Supplemental Phase II Environmental Investigation Report

Spill No. 1409761
Oregon Road Site
Olean, New York

Revised March 2016 0323-015-001

Prepared For: Homer Street Properties, LLC

TurnKey Environmental Restoration, LLC

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SUPPLEMENTAL PHASE II ENVIRONMENTAL INVESTIGATION REPORT

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February 2016 0323-015-001
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Prepared for:

Homer Street Properties, LLC

Prepared by:

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SUPPLEMENTAL PHASE II ENVIRONMENTAL INVESTIGATION REPORT

Oregon Road Site

Oregon Road

Olean, New York

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1.0 BACKGROUND

TurnKey Environmental Restoration, LLC (TurnKey) performed a Supplemental Phase II Environmental Site Investigation at the Oregon Road Site (Tax ID No. 94.110-2-13.2) currently owned by Homer Street Properties, LLC (HSP), located on Oregon Road in Olean, Cattaraugus County, New York (Site, see Figure 1).

A Phase II Environmental Investigation completed by TurnKey in December 2015 identified petroleum impacts on-Site and NY spill file No. 1409761 was opened. The New York State Department of Environmental Conservation (NYSDEC) requested additional investigation of that spill in a letter dated September 9, 2015. The additional work was completed by TurnKey in accordance with the NYSDEC-approved Supplemental Investigation Work Plan, dated October 29, 2015, to further investigate petroleum impacts at the Oregon Road Site under Spill No. 1409761.

Additional information relative to the Site and investigation activities is provided below.

1.1 Site Description

The Site is comprised of an approximate 24.65-acre parcel (Tax ID No. 94.110-2-13.2) of land located in a historically heavy industrial area of the City of Olean. The Site is currently vacant land and does not contain any structures.

The Site is located within the limits of the approximate 125-acre Exxon/Mobil Legacy Site (EMLS). The EMLS operated as an oil refinery under several different names from approximately 1880 until the 1950s. The Site is located within the EMLS Works #3 area where oil storage and refining historically took place; based on historical aerial photographs, the area of the Site appears to have primarily been used as an oil storage area.

The Site is bound by an undeveloped parcel and Oregon Road to the north, three (3) residential parcels, Oregon Road and Homer Street to the east, Homer Street and two (2) parcels (one commercial and one undeveloped parcel) to the south, and undeveloped parcels to the west.

1.2 Environmental History

Based on a Phase I Environmental Site Assessment (ESA) of the Site completed by GZA GeoEnvironmental of New York (GZA) in May 2008, the Site was historically a portion of a larger petroleum refinery and petroleum bulk storage facility commonly known as the former Socony-Vacuum facility. The Phase I ESA identified the following recognized environmental conditions (RECs) for the Site:

- The Site was historically occupied by an oil tank farm, including four large tanks, portions of two tanks, and six berm areas within the Site limits, used for oil storage by Socony Vacuum and/or Felmont Oil. The Site was identified as part of the EMLS Works #3 area. The tank and berm areas were removed by the 1970s. Potential historic releases may have impacted the soil and/or groundwater at the Site.

TurnKey completed additional historic research and based on a historic topographic map from 1898 and aerial photographs from 1955 and 1960, the Site historically contained portions of up to seven (7) large aboveground storage tanks (ASTs). Similar tanks were noted on the adjacent properties. It should also be noted that Felmont Oil Corporation installed an oil well (API 31009050330000) on the north adjacent property in 1966, which was abandoned in 1973.

TurnKey completed a Phase II Environmental Investigation consisting of seven (7) test pits (TP-1 through TP-7) at the Oregon Road Site in December 2014 and documented the findings in a report dated February 2015. Olfactory evidence of impacts (petroleum-like odors) was observed in four test pits (TP-1, TP-2, TP-4 and TP-5) with photoionization detector (PID) readings up to 798 parts per million (ppm). Light Non-Aqueous Phase Liquid (LNAPL) was observed on groundwater entering into test pits TP-2 and TP-4. Laboratory analytical results revealed the presence of elevated volatile organic compound (VOC) concentrations above Part 375 Unrestricted Use SCOs (USCOs) at TP-1 (5-7' interval) in addition to elevated VOC tentatively identified compounds (TICs) in the same soil sample and at TP-5 (2-4' interval).

NYSDEC Spill No. 1409761 was assigned to the Site due to Site conditions observed by a NYSDEC representative, Mr. Chad Stanizewski, who was on-Site at the time of TurnKey's initial Phase II Environmental Investigation activities.

TurnKey submitted a Supplemental Investigation Work Plan to the NYSDEC on October 29, 2015, which detailed the planned supplemental activities. The work plan was subsequently approved by the NYSDEC.

1.3 Scope of Work

This investigation was completed on behalf of HSP to further assess environmental impacts reasonably attributed to the historic use of the Site as a petroleum bulk storage facility.

This investigation included:

- completion of test trenches;
- advancement of soil borings;
- collection of soil samples for geologic description and field screening using a PID;
- conversion of each soil boring into a temporary monitoring well with analysis of groundwater samples for VOCs and semi volatile organic compounds (SVOCs); and,
- soil vapor assessment with analysis of air samples for VOCs.

2.0 METHODS OF INVESTIGATION

2.1 Test Trench Investigation

A test trench investigation conducted between November 9 and 17, 2015 consisted of excavating thirteen (13) test trenches designated as TT-1 through TT-13 (see Figure 2). Historic investigation locations from TurnKey's test pit investigation are also shown on Figure 2. Test trench dimensions ranged between approximately 50 and 550 feet of length and depths between 6 and 15 feet below ground surface (fbgs). The primary purpose of the test trenches was to assess the subsurface soil/fill conditions, delineate petroleum impacts, including presence of LNAPL, and to explore potential locations of subsurface piping.

The physical characteristics of test trenches were classified using the ASTM D2488 Visual-Manual Procedure Description. TurnKey personnel screened soils from test trenches via headspace screening using a MiniRae 2000 PID equipped with a 10.6 eV lamp and noted visual and/or olfactory observations. The PID is capable of detecting the presence of contaminants that emit volatile organics such as petroleum products and solvents with ionization potentials less than 10.6 eV. Field observations, including lithology, depths, PID scan results, etc., at each test trench location are summarized in the test trench excavation log sheets provided in Appendix A. Cross sections of each test trench are also provided in Appendix A.

Note that Mr. Benjamin McPherson of the NYSDEC was on-Site during portions of this investigation.

2.2 Soil Boring Investigation

On November 23, 2015, TurnKey's subcontractor, Nature's Way Environmental (Nature's Way), mobilized a truck-mounted drill rig equipped with a 1.5-inch diameter, 48 inch long macro-core sampler, to the Site. Three (3) soil borings, each converted into a temporary monitoring well (MW-1 through MW-3), were advanced to 12 fbgs. Temporary wells were completed to a depth of 12 fbgs, which was sufficient to allow collection of groundwater samples as groundwater was encountered between 5 and 8 fbgs during the investigation. Investigation locations are shown on Figure 2.

Similar to the test trench investigation, soil descriptions were completed in the field via visual characterization using the Visual-Manual Procedure Description. Soils from each borehole were screened via headspace screening using a PID. Visual and/or olfactory

observations, if any, were noted. All field observations at each investigation location are summarized in the Borehole/Well Logs provided in Appendix B.

2.3 Groundwater Investigation

Three (3) temporary monitoring wells (MWs), designated as MW-1 through MW-3, were installed at the Site on November 23, 2015 (see Figure 2). After completion of the associated soil boring, each temporary well was installed using one-inch diameter Schedule 40 PVC well screen and riser. The temporary wells were allowed to stabilize prior to water sample collection on November 24, 2015. Due to the limited volume of water at each well point, groundwater grab samples were collected from each temporary well utilizing dedicated 0.5" polyethylene bailers. All temporary wells were manually decommissioned (pulled) following groundwater sampling activities. The resulting open annulus was backfilled with Site soils and/or bentonite and supplemented at the surface with asphalt or concrete patch to match the existing grade.

Water samples were placed in pre-cleaned laboratory provided sample bottles, cooled to 4 °C in the field, and transported under chain-of-custody to Alpha Analytical (Alpha), a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified analytical laboratory, for analysis of CP-51 and Target Compound List (TCL) VOCs and TCL SVOCs via United States Environmental Protection Agency (USEPA) Method 8260C and 8270D, respectively.

2.4 Soil Vapor Assessment

As shown on Figure 2, TurnKey installed three (3) subgrade vapor sampling points (SV-01, SV-02 and SV-03) on-Site proximate to off-site residential properties fronting on Oregon Road. The subgrade points were installed on November 23, 2015 using a drill rig to a depth of approximately four (4) to five (5) fbgs; soil lithology was noted to be generally consistent with nearby investigation locations with no visual or olfactory concerns noted at the vapor sampling points. Note that a fourth soil vapor sampling point was proposed, but not completed, as the planned investigation location was a wet area that was inaccessible to the drill rig.

Tracer gas (helium) methodology was used to verify the integrity of the soil vapor probe seal and all three (3) points tested tight at the time of the field work. A laboratory prepared Summa canister equipped with a one (1) hour regulator was used to collect the soil

vapor sample at each point. Note that sample SV-01 became "vapor locked," meaning moisture hindered air from being able to be drawn into the canister. Therefore, sample SV-01 became invalid and was not analyzed. The samples were transported to Alpha for analysis of TCL VOCs via USEPA Method TO-15.

Following sampling activities, the tubing and screen at each soil vapor point were removed and the voids filled with bentonite.

3.0 INVESTIGATION FINDINGS

The following section describes the investigation findings. As previously detailed, investigation activities consisted of test trenches, a soil boring investigation with installation of temporary monitoring wells and a soil vapor assessment.

3.1 Abandoned Piping

As shown on Figure 2, abandoned piping, apparently associated with historic petroleum bulk storage operations, was encountered during the test trench investigation. Abandoned piping was encountered at certain portions of test trenches TT-1 through TT-6, TT-8 and TT-9. Based on TurnKey's experience with similar nearby projects, petroleum may remain within the piping.

3.2 Qualitative Soil Screening

Table 1 presents a qualitative soil screening summary from the test trench and soil boring investigations as well as the historic test pit investigation. Appendix C contains the photographic documentation of the test pit activities.

During the test trenches, olfactory evidence of impact (petroleum-like odors) were observed in nine (9) of the thirteen (13) test trenches, TT-1, TT-3 through TT-9, and TT-12. Olfactory impacts were evident at depths ranging from three (3) fbgs to seven (7) fbgs. Furthermore, during test trench excavation, petroleum product, a LNAPL, was observed at test trenches TT-3 through TT-5, and TT-11 through TT-12 at lateral extents ranging between 30 and 320 feet and depths ranging between three (3) and seven (7) fbgs.

Olfactory and visual concerns were also identified during the boring investigation with petroleum-like odors noted at all three borings at depths ranging between three (3) and six (6) fbgs and LNAPL observed at MW-2 between approximately three (3) and six (6) fbgs.

Soil samples were screened for VOCs using a MiniRae 2000 PID during completion of the test trench and boring investigations. As shown on Table 1, PID measurements were as high as 187 ppm during the test trench investigation. PID readings as high as 798 ppm were identified during the previous investigation. General weather conditions are also provided on Table 1.

3.3 Groundwater Analytical Results

As indicated on Table 2, no VOCs were detected at concentrations above the Class GA Groundwater Quality Standards (GWQS), per NYSDEC Technical and Operational Guidance Series (T.O.G.S 1.1.1), with the vast majority being reported as non-detect or estimated values by the laboratory.

SVOCs were either non-detect or at concentrations significantly below GWQS in groundwater samples collected from MW-1 and MW-2. Six individual SVOCs, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene and ideno(1,2,3-cd)pyrene, were identified at concentrations exceeding GWQS at MW-3.

The laboratory analytical package is provided in Appendix D.

3.4 Soil Vapor Analytical Results

While analytical results would typically be compared to the NYSDOH Soil Vapor/Indoor Air Matrices, such would not apply in this case as the decision matrices are correlated with comparison of indoor and sub-building slab samples/results. As directed by the NYSDOH during similar investigations, TurnKey compared the analytical results to the 90th percentile VOC values provided in the NYSDOH Summary of Indoor and Outdoor Levels of VOC from Fuel Oil Heated Homes in New York State, 1997-2003.

As summarized on Table 3, four (4) individual VOCs were detected at concentrations above NYSDOH 90th Percentile Values for indoor air at SV-02. Acetone exceeded the NYSDOH 90th Percentile Value at SV-02; however, acetone is a common laboratory contaminant and therefore, is likely not indicative of site conditions. No VOCs exceeded NYSDOH 90th Percentile values at SV-03. However, of note is the isopropanol concentration of 5,920 parts per billion (ppb) identified at SV-03. Isopropanol is commonly used in laboratory settings, thus TurnKey suspects that such may be a laboratory artifact and not indicative of site conditions.

3.5 Site Geology/Hydrogeology

The overburden geology over a majority of the site is generally described as fill material in the upper approximate 4 fbgs overlying lean clays with various amounts of sand and/or gravel to depths of at least 15 fbgs. Layers of well graded sand were also noted during the investigation, primarily at deeper intervals (i.e., 12 to 15 fbgs).

Groundwater was encountered at all test trench locations at depths ranging between approximately 4 and 14.5 fbgs and at all boring locations ranging between 5 and 8 fbgs. As previously detailed, LNAPL was observed on the groundwater in several locations during the test trench and soil boring investigations.

Based on topography of the Site and surrounding land and groundwater elevations measured at several adjacent or nearby sites, groundwater flow direction is estimated in a southeasterly direction toward Two Mile Creek.

4.0 CONCLUSIONS

Based on the results of this investigation, TurnKey offers the following conclusions and recommendations:

- Field evidence of suspected petroleum impacts (LNAPL and petroleum-like odors), reasonably attributable to the historical use of the Site as a petroleum bulk storage facility, were identified during the test trench and soil boring investigations. Elevated PID readings up to 425 ppm were noted on-Site. TurnKey had similar observations during the historic test pit investigation.

- Based elevated PID readings, observed LNAPL and petroleum odors at sample locations proximate the property boundary with the adjacent residences to the east, it is possible that petroleum impacts are present on the adjacent residences; however, the residences are located at higher elevations and topographically up-gradient from the subject Site.

- Abandoned piping, believed to be associated with historic petroleum bulk storage operations, was encountered in certain portions of test trenches TT-1 through TT-6, TT-8 and TT-9.

- Analytical results revealed the presence of elevated concentrations of SVOCs in groundwater at MW-3.

- Regarding the soil vapor assessment, four (4) individual VOCs were detected at concentrations above NYSDOH 90th Percentile Values for indoor air at SV-02. However, the soil vapor assessment was not completed as planned due to site conditions. Based on comments received from NYSDEC and NYSDOH, the soil vapor assessment is not considered complete and NYSDEC and NYSDOH have recommended additional soil vapor assessment on the residential properties due to elevated PID readings, observed LNAPL and petroleum odors at sample locations proximate the property boundary with the adjacent residences to the east. HSP discussed the requested additional soil vapor assessment with NYSDEC on March 23rd and 24th, 2016 and agreed to submit an off-site soil

vapor sampling plan to collect additional soil gas samples from the residential properties after access is obtained.

- Based on the evidence of petroleum odors, elevated PID measurements, the presence of LNAPL, as well as analytical results of this investigation, significant petroleum-impacts are evident, with grossly contaminated soils present in some areas. Further work appears warranted either under Spills or the New York Brownfield Cleanup Program (NY BCP).

5.0 LIMITATIONS

This report has been prepared for the exclusive use of Homer Street Properties, LLC. The contents of this report are limited to information available at the time of the site investigation activities and to data referenced herein, and assume all referenced information sources to be true and accurate. The findings herein may be relied upon only at the discretion of Homer Street Properties, LLC. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of TurnKey Environmental Restoration, LLC.

TABLES

TABLE 1

QUALITATIVE SOIL SCREENING SUMMARY

OREGON ROAD SITE
OLEAN, NEW YORK

TEST TRENCH SAMPLE LOCATION	Test trench length (feet)	Date taken	General weather conditions (temperature(F), Precipitation)	Highest PID Reading (ppm)	Highest PID Sample Interval (fbgs)	NOTES
TT-1	320	11/9/2015	40, Light Rain	No PID Measurements*	NA	Petroleum-like odors noted in 90' lateral extent (15' to 105') between approx. 3 and 6 fbgs.
TT-2	390	11/10/2015	45, Rain	No PID Measurements**	NA	Organic fill layer 2-3 fbgs.
TT-3	430	11/10/2015	45, Rain	No PID Measurements*	NA	LNAPL and petroleum-like odors noted in 320' lateral extent (110' to 430') between approx. 3 and 6 fbgs. Organic fill layer 2-3 fbgs.
TT-4	270	11/11/2015	43, Drizzle	No PID Measurements*	NA	LNAPL and petroleum-like odors noted in 180' lateral extent (90' to 270') between approx. 3 and 6 fbgs. LNAPL infiltrating from sidewall, sheen on water.
TT-5	420	11/11/2015	43, Drizzle	No PID Measurements*	NA	LNAPL and petroleum-like odors noted in 150' lateral extent (270' to 420') between approx. 3 and 6 fbgs.
TT-6	410	11/12/2015	43, Overcast	113	3 to 6	Petroleum-like odors noted in 210' lateral extent (200' to 410') between approx. 3 and 6 fbgs. 6" pipe parallel to creek at 405' in lateral extent.
TT-7	500	11/12/2015	43, Overcast	67	3 to 6	Petroleum-like odors noted in 130' lateral extent (230' to 360') between approx. 3 and 6 fbgs. Large broken concrete foundations at 450' lateral extent.
TT-8	500	11/12/2015	43, Overcast	67	3 to 6	Petroleum-like odors noted in 130' lateral extent (230' to 360') between approx. 3 and 6 fbgs., potential staining on cobbles at From 360' to 500'.
TT-9	550	11/11/2015	43, Drizzle	187	3 to 6	Petroleum-like odors noted in 385' lateral extent (30' to 415') between approx. 3 and 6 fbgs., Sheen on water also noted
TT-10	90	11/9/2015	40, Light Rain	No PID Measurements*	NA	
TT-11	50	11/17/2015	51, On/Off Spotty Showers	0	NA	Sheen noted on perched water
TT-12	50	11/17/2015	51, On/Off Spotty Showers	57	4 to 7	Sheen on water and petroleum-like odors noted in 30' lateral extent (0' to 30') between approx. 4 and 7 fbgs.
TT-13	250	11/12/2015	43, Overcast	0	NA	

MONITORING WELL SAMPLE LOCATION	Highest PID Reading (ppm)	Date Taken	General weather conditions (temperature(F),Precipitation)	Highest PID Sample Interval (fbgs)	NOTES
MW-1	425	11/23/2015	30, Light Snow	4 to 6	Petroleum-like odor noted between approx. 3 to 6 fbgs.
MW-2	321	11/23/2015	30, Light Snow	4 to 6	LNAPL and petroleum-like odors noted in-between approx. 3 and 6 fbgs.
MW-3	46	11/23/2015	30, Light Snow	4 to 6	Petroleum-like odor noted between approx. 3 to 6 fbgs.

