0.0200	0.01987		mg/L		99	50 - 150
Isopropylbenzene	0.0200	0.01995		mg/L		100	71 - 127
Methylene chloride	0.0200	0.01924		mg/L		96	48 - 150
Methyl tert-butyl ether	0.0200	0.01921		mg/L		96	68 - 127
Naphthalene	0.0200	0.01890		mg/L		94	43 - 150
n-Butylbenzene	0.0200	0.02039		mg/L		102	64 - 129
n-Propylbenzene	0.0200	0.01985		mg/L		99	68 - 129
p-Isopropyltoluene	0.0200	0.01933		mg/L		97	66 - 128
sec-Butylbenzene	0.0200	0.02061		mg/L		103	64 - 134
Styrene	0.0200	0.02010		mg/L		101	69 - 127
tert-Butylbenzene	0.0200	0.01971		mg/L		99	66 - 132
1,1,1,2-Tetrachloroethane	0.0200	0.01869		mg/L		93	69 - 124
1,1,2,2-Tetrachloroethane	0.0200	0.01952		mg/L		98	66 - 129
Tetrachloroethene	0.0200	0.01957		mg/L		98	68 - 135
Toluene	0.0200	0.01923		mg/L		96	71 - 126
trans-1,2-Dichloroethene	0.0200	0.01821		mg/L		91	69 - 132
trans-1,3-Dichloropropene	0.0200	0.01855		mg/L		93	65 - 123
1,2,3-Trichlorobenzene	0.0200	0.01886		mg/L		94	45 - 150
1,2,4-Trichlorobenzene	0.0200	0.01876		mg/L		94	57 - 133
1,1,1-Trichloroethane	0.0200	0.01971		mg/L		99	70 - 129
1,1,2-Trichloroethane	0.0200	0.01923		mg/L		96	68 - 128
Trichloroethene	0.0200	0.01902		mg/L		95	71 - 130
1,2,3-Trichloropropane	0.0200	0.02007		mg/L		100	61 - 137
1,2,4-Trimethylbenzene	0.0200	0.01985		mg/L		99	64 - 133
1,3,5-Trimethylbenzene	0.0200	0.01986		mg/L		99	66 - 134
Xylenes, Total	0.0400	0.03951		mg/L		99	70 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*79 - 120*
Toluene-d8 (Surr)	*101*		*79 - 120*

Lab Sample ID: LCS 310-348820/7
Matrix: Water
Analysis Batch: 348820

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromomethane	0.0200	0.01622		mg/L		81	22 - 150
Chloroethane	0.0200	0.01914		mg/L		96	61 - 139
Chloromethane	0.0200	0.02097		mg/L		105	48 - 150
Dichlorodifluoromethane	0.0200	0.01860		mg/L		93	50 - 150
Trichlorofluoromethane	0.0200	0.02071		mg/L		104	59 - 150

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

Lab Sample ID: LCS 310-348820/7
Matrix: Water
Analysis Batch: 348820

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Vinyl chloride			0.0200	0.02066		mg/L		103	65 - 141		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*79 - 120*
Toluene-d8 (Surr)	*95*		*79 - 120*

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 310-348635/1-A
Matrix: Water
Analysis Batch: 348789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348635

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
alpha-BHC	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
beta-BHC	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Chlordane (technical)	<0.00200		0.00200		mg/L		04/04/22 08:23	04/05/22 12:39	1
4,4'-DDD	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
4,4'-DDE	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
4,4'-DDT	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
delta-BHC	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Dieldrin	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Endosulfan I	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Endosulfan II	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Endosulfan sulfate	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Endrin	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Endrin aldehyde	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
gamma-BHC (Lindane)	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Heptachlor	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Heptachlor epoxide	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Methoxychlor	<0.0000640		0.0000640		mg/L		04/04/22 08:23	04/05/22 12:39	1
Toxaphene	<0.00200		0.00200		mg/L		04/04/22 08:23	04/05/22 12:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*79*		*10 - 110*	*04/04/22 08:23*	*04/05/22 12:39*	*1*
Tetrachloro-m-xylene (Surr)	*82*		*27 - 110*	*04/04/22 08:23*	*04/05/22 12:39*	*1*

Lab Sample ID: LCS 310-348635/4-A
Matrix: Water
Analysis Batch: 348789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348635

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aldrin			0.00100	0.0007354		mg/L		74	17 - 118		
alpha-BHC			0.00100	0.0009971		mg/L		100	25 - 137		
beta-BHC			0.00100	0.001100		mg/L		110	32 - 128		
4,4'-DDD			0.00100	0.001085		mg/L		108	19 - 149		
4,4'-DDE			0.00100	0.001069		mg/L		107	27 - 130		

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 310-348635/4-A
Matrix: Water
Analysis Batch: 348789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348635

