Set No. _____
Specifications, Proposal,
and Contract Documents for:

TOTEM LAKE CONNECTOR BRIDGE

(NE 124TH St/124th Ave NE Pedestrian Bridge (Totem Lake Non-Motorized Bridge))

NMC086
Job No. 01-20-PW
Fed Contract No. TA 6970

Volume 2 - Appendices

City of Kirkland
Department of Public Works
123 Fifth Avenue
Kirkland, Washington 98033

CITY OF KIRKLAND
GENERAL TABLE OF CONTENTS

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Contract Documents Volume 2

APPENDIX A

PLANS

(UNDER SEPARATE COVER)

City of Kirkland

APPENDIX B

SUMMARY OF GEOTECHNICAL CONDITIONS

City of Kirkland

CONCLUSIONS AND RECOMMENDATIONS

Summary of Key Geotechnical Issues

Based on the subsurface conditions encountered in our borings, the results of our laboratory testing and engineering analyses, and previous experience in the Totem Lake area, we conclude the proposed Totem Lake Connector project may be satisfactorily constructed as planned with respect to geotechnical elements.

A summary of the primary geotechnical considerations for the project is provided below. The summary is presented for introductory purposes only and should be used in conjunction with the complete recommendations presented in this report.

- Based on the borings, the site is designated as seismic Site Class D per the Washington State Department of Transportation (WSDOT) Geotechnical Design Manual (GDM) and American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications.
- Effective stress liquefaction analysis was completed to better characterize the liquefaction susceptibility of the site soils and the anticipated settlement resulting from liquefaction. As summarized in a subsequent section, estimated ground settlements resulting from liquefaction of portions of the subsurface soils during the design earthquake range from 0 in the south part of the alignment, to 10 inches in the northeast.
- We understand the "Skipping Stone" bridge design alternative has been selected, which includes 10 individual piers and southern and northern abutments. Based on the subsurface soil conditions encountered and the estimated bridge loads, large diameter drilled shaft foundations will provide suitable support for the bridge. The south abutment will require two shafts and the north abutment near the end of the spiral ramp will require three shafts. The remaining foundations will be single shafts to support Y-piers. Recommendations for axial compression, uplift and lateral capacities are discussed in subsequent sections.
- Effective erosion and sedimentation control measures must be implemented during construction so that potential impacts to adjacent areas are reduced. The erosion and sedimentation control measures used for this project should be in accordance with the requirements of the City of Kirkland.
- We recommend site preparation, earthwork, foundation installation, wall construction, utility installation and pavement subgrade preparation activities be completed in the generally drier summer months (June through September) to reduce difficulties and costs associated with these activities.
- The existing fill and native soils encountered in the explorations contain a high percentage of fines (particles passing the No. 200 sieve), are highly moisture sensitive, and will be difficult to compact or work on if allowed to become too wet. We expect operation of equipment on these soils will not be difficult when they are at their optimum moisture content. The granular on-site soils may be used as structural fill during dry weather conditions (June through September) provided they are properly moisture conditioned. Imported Gravel Borrow, WSDOT Standard Specification 9-03.14(1), should be used as structural fill during wet weather conditions and during the wet season (typically October through May).
- The approach embankment from the southwest will extend from the existing trail and up the adjacent railroad cut slope to connect with the bridge alignment. Vegetated face MSE walls are planned to

support the approach fill ramp in this area. A shorter embankment is required at the north abutment area, extending from the spiral terminus to the existing trail. A vegetated face MSE wall will also be used to support this embankment fill. The MSE walls should be embedded a sufficient depth (at least 2 feet) and founded on suitable native bearing soils or on compacted structural fill.

- Hot-mix asphalt (HMA) pavement sections for the new trail should be designed in accordance with the City of Kirkland standards for multi-purpose trails. We anticipate the trail may be used occasionally by maintenance vehicles; accordingly, the pavement section should consist of at least 3 inches of HMA over 6 inches of crushed rock base course.
- Storm water infiltration is feasible near the south abutment area and within the traffic island. A moderate infiltration rate is available in the south abutment area, while a lower infiltration rate is available in the traffic island area, based on the results of the PITs and laboratory tests.