HISTORIC TEST PIT SAMPLE LOCATION	Highest PID Reading (ppm)	Date Taken	General weather conditions (temperature(F),Precipitation)	Highest PID Sample Interval (fbgs)	Notes
TP-1	798	12/23/2014	30, Overcast with Rain	5 to 7	Petroleum-like odors noted between approx. 3 to 10 fbgs.
TP-2	No PID Measurements*	12/23/2014	30, Overcast with Rain	NA	LNAPL at approximately 2 fbgs and petroleum-like odors noted between approx. .5 and 8 fbgs.
TP-3	0	12/23/2014	30, Overcast with Rain	NA	
TP-4	276	12/23/2014	30, Overcast with Rain	3 to 5	LNAPL on water table at approximately 3 fbgs and petroleum-like odors noted between approx. .5 and 8 fbgs.
TP-5	467	12/23/2014	30, Overcast with Rain	2 to 4	Petroleum-like odors noted between approx. 2 to 5 fbgs.
TP-6	0	12/23/2014	30, Overcast with Rain	NA	
TP-7	0	12/23/2014	30, Overcast with Rain	NA	

Notes:
fbgs= feet below ground surface
LNAPL= Light Non-Aqueous Phase Liquid
All temperatures are in degrees Fahrenheit
NA = Not applicable
* No PID Measurements were collected due to rain; did not want to damage the PID meter.
** No PID Measurements were collected from TP-2 due to large amount of oil in the soil and water; did not want to damage the PID meter.

TABLE 2

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

OREGON ROAD SITE
OLEAN, NEW YORK

Parameter [1]	Class GA Groundwater Standards[2]	Sample Location		
		MW-1	MW-2	MW-3
Volatile Organic Compounds (VOCs) - ug/L				
Acetone	**50**	7	13	2.4 J
Cyclohexane	**--**	ND	1 J	ND
Methyl cyclohexane	**--**	ND	68	ND
Semi-Volatile Organic Compounds (SVOCs) - ug/L				
Fluoranthene	**50**	ND	ND	0.24
Benzo(a)anthracene	**0.002**	ND	ND	**0.43**
Benzo(a)pyrene	**ND**	ND	ND	**0.26**
Benzo(b)fluoranthene	**0.002**	ND	ND	**0.39**
Benzo(k)fluoranthene	**0.002**	ND	ND	**0.16 J**
Chrysene	**0.002**	ND	ND	**0.45**
Anthracene	**50**	ND	1.2	0.05 J
Benzo(ghi)perylene	**--**	ND	ND	0.12 J
Phenanthrene	**50**	ND	3.7	0.12 J
Dibenzo(a,h)anthracene	**--**	ND	ND	0.09 J
Ideno(1,2,3-cd)pyrene	**0.002**	ND	ND	**0.15 J**
Pyrene	**50**	ND	ND	0.2
2-Methylnaphthene	**--**	ND	3.5	ND

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table.

2. Values per NYSDEC TOGS 1.1.1 Class GA Groundwater Quality Standards.

Definitions:

ND = Parameter not detected above laboratory detection limit.

"--" = No SCO available, or parameter not tested for

J = Estimated value; result is less than the sample quantization limit but greater than zero.

Exceeds GWQS

TABLE 3

SUMMARY OF SOIL VAPOR ANALYTICAL RESULTS

OREGON ROAD SITE
OLEAN, NEW YORK

Parameter [1]	NYSDOH 90th Percentile Values (indoor air)[2]	Sample Location [3]	
		SV-02	SV-03
Volatile Organics Compounds (VOCs) - ug/m [3]			
1,2,4-Trimethylbenzene	9.5	3.82	ND
1,3-Butadiene	4.6	0.63	ND
2-Butanone	16	**66.9**	ND
4-Methyl-2-pentanone	2.2	**10.8**	ND
Acetone	110	**153**	83.6
Benzene	15	1.73	ND
Carbon disulfide	--	27.4	ND
Carbon tetrachloride	0.81	ND	ND
Chloroform	1.4	**2.3**	ND
Dichlorodifluoromethane	15	1.48	ND
Ethanol	1400	14.9	ND
Ethylbenzene	7.4	1.29	ND
Freon-113	1.8	ND	ND
Isopropanol	--	5.21	5920
Heptane	19	2.82	ND
n-Hexane	18	2.44	ND
2-Hexanone	--	42.6	ND
Tetrachloroethene	2.9	2.64	ND
Tetiary butyl alcohol	--	4.82	ND
Toluene	58	4.52	ND
Trichlorofluoromethane	17	1.17	ND
o-Xylene	7.6	2.07	ND
p/m-Xylene	12	5.95	ND

Notes:

1. Only those parameters detected above the method detection limit, are presented in this table.
2. Constituent monitored under NYSDOH Vapor Quality Standards - October 2006/June 2007.
3. SV-01 air samples not available due to vapor lock.

Definitions:

ND = Parameter not detected above laboratory detection limit.

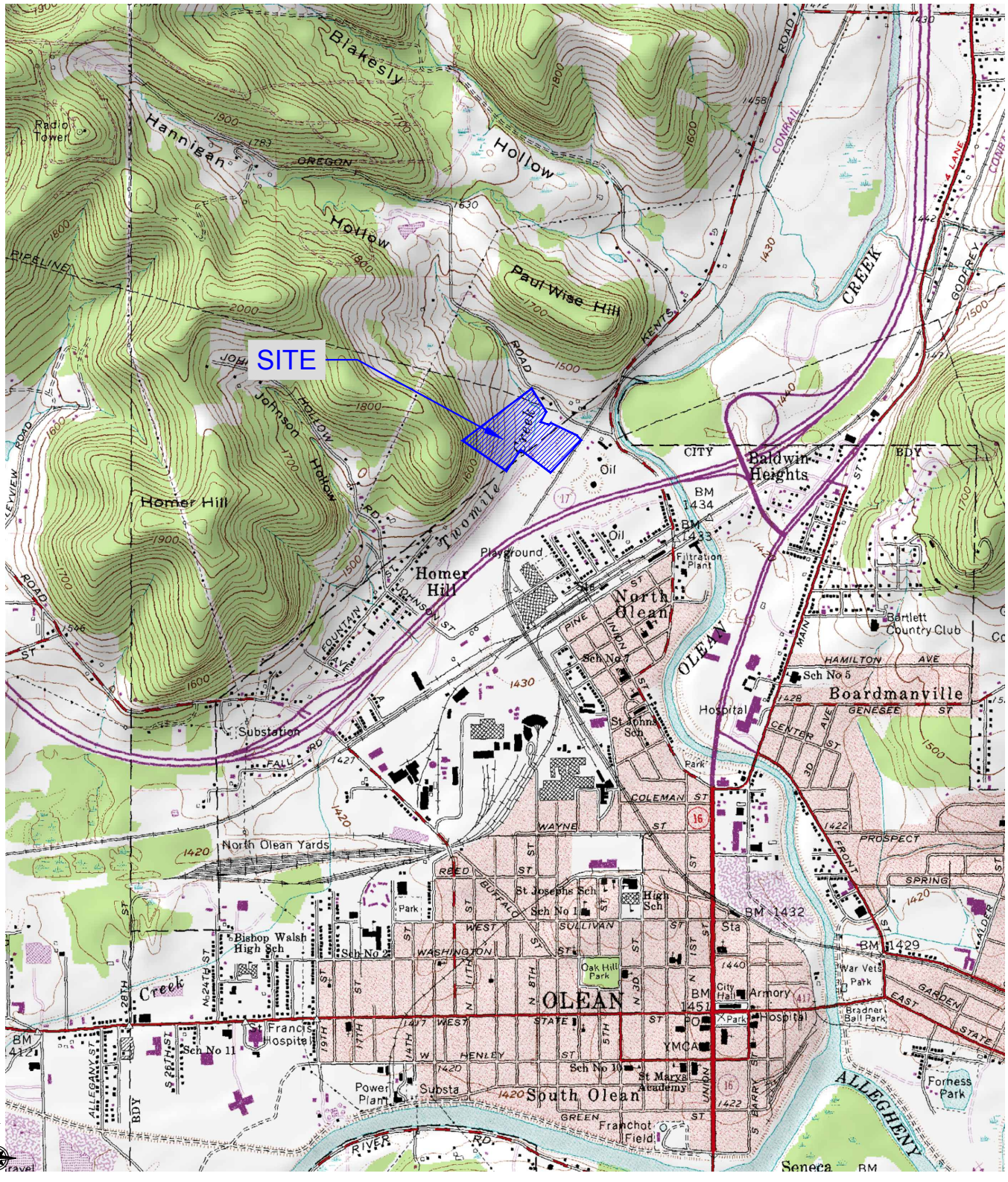
"--" = No value available for the parameter. Or parameter not analyzed for.

Exceeds NYSDOH 90th percentile

FIGURES

F:\CAD\TurnKey\Homer Street Properties\Oregon Road\Supplemental Site Investigation\Figure 1; Site Location and Vicinity Map.dwg

FIGURE 1



TURNKEY ENVIRONMENTAL RESTORATION, LLC

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(716) 856-0635

SITE LOCATION & VICINITY MAP

SUPPLEMENTAL INVESTIGATION REPORT

OREGON ROAD SITE

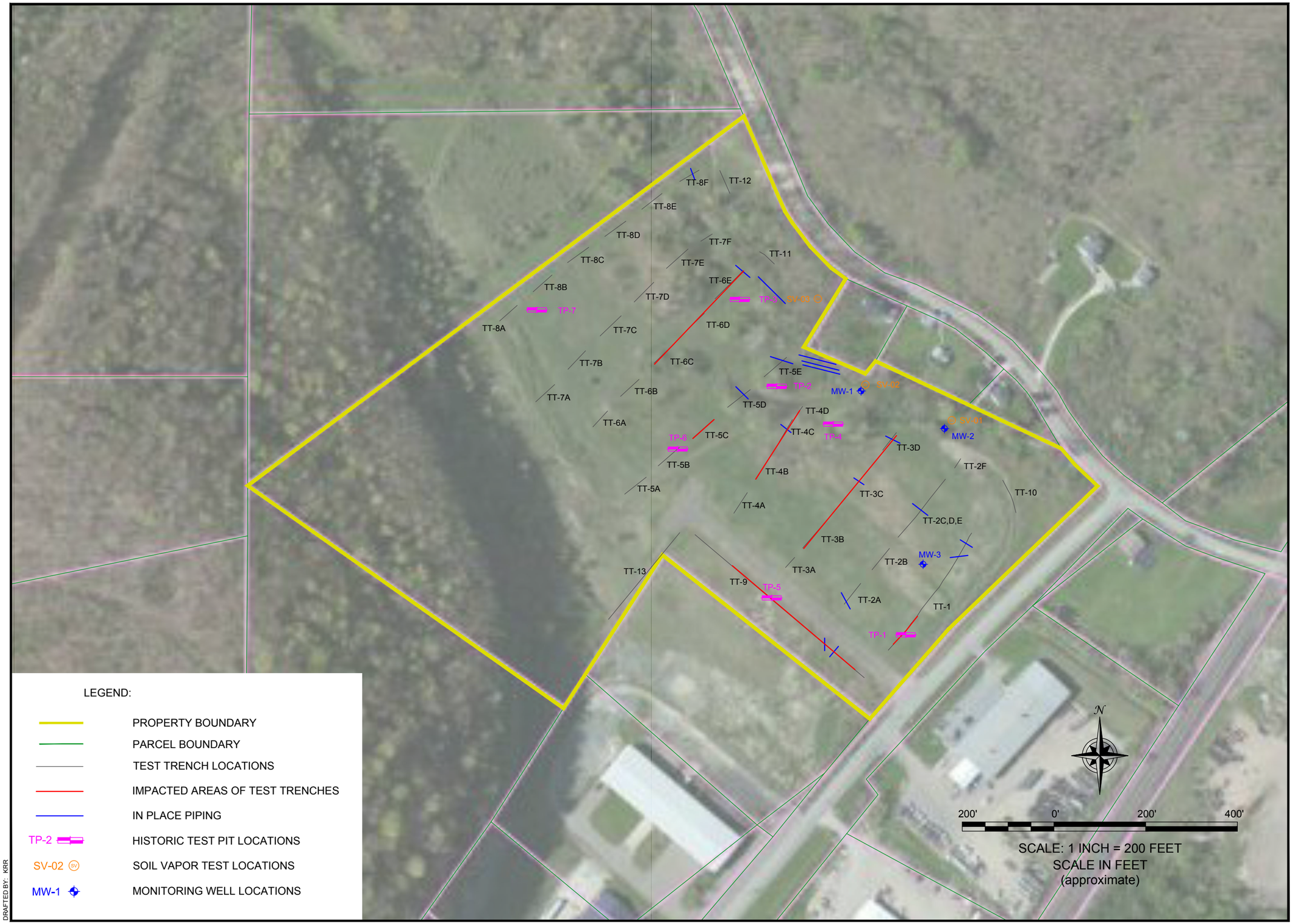
OLEAN, NEW YORK

PREPARED FOR

HOMER STREET PROPERTIES, LLC

PROJECT NO.:	0323-015-002
DATE:	JANUARY 2016
DRAFTED BY:	RFL / KRR

F:\CAD\TurnKey\Homer Street Properties\Oregon Road\Supplemental Site Investigation\Figure 2: Investigation Locations.dwg



LEGEND:

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- TEST TRENCH LOCATIONS
- IMPACTED AREAS OF TEST TRENCHES
- IN PLACE PIPING
- TP-2 HISTORIC TEST PIT LOCATIONS
- SV-02 SOIL VAPOR TEST LOCATIONS
- MW-1 MONITORING WELL LOCATIONS

DATE: JANUARY 2016
DRAFTED BY: KRR

INVESTIGATION LOCATIONS

SUPPLEMENTAL INVESTIGATION REPORT

OREGON ROAD SITE

OLEAN, NEW YORK

PREPARED FOR

HOMER STREET PROPERTIES, LLC

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TURNKEY ENVIRONMENTAL RESTORATION, LLC

JOB NO.: 0323-015-002

FIGURE 2

APPENDIX A

TEST TRENCH EXCAVATION LOGS AND CROSS SECTIONS

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	9	15
	NO.			
	SHEET	1 OF 2		

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-1
Project No.:	0323-015-002	Excavation Date:	11-9-15
Client:	Homer Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged / Checked By:	PWW
Start Time:	End Time:	Logged / Checked By:	

GEOLOGIC PROFILE

East 15 105' 130' 320' West

Length (feet):	320
Width (feet):	3
Depth (feet):	15

6" steel pipe — 6" steel pipe

1 — Topsoil

Brown Gravelly Lean Clay

3'

Grey Gravelly Lean Clay
petroleum like odors

6'

Brown Gravelly Lean Clay

Brown Gravelly Lean Clay

10

Grey Gravelly Lean Clay

11

Brown Sandy Gravel

Brown Sandy Gravel

15

Bottom of Test trench

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	9	15
	NO.			
	SHEET	2 OF 2		

TEST TRENCH EXCAVATION LOG

Project: Supplemental Phase II Investigation Test Trench I.D: TT-1

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description 0'	130'	320'	PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Organic topsoil	0-1	Topsoil	NA		—
1-3	Brown, moist, mostly medium plasticity fines, some cobbles + coarse to fine gravel, very stiff Brown Gravelly lean Clay	1-6	Brown Gravelly Lean Clay Brown, moist, mostly medium plasticity fines, some cobbles + Coarse to fine gravels, stiff, massive	NA		—
3-6	Same as above but grey petroleum like odor	6-15	Brown Sandy Gravel Brown moist to wet (14.5'), mostly cobbles + coarse to fine gravel w/some coarse sand	NA		—
6-10	Same as 1-3 ft interval			NA		—
10-11	Same as 3-6' but no odors			NA		—
11-15	Brown Sandy Gravel Brown, moist to wet (@ 14.5'), mostly cobbles + coarse to fine gravel w/some coarse sand, loose when disturbed			NA		—

COMMENTS: No PID, due to rain

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 14.5'

VISUAL IMPACTS: [ ] YES [X] NO Describe:

OLFACTORY OBSERVATIONS: [X] YES [ ] NO Describe: petroleum like odors 15' to 105'

NON-NATIVE FILL ENCOUNTERED: [ ] YES [ ] NO Describe:

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

Sample I.D.: NA

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	10	15
	NO.			
	SHEET	1	OF 2	

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-2
Project No.:	0323-015-002	Excavation Date:	11-10-15
Client:	Homer Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged / Checked By:	PWW
Start Time:	End Time:	Logged / Checked By:	

GEOLOGIC PROFILE

East 0 — 2A — 50' — 2B — 140 — 180 — 2C — 230 — 2D — 270 — 2E — 320 — 360 — 2F — 390' West

Length (feet):	390'
Width (feet):	2'
Depth (feet):	12

1 Topsoil

2 Gravelly Lean Clay

3 Organic Fill

Gravelly Lean Clay

Inferred

Inferred

Inferred

10

11 ▽

Sandy Gravel

12

Bottom of Test Trench

TurnKey Environmental Restoration, LLC

DAILY LOG	DATE	11	10	15
	NO.			
	SHEET	2	OF	2

TEST TRENCH EXCAVATION LOG

Project: Oregon Rd Supplemental Phase II Test Trench I.D: TT-2

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description	PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil	—		—
1-2	Gravelly Lean Clay - Brown, moist, mostly medium plasticity fines, some cobbles + coarse to fine gravels	—		—
2-3	Organic Fill - Black, moist, mostly organic fill (wood + roots)	—		—
3-10	Gravelly Lean Clay - same as 1-2' interval	—		—
10-12	Sandy Gravel - Grey, moist to wet (11') mostly coarse to fine gravel, cobbles, some coarse sand, dense, massive	—		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 11

VISUAL IMPACTS: [ ] YES [X] NO Describe:

OLFACTORY OBSERVATIONS: [ ] YES [X] NO Describe:

NON-NATIVE FILL ENCOUNTERED: [X] YES [ ] NO Describe: Organic fill layer 2-3'

OTHER OBSERVATIONS: [ ] YES [ ] NO Describe:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: 11