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
4,4'-DDT			0.00100	0.001098		mg/L		110	14 - 141		
delta-BHC			0.00100	0.001034		mg/L		103	26 - 133		
Dieldrin			0.00100	0.001053		mg/L		105	30 - 131		
Endosulfan I			0.00100	0.0003358		mg/L		34	10 - 111		
Endosulfan II			0.00100	0.0004148		mg/L		41	10 - 121		
Endosulfan sulfate			0.00100	0.001082		mg/L		108	32 - 144		
Endrin			0.00100	0.001072		mg/L		107	25 - 145		
Endrin aldehyde			0.00100	0.001076		mg/L		108	26 - 133		
gamma-BHC (Lindane)			0.00100	0.001016		mg/L		102	31 - 126		
Heptachlor			0.00100	0.0008575		mg/L		86	25 - 123		
Heptachlor epoxide			0.00100	0.001047		mg/L		105	29 - 135		
Methoxychlor			0.00100	0.001087		mg/L		109	10 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*49*		*10 - 110*
Tetrachloro-m-xylene (Surr)	*70*		*27 - 110*

Lab Sample ID: LCSD 310-348635/5-A
Matrix: Water
Analysis Batch: 348789

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 348635

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aldrin			0.00100	0.0008895		mg/L		89	17 - 118	19	28
alpha-BHC			0.00100	0.001215		mg/L		121	25 - 137	20	35
beta-BHC			0.00100	0.001305	*+	mg/L		130	32 - 128	17	35
4,4'-DDD			0.00100	0.001278		mg/L		128	19 - 149	16	35
4,4'-DDE			0.00100	0.001276		mg/L		128	27 - 130	18	35
4,4'-DDT			0.00100	0.001278		mg/L		128	14 - 141	15	35
delta-BHC			0.00100	0.001222		mg/L		122	26 - 133	17	35
Dieldrin			0.00100	0.001256		mg/L		126	30 - 131	18	35
Endosulfan I			0.00100	0.0004019		mg/L		40	10 - 111	18	35
Endosulfan II			0.00100	0.0004767		mg/L		48	10 - 121	14	35
Endosulfan sulfate			0.00100	0.001269		mg/L		127	32 - 144	16	35
Endrin			0.00100	0.001276		mg/L		128	25 - 145	17	35
Endrin aldehyde			0.00100	0.001226		mg/L		123	26 - 133	13	35
gamma-BHC (Lindane)			0.00100	0.001225		mg/L		123	31 - 126	19	35
Heptachlor			0.00100	0.001039		mg/L		104	25 - 123	19	29
Heptachlor epoxide			0.00100	0.001254		mg/L		125	29 - 135	18	35
Methoxychlor			0.00100	0.001246		mg/L		125	10 - 150	14	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*76*		*10 - 110*
Tetrachloro-m-xylene (Surr)	*105*		*27 - 110*

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 310-348766/1-A
Matrix: Solid
Analysis Batch: 349210

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348766

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
alpha-BHC	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
beta-BHC	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Chlordane (technical)	<0.152		0.152		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
4,4'-DDD	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
4,4'-DDE	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
4,4'-DDT	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
delta-BHC	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Dieldrin	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Endosulfan I	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Endosulfan II	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Endosulfan sulfate	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Endrin	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Endrin aldehyde	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
gamma-BHC (Lindane)	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Heptachlor	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Heptachlor epoxide	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Methoxychlor	<0.00608		0.00608		mg/Kg		04/05/22 07:33	04/08/22 12:52	1
Toxaphene	<0.152		0.152		mg/Kg		04/05/22 07:33	04/08/22 12:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*100*		*10 - 129*	*04/05/22 07:33*	*04/08/22 12:52*	*1*
Tetrachloro-m-xylene (Surr)	*94*		*10 - 110*	*04/05/22 07:33*	*04/08/22 12:52*	*1*

Lab Sample ID: LCS 310-348766/12-A
Matrix: Solid
Analysis Batch: 349384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348766

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Toxaphene			0.653	0.6946		mg/Kg		106	21 - 110		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*75*		*10 - 129*

Lab Sample ID: LCS 310-348766/2-A
Matrix: Solid
Analysis Batch: 349210

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348766

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Aldrin			0.0319	0.02512		mg/Kg		79	21 - 112		
alpha-BHC			0.0319	0.02577		mg/Kg		81	18 - 111		
beta-BHC			0.0319	0.03136		mg/Kg		98	24 - 110		
4,4'-DDD			0.0319	0.03283		mg/Kg		103	24 - 119		
4,4'-DDE			0.0319	0.03216		mg/Kg		101	19 - 121		
4,4'-DDT			0.0319	0.03096		mg/Kg		97	20 - 131		
delta-BHC			0.0319	0.02743		mg/Kg		86	19 - 119		
Dieldrin			0.0319	0.03287		mg/Kg		103	24 - 115		
Endosulfan I			0.0319	0.008579		mg/Kg		27	10 - 111		