APPENDIX B
LABORATORY TESTING

Soil samples obtained from the explorations were transported to our Redmond geotechnical laboratory and evaluated to confirm or modify field classifications, as well as to evaluate engineering properties of the soils. Representative samples were selected for laboratory testing that included moisture content, organic content, percent fines, grain size distribution (sieve and hydrometer analyses), plasticity (Atterberg limits) and cation exchange capacity (CEC) tests. The tests were conducted using test methods of the American Society for Testing and Materials (ASTM) or other applicable procedures.

Soil Classifications

All soil samples obtained from the explorations were visually classified in the field and/or in our laboratory using a system based on the Unified Soil Classification System (USCS) and ASTM classification methods. ASTM Test Method D 2488 was used to visually classify the soil samples, while ASTM D 2487 was used to classify the soils based on laboratory test results. These classification procedures are incorporated in the exploration logs presented as Figures A-2 through A-23 in Appendix A.

Moisture Content Tests

Moisture contents were measured using the ASTM D 2216 test method for several samples obtained from the explorations. The results of these tests are presented on the exploration logs (Appendix A) at the respective sample depths.

Organic Content Tests

Organic content tests were conducted on two samples from the test pits using the ASTM D 2974 test method. This test method evaluates the percent by weight of organic matter in the soil. The test results are indicated on the logs of the test pits (TP-1 and TP-2, Figures A-22 and A-23).

Percent Fines Tests

Tests to evaluate the percent fines (particles passing the No. 200 sieve) were completed on several soil samples using ASTM D 1140. The wet sieve method was used to determine the percentage of soil particles by weight larger than the U.S. No. 200 sieve opening. Results of the percent fines tests are presented on the exploration logs (Figures A-2 through A-23) at the depths at which the samples were obtained.

Sieve Analysis

Sieve analyses were completed on several samples obtained from the explorations. The analyses were conducted using the ASTM D 6913 test method. The wet sieve analysis method was used to determine the percentage of soil particles by weight larger than the U.S. No. 200 mesh sieve. Results of the sieve analyses were plotted, classified using the USCS, and presented on Figures B-1 through B-9.

It should be noted that the sieve analyses were conducted on soil samples obtained from samplers that have an opening size of 1.4 inches where larger sized particles cannot be obtained by the samplers. Therefore, the sieve results do not account for soil particles that are larger than 1.4 inches. Soils with larger sized materials are described in this report qualitatively based on visual observations and experience on projects where excavations were made into similar geologic formations.