Sample I.D.: 11

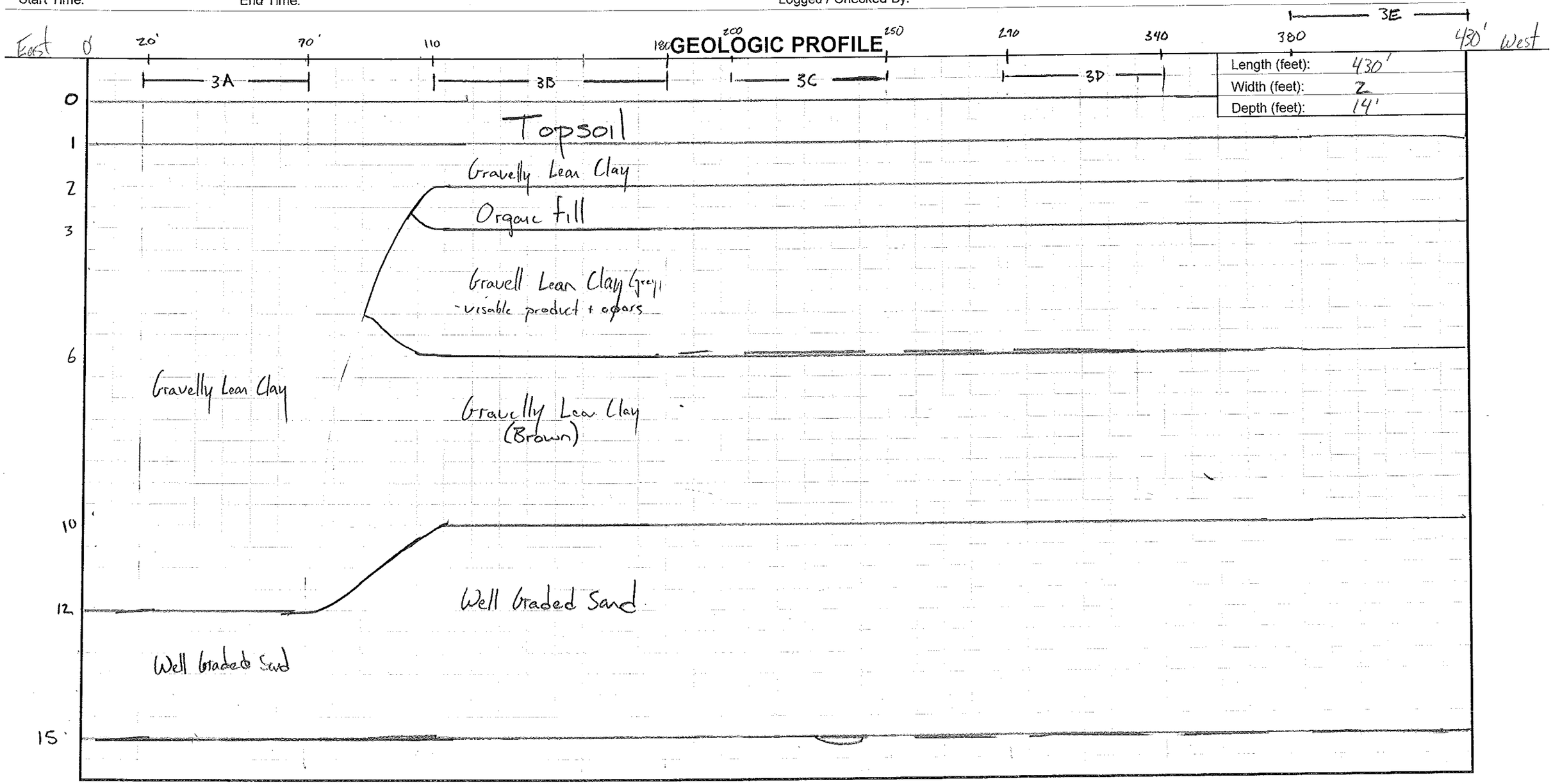
TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	10	15
	NO.			
	SHEET	1	OF 2	

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-3
Project No.:	0323-015-002	Excavation Date:	11-10-15
Client:	Homer Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged / Checked By:	PWW
Start Time:	End Time:	Logged / Checked By:	

GEOLOGIC PROFILE



Length (feet):	430'
Width (feet):	2
Depth (feet):	14'

Test trench is infered between A, B, C, D and E

TurnKey Environmental Restoration, LLC

DAILY LOG | DATE 11 10 15 | NO. | SHEET 2 OF 2

TEST TRENCH EXCAVATION LOG

Project: Oregon Rd Supplemental Phase II Investigation Test Trench I.D: TT-3

GEOLOGIC DESCRIPTION

Depth (fbgs)		Depth	USCS Symbol & Soil Description	PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil	0-1	Topsoil			—
1-12	Gravelly Lean Clay - Brown Moist, mostly lean clay, some cobbles, coarse to fine gravel, stiff, massive	1-2	Gravelly Lean Clay Brown, moist, mostly medium plasticity fines, some coarse to fine gravel, cobbles stiff			—
12-15	Well Graded Sands - moist to wet (14') Brown, mostly fine to coarse sand loose when disturbed, massive	2-3	Organic Fill →			—
		3-6	Gravelly Lean Clay Grey, moist, mostly medium plasticity fines, some coarse to fine gravel, cobbles stiff, massive, petroleum like odors and visable product			—
		6-10	same as 1-2' interval			—
		10-15	Well Graded SAND - moist to wet (10-11') Brown, moist, mostly coarse to fine sand, loose when disturbed massive			—

COMMENTS:

GROUNDWATER ENCOUNTERED:	☒ YES ☐ NO	If yes, depth to GW:	ranged from 10-14'
VISUAL IMPACTS:	☒ YES ☐ NO	Describe:	floating oil and seeping oil out of sidewall
OLFACTORY OBSERVATIONS:	☒ YES ☐ NO	Describe:	petroleum-like odors
NON-NATIVE FILL ENCOUNTERED:	☒ YES ☐ NO	Describe:	2-3' interval → organic fill
OTHER OBSERVATIONS:	☐ YES ☒ NO	Describe:	
SAMPLES COLLECTED:	Sample I.D.: NA		
	Sample I.D.:		
	Sample I.D.:		

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	11	15
	NO.			
	SHEET	1	OF	2

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-4
Project No.:	0323-015-002	Excavation Date:	11-11-15
Client:	Homes Street Properties	Excavation Method:	Excavator
Location:	Oregon Rd	Logged / Checked By:	PWW
Start Time:	End Time:	Logged / Checked By:	

East 0 50 90 140 180 4C 230 250 270 West

GEOLOGIC PROFILE

Length (feet):	270' - 40
Width (feet):	2'
Depth (feet):	11'

4A — 4B

0 — Topsoil

1 — Gravelly Lean Clay (Brown)

3 — Gravelly Lean Clay (Grey) (No odors or Impacts) | Gravelly Lean Clay (Grey) (Petroleum odors + impacts)

6 — Gravelly Lean Clay (Brown)

11 — Well Graded Sand

15

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	11	15
	NO.			
	SHEET	2 OF 2		

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-4

90 270

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description	PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil	—		—
1-3	Brown Gravelly Lean Clay Brown, moist, mostly medium plasticity fines, some cobbles and coarse to fine gravels, stiff, massive	—		—
3-6	Grey Gravelly Lean Clay As above but grey in color | Same as 0-90'(EGW)but with petroleum-like odors and visable product	—		—
6-11	Brown Gravelly Lean Clay Same as 1-3 fbgs interval	—		—
11-15	Well graded Sand Brown, wet, mostly fine to coarse sand, trace non-plastic fines loose when disturbed, massive	—		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 11

VISUAL IMPACTS: [X] YES [ ] NO Describe: oil oozing out of side-walls, sheen 90' along TT

OLFACTORY OBSERVATIONS: [X] YES [ ] NO Describe: sheen on water 90' along TT

NON-NATIVE FILL ENCOUNTERED: [ ] YES [X] NO Describe:

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

Sample I.D.: NA

TurnKey Environmental Restoration, LLC

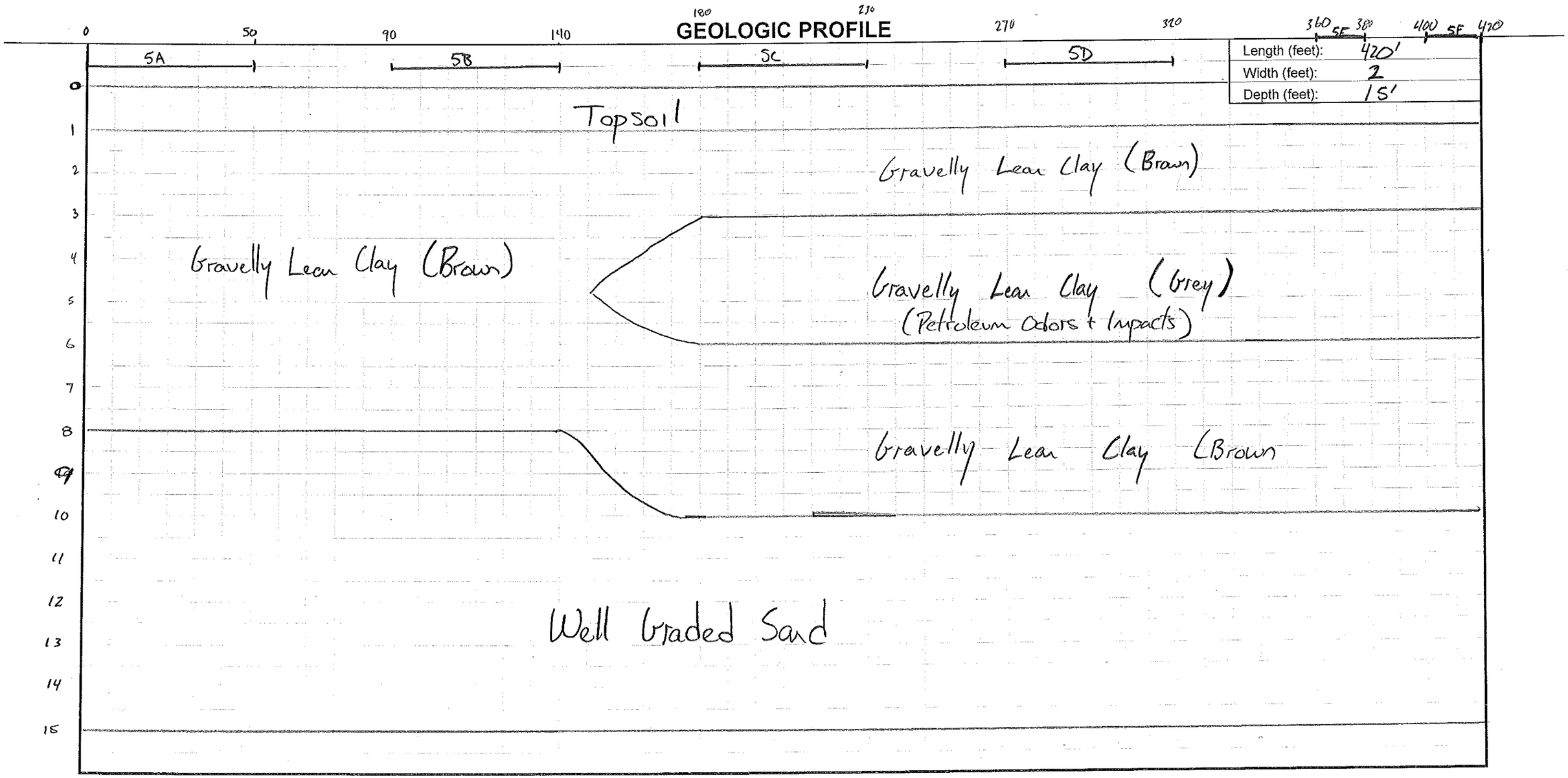
DAILY LOG				
	DATE	11	11	15
	NO.			
	SHEET	1	OF	2

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-5
Project No.:	0323-015-002	Excavation Date:	11-11-15
Client:	Homer Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged / Checked By:	PWW
Start Time:	End Time:	Logged / Checked By:	

GEOLOGIC PROFILE

Length (feet):	420'
Width (feet):	2
Depth (feet):	15'



TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	11	15
	NO.			
	SHEET	2 OF 2		

TEST TRENCH EXCAVATION LOG

Project: Oregon Rd Supplemental Phase II Investigation Test Trench I.D: TT-5

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description		PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
	140'	270'			
0-1	Topsoil		—		—
1-3	Brown Gravelly Lean Clay Brown, moist, mostly medium plasticity fines some cobbles, coarse to fine gravel, stiff massive		—		—
3-6	As Above	As Above but Grey in color petroleum like odors and product from 5D to 5F (270-420')	—		—
6-8	As Above, No odors, or impacts		—		—
8-10	Well Graded Sand Brown, wet, mostly fine to coarse sand, trace non-plastic fines, loose when disturbed, massive	As Above	—		—
10-15	As Above		—		—

COMMENTS:

GROUNDWATER ENCOUNTERED:	☒ YES ☐ NO	If yes, depth to GW:	8 to 10'
VISUAL IMPACTS:	☒ YES ☐ NO	Describe:	
OLFACTORY OBSERVATIONS:	☐ YES ☐ NO	Describe:	
NON-NATIVE FILL ENCOUNTERED:	☐ YES ☐ NO	Describe:	
OTHER OBSERVATIONS:	☒ YES ☐ NO	Describe:	at 305' → 6" pipe @ 5F → 3 pipes (1→½", 1→4", 1→8")
SAMPLES COLLECTED:	Sample I.D.:	NA	
	Sample I.D.:	NA	
	Sample I.D.:	NA	

TurnKey Environmental Restoration, LLC

DAILY LOG			
DATE	11	12	15
NO.			
SHEET	1	OF	2

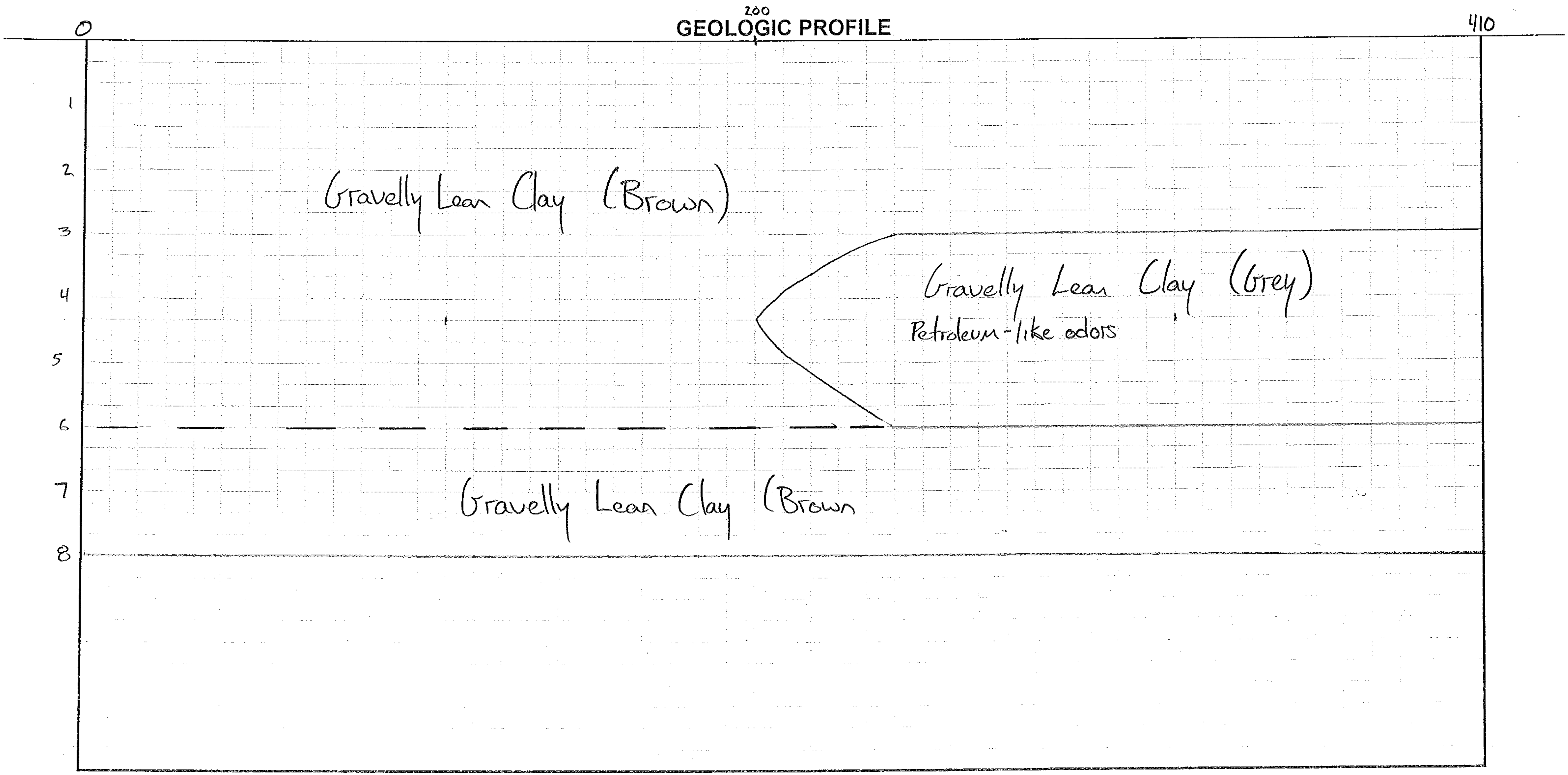
TEST TRENCH EXCAVATION LOG

Project: Supplemental Phase II Investigation
Project No.: 0323-015-002
Client: Homes Street Properties
Location: Oregon Road
Start Time: End Time:

Test Trench I.D: TT-6
Excavation Date: 11-12-15
Excavation Method: Excavator
Logged By: PWW
Checked By:

Length (feet):	410
Width (feet):	2
Depth (feet):	8'

GEOLOGIC PROFILE



TurnKey Environmental Restoration, LLC

DAILY LOG | DATE 11 12 15 | NO. | SHEET 2 OF 2

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-6

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description		PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-3	Gravelly Lean Clay (Brown) Brown, moist, mostly medium plasticity fines, some cobbles, fine to coarse gravel stiff massive		0		—
3-6	As Above	As Above, Grey, Petroleum-like odors	0-200 0.0 PID 200-410 112.5		—
6-8	As Above, brown, no odors, wet @ 6'		0		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 6

VISUAL IMPACTS: [ ] YES [ ] NO Describe: oil on water

OLFACTORY OBSERVATIONS: [X] YES [ ] NO Describe: from 200 to 410 petroleum-like odors

NON-NATIVE FILL ENCOUNTERED: [ ] YES [ ] NO Describe:

OTHER OBSERVATIONS: [X] YES [ ] NO Describe: 405' → 6" pipe parallel to creek

NOTES:

SAMPLES COLLECTED: Sample I.D.:

Sample I.D.:

TurnKey Environmental Restoration LLC

DAILY LOG | DATE 11 | 12 | 15 | NO. | SHEET 1 OF 2

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-7
Project No.:	0323-015-002	Excavation Date:	11-12-15
Client:	Homes Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged By:	PWW
Start Time:	End Time:	Checked By:	

Length (feet):	500
Width (feet):	2
Depth (feet):	12

GEOLOGIC PROFILE

0 50 90 140 180 230 270 320 360 410 450 500

7A 7B 7C 7D 7E 7F

0 1 2 3 4 5 6 7 8 9 10 11 12

Gravelly Lean Clay (Brown)
(Virgin + Very Hard → stopped @ 5')

Gravelly Lean Clay (Brown)