Method: 8081B - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 310-348766/2-A
Matrix: Solid
Analysis Batch: 349210

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348766

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Endosulfan II	0.0319	0.01149		mg/Kg		36	10 - 113
Endosulfan sulfate	0.0319	0.03136		mg/Kg		98	10 - 150
Endrin	0.0319	0.03090		mg/Kg		97	21 - 125
Endrin aldehyde	0.0319	0.03142		mg/Kg		99	18 - 118
gamma-BHC (Lindane)	0.0319	0.02674		mg/Kg		84	22 - 112
Heptachlor	0.0319	0.02858		mg/Kg		90	22 - 116
Heptachlor epoxide	0.0319	0.02975		mg/Kg		93	23 - 118
Methoxychlor	0.0319	0.04589		mg/Kg		144	15 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*95*		*10 - 129*
Tetrachloro-m-xylene (Surr)	*81*		*10 - 110*

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 500-650115/1-A
Matrix: Water
Analysis Batch: 650175

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 650115

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<1.00		1.00		ug/L		04/04/22 13:02	04/05/22 07:39	1
Silvex (2,4,5-TP)	<1.00		1.00		ug/L		04/04/22 13:02	04/05/22 07:39	1
2,4,5-T	<1.00		1.00		ug/L		04/04/22 13:02	04/05/22 07:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCAA	*78*		*25 - 130*	*04/04/22 13:02*	*04/05/22 07:39*	*1*

Lab Sample ID: LCS 500-650115/2-A
Matrix: Water
Analysis Batch: 650175

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 650115

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-D	10.0	7.233		ug/L		72	30 - 115
Silvex (2,4,5-TP)	2.50	1.909		ug/L		76	32 - 115
2,4,5-T	2.50	1.552		ug/L		62	30 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCAA	*88*		*25 - 130*

Lab Sample ID: LCSD 500-650115/3-A
Matrix: Water
Analysis Batch: 650175

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 650115

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2,4-D	10.0	4.752	*1	ug/L		48	30 - 115	41	20
Silvex (2,4,5-TP)	2.50	1.301	*1	ug/L		52	32 - 115	38	20
2,4,5-T	2.50	1.036	*1	ug/L		41	30 - 115	40	20

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCSD 500-650115/3-A
Matrix: Water
Analysis Batch: 650175

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 650115

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCAA	61		25 - 130

Lab Sample ID: MB 500-651568/1-A
Matrix: Solid
Analysis Batch: 652139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 651568

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	<0.330		0.330		mg/Kg		04/13/22 13:56	04/18/22 10:07	10
Silvex (2,4,5-TP)	<0.330		0.330		mg/Kg		04/13/22 13:56	04/18/22 10:07	10
2,4,5-T	<0.330		0.330		mg/Kg		04/13/22 13:56	04/18/22 10:07	10

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCAA	81		25 - 120	04/13/22 13:56	04/18/22 10:07	10

Lab Sample ID: LCS 500-651568/2-A
Matrix: Solid
Analysis Batch: 652139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 651568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-D	1.35	0.7697		mg/Kg		57	20 - 115
Silvex (2,4,5-TP)	1.34	1.183		mg/Kg		88	29 - 115
2,4,5-T	1.34	0.9048		mg/Kg		68	25 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCAA	92		25 - 120

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC)

Lab Sample ID: MB 310-348435/1-A
Matrix: Water
Analysis Batch: 348756

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348435

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<0.300		0.300		mg/L		04/01/22 07:34	04/05/22 18:47	1
Diesel	<0.300		0.300		mg/L		04/01/22 07:34	04/05/22 18:47	1
Waste Oil	<0.300		0.300		mg/L		04/01/22 07:34	04/05/22 18:47	1
Total Extractable Hydrocarbons	<0.500		0.500		mg/L		04/01/22 07:34	04/05/22 18:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	114		17 - 120	04/01/22 07:34	04/05/22 18:47	1

Lab Sample ID: LCS 310-348435/2-A
Matrix: Water
Analysis Batch: 348620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348435

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Diesel	4.00	3.084		mg/L		77	22 - 120

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: LCS 310-348435/2-A
Matrix: Water
Analysis Batch: 348620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348435

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	90		17 - 120

Lab Sample ID: LCSD 310-348435/3-A
Matrix: Water
Analysis Batch: 348620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 348435

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel			4.00	3.474		mg/L		87	22 - 120	12	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
n-Octacosane	105		17 - 120

Lab Sample ID: MB 310-348439/1-A
Matrix: Solid
Analysis Batch: 348620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348439