Hydrometer Analysis

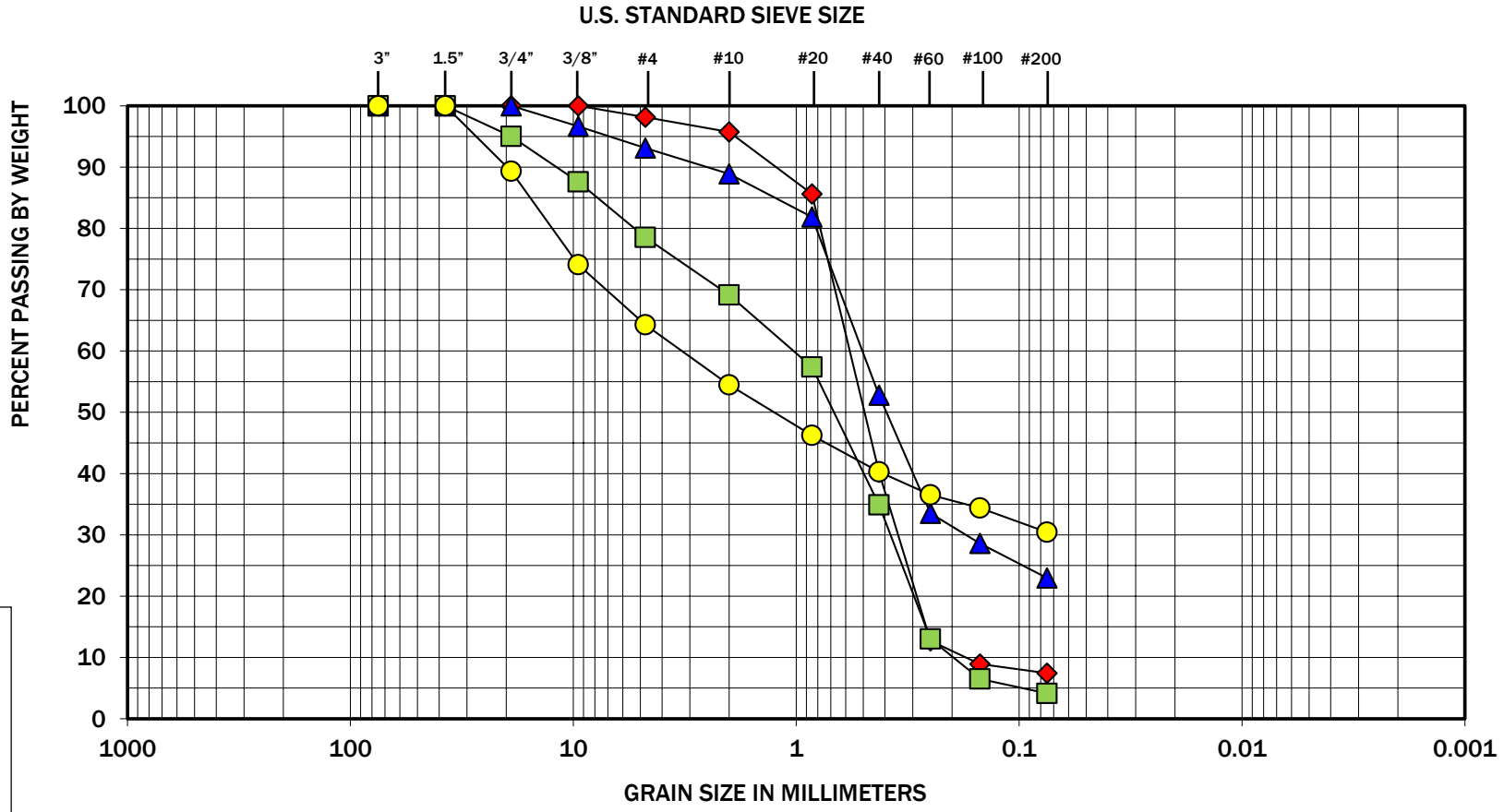
Hydrometer analyses were completed on several samples from the explorations. The analyses were conducted using the ASTM D 422 test method. The hydrometer analysis method estimates the distribution of particle sizes smaller than the No. 200 sieve. Results of the hydrometer analyses are included in the sieve analysis plots on Figures B-2 through B-4 and B-9.

Plasticity Characteristics

Plasticity characteristics of several soil samples were evaluated by conducting Atterberg limits tests using the ASTM D 4318 test method. This test method evaluates the liquid limit, plastic limit and plasticity index of the portion of the sample finer than the No. 40 sieve. Results of the Atterberg limits tests are presented on Figures B-10 through B-14.

Cation Exchange Capacity Tests

The CEC of two soil samples from test pits TP-1 and TP-2 was measured by Soil test Farm Consultants, Inc. under subcontract to GeoEngineers. This test evaluates the total capacity of a soil to hold exchangeable cations. The results of the CEC tests are presented on Figures B-15 and B-16.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-1	10	25	Fine to medium sand with silt (SP-SM)
■	B-1	55	15	Fine to medium sand with gravel (SP)
▲	B-4	5	15	Silty fine to medium sand (SM)
●	B-5	5	8	Silty fine to coarse gravel with sand (GM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913.