Gravelly Lean Clay (Gray)
Petroleum-like odors

Gravelly Lean Clay (Olive)
No odors
* potential oil staining on cobbles

Gravelly Lean Clay (Brown)

TurnKey Environmental Restoration, LLC

DAILY LOG | DATE 11 12 15 | NO. | SHEET 2 OF 2

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-7

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description		PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
	230'	360			
0-3	Gravelly Lean Clay (Brown) Brown, moist, mostly medium plasticity fines, some cobbles fine to coarse gravel, hard, massive (virgin stopped @ 5'	Same as 0-230' interval but not native	0		—
3-6	As Above	As above, grey, petroleum like odors	As Above, grey, no odors but potential oil staining on cobbles	67.2		—
6-12	As Above	As Above, brown, no odors		0		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 10'

VISUAL IMPACTS: [ ] YES [X] NO Describe:

OLFACTORY OBSERVATIONS: [X] YES [ ] NO Describe: slight petroleum-like odors 3-6' interval from 230' to 360' along the TT

NON-NATIVE FILL ENCOUNTERED: [X] YES [ ] NO Describe: @ 450' large concrete foundations (broken)

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

NOTES:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

TurnKey Environmental Restoration, LLC

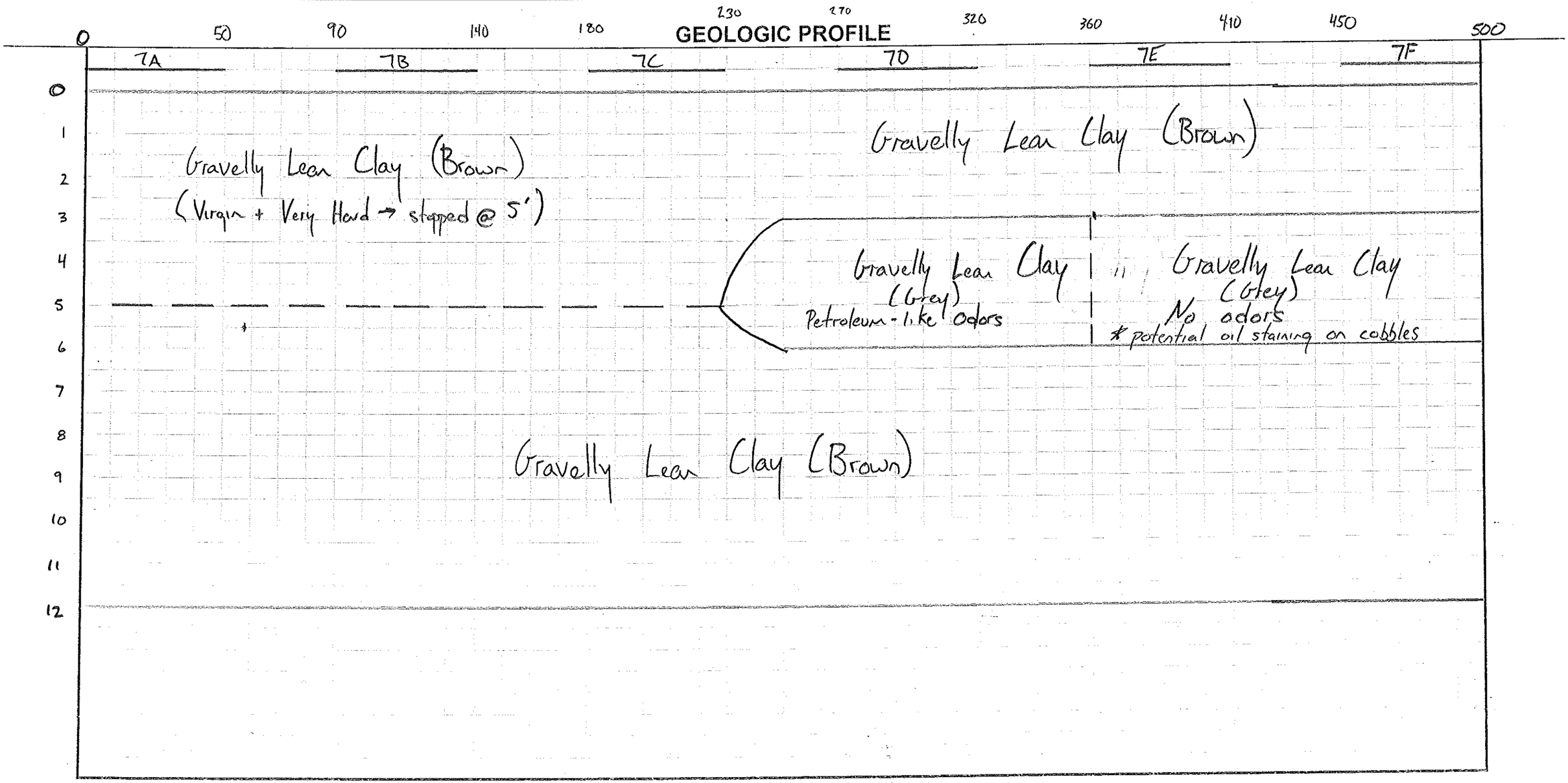
DAILY LOG				
	DATE	11	12	15
	NO.			
	SHEET	1	OF	2

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-8
Project No.:	0323-015-002	Excavation Date:	11-12-15
Client:	Homes Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged By:	PWW
Start Time:	End Time:	Checked By:	

Length (feet):	500
Width (feet):	2
Depth (feet):	12

GEOLOGIC PROFILE



TurnKey Environmental Restoration LLC

DAILY LOG				
	DATE	11	12	15
	NO.			
	SHEET	2 OF 2		

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-8

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description		PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
	230'	360			
0-3	Gravelly Lean Clay (Brown) Brown, moist, mostly medium plasticity fines, some cobbles fine to coarse gravel, hard, massive (virgin stopped @ 5'	Same as 0-230' interval but not native	0		—
3-6	As Above	As above, grey, petroleum like odors	As Above, grey, no odors but potential oil staining on cobbles	67.2		—
6-12	As Above	As Above, brown, no odors		0		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 10'

VISUAL IMPACTS: [ ] YES [X] NO Describe:

OLFACTORY OBSERVATIONS: [X] YES [ ] NO Describe: slight petroleum-like odors, 3-6' interval from 230' to 360' along the TT

NON-NATIVE FILL ENCOUNTERED: [ ] YES [X] NO Describe:

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

NOTES:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

TurnKey Environmental Restoration LLC

DAILY LOG				
	DATE	11	11	15
	NO.			
	SHEET	1 OF 2		

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-9
Project No.:	0323-015-002	Excavation Date:	11-11-12 through 11-12-15
Client:	Honer & Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged By:	PWW
Start Time:	End Time:	Checked By:	

Length (feet):	550
Width (feet):	2
Depth (feet):	12

GEOLOGIC PROFILE

0 — 415 — 550'

1 Topsoil

2 Gravelly Lean Clay (Brown)

3

4 Gravelly Lean Clay (Grey)

5 (Slight Petroleum like odors) odors start @ 30'-415'
causes sheen on water

6

7 Gravelly Lean Clay (Brown)

8

9

10 Gravelly Lean Clay (Greyish Brown)

11

12

TurnKey Environmental Restoration LLC

DAILY LOG | DATE 11 11 15 | NO. | SHEET 2 OF 2

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-9

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description	415'	PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil		0		—
1-3	Gravelly Lean Clay (Brown)		1, 2		—
3-6	Gravelly Lean Clay (Grey)	Gravelly Lean Clay (Brown)	0-415' 187 415-550 → 0.0		—
6-10	Gravelly Lean Clay (Brown)		0		—
10-12	Gravelly Lean Clay (Greyish brown)	As Above	0.0		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 10'

VISUAL IMPACTS: [X] YES [ ] NO Describe: soil causing sheen on water

OLFACTORY OBSERVATIONS: [X] YES [ ] NO Describe: 30' to 415 petroleum-like odors

NON-NATIVE FILL ENCOUNTERED: [ ] YES [X] NO Describe:

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

NOTES:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	9	15
	NO.			
	SHEET		OF	

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-10
Project No.:	0323-015-002	Excavation Date:	11/9/15
Client:	Homer St Properties	Excavation Method:	Excavator
Location:	Oregon Rd	Logged / Checked By:	PWW
Start Time:	End Time:	Logged / Checked By:	

North 0

GEOLOGIC PROFILE

90' East

Length (feet):	90'
Width (feet):	2'
Depth (feet):	15'

1 — Topsoil

Brown lean Clay

6

Brown sandy Gravel

10

11' ▽

Grey Gravelly Sand

15 — Bottom of test Pit

TurnKey Environmental Restoration, LLC

DAILY LOG	DATE	11	9	15
	NO.			
	SHEET		OF	

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-10

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description	PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil	NA		—
1-6	Brown Lean Clay Brown, moist, mostly medium plasticity fines with little coarse sands, stiff, massive	NA		—
6-10	Brown Sandy Gravel Brown, moist, mostly cobbles + coarse to fine gravel, some coarse sand, dense, massive	NA		—
10-15	Gravelly Sand Brown, moist to wet (11') Mostly coarse sand with some cobbles + coarse to fine gravel	NA		—

COMMENTS: No PID due to rain

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 11'

VISUAL IMPACTS: [ ] YES [X] NO Describe:

OLFACTORY OBSERVATIONS: [ ] YES [X] NO Describe:

NON-NATIVE FILL ENCOUNTERED: [ ] YES [X] NO Describe:

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.:

Sample I.D.:

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	17	15
	NO.			
	SHEET	1	OF	2

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-11
Project No.:	0323-015-002	Excavation Date:	11-17-15
Client:	Homer Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged By:	PWW
Start Time:	End Time:	Checked By:	

Length (feet):	50
Width (feet):	2
Depth (feet):	12

GEOLOGIC PROFILE

0 — 35 — 50

1 Topsoil

2

3

4

5

6 Sandy Gravel (Brown)

7

8

9

10

11

12

Sandy Gravel (Grey)
(Slight sheen dripping from trapped water) but no odors

TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	17	15
	NO.			
	SHEET	2 OF 2		

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-11

GEOLOGIC DESCRIPTION

35

Depth (fbgs)	USCS Symbol & Soil Description		PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil		0		—
1-3	Sandy Gravel Brown, moist, mostly fine to coarse gravels + cobbles, some fine to coarse sand dense, massive		0		—
3-6	As Above	As above, grey, no odors slight sheen on water	0		—
6-12	As Above, moist to wet @ 11'		0		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 11'

VISUAL IMPACTS: [X] YES [ ] NO Describe: slight sheen on water

OLFACTORY OBSERVATIONS: [ ] YES [X] NO Describe:

NON-NATIVE FILL ENCOUNTERED: [ ] YES [X] NO Describe:

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

NOTES:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

TurnKey Environmental Restoration LLC

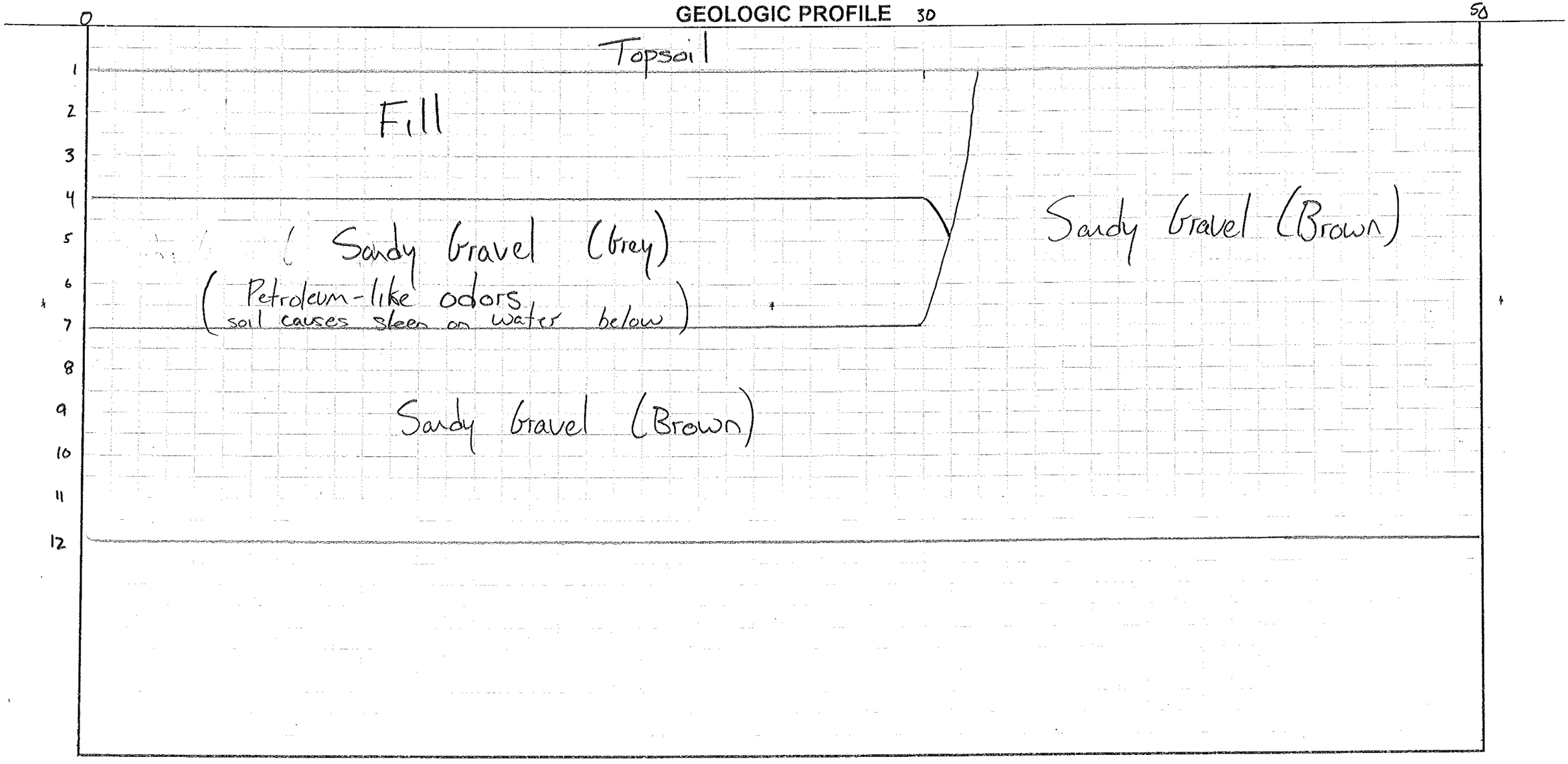
DAILY LOG | DATE 11 17 15 | NO. | SHEET 1 OF 2

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-12
Project No.:	0323-015-002	Excavation Date:	11-17-15
Client:	Homes Street Properties	Excavation Method:	Excavator
Location:	Oregon Road	Logged By:	PWW
Start Time:	End Time:	Checked By:	

Length (feet):	50
Width (feet):	2
Depth (feet):	12

GEOLOGIC PROFILE



TurnKey Environmental Restoration, LLC

DAILY LOG				
	DATE	11	17	15
	NO.			
	SHEET	1	OF	2

TEST TRENCH EXCAVATION LOG

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-12

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description 30		PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil		0		—
1-4	Fill (Sandy Gravel) - tree branches, concrete - boards	Sandy Gravel Brown, moist, mostly fine to coarse gravels + cobbles with some fine to coarse sand, dense, massive, no odors	0		—
4-7	Sandy Gravel Grey, moist, mostly fine to coarse gravels + cobbles, some fine to coarse sand, dense, massive, petroleum-like odors (57.2 PID)	As Above	0-30 → 57.2 30-50 → 0.0		—
7-12	As Above, brown, wet @ 12', No petroleum-like odors		0		—

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 12'

VISUAL IMPACTS: [X] YES [ ] NO Describe: Sheen on water

OLFACTORY OBSERVATIONS: [X] YES [ ] NO Describe: 3-6' interval from 0-30' along TT

NON-NATIVE FILL ENCOUNTERED: [X] YES [ ] NO Describe: tree branches, roots, boards and concrete

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

NOTES:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

TurnKey Environmental Restoration, LLC

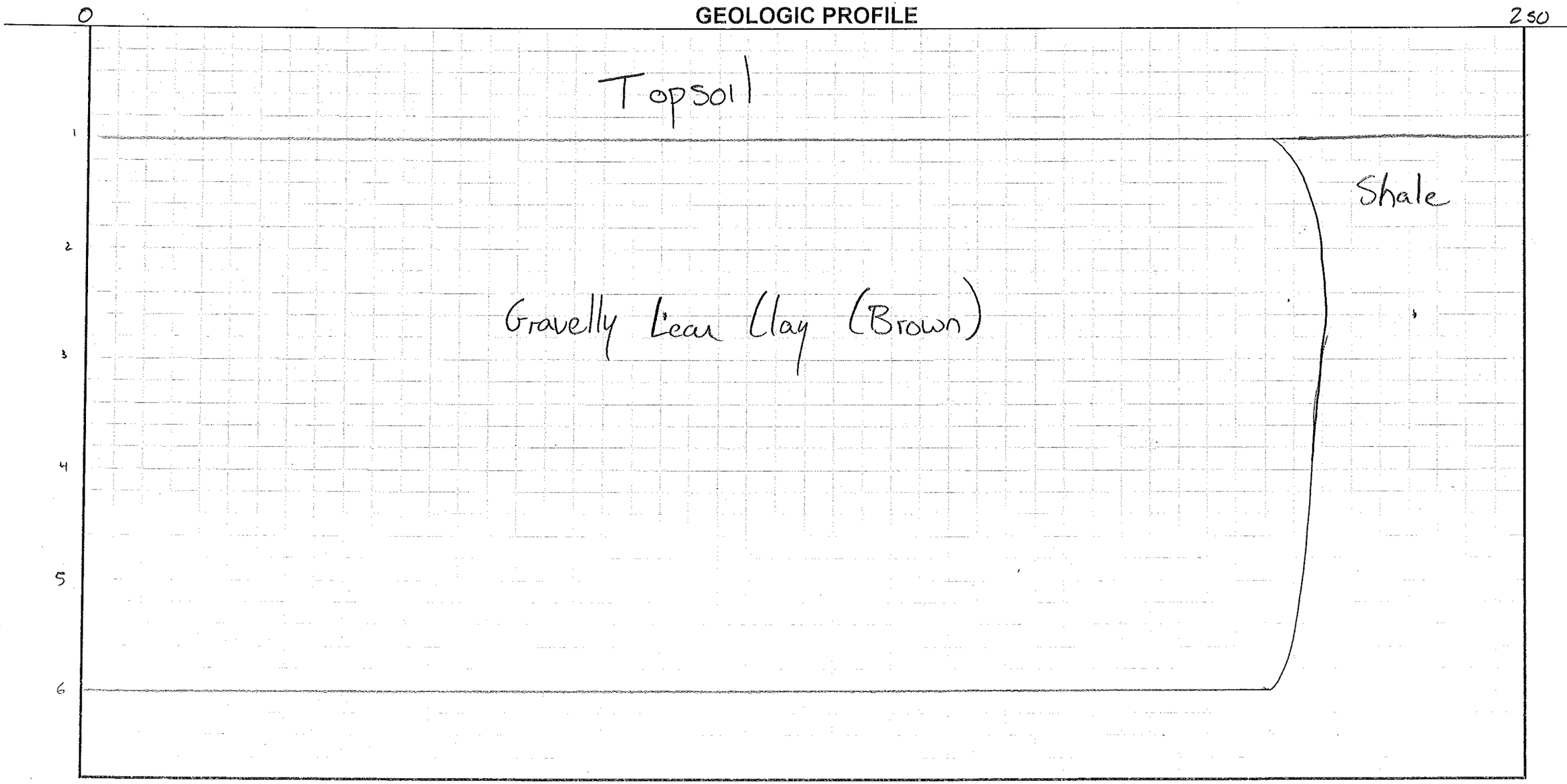
DAILY LOG				
	DATE	11	12	15
	NO.			
	SHEET	1	OF	2