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	<9.86		9.86		mg/Kg		04/01/22 07:50	04/04/22 19:56	1
Diesel	<9.86		9.86		mg/Kg		04/01/22 07:50	04/04/22 19:56	1
Waste Oil	<9.86		9.86		mg/Kg		04/01/22 07:50	04/04/22 19:56	1
Total Extractable Hydrocarbons	<14.8		14.8		mg/Kg		04/01/22 07:50	04/04/22 19:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	111		12 - 126	04/01/22 07:50	04/04/22 19:56	1

Lab Sample ID: LCS 310-348439/2-A
Matrix: Solid
Analysis Batch: 348620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348439

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel			131	126.5		mg/Kg		97	34 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	99		12 - 126

Lab Sample ID: 310-228056-1 MS
Matrix: Solid
Analysis Batch: 348620

Client Sample ID: B-1 (10-12')
Prep Type: Total/NA
Prep Batch: 348439

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Diesel	<9.81	F1	129	170.3		mg/Kg		132	12 - 147		

Surrogate	MS %Recovery	MS Qualifier	Limits
n-Octacosane	97		12 - 126

Method: OA-2 - Iowa - Extractable Petroleum Hydrocarbons (GC) (Continued)

Lab Sample ID: 310-228056-1 MSD
Matrix: Solid
Analysis Batch: 348620

Client Sample ID: B-1 (10-12')
Prep Type: Total/NA
Prep Batch: 348439

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Diesel	<9.81	F1	132	244.6	F1	mg/Kg		185	12 - 147	36	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*108*		*12 - 126*

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 310-349000/3
Matrix: Water
Analysis Batch: 349000

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.100		0.100		mg/L			03/31/22 10:32	1
Nitrite as N	<0.100		0.100		mg/L			03/31/22 10:32	1

Lab Sample ID: LCS 310-349000/4
Matrix: Water
Analysis Batch: 349000

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.00	2.033		mg/L		102	90 - 110
Nitrite as N	2.00	2.021		mg/L		101	90 - 110

Lab Sample ID: MB 310-348728/1-A
Matrix: Solid
Analysis Batch: 348927

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<9.39		9.39		mg/Kg			04/05/22 12:45	10
Nitrite as N	<9.39		9.39		mg/Kg			04/05/22 12:45	10

Lab Sample ID: LCS 310-348728/2-A
Matrix: Solid
Analysis Batch: 348927

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	188	191.0		mg/Kg		102	90 - 110
Nitrite as N	188	190.5		mg/Kg		101	90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 310-348983/1-A
Matrix: Solid
Analysis Batch: 349023

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 348983

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<49.1		49.1		mg/Kg		04/06/22 13:33	04/06/22 19:08	1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 310-348983/2-A
Matrix: Solid
Analysis Batch: 349023

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 348983

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	393	367.0		mg/Kg		93	90 - 110

Lab Sample ID: MB 310-349302/1-A
Matrix: Water
Analysis Batch: 349325

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 349302

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia as N	<0.500		0.500		mg/L		04/08/22 13:49	04/08/22 19:55	1

Lab Sample ID: LCS 310-349302/2-A
Matrix: Water
Analysis Batch: 349325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 349302

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia as N	4.00	3.840		mg/L		96	90 - 110

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

GC/MS VOA

Prep Batch: 348768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-1	B-1 (10-12')	Total/NA	Solid	5035	
310-228056-2	B-2 (8-10')	Total/NA	Solid	5035	
310-228056-3	B-3 (16-18')	Total/NA	Solid	5035	
MB 310-348768/1-A	Method Blank	Total/NA	Solid	5035	
LCS 310-348768/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 348769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-1	B-1 (10-12')	Total/NA	Solid	8260D	348768
310-228056-2	B-2 (8-10')	Total/NA	Solid	8260D	348768
310-228056-3	B-3 (16-18')	Total/NA	Solid	8260D	348768
MB 310-348768/1-A	Method Blank	Total/NA	Solid	8260D	348768
LCS 310-348768/2-A	Lab Control Sample	Total/NA	Solid	8260D	348768

Analysis Batch: 348820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-6	TMW-1	Total/NA	Water	8260D	
310-228056-7	TMW-2	Total/NA	Water	8260D	
310-228056-8	TMW-3	Total/NA	Water	8260D	
MB 310-348820/5	Method Blank	Total/NA	Water	8260D	
LCS 310-348820/6	Lab Control Sample	Total/NA	Water	8260D	
LCS 310-348820/7	Lab Control Sample	Total/NA	Water	8260D	

GC Semi VOA

Prep Batch: 348435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-6	TMW-1	Total/NA	Water	3510C	
310-228056-7	TMW-2	Total/NA	Water	3510C	
310-228056-8	TMW-3	Total/NA	Water	3510C	
MB 310-348435/1-A	Method Blank	Total/NA	Water	3510C	
LCS 310-348435/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-348435/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Prep Batch: 348439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-1	B-1 (10-12')	Total/NA	Solid	3546	
310-228056-2	B-2 (8-10')	Total/NA	Solid	3546	
310-228056-3	B-3 (16-18')	Total/NA	Solid	3546	
MB 310-348439/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-348439/2-A	Lab Control Sample	Total/NA	Solid	3546	
310-228056-1 MS	B-1 (10-12')	Total/NA	Solid	3546	
310-228056-1 MSD	B-1 (10-12')	Total/NA	Solid	3546	