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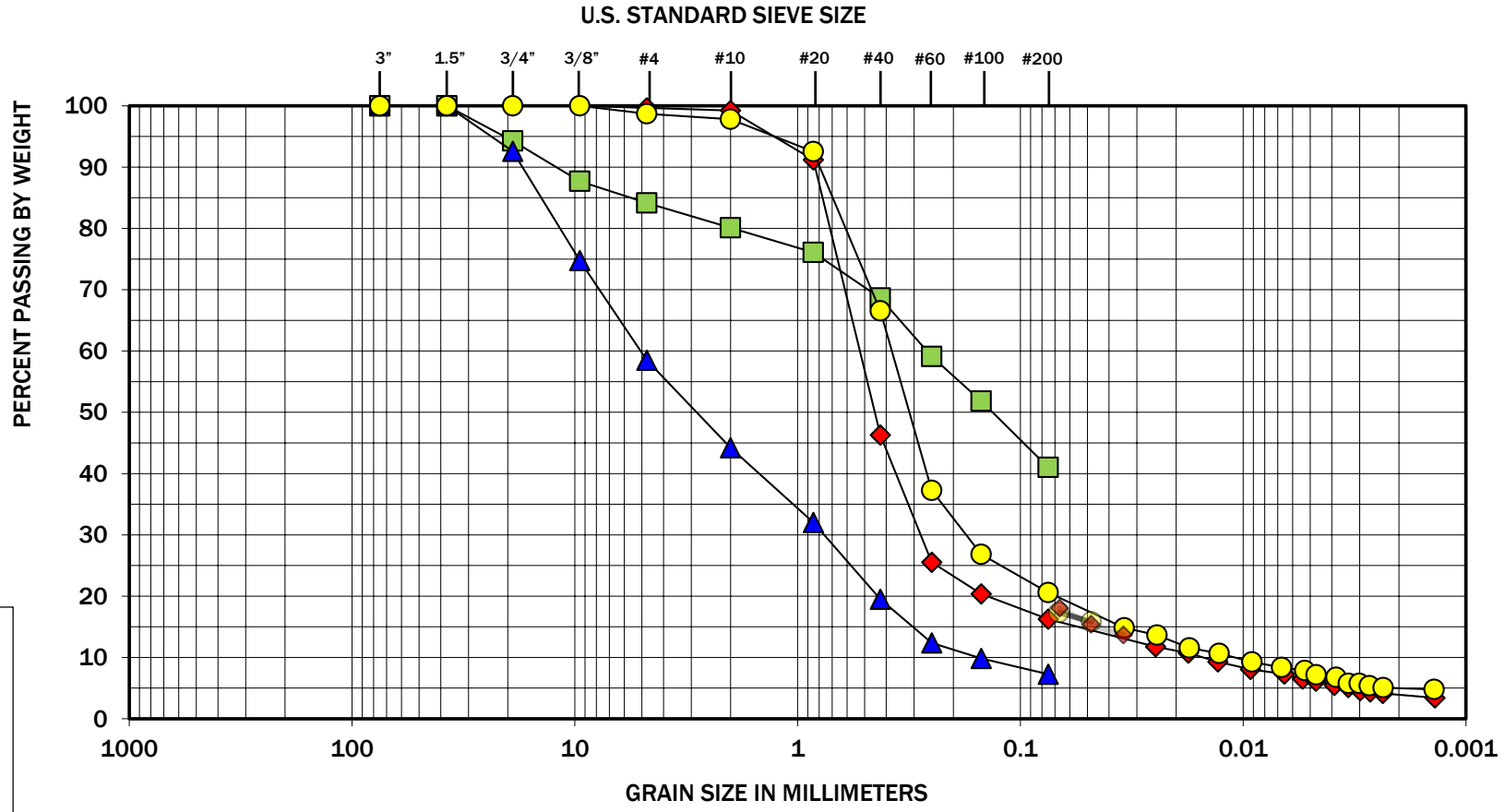
Totem Lake Connector
Kirkland, Washington

Sieve Analysis Results

Figure B-1



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-9	2.5	6	Silty fine to medium sand (SM)
■	B-9	10	11	Silty fine to medium sand with gravel (SM)
▲	B-9	30	11	Fine to coarse silt with sand and gravel (SP-SM)
●	B-10	5	14	Silty fine to medium sand (SM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913, and ASTM D422.