TEST TRENCH EXCAVATION LOG

Project:	Supplemental Phase II Investigation	Test Trench I.D:	TT-13
Project No.:	0323-015-002	Excavation Date:	11/12/15
Client:	Homes Street Properties	Excavation Method:	Excavator
Location:	Oregon Rd	Logged By:	PWW
Start Time:	End Time:	Checked By:	

Length (feet):	250
Width (feet):	2
Depth (feet):	6'

GEOLOGIC PROFILE



TurnKey Environmental Restoration LLC

DAILY LOG				
	DATE	11	12	15
	NO.			
	SHEET	2 OF 2		

Project: Oregon Road Supplemental Phase II Investigation Test Trench I.D: TT-13

TEST TRENCH EXCAVATION LOG

GEOLOGIC DESCRIPTION

Depth (fbgs)	USCS Symbol & Soil Description	200'	PID Scan (ppm)	Photos Y / N	Samples Collected (fbgs)
0-1	Topsoil		0		
1-2	Brown, moist, mostly medium plasticity fines, some cobbles and fine to coarse gravels, hard, massive (Gravelly Lean Clay)	Shale weathered bedrock	0		
2-6	As Above, wet@(4-5')	As Above	0		

COMMENTS:

GROUNDWATER ENCOUNTERED: [X] YES [ ] NO If yes, depth to GW: 4 to 5'

VISUAL IMPACTS: [ ] YES [X] NO Describe:

OLFACTORY OBSERVATIONS: [ ] YES [X] NO Describe:

NON-NATIVE FILL ENCOUNTERED: [ ] YES [X] NO Describe:

OTHER OBSERVATIONS: [ ] YES [X] NO Describe:

NOTES:

SAMPLES COLLECTED: Sample I.D.: NA

Sample I.D.: NA

APPENDIX B

BORING/WELL LOGS

Project No: 0323-015-002

Borehole Number: MW-1

Project: Oregon Road - Supplemental Phase II Investigation

A.K.A.:

Client: Homer Street Properties

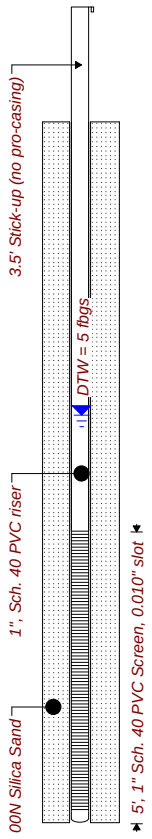
Logged By: PWW

Site Location: Oregon Road

Checked By: ML

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
-2.0							0 250 500		
	0.0	Ground Surface							
	0.0	***Topsoil***					0.0		
	-1.0 1.0	***Sandy Gravel w/ Fill*** Brown, moist, mostly fine to coarse gravel, some fine to coarse sand, brick and organic fill	S-1	NA	3.0		0.0 225.0		
3.0	-3.0 3.0	***Gravelly Lean Clay*** Grey, moist, mostly medium plasticity fines, some fine to coarse gravel, stiff, massive, petroleum-like odors							
	-4.0 4.0	As above, moist to wet (5')					425.0		
	-6.0 6.0	As above, brown, no odors	S-2	NA	2.9		0.0		
8.0	-8.0 8.0	As above					0.0		
			S-3	NA	4.0		0.0		
	-12.0 12.0	End of Borehole					0.0		
13.0									
18.0									



Drilled By: Nature's Way
Drill Rig Type: Truck Mounted Geoprobe
Drill Method: Direct-push with 4' Macro-core
Comments:
Drill Date(s): 11-23-15

Hole Size: 2"
Stick-up: 2'
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0323-015-002

Borehole Number: MW-2

Project: Oregon Road - Supplemental Phase II Investigation

A.K.A.:

Client: Homer Street Properties

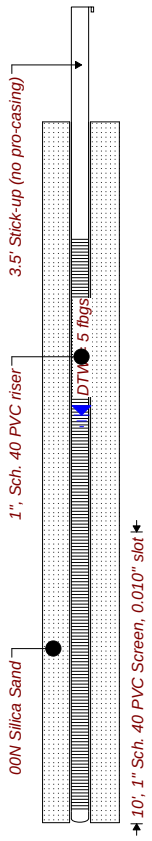
Logged By: PWW

Site Location: Oregon Road

Checked By: ML

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Topsoil***					0.0		
	-1.0 1.0	***Sandy Gravel w/ Fill*** Brown, moist, mostly fine to coarse gravel, some fine to coarse sand, brick and organic fill	S-1	NA	3.2		0.0 198.0		
3.0	-3.0 3.0	***Gravelly Lean Clay*** Grey, moist, mostly medium plasticity fines, some fine to coarse gravel, stiff, massive, petroleum-like odors							
	-4.0 4.0	As above, moist to wet (5'), product on water					321.0		
	-6.0 6.0	As above, brown, moist, no odors	S-2	NA	3.6		0.0		
8.0	-8.0 8.0	As above					0.0		
			S-3	NA	4.0		0.0 0.0		
	-12.0 12.0	End of Borehole					0.0		
13.0									
18.0									



Drilled By: Nature's Way
Drill Rig Type: Truck Mounted Geoprobe
Drill Method: Direct-push with 4' Macro-core
Comments:
Drill Date(s): 11-23-15

Hole Size: 2"
Stick-up: 2'
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0323-015-002

Borehole Number: MW-3

Project: Oregon Road - Supplemental Phase II Investigation

A.K.A.:

Client: Homer Street Properties

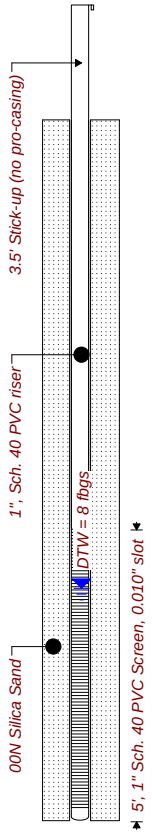
Logged By: PWW

Site Location: Oregon Road

Checked By: ML

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 250 – 500)	Lab Sample	Well Completion Details or Remarks
-2.0									
	0.0	Ground Surface							
	0.0	***Topsoil***					0.0		
	-1.0 1.0	***Sandy Gravel w/ Fill*** Brown, moist, mostly fine to coarse gravel, some fine to coarse sand, brick and organic fill	S-1	NA	2.8		0.0		
3.0	-3.0 3.0	***Gravelly Lean Clay*** Grey, moist, mostly medium plasticity fines, some fine to coarse gravel, stiff, massive, petroleum-like odors					23.0		
	-4.0 4.0	As above							
	-6.0 6.0	As above, brown, moist to wet (8'), no odors	S-2	NA	2.9		46.0		
8.0	-8.0 8.0	As above					0.0		
			S-3	NA	3.8		0.0		
	-12.0 12.0	End of Borehole					0.0		
13.0							0.0		
18.0									



Drilled By: Nature's Way
Drill Rig Type: Truck Mounted Geoprobe
Drill Method: Direct-push with 4' Macro-core
Comments:
Drill Date(s): 11-23-15

Hole Size: 2"
Stick-up: 2'
Datum: Mean Sea Level

Sheet: 1 of 1

APPENDIX C

SITE PHOTOGRAPHS

SITE PHOTOGRAPHS

Photo 1:

Photo 2:

Photo 3:

Photo 4:

Photo 1: View of TT-1.

Photo 2: Typical piping encountered at TT-1.

Photo 3: LNAPL and soil conditions at TT-3.

Photo 4: Another view of Soil conditions at TT-3.

SITE PHOTOGRAPHS

Photo 5:

Photo 6:

Photo 7:

Photo 8:

Photo 5: LNAPL and petroleum-impacted soils encountered at TT-3.

Photo 6: LNAPL and petroleum-impacted soil in the vicinity of piping at TT-3.

Photo 7: LNAPL, petroleum-impacted soil, and piping in TT-5.

Photo 8: Closer view of petroleum-impacted soil in TT-5.

SITE PHOTOGRAPHS

Photo 9:

Photo 10:

Photo 11:

Photo 12:

Photo 9: Multiple pipes Encountered at TT-9.

Photo 10: Piping parallel to creek encountered at TT-6.

Photo 11: Creek bed piping between TT-4 and TT-5.

Photo 12: Area of SV-1 that was too wet and caused vapor lock during the soil vapor assessment.

APPENDIX D

LABORATORY ANALYTICAL DATA

ANALYTICAL REPORT

Lab Number:	L1530967
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Mike Lesakowski
Phone:	(716) 856-0599
Project Name:	OREGON ROAD
Project Number:	0323-015-002
Report Date:	12/04/15

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

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

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1530967-01	MW-1	WATER	OREGON RD, OLEAN	11/24/15 09:30	11/24/15
L1530967-02	MW-2	WATER	OREGON RD, OLEAN	11/24/15 10:00	11/24/15
L1530967-03	MW-3	WATER	OREGON RD, OLEAN	11/24/15 10:30	11/24/15
L1530967-04	MW-1	WATER	OREGON RD, OLEAN	11/24/15 13:30	11/24/15
L1530967-05	MW-2	WATER	OREGON RD, OLEAN	11/24/15 13:45	11/24/15
L1530967-06	MW-3	WATER	OREGON RD, OLEAN	11/24/15 14:00	11/24/15

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Case Narrative

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

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

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

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

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

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

Project Name:	OREGON ROAD	**Lab Number:**	L1530967
Project Number:	0323-015-002	**Report Date:**	12/04/15

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1530967-02: The sample has elevated detection limits due to the dilution required by the sample matrix (oily liquid).

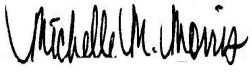
Semivolatile Organics

The surrogate recoveries for L1530967-04 were outside the acceptance criteria for 2-fluorophenol (7%) and 2,4,6-tribromophenol (8%); however, the criteria was achieved upon re-extraction outside of holding time. The results of both extractions are reported.

Semivolatile Organics by SIM

L1530967-04 and -05: The sample has elevated detection limits due to the dilution required by the sample matrix.

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

Authorized Signature:  Michelle M. Morris

Title: Technical Director/Representative Date: 12/04/15

ORGANICS

VOLATILES

Project Name: OREGON ROAD
Project Number: 0323-015-002
Lab Number: L1530967
Report Date: 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-01
Client ID: MW-1
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/02/15 14:39
Analyst: PD

Date Collected: 11/24/15 09:30
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-01 Date Collected: 11/24/15 09:30

Client ID: MW-1 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	7.0		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	41.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	128		70-130
Dibromofluoromethane	99		70-130

Project Name: OREGON ROAD
Project Number: 0323-015-002
Lab Number: L1530967
Report Date: 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-02 D
Client ID: MW-2
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/02/15 15:14
Analyst: PD

Date Collected: 11/24/15 10:00
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	6.2	1.8	2.5
1,1-Dichloroethane	ND		ug/l	6.2	1.8	2.5
Chloroform	ND		ug/l	6.2	1.8	2.5
Carbon tetrachloride	ND		ug/l	1.2	0.34	2.5
1,2-Dichloropropane	ND		ug/l	2.5	0.33	2.5
Dibromochloromethane	ND		ug/l	1.2	0.37	2.5
1,1,2-Trichloroethane	ND		ug/l	3.8	1.2	2.5
Tetrachloroethene	ND		ug/l	1.2	0.45	2.5
Chlorobenzene	ND		ug/l	6.2	1.8	2.5
Trichlorofluoromethane	ND		ug/l	6.2	1.8	2.5
1,2-Dichloroethane	ND		ug/l	1.2	0.33	2.5
1,1,1-Trichloroethane	ND		ug/l	6.2	1.8	2.5
Bromodichloromethane	ND		ug/l	1.2	0.48	2.5
trans-1,3-Dichloropropene	ND		ug/l	1.2	0.41	2.5
cis-1,3-Dichloropropene	ND		ug/l	1.2	0.36	2.5
Bromoform	ND		ug/l	5.0	1.6	2.5
1,1,2,2-Tetrachloroethane	ND		ug/l	1.2	0.36	2.5
Benzene	ND		ug/l	1.2	0.40	2.5
Toluene	ND		ug/l	6.2	1.8	2.5
Ethylbenzene	ND		ug/l	6.2	1.8	2.5
Chloromethane	ND		ug/l	6.2	1.8	2.5
Bromomethane	ND		ug/l	6.2	1.8	2.5
Vinyl chloride	ND		ug/l	2.5	0.17	2.5
Chloroethane	ND		ug/l	6.2	1.8	2.5
1,1-Dichloroethene	ND		ug/l	1.2	0.36	2.5
trans-1,2-Dichloroethene	ND		ug/l	6.2	1.8	2.5
Trichloroethene	ND		ug/l	1.2	0.44	2.5
1,2-Dichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,3-Dichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,4-Dichlorobenzene	ND		ug/l	6.2	1.8	2.5

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-02 D Date Collected: 11/24/15 10:00

Client ID: MW-2 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	6.2	1.8	2.5
p/m-Xylene	ND		ug/l	6.2	1.8	2.5
o-Xylene	ND		ug/l	6.2	1.8	2.5
cis-1,2-Dichloroethene	ND		ug/l	6.2	1.8	2.5
Styrene	ND		ug/l	6.2	1.8	2.5
Dichlorodifluoromethane	ND		ug/l	12	2.5	2.5
Acetone	13		ug/l	12	3.6	2.5
Carbon disulfide	ND		ug/l	12	2.5	2.5
2-Butanone	ND		ug/l	12	4.8	2.5
4-Methyl-2-pentanone	ND		ug/l	12	2.5	2.5
2-Hexanone	ND		ug/l	12	2.5	2.5
Bromochloromethane	ND		ug/l	6.2	1.8	2.5
1,2-Dibromoethane	ND		ug/l	5.0	1.6	2.5
n-Butylbenzene	ND		ug/l	6.2	1.8	2.5
sec-Butylbenzene	ND		ug/l	6.2	1.8	2.5
tert-Butylbenzene	ND		ug/l	6.2	1.8	2.5
1,2-Dibromo-3-chloropropane	ND		ug/l	6.2	1.8	2.5
Isopropylbenzene	ND		ug/l	6.2	1.8	2.5
p-Isopropyltoluene	ND		ug/l	6.2	1.8	2.5
n-Propylbenzene	ND		ug/l	6.2	1.8	2.5
1,2,3-Trichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,2,4-Trichlorobenzene	ND		ug/l	6.2	1.8	2.5
1,3,5-Trimethylbenzene	ND		ug/l	6.2	1.8	2.5
1,2,4-Trimethylbenzene	ND		ug/l	6.2	1.8	2.5
Methyl Acetate	ND		ug/l	5.0	0.58	2.5
Cyclohexane	1.0	J	ug/l	25	0.68	2.5
1,4-Dioxane	ND		ug/l	620	100	2.5
Freon-113	ND		ug/l	6.2	1.8	2.5
Methyl cyclohexane	68		ug/l	25	0.99	2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	93		70-130

Project Name: OREGON ROAD
Project Number: 0323-015-002
Lab Number: L1530967
Report Date: 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-03
Client ID: MW-3
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/02/15 15:49
Analyst: PD

Date Collected: 11/24/15 10:30
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-03 Date Collected: 11/24/15 10:30

Client ID: MW-3 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.4	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	41.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	99		70-130

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/02/15 11:09
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG845940-3					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.13
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.14
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/02/15 11:09
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG845940-3					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	41.
Freon-113	ND		ug/l	2.5	0.70

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/02/15 11:09
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG845940-3					
Methyl cyclohexane	ND		ug/l	10	0.40

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG845940-1 WG845940-2								
Methylene chloride	106		108		70-130	2		20
1,1-Dichloroethane	106		105		70-130	1		20
Chloroform	98		100		70-130	2		20
2-Chloroethylvinyl ether	**64**	Q	75		70-130	16		20
Carbon tetrachloride	96		100		63-132	4		20
1,2-Dichloropropane	108		108		70-130	0		20
Dibromochloromethane	81		81		63-130	0		20
1,1,2-Trichloroethane	99		97		70-130	2		20
Tetrachloroethene	93		91		70-130	2		20
Chlorobenzene	97		96		75-130	1		20
Trichlorofluoromethane	84		87		62-150	4		20
1,2-Dichloroethane	92		92		70-130	0		20
1,1,1-Trichloroethane	103		107		67-130	4		20
Bromodichloromethane	94		95		67-130	1		20
trans-1,3-Dichloropropene	76		77		70-130	1		20
cis-1,3-Dichloropropene	91		94		70-130	3		20
1,1-Dichloropropene	100		98		70-130	2		20
Bromoform	80		76		54-136	5		20
1,1,2,2-Tetrachloroethane	107		98		67-130	9		20
Benzene	108		107		70-130	1		20
Toluene	98		97		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG845940-1 WG845940-2								
Ethylbenzene	98		98		70-130	0		20
Chloromethane	**62**	Q	67		64-130	8		20
Bromomethane	71		78		39-139	9		20
Vinyl chloride	70		76		55-140	8		20
Chloroethane	111		108		55-138	3		20
1,1-Dichloroethene	103		105		61-145	2		20
trans-1,2-Dichloroethene	106		106		70-130	0		20
Trichloroethene	99		99		70-130	0		20
1,2-Dichlorobenzene	91		91		70-130	0		20
1,3-Dichlorobenzene	92		92		70-130	0		20
1,4-Dichlorobenzene	92		92		70-130	0		20
Methyl tert butyl ether	119		121		63-130	2		20
p/m-Xylene	97		96		70-130	1		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	105		107		70-130	2		20
Dibromomethane	101		102		70-130	1		20
1,2,3-Trichloropropane	102		94		64-130	8		20
Acrylonitrile	103		104		70-130	1		20
Isopropyl Ether	98		98		70-130	0		20
tert-Butyl Alcohol	**149**	Q	**151**	Q	70-130	1		20
Styrene	99		98		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG845940-1 WG845940-2								
Dichlorodifluoromethane	71		71		36-147	0		20
Acetone	115		107		58-148	7		20
Carbon disulfide	106		104		51-130	2		20
2-Butanone	107		102		63-138	5		20
Vinyl acetate	77		80		70-130	4		20
4-Methyl-2-pentanone	**137**	Q	**134**	Q	59-130	2		20
2-Hexanone	74		70		57-130	6		20
Bromochloromethane	106		110		70-130	4		20
2,2-Dichloropropane	**147**	Q	**155**	Q	63-133	5		20
1,2-Dibromoethane	94		94		70-130	0		20
1,3-Dichloropropane	97		95		70-130	2		20
1,1,1,2-Tetrachloroethane	91		93		64-130	2		20
Bromobenzene	99		93		70-130	6		20
n-Butylbenzene	91		91		53-136	0		20
sec-Butylbenzene	93		94		70-130	1		20
tert-Butylbenzene	90		90		70-130	0		20
o-Chlorotoluene	99		90		70-130	10		20
p-Chlorotoluene	97		94		70-130	3		20
1,2-Dibromo-3-chloropropane	86		83		41-144	4		20
Hexachlorobutadiene	92		94		63-130	2		20
Isopropylbenzene	103		95		70-130	8		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG845940-1 WG845940-2								
p-Isopropyltoluene	91		91		70-130	0		20
Naphthalene	92		94		70-130	2		20
n-Propylbenzene	105		96		69-130	9		20
1,2,3-Trichlorobenzene	88		91		70-130	3		20
1,2,4-Trichlorobenzene	90		91		70-130	1		20
1,3,5-Trimethylbenzene	97		90		64-130	7		20
1,2,4-Trimethylbenzene	92		92		70-130	0		20
Methyl Acetate	114		111		70-130	3		20
Ethyl Acetate	105		102		70-130	3		20
Cyclohexane	107		106		70-130	1		20
Ethyl-Tert-Butyl-Ether	**150**	Q	**154**	Q	70-130	3		20
Tertiary-Amyl Methyl Ether	120		122		66-130	2		20
1,4-Dioxane	120		135		56-162	12		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	100		104		70-130	4		20
p-Diethylbenzene	89		89		70-130	0		20
p-Ethyltoluene	97		90		70-130	7		20
1,2,4,5-Tetramethylbenzene	89		89		70-130	0		20
Ethyl ether	105		106		59-134	1		20
trans-1,4-Dichloro-2-butene	**60**	Q	**57**	Q	70-130	5		20
Iodomethane	**23**	Q	**26**	Q	70-130	12		20
Methyl cyclohexane	100		102		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON ROAD