Analysis Batch: 348620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-1	B-1 (10-12')	Total/NA	Solid	OA-2	348439
310-228056-3	B-3 (16-18')	Total/NA	Solid	OA-2	348439
310-228056-8	TMW-3	Total/NA	Water	OA-2	348435
MB 310-348439/1-A	Method Blank	Total/NA	Solid	OA-2	348439
LCS 310-348435/2-A	Lab Control Sample	Total/NA	Water	OA-2	348435

GC Semi VOA (Continued)

Analysis Batch: 348620 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-348439/2-A	Lab Control Sample	Total/NA	Solid	OA-2	348439
LCSD 310-348435/3-A	Lab Control Sample Dup	Total/NA	Water	OA-2	348435
310-228056-1 MS	B-1 (10-12')	Total/NA	Solid	OA-2	348439
310-228056-1 MSD	B-1 (10-12')	Total/NA	Solid	OA-2	348439

Prep Batch: 348635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-9	TMW-4	Total/NA	Water	3510C	
MB 310-348635/1-A	Method Blank	Total/NA	Water	3510C	
LCS 310-348635/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 310-348635/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 348756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-2	B-2 (8-10')	Total/NA	Solid	OA-2	348439
310-228056-6	TMW-1	Total/NA	Water	OA-2	348435
310-228056-7	TMW-2	Total/NA	Water	OA-2	348435
MB 310-348435/1-A	Method Blank	Total/NA	Water	OA-2	348435

Prep Batch: 348766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Total/NA	Solid	3546	
310-228056-5	B-4 (10')	Total/NA	Solid	3546	
MB 310-348766/1-A	Method Blank	Total/NA	Solid	3546	
LCS 310-348766/12-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 310-348766/2-A	Lab Control Sample	Total/NA	Solid	3546	

Analysis Batch: 348789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-9	TMW-4	Total/NA	Water	8081B	348635
MB 310-348635/1-A	Method Blank	Total/NA	Water	8081B	348635
LCS 310-348635/4-A	Lab Control Sample	Total/NA	Water	8081B	348635
LCSD 310-348635/5-A	Lab Control Sample Dup	Total/NA	Water	8081B	348635

Analysis Batch: 349210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Total/NA	Solid	8081B	348766
310-228056-5	B-4 (10')	Total/NA	Solid	8081B	348766
MB 310-348766/1-A	Method Blank	Total/NA	Solid	8081B	348766
LCS 310-348766/2-A	Lab Control Sample	Total/NA	Solid	8081B	348766

Analysis Batch: 349384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 310-348766/12-A	Lab Control Sample	Total/NA	Solid	8081B	348766

Analysis Batch: 349794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-5	B-4 (10')	Total/NA	Solid	8081B	348766

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

GC Semi VOA

Prep Batch: 650115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-9	TMW-4	Total/NA	Water	8151A	
MB 500-650115/1-A	Method Blank	Total/NA	Water	8151A	
LCS 500-650115/2-A	Lab Control Sample	Total/NA	Water	8151A	
LCSD 500-650115/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	

Analysis Batch: 650175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-9	TMW-4	Total/NA	Water	8151A	650115
MB 500-650115/1-A	Method Blank	Total/NA	Water	8151A	650115
LCS 500-650115/2-A	Lab Control Sample	Total/NA	Water	8151A	650115
LCSD 500-650115/3-A	Lab Control Sample Dup	Total/NA	Water	8151A	650115

Prep Batch: 651568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Total/NA	Solid	8151A	
310-228056-5	B-4 (10')	Total/NA	Solid	8151A	
MB 500-651568/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 500-651568/2-A	Lab Control Sample	Total/NA	Solid	8151A	

Analysis Batch: 652139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Total/NA	Solid	8151A	651568
310-228056-5	B-4 (10')	Total/NA	Solid	8151A	651568
MB 500-651568/1-A	Method Blank	Total/NA	Solid	8151A	651568
LCS 500-651568/2-A	Lab Control Sample	Total/NA	Solid	8151A	651568

HPLC/IC

Leach Batch: 348728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Soluble	Solid	DI Leach	
310-228056-5	B-4 (10')	Soluble	Solid	DI Leach	
MB 310-348728/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 310-348728/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

Analysis Batch: 348927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Soluble	Solid	9056A	348728
310-228056-5	B-4 (10')	Soluble	Solid	9056A	348728
MB 310-348728/1-A	Method Blank	Soluble	Solid	9056A	348728
LCS 310-348728/2-A	Lab Control Sample	Soluble	Solid	9056A	348728