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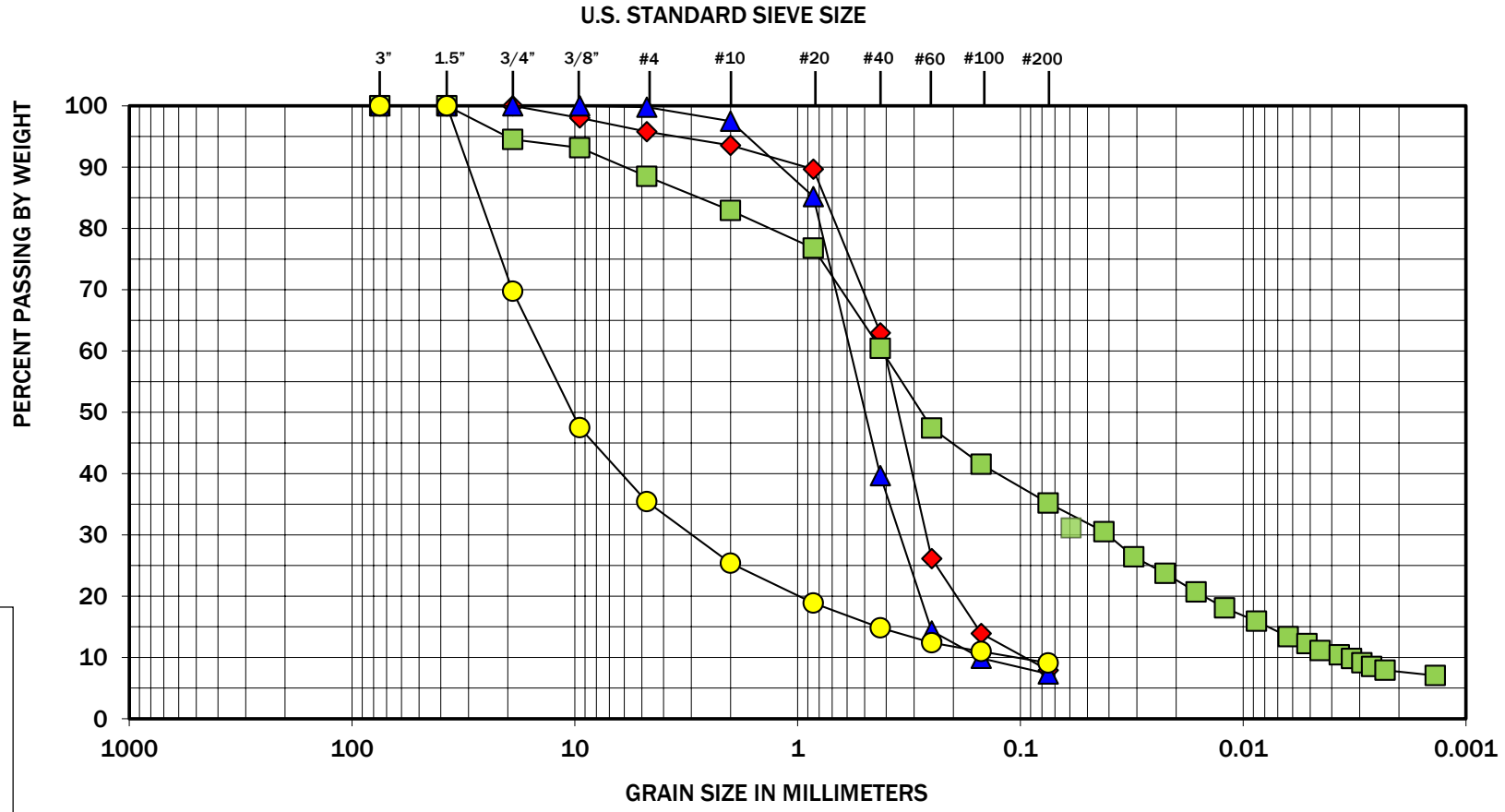
Totem Lake Connector
Kirkland, Washington

Sieve-Hydrometer Analysis Results

Figure B-2



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-11	65	16	Fine to medium sand with silt (SP-SM)
■	B-12	2.5	12	Silty fine to medium sand (SM)
▲	B-12	10	6	Fine to medium sand with silt (SP-SM)
●	B-12	30	10	Fine to coarse gravel with silt and sand (GP-GM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913, and ASTM D422.