Project Number: 0323-015-002

Lab Number: L1530967

Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG845940-1 WG845940-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		90		70-130
Toluene-d8	98		97		70-130
4-Bromofluorobenzene	110		101		70-130
Dibromofluoromethane	96		97		70-130

SEMIVOLATILES

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-04
Client ID: MW-1
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/02/15 23:15
Analyst: PS

Date Collected: 11/24/15 13:30
Date Received: 11/24/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.58	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
Biphenyl	ND		ug/l	2.0	0.24	1
4-Chloroaniline	ND		ug/l	5.0	0.84	1
2-Nitroaniline	ND		ug/l	5.0	0.96	1
3-Nitroaniline	ND		ug/l	5.0	0.67	1
4-Nitroaniline	ND		ug/l	5.0	0.83	1
Dibenzofuran	ND		ug/l	2.0	0.22	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.36	1
Acetophenone	ND		ug/l	5.0	0.43	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-04 Date Collected: 11/24/15 13:30

Client ID: MW-1 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1
Phenol	ND		ug/l	5.0	0.27	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.72	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.75	1
Carbazole	ND		ug/l	2.0	0.37	1
Benzaldehyde	ND		ug/l	5.0	0.99	1
Caprolactam	ND		ug/l	10	0.39	1
Atrazine	ND		ug/l	10	0.79	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.59	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**7**	Q	21-120
Phenol-d6	16		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	**8**	Q	10-120
4-Terphenyl-d14	72		41-149

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-04 RE
Client ID: MW-1
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/04/15 09:06
Analyst: PS

Date Collected: 11/24/15 13:30
Date Received: 11/24/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/03/15 16:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.40	1
3,3'-Dichlorobenzidine	ND		ug/l	4.9	0.47	1
2,4-Dinitrotoluene	ND		ug/l	4.9	1.0	1
2,6-Dinitrotoluene	ND		ug/l	4.9	0.87	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.35	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.42	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.58	1
Bis(2-chloroethoxy)methane	ND		ug/l	4.9	0.58	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.57	1
Isophorone	ND		ug/l	4.9	0.77	1
Nitrobenzene	ND		ug/l	2.0	0.39	1
NDPA/DPA	ND		ug/l	2.0	0.33	1
n-Nitrosodi-n-propylamine	ND		ug/l	4.9	0.63	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	2.9	0.90	1
Butyl benzyl phthalate	ND		ug/l	4.9	1.1	1
Di-n-butylphthalate	ND		ug/l	4.9	0.75	1
Di-n-octylphthalate	ND		ug/l	4.9	1.2	1
Diethyl phthalate	ND		ug/l	4.9	0.38	1
Dimethyl phthalate	ND		ug/l	4.9	0.32	1
Biphenyl	ND		ug/l	2.0	0.23	1
4-Chloroaniline	ND		ug/l	4.9	0.81	1
2-Nitroaniline	ND		ug/l	4.9	0.93	1
3-Nitroaniline	ND		ug/l	4.9	0.65	1
4-Nitroaniline	ND		ug/l	4.9	0.81	1
Dibenzofuran	ND		ug/l	2.0	0.21	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	9.8	0.35	1
Acetophenone	ND		ug/l	4.9	0.42	1
2,4,6-Trichlorophenol	ND		ug/l	4.9	0.76	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.53	1
2-Chlorophenol	ND		ug/l	2.0	0.56	1

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-04 RE Date Collected: 11/24/15 13:30

Client ID: MW-1 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4-Dichlorophenol	ND		ug/l	4.9	0.55	1
2,4-Dimethylphenol	ND		ug/l	4.9	0.56	1
2-Nitrophenol	ND		ug/l	9.8	1.0	1
4-Nitrophenol	ND		ug/l	9.8	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	9.8	1.3	1
Phenol	ND		ug/l	4.9	0.26	1
3-Methylphenol/4-Methylphenol	ND		ug/l	4.9	0.70	1
2,4,5-Trichlorophenol	ND		ug/l	4.9	0.73	1
Carbazole	ND		ug/l	2.0	0.36	1
Benzaldehyde	ND		ug/l	4.9	0.96	1
Caprolactam	ND		ug/l	9.8	0.38	1
Atrazine	ND		ug/l	9.8	0.77	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	4.9	0.58	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	66		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	80		41-149

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-04 D
Client ID: MW-1
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/02/15 16:52
Analyst: KV

Date Collected: 11/24/15 13:30
Date Received: 11/24/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	1.0	0.18	5
2-Chloronaphthalene	ND		ug/l	1.0	0.18	5
Fluoranthene	ND		ug/l	1.0	0.19	5
Hexachlorobutadiene	ND		ug/l	2.5	0.18	5
Naphthalene	ND		ug/l	1.0	0.22	5
Benzo(a)anthracene	ND		ug/l	1.0	0.08	5
Benzo(a)pyrene	ND		ug/l	1.0	0.20	5
Benzo(b)fluoranthene	ND		ug/l	1.0	0.08	5
Benzo(k)fluoranthene	ND		ug/l	1.0	0.21	5
Chrysene	ND		ug/l	1.0	0.19	5
Acenaphthylene	ND		ug/l	1.0	0.18	5
Anthracene	ND		ug/l	1.0	0.18	5
Benzo(ghi)perylene	ND		ug/l	1.0	0.21	5
Fluorene	ND		ug/l	1.0	0.18	5
Phenanthrene	ND		ug/l	1.0	0.08	5
Dibenzo(a,h)anthracene	ND		ug/l	1.0	0.20	5
Indeno(1,2,3-cd)pyrene	ND		ug/l	1.0	0.20	5
Pyrene	ND		ug/l	1.0	0.20	5
2-Methylnaphthalene	ND		ug/l	1.0	0.22	5
Pentachlorophenol	ND		ug/l	4.0	1.1	5
Hexachlorobenzene	ND		ug/l	4.0	0.16	5
Hexachloroethane	ND		ug/l	4.0	0.15	5

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-04 D
Client ID: MW-1
Sample Location: OREGON RD, OLEAN

Date Collected: 11/24/15 13:30
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**16**	Q	21-120
Phenol-d6	21		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	20		10-120
4-Terphenyl-d14	71		41-149

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-05
Client ID: MW-2
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/02/15 23:41
Analyst: AL

Date Collected: 11/24/15 13:45
Date Received: 11/24/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.58	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
Biphenyl	ND		ug/l	2.0	0.24	1
4-Chloroaniline	ND		ug/l	5.0	0.84	1
2-Nitroaniline	ND		ug/l	5.0	0.96	1
3-Nitroaniline	ND		ug/l	5.0	0.67	1
4-Nitroaniline	ND		ug/l	5.0	0.83	1
Dibenzofuran	ND		ug/l	2.0	0.22	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.36	1
Acetophenone	ND		ug/l	5.0	0.43	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-05 Date Collected: 11/24/15 13:45

Client ID: MW-2 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1
Phenol	ND		ug/l	5.0	0.27	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.72	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.75	1
Carbazole	ND		ug/l	2.0	0.37	1
Benzaldehyde	ND		ug/l	5.0	0.99	1
Caprolactam	ND		ug/l	10	0.39	1
Atrazine	ND		ug/l	10	0.79	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.59	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	49		15-120
2,4,6-Tribromophenol	57		10-120
4-Terphenyl-d14	51		41-149

Project Name: OREGON ROAD
Project Number: 0323-015-002
Lab Number: L1530967
Report Date: 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-05 D
Client ID: MW-2
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/02/15 17:23
Analyst: KV

Date Collected: 11/24/15 13:45
Date Received: 11/24/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	1.0	0.18	5
2-Chloronaphthalene	ND		ug/l	1.0	0.18	5
Fluoranthene	ND		ug/l	1.0	0.19	5
Hexachlorobutadiene	ND		ug/l	2.5	0.18	5
Naphthalene	ND		ug/l	1.0	0.22	5
Benzo(a)anthracene	ND		ug/l	1.0	0.08	5
Benzo(a)pyrene	ND		ug/l	1.0	0.20	5
Benzo(b)fluoranthene	ND		ug/l	1.0	0.08	5
Benzo(k)fluoranthene	ND		ug/l	1.0	0.21	5
Chrysene	ND		ug/l	1.0	0.19	5
Acenaphthylene	ND		ug/l	1.0	0.18	5
Anthracene	1.2		ug/l	1.0	0.18	5
Benzo(ghi)perylene	ND		ug/l	1.0	0.21	5
Fluorene	ND		ug/l	1.0	0.18	5
Phenanthrene	3.7		ug/l	1.0	0.08	5
Dibenzo(a,h)anthracene	ND		ug/l	1.0	0.20	5
Indeno(1,2,3-cd)pyrene	ND		ug/l	1.0	0.20	5
Pyrene	ND		ug/l	1.0	0.20	5
2-Methylnaphthalene	3.5		ug/l	1.0	0.22	5
Pentachlorophenol	ND		ug/l	4.0	1.1	5
Hexachlorobenzene	ND		ug/l	4.0	0.16	5
Hexachloroethane	ND		ug/l	4.0	0.15	5

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-05 D
Client ID: MW-2
Sample Location: OREGON RD, OLEAN

Date Collected: 11/24/15 13:45
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	33		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	57		15-120
2,4,6-Tribromophenol	57		10-120
4-Terphenyl-d14	49		41-149

Project Name: OREGON ROAD
Project Number: 0323-015-002
Lab Number: L1530967
Report Date: 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-06
Client ID: MW-3
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/03/15 00:07
Analyst: AL

Date Collected: 11/24/15 14:00
Date Received: 11/24/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.58	1
Isophorone	ND		ug/l	5.0	0.79	1
Nitrobenzene	ND		ug/l	2.0	0.40	1
NDPA/DPA	ND		ug/l	2.0	0.34	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.1	1
Di-n-butylphthalate	ND		ug/l	5.0	0.77	1
Di-n-octylphthalate	ND		ug/l	5.0	1.2	1
Diethyl phthalate	ND		ug/l	5.0	0.39	1
Dimethyl phthalate	ND		ug/l	5.0	0.33	1
Biphenyl	ND		ug/l	2.0	0.24	1
4-Chloroaniline	ND		ug/l	5.0	0.84	1
2-Nitroaniline	ND		ug/l	5.0	0.96	1
3-Nitroaniline	ND		ug/l	5.0	0.67	1
4-Nitroaniline	ND		ug/l	5.0	0.83	1
Dibenzofuran	ND		ug/l	2.0	0.22	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.36	1
Acetophenone	ND		ug/l	5.0	0.43	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.54	1
2-Chlorophenol	ND		ug/l	2.0	0.58	1

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-06 Date Collected: 11/24/15 14:00

Client ID: MW-3 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4-Dichlorophenol	ND		ug/l	5.0	0.56	1
2,4-Dimethylphenol	ND		ug/l	5.0	0.58	1
2-Nitrophenol	ND		ug/l	10	1.0	1
4-Nitrophenol	ND		ug/l	10	1.1	1
2,4-Dinitrophenol	ND		ug/l	20	1.4	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4	1
Phenol	ND		ug/l	5.0	0.27	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.72	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.75	1
Carbazole	ND		ug/l	2.0	0.37	1
Benzaldehyde	ND		ug/l	5.0	0.99	1
Caprolactam	ND		ug/l	10	0.39	1
Atrazine	ND		ug/l	10	0.79	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.59	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	58		15-120
2,4,6-Tribromophenol	56		10-120
4-Terphenyl-d14	59		41-149

Project Name: OREGON ROAD
Project Number: 0323-015-002
Lab Number: L1530967
Report Date: 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-06
Client ID: MW-3
Sample Location: OREGON RD, OLEAN
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/02/15 20:00
Analyst: KV

Date Collected: 11/24/15 14:00
Date Received: 11/24/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.20	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	0.24		ug/l	0.20	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.20	0.04	1
Benzo(a)anthracene	0.43		ug/l	0.20	0.02	1
Benzo(a)pyrene	0.26		ug/l	0.20	0.04	1
Benzo(b)fluoranthene	0.39		ug/l	0.20	0.02	1
Benzo(k)fluoranthene	0.16	J	ug/l	0.20	0.04	1
Chrysene	0.45		ug/l	0.20	0.04	1
Acenaphthylene	ND		ug/l	0.20	0.04	1
Anthracene	0.05	J	ug/l	0.20	0.04	1
Benzo(ghi)perylene	0.12	J	ug/l	0.20	0.04	1
Fluorene	ND		ug/l	0.20	0.04	1
Phenanthrene	0.12	J	ug/l	0.20	0.02	1
Dibenzo(a,h)anthracene	0.09	J	ug/l	0.20	0.04	1
Indeno(1,2,3-cd)pyrene	0.15	J	ug/l	0.20	0.04	1
Pyrene	0.20		ug/l	0.20	0.04	1
2-Methylnaphthalene	ND		ug/l	0.20	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: OREGON ROAD **Lab Number:** L1530967

Project Number: 0323-015-002 **Report Date:** 12/04/15

SAMPLE RESULTS

Lab ID: L1530967-06 Date Collected: 11/24/15 14:00

Client ID: MW-3 Date Received: 11/24/15

Sample Location: OREGON RD, OLEAN Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	73		10-120
4-Terphenyl-d14	67		41-149

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/02/15 12:11
Analyst: AL

Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:08

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04-06 Batch: WG845356-1					
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60
Hexachlorocyclopentadiene	ND		ug/l	20	0.58
Isophorone	ND		ug/l	5.0	0.79
Nitrobenzene	ND		ug/l	2.0	0.40
NDPA/DPA	ND		ug/l	2.0	0.34
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.93
Butyl benzyl phthalate	ND		ug/l	5.0	1.1
Di-n-butylphthalate	ND		ug/l	5.0	0.77
Di-n-octylphthalate	ND		ug/l	5.0	1.2
Diethyl phthalate	ND		ug/l	5.0	0.39
Dimethyl phthalate	ND		ug/l	5.0	0.33
Biphenyl	ND		ug/l	2.0	0.24
4-Chloroaniline	ND		ug/l	5.0	0.84
2-Nitroaniline	ND		ug/l	5.0	0.96
3-Nitroaniline	ND		ug/l	5.0	0.67
4-Nitroaniline	ND		ug/l	5.0	0.83
Dibenzofuran	ND		ug/l	2.0	0.22
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.36
Acetophenone	ND		ug/l	5.0	0.43
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78
p-Chloro-m-cresol	ND		ug/l	2.0	0.54

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/02/15 12:11
Analyst: AL

Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:08

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04-06 Batch: WG845356-1					
2-Chlorophenol	ND		ug/l	2.0	0.58
2,4-Dichlorophenol	ND		ug/l	5.0	0.56
2,4-Dimethylphenol	ND		ug/l	5.0	0.58
2-Nitrophenol	ND		ug/l	10	1.0
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	1.4
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4
Phenol	1.3	J	ug/l	5.0	0.27
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.72
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.75
Carbazole	ND		ug/l	2.0	0.37
Benzaldehyde	ND		ug/l	5.0	0.99
Caprolactam	ND		ug/l	10	0.39
Atrazine	ND		ug/l	10	0.79
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.59

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	42		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	56		10-120
4-Terphenyl-d14	67		41-149

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/02/15 20:31
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:17

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 04-06 Batch: WG845361-1					
Acenaphthene	ND		ug/l	0.20	0.04
2-Chloronaphthalene	ND		ug/l	0.20	0.04
Fluoranthene	ND		ug/l	0.20	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.04
Naphthalene	ND		ug/l	0.20	0.04
Benzo(a)anthracene	ND		ug/l	0.20	0.02
Benzo(a)pyrene	ND		ug/l	0.20	0.04
Benzo(b)fluoranthene	ND		ug/l	0.20	0.02
Benzo(k)fluoranthene	ND		ug/l	0.20	0.04
Chrysene	ND		ug/l	0.20	0.04
Acenaphthylene	ND		ug/l	0.20	0.04
Anthracene	ND		ug/l	0.20	0.04
Benzo(ghi)perylene	ND		ug/l	0.20	0.04
Fluorene	ND		ug/l	0.20	0.04
Phenanthrene	ND		ug/l	0.20	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.04
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	0.04
Pyrene	ND		ug/l	0.20	0.04
2-Methylnaphthalene	ND		ug/l	0.20	0.05
Pentachlorophenol	ND		ug/l	0.80	0.22
Hexachlorobenzene	ND		ug/l	0.80	0.03
Hexachloroethane	ND		ug/l	0.80	0.03

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/02/15 20:31
Analyst: KV

Extraction Method: EPA 3510C
Extraction Date: 12/01/15 08:17

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 04-06 Batch: WG845361-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	86		10-120
4-Terphenyl-d14	83		41-149