Analysis Batch: 349000

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-9	TMW-4	Total/NA	Water	9056A	
MB 310-349000/3	Method Blank	Total/NA	Water	9056A	
LCS 310-349000/4	Lab Control Sample	Total/NA	Water	9056A	

QC Association Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

General Chemistry

Prep Batch: 348983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Total/NA	Solid	Distill/Ammonia	
310-228056-5	B-4 (10')	Total/NA	Solid	Distill/Ammonia	
MB 310-348983/1-A	Method Blank	Total/NA	Solid	Distill/Ammonia	
LCS 310-348983/2-A	Lab Control Sample	Total/NA	Solid	Distill/Ammonia	

Analysis Batch: 349023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-4	B-4 (2')	Total/NA	Solid	350.1	348983
310-228056-5	B-4 (10')	Total/NA	Solid	350.1	348983
MB 310-348983/1-A	Method Blank	Total/NA	Solid	350.1	348983
LCS 310-348983/2-A	Lab Control Sample	Total/NA	Solid	350.1	348983

Prep Batch: 349302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-9	TMW-4	Total/NA	Water	Distill/Ammonia	
MB 310-349302/1-A	Method Blank	Total/NA	Water	Distill/Ammonia	
LCS 310-349302/2-A	Lab Control Sample	Total/NA	Water	Distill/Ammonia	

Analysis Batch: 349325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
310-228056-9	TMW-4	Total/NA	Water	350.1	349302
MB 310-349302/1-A	Method Blank	Total/NA	Water	350.1	349302
LCS 310-349302/2-A	Lab Control Sample	Total/NA	Water	350.1	349302

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-1 (10-12')
Date Collected: 03/30/22 12:56
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			348768	04/05/22 07:40	TCH	TAL CF
Total/NA	Analysis	8260D		1	348769	04/05/22 13:13	TCH	TAL CF
Total/NA	Prep	3546			348439	04/01/22 07:50	KMH	TAL CF
Total/NA	Analysis	OA-2		1	348620	04/04/22 20:54	JTA	TAL CF

Client Sample ID: B-2 (8-10')
Date Collected: 03/30/22 11:15
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			348768	04/05/22 07:40	TCH	TAL CF
Total/NA	Analysis	8260D		1	348769	04/05/22 13:38	TCH	TAL CF
Total/NA	Prep	3546			348439	04/01/22 07:50	KMH	TAL CF
Total/NA	Analysis	OA-2		1	348756	04/05/22 18:17	JTA	TAL CF

Client Sample ID: B-3 (16-18')
Date Collected: 03/30/22 10:06
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			348768	04/05/22 07:40	TCH	TAL CF
Total/NA	Analysis	8260D		1	348769	04/05/22 14:03	TCH	TAL CF
Total/NA	Prep	3546			348439	04/01/22 07:50	KMH	TAL CF
Total/NA	Analysis	OA-2		1	348620	04/04/22 21:23	JTA	TAL CF

Client Sample ID: B-4 (2')
Date Collected: 03/30/22 14:33
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			348766	04/05/22 07:33	KMH	TAL CF
Total/NA	Analysis	8081B		1	349210	04/08/22 13:38	BBW	TAL CF
Total/NA	Prep	8151A			651568	04/13/22 13:56	TS	TAL CHI
Total/NA	Analysis	8151A		10	652139	04/18/22 10:45	JBJ	TAL CHI
Soluble	Leach	DI Leach			348728	04/04/22 15:34	JNR	TAL CF
Soluble	Analysis	9056A		10	348927	04/05/22 16:39	JNR	TAL CF
Total/NA	Prep	Distill/Ammonia			348983	04/06/22 13:33	TGF	TAL CF
Total/NA	Analysis	350.1		1	349023	04/06/22 19:30	JMH	TAL CF

Client Sample ID: B-4 (10')
Date Collected: 03/30/22 14:46
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			348766	04/05/22 07:33	KMH	TAL CF
Total/NA	Analysis	8081B		2	349794	04/14/22 13:13	BBW	TAL CF

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: B-4 (10')
Date Collected: 03/30/22 14:46
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			348766	04/05/22 07:33	KMH	TAL CF
Total/NA	Analysis	8081B		1	349210	04/08/22 13:54	BBW	TAL CF
Total/NA	Prep	8151A			651568	04/13/22 13:56	TS	TAL CHI
Total/NA	Analysis	8151A		10	652139	04/18/22 11:05	JBJ	TAL CHI
Soluble	Leach	DI Leach			348728	04/04/22 15:34	JNR	TAL CF
Soluble	Analysis	9056A		10	348927	04/05/22 16:54	JNR	TAL CF
Total/NA	Prep	Distill/Ammonia			348983	04/06/22 13:33	TGF	TAL CF
Total/NA	Analysis	350.1		1	349023	04/06/22 19:31	JMH	TAL CF