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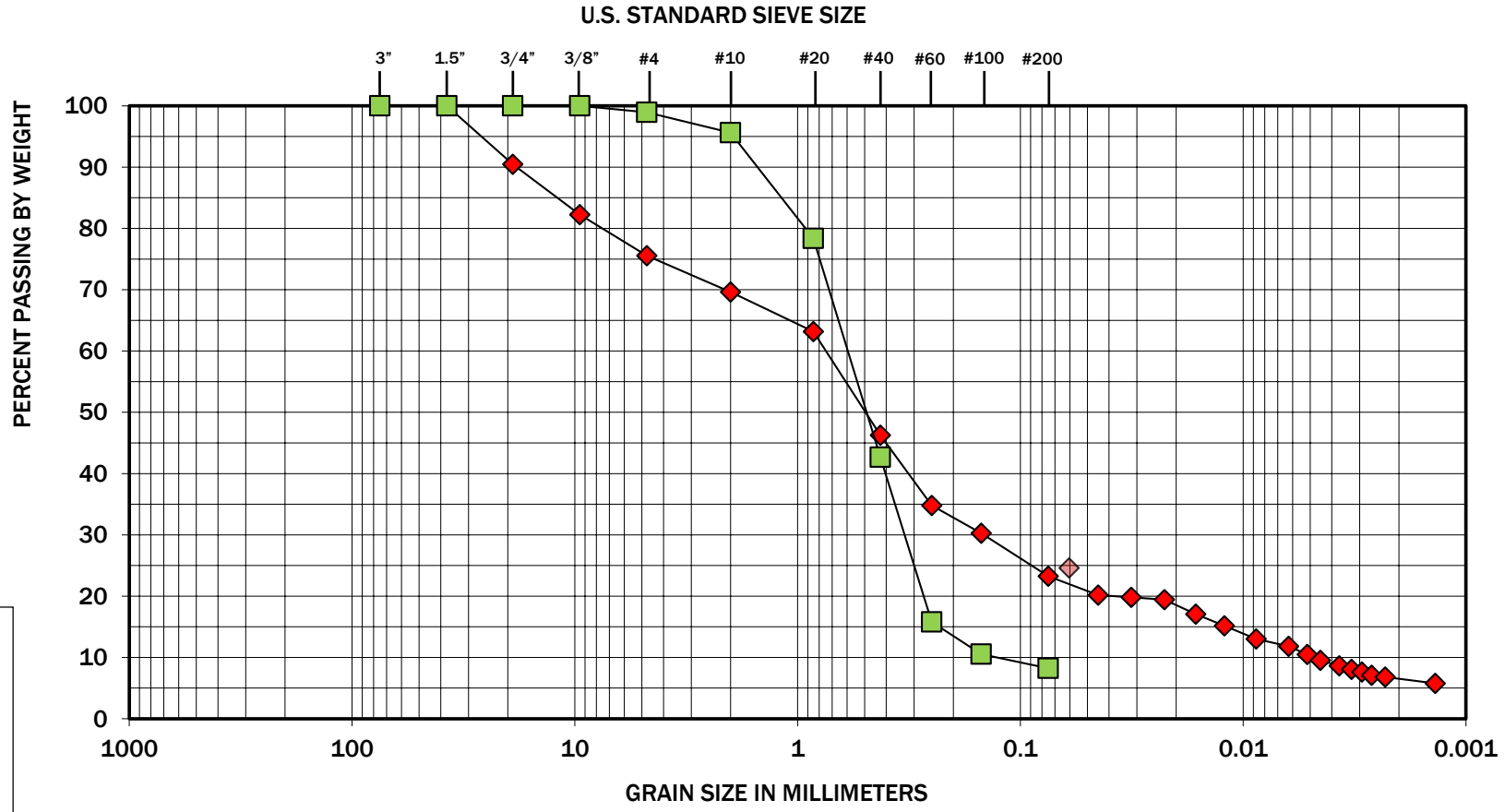
Totem Lake Connector
Kirkland, Washington

Sieve–Hydrometer Analysis Results

Figure B-3



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-13	2.5	10	Silty fine to medium sand with gravel (SM)
■	B-14	20	25	Fine to medium sand with silt (SP-SM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913 ASTM D422.