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/04/15 07:50
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/03/15 16:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG846480-1					
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.21
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.41
1,2-Dichlorobenzene	ND		ug/l	2.0	0.30
1,3-Dichlorobenzene	ND		ug/l	2.0	0.35
1,4-Dichlorobenzene	ND		ug/l	2.0	0.32
3,3'-Dichlorobenzidine	ND		ug/l	5.0	0.48
2,4-Dinitrotoluene	ND		ug/l	5.0	1.0
2,6-Dinitrotoluene	ND		ug/l	5.0	0.89
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.36
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.43
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.60
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.60
Hexachlorocyclopentadiene	ND		ug/l	20	0.58
Isophorone	ND		ug/l	5.0	0.79
Nitrobenzene	ND		ug/l	2.0	0.40
NitrosoDiPhenylAmine(NDPA)/DPA	ND		ug/l	2.0	0.34
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	0.93
Butyl benzyl phthalate	ND		ug/l	5.0	1.1
Di-n-butylphthalate	ND		ug/l	5.0	0.77
Di-n-octylphthalate	ND		ug/l	5.0	1.2
Diethyl phthalate	ND		ug/l	5.0	0.39
Dimethyl phthalate	ND		ug/l	5.0	0.33
Biphenyl	ND		ug/l	2.0	0.24
4-Chloroaniline	ND		ug/l	5.0	0.84
2-Nitroaniline	ND		ug/l	5.0	0.96
3-Nitroaniline	ND		ug/l	5.0	0.67
4-Nitroaniline	ND		ug/l	5.0	0.83
Dibenzofuran	ND		ug/l	2.0	0.22

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/04/15 07:50
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/03/15 16:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG846480-1					
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.36
Acetophenone	ND		ug/l	5.0	0.43
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.78
P-Chloro-M-Cresol	ND		ug/l	2.0	0.54
2-Chlorophenol	ND		ug/l	2.0	0.58
2,4-Dichlorophenol	ND		ug/l	5.0	0.56
2,4-Dimethylphenol	ND		ug/l	5.0	0.58
2-Nitrophenol	ND		ug/l	10	1.0
4-Nitrophenol	ND		ug/l	10	1.1
2,4-Dinitrophenol	ND		ug/l	20	1.4
4,6-Dinitro-o-cresol	ND		ug/l	10	1.4
Phenol	ND		ug/l	5.0	0.27
2-Methylphenol	ND		ug/l	5.0	0.70
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.72
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.75
Benzoic Acid	ND		ug/l	50	1.0
Benzyl Alcohol	ND		ug/l	2.0	0.68
Carbazole	ND		ug/l	2.0	0.37
Benzaldehyde	ND		ug/l	5.0	0.99
Caprolactam	ND		ug/l	10	0.39
Atrazine	ND		ug/l	10	0.79
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.59

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 12/04/15 07:50
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/03/15 16:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG846480-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	79		15-120
2,4,6-Tribromophenol	101		10-120
4-Terphenyl-d14	95		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG845356-2 WG845356-3								
Acenaphthene	88		80		37-111	10		30
1,2,4-Trichlorobenzene	85		77		39-98	10		30
Benzidine	**6**	Q	**6**	Q	10-66	3		30
n-Nitrosodimethylamine	49		50		22-100	2		30
Hexachlorobenzene	91		82		40-140	10		30
Bis(2-chloroethyl)ether	84		71		40-140	17		30
2-Chloronaphthalene	97		89		40-140	9		30
1,2-Dichlorobenzene	82		73		40-140	12		30
1,3-Dichlorobenzene	80		72		40-140	11		30
1,4-Dichlorobenzene	81		73		36-97	10		30
3,3'-Dichlorobenzidine	71		60		40-140	17		30
2,4-Dinitrotoluene	**100**	Q	89		24-96	12		30
2,6-Dinitrotoluene	108		97		40-140	11		30
Azobenzene	93		84		40-140	10		30
Fluoranthene	94		84		40-140	11		30
4-Chlorophenyl phenyl ether	93		84		40-140	10		30
4-Bromophenyl phenyl ether	91		81		40-140	12		30
Bis(2-chloroisopropyl)ether	90		76		40-140	17		30
Bis(2-chloroethoxy)methane	95		85		40-140	11		30
Hexachlorobutadiene	88		77		40-140	13		30
Hexachlorocyclopentadiene	124		112		40-140	10		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG845356-2 WG845356-3								
Hexachloroethane	82		71		40-140	14		30
Isophorone	98		88		40-140	11		30
Naphthalene	88		80		40-140	10		30
Nitrobenzene	92		82		40-140	11		30
NitrosoDiPhenylAmine(NDPA)/DPA	89		80		40-140	11		30
n-Nitrosodi-n-propylamine	95		84		29-132	12		30
Bis(2-Ethylhexyl)phthalate	101		85		40-140	17		30
Butyl benzyl phthalate	99		86		40-140	14		30
Di-n-butylphthalate	97		86		40-140	12		30
Di-n-octylphthalate	102		85		40-140	18		30
Diethyl phthalate	96		85		40-140	12		30
Dimethyl phthalate	93		83		40-140	11		30
Benzo(a)anthracene	90		80		40-140	12		30
Benzo(a)pyrene	90		81		40-140	11		30
Benzo(b)fluoranthene	91		81		40-140	12		30
Benzo(k)fluoranthene	89		78		40-140	13		30
Chrysene	87		79		40-140	10		30
Acenaphthylene	100		93		45-123	7		30
Anthracene	94		87		40-140	8		30
Benzo(ghi)perylene	89		78		40-140	13		30
Fluorene	91		84		40-140	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG845356-2 WG845356-3								
Phenanthrene	88		82		40-140	7		30
Dibenzo(a,h)anthracene	94		81		40-140	15		30
Indeno(1,2,3-cd)Pyrene	92		82		40-140	11		30
Pyrene	91		82		26-127	10		30
Biphenyl	87		80		54-104	8		30
Aniline	41		**33**	Q	40-140	22		30
4-Chloroaniline	75		62		40-140	19		30
2-Nitroaniline	104		95		52-143	9		30
3-Nitroaniline	67		64		25-145	5		30
4-Nitroaniline	93		83		51-143	11		30
Dibenzofuran	89		82		40-140	8		30
2-Methylnaphthalene	93		84		40-140	10		30
1,2,4,5-Tetrachlorobenzene	80		73		2-134	9		30
Acetophenone	106		95		39-129	11		30
2,4,6-Trichlorophenol	102		92		30-130	10		30
P-Chloro-M-Cresol	**100**	Q	90		23-97	11		30
2-Chlorophenol	84		76		27-123	10		30
2,4-Dichlorophenol	96		86		30-130	11		30
2,4-Dimethylphenol	66		74		30-130	11		30
2-Nitrophenol	98		87		30-130	12		30
4-Nitrophenol	64		60		10-80	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG845356-2 WG845356-3								
2,4-Dinitrophenol	77		72		20-130	7		30
4,6-Dinitro-o-cresol	89		80		20-164	11		30
Pentachlorophenol	86		81		9-103	6		30
Phenol	49		49		12-110	0		30
2-Methylphenol	78		76		30-130	3		30
3-Methylphenol/4-Methylphenol	79		75		30-130	5		30
2,4,5-Trichlorophenol	106		95		30-130	11		30
Benzoic Acid	**4**	Q	12		10-110	**98**	Q	30
Benzyl Alcohol	86		77		15-110	11		30
Carbazole	91		83		55-144	9		30
Pyridine	19		17		10-66	11		30
Benzaldehyde	85		64		40-140	28		30
Caprolactam	31		30		10-130	3		30
Atrazine	114		100		40-140	13		30
2,3,4,6-Tetrachlorophenol	94		83		54-145	12		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON ROAD

Project Number: 0323-015-002

Lab Number: L1530967

Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04-06 Batch: WG845356-2 WG845356-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	57		54		21-120
Phenol-d6	41		42		10-120
Nitrobenzene-d5	92		81		23-120
2-Fluorobiphenyl	90		83		15-120
2,4,6-Tribromophenol	81		74		10-120
4-Terphenyl-d14	87		77		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON ROAD

Project Number: 0323-015-002

Lab Number: L1530967

Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 04-06 Batch: WG845361-2 WG845361-3								
Acenaphthene	93		82		37-111	13		40
2-Chloronaphthalene	92		86		40-140	7		40
Fluoranthene	100		84		40-140	17		40
Hexachlorobutadiene	91		89		40-140	2		40
Naphthalene	85		76		40-140	11		40
Benzo(a)anthracene	98		82		40-140	18		40
Benzo(a)pyrene	97		86		40-140	12		40
Benzo(b)fluoranthene	102		90		40-140	13		40
Benzo(k)fluoranthene	93		80		40-140	15		40
Chrysene	92		73		40-140	23		40
Acenaphthylene	90		78		40-140	14		40
Anthracene	94		79		40-140	17		40
Benzo(ghi)perylene	98		88		40-140	11		40
Fluorene	98		84		40-140	15		40
Phenanthrene	95		83		40-140	13		40
Dibenzo(a,h)anthracene	97		88		40-140	10		40
Indeno(1,2,3-cd)Pyrene	99		89		40-140	11		40
Pyrene	98		82		26-127	18		40
2-Methylnaphthalene	89		84		40-140	6		40
Pentachlorophenol	86		76		9-103	12		40
Hexachlorobenzene	97		91		40-140	6		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON ROAD

Project Number: 0323-015-002

Lab Number: L1530967

Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 04-06 Batch: WG845361-2 WG845361-3								
Hexachloroethane	87		67		40-140	26		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	56		43		21-120
Phenol-d6	47		34		10-120
Nitrobenzene-d5	96		97		23-120
2-Fluorobiphenyl	87		84		15-120
2,4,6-Tribromophenol	101		89		10-120
4-Terphenyl-d14	87		83		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG846480-2 WG846480-3								
1,2,4-Trichlorobenzene	48		59		39-98	21		30
Bis(2-chloroethyl)ether	56		75		40-140	29		30
1,2-Dichlorobenzene	50		57		40-140	13		30
1,3-Dichlorobenzene	49		54		40-140	10		30
1,4-Dichlorobenzene	49		56		36-97	13		30
3,3'-Dichlorobenzidine	**37**	Q	56		40-140	**41**	Q	30
2,4-Dinitrotoluene	72		**107**	Q	24-96	**39**	Q	30
2,6-Dinitrotoluene	66		96		40-140	**37**	Q	30
4-Chlorophenyl phenyl ether	57		83		40-140	**37**	Q	30
4-Bromophenyl phenyl ether	60		90		40-140	**40**	Q	30
Bis(2-chloroisopropyl)ether	55		76		40-140	**32**	Q	30
Bis(2-chloroethoxy)methane	57		82		40-140	**36**	Q	30
Hexachlorocyclopentadiene	**38**	Q	54		40-140	**35**	Q	30
Isophorone	60		87		40-140	**37**	Q	30
Nitrobenzene	66		89		40-140	30		30
NitrosoDiPhenylAmine(NDPA)/DPA	57		84		40-140	**38**	Q	30
n-Nitrosodi-n-propylamine	60		87		29-132	**37**	Q	30
Bis(2-Ethylhexyl)phthalate	54		88		40-140	**48**	Q	30
Butyl benzyl phthalate	62		98		40-140	**45**	Q	30
Di-n-butylphthalate	56		87		40-140	**43**	Q	30
Di-n-octylphthalate	57		94		40-140	**49**	Q	30

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG846480-2 WG846480-3								
Diethyl phthalate	57		84		40-140	**38**	Q	30
Dimethyl phthalate	58		85		40-140	**38**	Q	30
Biphenyl	59		81		54-104	**31**	Q	30
4-Chloroaniline	46		64		40-140	**33**	Q	30
2-Nitroaniline	68		100		52-143	**38**	Q	30
3-Nitroaniline	57		82		25-145	**36**	Q	30
4-Nitroaniline	60		95		51-143	**45**	Q	30
Dibenzofuran	56		80		40-140	**35**	Q	30
1,2,4,5-Tetrachlorobenzene	54		73		2-134	30		30
Acetophenone	71		98		39-129	**32**	Q	30
2,4,6-Trichlorophenol	64		97		30-130	**41**	Q	30
P-Chloro-M-Cresol	61		95		23-97	**44**	Q	30
2-Chlorophenol	57		78		27-123	**31**	Q	30
2,4-Dichlorophenol	59		87		30-130	**38**	Q	30
2,4-Dimethylphenol	56		87		30-130	**43**	Q	30
2-Nitrophenol	72		99		30-130	**32**	Q	30
4-Nitrophenol	38		64		10-80	**51**	Q	30
2,4-Dinitrophenol	104		**148**	Q	20-130	**35**	Q	30
4,6-Dinitro-o-cresol	95		139		20-164	**38**	Q	30
Phenol	25		36		12-110	**36**	Q	30
2-Methylphenol	49		72		30-130	**38**	Q	30

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON ROAD

Project Number: 0323-015-002

Lab Number: L1530967

Report Date: 12/04/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG846480-2 WG846480-3								
3-Methylphenol/4-Methylphenol	48		71		30-130	**39**	Q	30
2,4,5-Trichlorophenol	60		93		30-130	**43**	Q	30
Benzoic Acid	30		35		10-110	15		30
Benzyl Alcohol	50		73		15-110	**37**	Q	30
Carbazole	60		88		55-144	**38**	Q	30
Benzaldehyde	70		91		40-140	26		30
Caprolactam	21		32		10-130	**42**	Q	30
Atrazine	70		104		40-140	**39**	Q	30
2,3,4,6-Tetrachlorophenol	58		86		54-145	**39**	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	38		49		21-120
Phenol-d6	27		38		10-120
Nitrobenzene-d5	74		99		23-120
2-Fluorobiphenyl	59		85		15-120
2,4,6-Tribromophenol	73		109		10-120
4-Terphenyl-d14	63		94		41-149

Project Name: OREGON ROAD
Project Number: 0323-015-002

Lab Number: L1530967
Report Date: 12/04/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1530967-01A	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-01B	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-01C	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-02A	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-02B	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-02C	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-03A	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-03B	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-03C	Vial HCl preserved	A	N/A	3.6	Y	Absent	NYTCL-8260(14)
L1530967-04A	Amber 1000ml unpreserved	A	7	3.6	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1530967-04B	Amber 1000ml unpreserved	A	7	3.6	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1530967-05A	Amber 1000ml unpreserved	A	7	3.6	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1530967-05B	Amber 1000ml unpreserved	A	7	3.6	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1530967-06A	Amber 1000ml unpreserved	A	7	3.6	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1530967-06B	Amber 1000ml unpreserved	A	7	3.6	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)

*Values in parentheses indicate holding time in days

Project Name:	OREGON ROAD	**Lab Number:**	L1530967
Project Number:	0323-015-002	**Report Date:**	12/04/15

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: DU Report with 'J' Qualifiers

Project Name:	OREGON ROAD	**Lab Number:**	L1530967
Project Number:	0323-015-002	**Report Date:**	12/04/15

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	OREGON ROAD	**Lab Number:**	L1530967
Project Number:	0323-015-002	**Report Date:**	12/04/15

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 8260C: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; Iodomethane (methyl iodide) (soil); Methyl methacrylate (soil); Azobenzene.
EPA 8270D: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page: 1 of 1

Date Rec'd in Lab: 11/25/15

ALPHA Job #: L1530967

Client Information

Client: Turnkey Envn
Address: 2558 Hamburg Turnpk Buffalo NY 14218
Phone: 716 825-3314
Fax:
Email:

Project Information

Project Name: Oregon Rd
Project Location: Oregon Rd, Olean
Project #: 0323-2015-002
(Use Project name as Project #) ☐
Project Manager: Mike Lesakowski
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☒ Other Email Mike

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☒ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☒ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TCL + CPSV VOCs | TCL + CPSV SVOCs

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

Sample Specific Comments

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL + CPSV VOCs	TCL + CPSV SVOCs
30967-01	MW-1	11-24-15	930	GW	BWG	X	
-02	MW-2	↓	1000	GW	BWG	X	
-03	MW-3	↓	1030	GW	BWG	X	
-04	MW-1	11-24-15	1330	GW	BWG		X
-05	MW-2	↓	1345	GW	BWG		X
-06	MW-3	↓	1400	GW	BWG		X

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	V	A
Preservative	B	A

Relinquished By:	Date/Time	Received By:	Date/Time
	11-24-15/1425		11/24/15 1425
	11/25/15 0230		11/25/15 0230

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1531029
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Mike Lesakowski
Phone:	(716) 856-0599
Project Name:	OREGON RD
Project Number:	0323-015-002
Report Date:	12/03/15

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1531029-01	SV-2	SOIL_VAPOR	OREGON RD	11/23/15 17:15	11/24/15
L1531029-02	SV-3	SOIL_VAPOR	OREGON RD	11/23/15 16:49	11/24/15
L1531029-03	UNUSED CAN #2124	SOIL_VAPOR	OREGON RD		11/24/15
L1531029-04	UNUSED CAN #1529	SOIL_VAPOR	OREGON RD		11/24/15

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Case Narrative

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

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

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

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

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

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

Project Name: OREGON RD **Lab Number:** L1531029
Project Number: 0323-015-002 **Report Date:** 12/03/15

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on November 20, 2015. The canister certification results are provided as an addendum.

Sample L1531029-02: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The WG846038-3 LCS recoveries for 1,2,4-Trichlorobenzene (148%), 1,2,3-Trichlorobenzene (136%) and Hexachlorobutadiene (154%) are above the upper 130% acceptance limit. The response for these compounds was elevated however they were not detected in any of the associated samples therefore no further action was required.