Client Sample ID: TMW-1
Date Collected: 03/30/22 14:10
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	348820	04/06/22 01:17	TRZ	TAL CF
Total/NA	Prep	3510C			348435	04/01/22 07:34	JCM	TAL CF
Total/NA	Analysis	OA-2		1	348756	04/05/22 19:02	JTA	TAL CF

Client Sample ID: TMW-2
Date Collected: 03/30/22 15:45
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	348820	04/06/22 01:40	TRZ	TAL CF
Total/NA	Prep	3510C			348435	04/01/22 07:34	JCM	TAL CF
Total/NA	Analysis	OA-2		1	348756	04/05/22 19:17	JTA	TAL CF

Client Sample ID: TMW-3
Date Collected: 03/30/22 10:38
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	348820	04/06/22 02:02	TRZ	TAL CF
Total/NA	Prep	3510C			348435	04/01/22 07:34	JCM	TAL CF
Total/NA	Analysis	OA-2		1	348620	04/05/22 02:26	JTA	TAL CF

Client Sample ID: TMW-4
Date Collected: 03/30/22 15:10
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			348635	04/04/22 08:23	JCM	TAL CF
Total/NA	Analysis	8081B		1	348789	04/05/22 16:30	BBW	TAL CF
Total/NA	Prep	8151A			650115	04/04/22 13:02	DAK	TAL CHI
Total/NA	Analysis	8151A		1	650175	04/05/22 11:12	JBJ	TAL CHI

Lab Chronicle

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Client Sample ID: TMW-4

Date Collected: 03/30/22 15:10
Date Received: 03/31/22 09:30

Lab Sample ID: 310-228056-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	349000	03/31/22 14:10	JNR	TAL CF
Total/NA	Prep	Distill/Ammonia			349302	04/08/22 13:49	TGF	TAL CF
Total/NA	Analysis	350.1		1	349325	04/08/22 20:25	JMH	TAL CF

Laboratory References:

TAL CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Laboratory: Eurofins Cedar Falls

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Colorado	Petroleum Storage Tank Program	IA100001 (OR)	09-29-22
Georgia	State	IA100001 (OR)	09-29-22
Illinois	NELAP	200024	11-29-22
Iowa	State	007	12-01-21 *
Kansas	NELAP	E-10341	01-31-23
Minnesota	NELAP	019-999-319	12-31-22
Minnesota (Petrofund)	State	3349	04-06-23
North Dakota	State	R-186	09-29-22
Oregon	NELAP	IA100001	09-29-22

Laboratory: Eurofins Chicago

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2903	04-29-22
Georgia	State	N/A	04-29-22
Georgia (DW)	State	939	04-30-21 *
Hawaii	State	NA	04-29-22
Illinois	NELAP	IL00035	04-29-22
Indiana	State	C-IL-02	04-29-22
Iowa	State	082	05-01-22
Kansas	NELAP	E-10161	10-31-22
Kentucky (UST)	State	AI # 108083	04-29-22
Kentucky (WW)	State	KY90023	12-31-22
Louisiana	NELAP	02046	06-30-22
Mississippi	State	NA	04-30-22
North Carolina (WW/SW)	State	291	12-31-22
North Dakota	State	R-194	04-29-22
Oklahoma	State	8908	08-31-22
South Carolina	State	77001003	04-29-22
USDA	US Federal Programs	P330-18-00018	02-11-24
Wisconsin	State	999580010	08-31-22
Wyoming	State	8TMS-Q	04-30-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Terracon Consulting Eng & Scientists
Project/Site: Retail Commercial Property

Job ID: 310-228056-1
SDG: A3227004

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	TAL CF
8081B	Organochlorine Pesticides (GC)	SW846	TAL CF
8151A	Herbicides (GC)	SW846	TAL CHI
OA-2	Iowa - Extractable Petroleum Hydrocarbons (GC)	Iowa DNR	TAL CF
9056A	Anions, Ion Chromatography	SW846	TAL CF
350.1	Nitrogen, Ammonia	MCAWW	TAL CF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CF
3546	Microwave Extraction	SW846	TAL CF
5030B	Purge and Trap	SW846	TAL CF
5035	Purge and Trap for Solids	SW846	TAL CF
8151A	Extraction (Herbicides)	SW846	TAL CHI
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL CF
Distill/Ammonia	Distillation, Ammonia	None	TAL CF

Protocol References:

ASTM = ASTM International
Iowa DNR = Iowa Department of Natural Resources
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
None = None
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401
TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

eurofins | Environment Testing America

310-228056 Chain of Custody

Cooler/Sample Receipt and Temperature Log Form

Client Information

Client: Terracon

City/State: CITY Lincoln | STATE NE | Project

Receipt Information

Date/Time Received: DATE 3/31/22 | TIME 930 | Received By LR

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

Condition of Cooler/Containers

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

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? ↓

Temperature Record

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

Thermometer ID: N | Correction Factor (°C): 0

Temp Blank Temperature – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature