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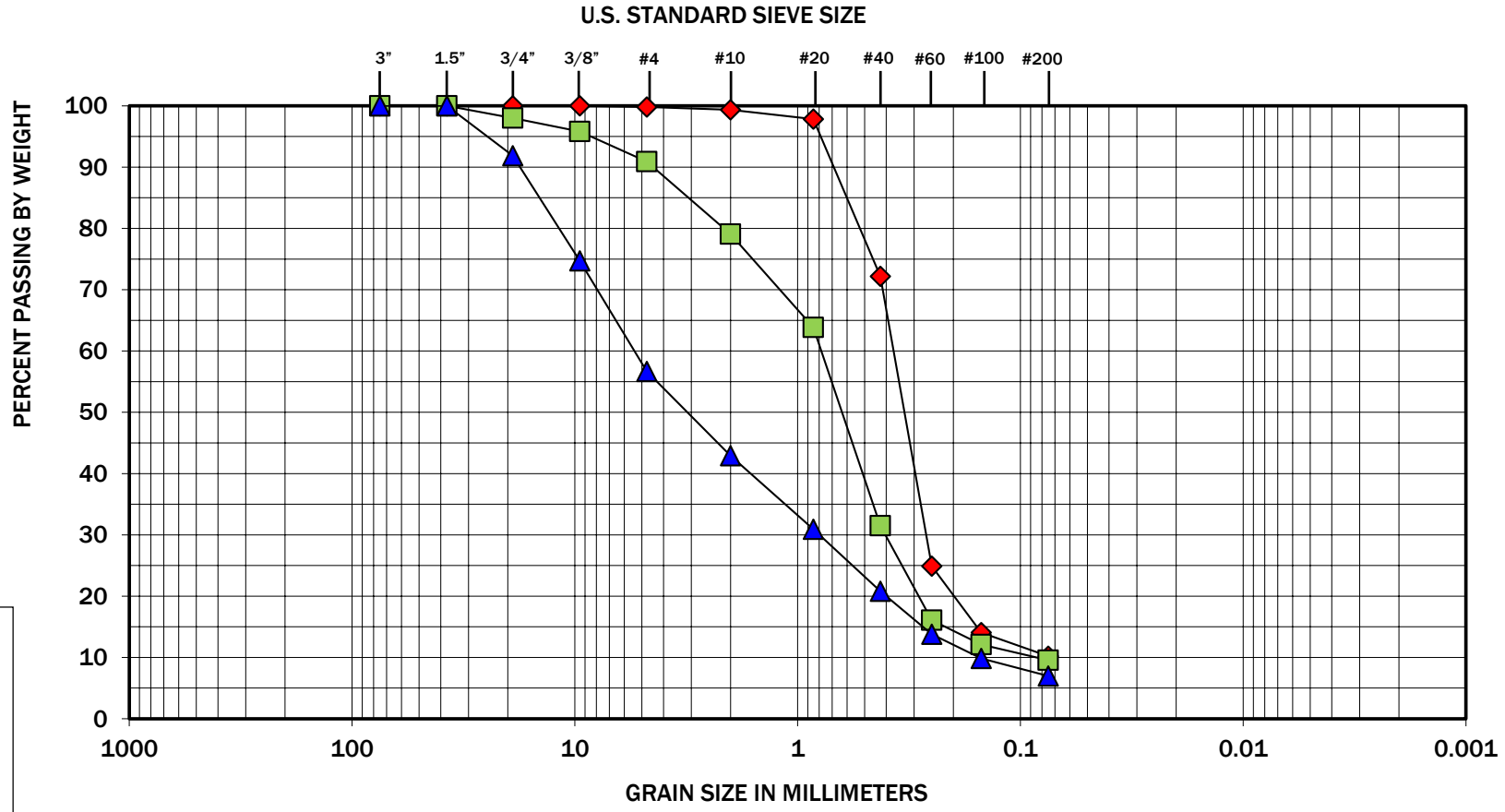
Totem Lake Connector
Kirkland, Washington

Sieve-Hydrometer Analysis Results

Figure B-4



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-16	7½	26	Fine to medium sand with silt (SP-SM)
■	B-16	20	21	Fine to coarse sand with silt and occasional gravel (SW-SM)
▲	B-16	65	8	Fine to coarse sand with silt and gravel (SP-SM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913.