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

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 12/03/15

AIR

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

SAMPLE RESULTS

Lab ID: L1531029-01
Client ID: SV-2
Sample Location: OREGON RD
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/03/15 00:16
Analyst: RY

Date Collected: 11/23/15 17:15
Date Received: 11/24/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.300	0.200	--	1.48	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	0.285	0.200	--	0.630	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	7.90	5.00	--	14.9	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	64.2	1.00	--	153	2.38	--		1
Trichlorofluoromethane	0.209	0.200	--	1.17	1.12	--		1
Isopropanol	2.12	0.500	--	5.21	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	1.59	0.500	--	4.82	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	8.79	0.200	--	27.4	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	22.7	0.500	--	66.9	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1

Project Name: OREGON RD
Project Number: 0323-015-002
Lab Number: L1531029
Report Date: 12/03/15

SAMPLE RESULTS

Lab ID: L1531029-01
Client ID: SV-2
Sample Location: OREGON RD
Date Collected: 11/23/15 17:15
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chloroform	0.471	0.200	--	2.30	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.693	0.200	--	2.44	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.541	0.200	--	1.73	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.689	0.200	--	2.82	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	2.64	0.500	--	10.8	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	1.20	0.200	--	4.52	0.754	--		1
2-Hexanone	10.4	0.200	--	42.6	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.390	0.200	--	2.64	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.296	0.200	--	1.29	0.869	--		1
p/m-Xylene	1.37	0.400	--	5.95	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

SAMPLE RESULTS

Lab ID: L1531029-01
Client ID: SV-2
Sample Location: OREGON RD

Date Collected: 11/23/15 17:15
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.477	0.200	--	2.07	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	0.778	0.200	--	3.82	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	92		60-140

Project Name: OREGON RD
Project Number: 0323-015-002
Lab Number: L1531029
Report Date: 12/03/15

SAMPLE RESULTS

Lab ID: L1531029-02 D
Client ID: SV-3
Sample Location: OREGON RD
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 12/03/15 00:47
Analyst: RY

Date Collected: 11/23/15 16:49
Date Received: 11/24/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	2.00	--	ND	9.89	--		10
Chloromethane	ND	2.00	--	ND	4.13	--		10
Freon-114	ND	2.00	--	ND	14.0	--		10
Vinyl chloride	ND	2.00	--	ND	5.11	--		10
1,3-Butadiene	ND	2.00	--	ND	4.42	--		10
Bromomethane	ND	2.00	--	ND	7.77	--		10
Chloroethane	ND	2.00	--	ND	5.28	--		10
Ethanol	ND	50.0	--	ND	94.2	--		10
Vinyl bromide	ND	2.00	--	ND	8.74	--		10
Acetone	35.2	10.0	--	83.6	23.8	--		10
Trichlorofluoromethane	ND	2.00	--	ND	11.2	--		10
Isopropanol	2410	5.00	--	5920	12.3	--		10
1,1-Dichloroethene	ND	2.00	--	ND	7.93	--		10
Tertiary butyl Alcohol	ND	5.00	--	ND	15.2	--		10
Methylene chloride	ND	5.00	--	ND	17.4	--		10
3-Chloropropene	ND	2.00	--	ND	6.26	--		10
Carbon disulfide	ND	2.00	--	ND	6.23	--		10
Freon-113	ND	2.00	--	ND	15.3	--		10
trans-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
1,1-Dichloroethane	ND	2.00	--	ND	8.09	--		10
Methyl tert butyl ether	ND	2.00	--	ND	7.21	--		10
2-Butanone	ND	5.00	--	ND	14.7	--		10
cis-1,2-Dichloroethene	ND	2.00	--	ND	7.93	--		10
Ethyl Acetate	ND	5.00	--	ND	18.0	--		10

Project Name: OREGON RD
Project Number: 0323-015-002
Lab Number: L1531029
Report Date: 12/03/15

SAMPLE RESULTS

Lab ID: L1531029-02 D
Client ID: SV-3
Sample Location: OREGON RD
Date Collected: 11/23/15 16:49
Date Received: 11/24/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	2.00	--	ND	9.77	--		10
Tetrahydrofuran	ND	5.00	--	ND	14.7	--		10
1,2-Dichloroethane	ND	2.00	--	ND	8.09	--		10
n-Hexane	ND	2.00	--	ND	7.05	--		10
1,1,1-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Benzene	ND	2.00	--	ND	6.39	--		10
Carbon tetrachloride	ND	2.00	--	ND	12.6	--		10
Cyclohexane	ND	2.00	--	ND	6.88	--		10
1,2-Dichloropropane	ND	2.00	--	ND	9.24	--		10
Bromodichloromethane	ND	2.00	--	ND	13.4	--		10
1,4-Dioxane	ND	2.00	--	ND	7.21	--		10
Trichloroethene	ND	2.00	--	ND	10.7	--		10
2,2,4-Trimethylpentane	ND	2.00	--	ND	9.34	--		10
Heptane	ND	2.00	--	ND	8.20	--		10
cis-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
4-Methyl-2-pentanone	ND	5.00	--	ND	20.5	--		10
trans-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
1,1,2-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Toluene	ND	2.00	--	ND	7.54	--		10
2-Hexanone	ND	2.00	--	ND	8.20	--		10
Dibromochloromethane	ND	2.00	--	ND	17.0	--		10
1,2-Dibromoethane	ND	2.00	--	ND	15.4	--		10
Tetrachloroethene	ND	2.00	--	ND	13.6	--		10
Chlorobenzene	ND	2.00	--	ND	9.21	--		10
Ethylbenzene	ND	2.00	--	ND	8.69	--		10
p/m-Xylene	ND	4.00	--	ND	17.4	--		10
Bromoform	ND	2.00	--	ND	20.7	--		10
Styrene	ND	2.00	--	ND	8.52	--		10

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

SAMPLE RESULTS

Lab ID: L1531029-02 D
Client ID: SV-3
Sample Location: OREGON RD

Date Collected: 11/23/15 16:49
Date Received: 11/24/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	2.00	--	ND	13.7	--		10
o-Xylene	ND	2.00	--	ND	8.69	--		10
4-Ethyltoluene	ND	2.00	--	ND	9.83	--		10
1,3,5-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
1,2,4-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
Benzyl chloride	ND	2.00	--	ND	10.4	--		10
1,3-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,4-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2,4-Trichlorobenzene	ND	2.00	--	ND	14.8	--		10
Hexachlorobutadiene	ND	2.00	--	ND	21.3	--		10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	91		60-140

Project Name: OREGON RD
Project Number: 0323-015-002
Lab Number: L1531029
Report Date: 12/03/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/02/15 15:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02 Batch: WG846038-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: OREGON RD
Project Number: 0323-015-002
Lab Number: L1531029
Report Date: 12/03/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/02/15 15:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02 Batch: WG846038-4								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1

Project Name: OREGON RD
Project Number: 0323-015-002
Lab Number: L1531029
Report Date: 12/03/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 12/02/15 15:15

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02 Batch: WG846038-4								
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG846038-3								
Chlorodifluoromethane	95		-		70-130	-		
Propylene	98		-		70-130	-		
Propane	73		-		70-130	-		
Dichlorodifluoromethane	104		-		70-130	-		
Chloromethane	86		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	113		-		70-130	-		
Methanol	75		-		70-130	-		
Vinyl chloride	97		-		70-130	-		
1,3-Butadiene	89		-		70-130	-		
Butane	78		-		70-130	-		
Bromomethane	104		-		70-130	-		
Chloroethane	89		-		70-130	-		
Ethyl Alcohol	77		-		70-130	-		
Dichlorofluoromethane	96		-		70-130	-		
Vinyl bromide	105		-		70-130	-		
Acrolein	85		-		70-130	-		
Acetone	97		-		70-130	-		
Acetonitrile	78		-		70-130	-		
Trichlorofluoromethane	125		-		70-130	-		
iso-Propyl Alcohol	90		-		70-130	-		
Acrylonitrile	80		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG846038-3								
Pentane	82		-		70-130	-		
1,1-Dichloroethene	104		-		70-130	-		
tert-Butyl Alcohol	96		-		70-130	-		
Methylene chloride	94		-		70-130	-		
3-Chloropropene	87		-		70-130	-		
Carbon disulfide	92		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	110		-		70-130	-		
trans-1,2-Dichloroethene	87		-		70-130	-		
1,1-Dichloroethane	93		-		70-130	-		
Methyl tert butyl ether	97		-		70-130	-		
Vinyl acetate	92		-		70-130	-		
2-Butanone	100		-		70-130	-		
cis-1,2-Dichloroethene	124		-		70-130	-		
Ethyl Acetate	106		-		70-130	-		
Chloroform	121		-		70-130	-		
Tetrahydrofuran	85		-		70-130	-		
2,2-Dichloropropane	106		-		70-130	-		
1,2-Dichloroethane	122		-		70-130	-		
n-Hexane	80		-		70-130	-		
Isopropyl Ether	86		-		70-130	-		
Ethyl-Tert-Butyl-Ether	84		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG846038-3								
1,1,1-Trichloroethane	105		-		70-130	-		
1,1-Dichloropropene	95		-		70-130	-		
Benzene	90		-		70-130	-		
Carbon tetrachloride	112		-		70-130	-		
Cyclohexane	78		-		70-130	-		
Tertiary-Amyl Methyl Ether	87		-		70-130	-		
Dibromomethane	94		-		70-130	-		
1,2-Dichloropropane	87		-		70-130	-		
Bromodichloromethane	97		-		70-130	-		
1,4-Dioxane	98		-		70-130	-		
Trichloroethene	105		-		70-130	-		
2,2,4-Trimethylpentane	83		-		70-130	-		
Methyl Methacrylate	78		-		70-130	-		
Heptane	77		-		70-130	-		
cis-1,3-Dichloropropene	102		-		70-130	-		
4-Methyl-2-pentanone	84		-		70-130	-		
trans-1,3-Dichloropropene	90		-		70-130	-		
1,1,2-Trichloroethane	96		-		70-130	-		
Toluene	97		-		70-130	-		
1,3-Dichloropropane	93		-		70-130	-		
2-Hexanone	88		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG846038-3								
Dibromochloromethane	108		-		70-130	-		
1,2-Dibromoethane	107		-		70-130	-		
Butyl Acetate	88		-		70-130	-		
Octane	90		-		70-130	-		
Tetrachloroethene	109		-		70-130	-		
1,1,1,2-Tetrachloroethane	104		-		70-130	-		
Chlorobenzene	104		-		70-130	-		
Ethylbenzene	101		-		70-130	-		
p/m-Xylene	104		-		70-130	-		
Bromoform	117		-		70-130	-		
Styrene	100		-		70-130	-		
1,1,2,2-Tetrachloroethane	101		-		70-130	-		
o-Xylene	104		-		70-130	-		
1,2,3-Trichloropropane	96		-		70-130	-		
Nonane (C9)	79		-		70-130	-		
Isopropylbenzene	101		-		70-130	-		
Bromobenzene	94		-		70-130	-		
o-Chlorotoluene	98		-		70-130	-		
n-Propylbenzene	100		-		70-130	-		
p-Chlorotoluene	101		-		70-130	-		
4-Ethyltoluene	103		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG846038-3								
1,3,5-Trimethylbenzene	108		-		70-130	-		
tert-Butylbenzene	103		-		70-130	-		
1,2,4-Trimethylbenzene	112		-		70-130	-		
Decane (C10)	89		-		70-130	-		
Benzyl chloride	101		-		70-130	-		
1,3-Dichlorobenzene	114		-		70-130	-		
1,4-Dichlorobenzene	113		-		70-130	-		
sec-Butylbenzene	100		-		70-130	-		
p-Isopropyltoluene	99		-		70-130	-		
1,2-Dichlorobenzene	118		-		70-130	-		
n-Butylbenzene	106		-		70-130	-		
1,2-Dibromo-3-chloropropane	105		-		70-130	-		
Undecane	95		-		70-130	-		
Dodecane (C12)	109		-		70-130	-		
1,2,4-Trichlorobenzene	**148**	Q	-		70-130	-		
Naphthalene	126		-		70-130	-		
1,2,3-Trichlorobenzene	**136**	Q	-		70-130	-		
Hexachlorobutadiene	**154**	Q	-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG846038-5 QC Sample: L1531165-01 Client ID: DUP Sample						
Dichlorodifluoromethane	0.466	0.386	ppbV	19		25
Chloromethane	0.370	0.414	ppbV	11		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	ND	ppbV	NC		25
1,3-Butadiene	ND	ND	ppbV	NC		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethyl Alcohol	6.94	7.29	ppbV	5		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	2.79	2.88	ppbV	3		25
Trichlorofluoromethane	0.244	0.238	ppbV	2		25
iso-Propyl Alcohol	0.683	0.679	ppbV	1		25
tert-Butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	ND	ND	ppbV	NC		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG846038-5 QC Sample: L1531165-01 Client ID: DUP Sample					
2-Butanone	ND	ND	ppbV	NC	25
Ethyl Acetate	ND	ND	ppbV	NC	25
Chloroform	ND	ND	ppbV	NC	25
Tetrahydrofuran	ND	ND	ppbV	NC	25
1,2-Dichloroethane	ND	ND	ppbV	NC	25
n-Hexane	0.412	0.421	ppbV	2	25
Benzene	0.277	0.283	ppbV	2	25
Cyclohexane	ND	ND	ppbV	NC	25
1,2-Dichloropropane	ND	ND	ppbV	NC	25
Bromodichloromethane	ND	ND	ppbV	NC	25
1,4-Dioxane	ND	ND	ppbV	NC	25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC	25
Heptane	ND	ND	ppbV	NC	25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC	25
4-Methyl-2-pentanone	ND	ND	ppbV	NC	25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC	25
1,1,2-Trichloroethane	ND	ND	ppbV	NC	25
Toluene	0.711	0.725	ppbV	2	25
2-Hexanone	ND	ND	ppbV	NC	25

Lab Duplicate Analysis
Batch Quality Control

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG846038-5 QC Sample: L1531165-01 Client ID: DUP Sample					
Dibromochloromethane	ND	ND	ppbV	NC	25
1,2-Dibromoethane	ND	ND	ppbV	NC	25
Chlorobenzene	ND	ND	ppbV	NC	25
Ethylbenzene	ND	ND	ppbV	NC	25
p/m-Xylene	ND	ND	ppbV	NC	25
Bromoform	ND	ND	ppbV	NC	25
Styrene	ND	ND	ppbV	NC	25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC	25
o-Xylene	ND	ND	ppbV	NC	25
4-Ethyltoluene	ND	ND	ppbV	NC	25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC	25
1,2,4-Trimethylbenzene	ND	ND	ppbV	NC	25
Benzyl chloride	ND	ND	ppbV	NC	25
1,3-Dichlorobenzene	ND	ND	ppbV	NC	25
1,4-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2-Dichlorobenzene	ND	ND	ppbV	NC	25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC	25
Hexachlorobutadiene	ND	ND	ppbV	NC	25

Project Name: OREGON RD

Project Number: 0323-015-002

Lab Number: L1531029

Report Date: 12/03/15

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1531029-01	SV-2	0062	#90 SV	11/20/15	213121		-	-	-	Pass	79	80	1
L1531029-01	SV-2	2118	6.0L Can	11/20/15	213121	L1530117-01	Pass	-30.0	-5.3	-	-	-	-
L1531029-02	SV-3	0279	#90 SV	11/20/15	213121		-	-	-	Pass	80	86	7
L1531029-02	SV-3	1553	6.0L Can	11/20/15	213121	L1530117-01	Pass	-30.0	-1.5	-	-	-	-
L1531029-03	UNUSED CAN #2124	0326	#90 SV	11/20/15	213121		-	-	-	Pass	75	83	10
L1531029-03	UNUSED CAN #2124	2124	6.0L Can	11/20/15	213121	L1530117-01	Pass	-30.0	-30.2	-	-	-	-
L1531029-04	UNUSED CAN #1529	0324	#90 SV	11/20/15	213121		-	-	-	Pass	80	94	16
L1531029-04	UNUSED CAN #1529	1529	6.0L Can	11/20/15	213121	L1530117-01	Pass	-30.0	-28.7	-	-	-	-

Project Name:

Lab Number: L1530117

Project Number: CANISTER QC BAT

Report Date: 12/03/15

Air Canister Certification Results

Lab ID: L1530117-01
Client ID: CAN 1539 SHELF 51
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/18/15 21:02
Analyst: RY

Date Collected: 11/17/15 08:00
Date Received: 11/17/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethyl Alcohol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1

Project Name:

Lab Number: L1530117

Project Number: CANISTER QC BAT

Report Date: 12/03/15

Air Canister Certification Results

Lab ID: L1530117-01
Client ID: CAN 1539 SHELF 51
Sample Location:

Date Collected: 11/17/15 08:00
Date Received: 11/17/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Isopropyl Ether	ND	0.200	--	ND	0.836	--		1
Ethyl-Tert-Butyl-Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Tertiary-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1

Project Name:

Lab Number: L1530117

Project Number: CANISTER QC BAT

Report Date: 12/03/15

Air Canister Certification Results

Lab ID: L1530117-01
Client ID: CAN 1539 SHELF 51
Sample Location:

Date Collected: 11/17/15 08:00
Date Received: 11/17/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl Acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane (C9)	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
o-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1

Project Name: **Lab Number:** L1530117

Project Number: CANISTER QC BAT **Report Date:** 12/03/15

Air Canister Certification Results

Lab ID: L1530117-01 Date Collected: 11/17/15 08:00

Client ID: CAN 1539 SHELF 51 Date Received: 11/17/15

Sample Location: Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
p-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane (C10)	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane (C12)	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-Difluorobenzene	98		60-140
Bromochloromethane	100		60-140

Project Name: **Lab Number:** L1530117

Project Number: CANISTER QC BAT **Report Date:** 12/03/15

Air Canister Certification Results

Lab ID: L1530117-01
Client ID: CAN 1539 SHELF 51
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/18/15 06:49
Analyst: MB

Date Collected: 11/17/15 08:00
Date Received: 11/17/15
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name:

Lab Number: L1530117

Project Number: CANISTER QC BAT

Report Date: 12/03/15

Air Canister Certification Results

Lab ID: L1530117-01
Client ID: CAN 1539 SHELF 51
Sample Location:

Date Collected: 11/17/15 08:00
Date Received: 11/17/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name:

Lab Number: L1530117

Project Number: CANISTER QC BAT

Report Date: 12/03/15

Air Canister Certification Results

Lab ID: L1530117-01
Client ID: CAN 1539 SHELF 51
Sample Location:

Date Collected: 11/17/15 08:00
Date Received: 11/17/15
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	101		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	106		60-140

Project Name: OREGON RD
Project Number: 0323-015-002

Lab Number: L1531029
Report Date: 12/03/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information **Custody Seal**

Cooler

N/A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1531029-01A	Canister - 2.7 Liter	N/A	N/A	N/A	Y	Absent	TO15-LL(30)
L1531029-02A	Canister - 2.7 Liter	N/A	N/A	N/A	Y	Absent	TO15-LL(30)
L1531029-03A	Canister - 6 Liter	N/A	N/A		Y	Absent	CLEAN-FEE()
L1531029-04A	Canister - 6 Liter	N/A	N/A		Y	Absent	CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	OREGON RD	**Lab Number:**	L1531029
Project Number:	0323-015-002	**Report Date:**	12/03/15

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: Data Usability Report

Project Name:	OREGON RD	**Lab Number:**	L1531029
Project Number:	0323-015-002	**Report Date:**	12/03/15

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 8260C: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; Iodomethane (methyl iodide) (soil); Methyl methacrylate (soil); Azobenzene.
EPA 8270D: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 11/25/15

ALPHA Job #: L1531029

Client Information

Client: TurnKey
Address: 2558 Hamburg Turnpike
Buffalo NY 14218
Phone: 716-856-0599
Fax:
Email:

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Oregon Rd
Project Location: Oregon Rd
Project #: 0323-015-002
Project Manager:
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH *(only confirmed if pre-approved!)*

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15		Sample Comments (i.e. PID)
31029-01	SV-2	11-23-15	1605	1715	28.25	5.36	SV	PWW	6L	218	0062	X						
-02	SV-3	11-23-15	1545	1649	28.15	1.60	SV	PWW	6L	1553	0277	X						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
	11-23-15 1900	AM	112415 900
	11/25/15 0230		11/25/15 0230
	11/25/15 0400		11/25/15 4:00

Form No: 101-02 Rev: (25-Sep-15)