Uncorrected Temp (°C): 0.8 | Corrected Temp (°C): 0.8

Sample Container Temperature

	CONTAINER 1	CONTAINER 2
Container(s) used		
Uncorrected Temp (°C)		
Corrected Temp (°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, frozen solid?) ☐ Yes ☐ No

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

Additional Comments

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls, IA 50613
Phone (319) 277-2401 Phone (319) 277-2425

Chain of Custody Record

TestAmerica Omaha SC
268

eurofins | Environment Testing America

Client Information	Sampler: Seth Moyer	Lab PM: Hayes, Shawn M	Carrier Tracking No(s):	COC No:
Client Contact: Thomas Thomssen	Phone:	E-Mail: Shawn.Hayes@Eurofinset.com	State of Origin:	Page:
Company: Terracon Consulting Eng & Scientists	PWSID:			Job #:
Address: 3220 N 20th Street	Due Date Requested:			
City: Lincoln	TAT Requested (days):			
State, Zip: NE, 68521	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order not required			
Email: Thomas.Thomssen@terracon.com	WO #:			
Project Name:	Project #: 31006790			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8081B Standard Pesticides	8151A Standard Herbicides	9056A_ORGFM_48H Nitrate, Nitrite as N	350.1 Nitrogen, Ammonia	8260D Volatile Standard List	OA2 OA2 Standard List	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
B-1 (10-12)	3/30/22	12 56	G	Solid							X	X		
B-2 (8'-10')	3/30/22	11 15	G	Solid							X	X		
B-3 (16'-17')	3/30/22	10 06	G	Solid							X	X		
B-4 (2')	3/30/22	14 33	G	Solid			X	X	X	X				
B-4 (10)	3/30/22	14 46	G	Solid			X	X	X	X	X			No 8260D
TMW-1	3/30/22	14.10	GGG	W							X	X		
TMW-2	3/30/22	15 45	G	W							X	X		
TMW-3	3/30/22	10 38	G	W							X	X		
TMW-4	3/30/22	15 10	G	W			X	X	X	X				

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: 2-21-22 Time: 0900 Method of Shipment: Fed Ex Ground

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Seth Moyer	3/30/2022 1700				
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 3/31/22 930	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver 01/16/2019

Eurofins Cedar Falls
3019 Venture Way
Cedar Falls IA 50613
Phone 319-277-2401 Fax 319-277-2425

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler	Lab PM: Hayes Shawn M	Carrier Tracking No(s)	COC No: 310-48165 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Shawn Hayes@Eurofinset com	State of Origin: Nebraska	Page: Page 1 of 1
Company: Eurofins Environment Testing North Centr		Accreditations Required (See note)		Job #: 310-228056-1
Address: 2417 Bond Street,	Due Date Requested: 4/13/2022			
City: University Park	TAT Requested (days):			
State, Zip: IL 60484				
Phone: 708-534-5200(Tel) 708-534-5211(Fax)	PO #:			
Email	WO #:			
Project Name: Retail Commercial Property	Project #: 31006790			
Site:	SSOW#:			

310-228056 COC

Analysis Requested

Preservation Codes

A HCL M Hexane
B NaOH N None
C Zn Acetate O AsNaO2
D Nitric Acid P Na2O4S
E NaHSO4 Q Na2SO3
F MeOH R Na2S2O3
G Amchlor S H2SO4
H Ascorbic Acid T TSP Dodecahydrate
I Ice U Acetone
J DI Water V MCAA
K EDTA W pH 4-5
L EDA Z other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/8151A_SP Herbicides	8151A/8151A_AP Herbicides	Total Number of containers	Special Instructions/Note.
			Preservation Code:							
B-4 (2') (310-228056-4)	3/30/22	14 33 Central		Solid			X		1	
B-4 (10') (310-228056-5)	3/30/22	14 46 Central		Solid			X		1	
TMW-4 (310-228056-9)	3/30/22	15 10 Central		Water				X	2	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing North Central LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central LLC attention immediately If all requested accreditations are current to date return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing North Central, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I, II, III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	33122 1600			4/1/22 0935	
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact. ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
		0.5-1.5

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 310-228056-1
SDG Number: A3227004

Login Number: 228056
List Number: 1
Creator: Richardson, Lydia E

List Source: Eurofins 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.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Terracon Consulting Eng & Scientists

Job Number: 310-228056-1
SDG Number: A3227004

Login Number: 228056
List Number: 2
Creator: Scott, Sherri L

List Source: Eurofins Chicago
List Creation: 04/01/22 03:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	-1.5 samplles not frozen
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	