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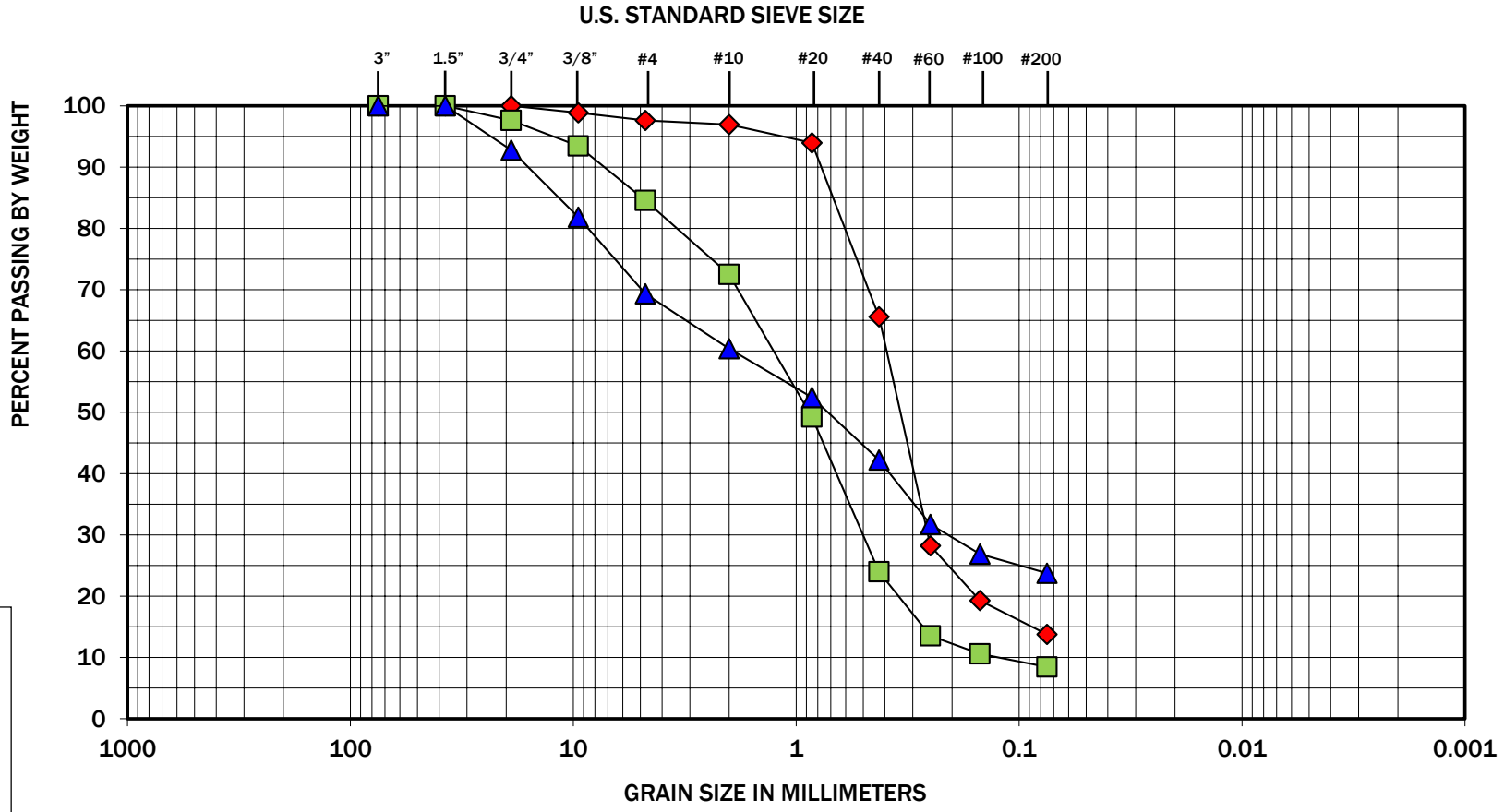
Totem Lake Connector
Kirkland, Washington

Sieve Analysis Results

Figure B-5



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-17	5	34	Silty fine to medium sand (SM)
■	B-17	25	17	Fine to coarse sand with silt and gravel (SW-SM)
▲	B-17	65	13	Silty fine to medium sand with gravel (SM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913.

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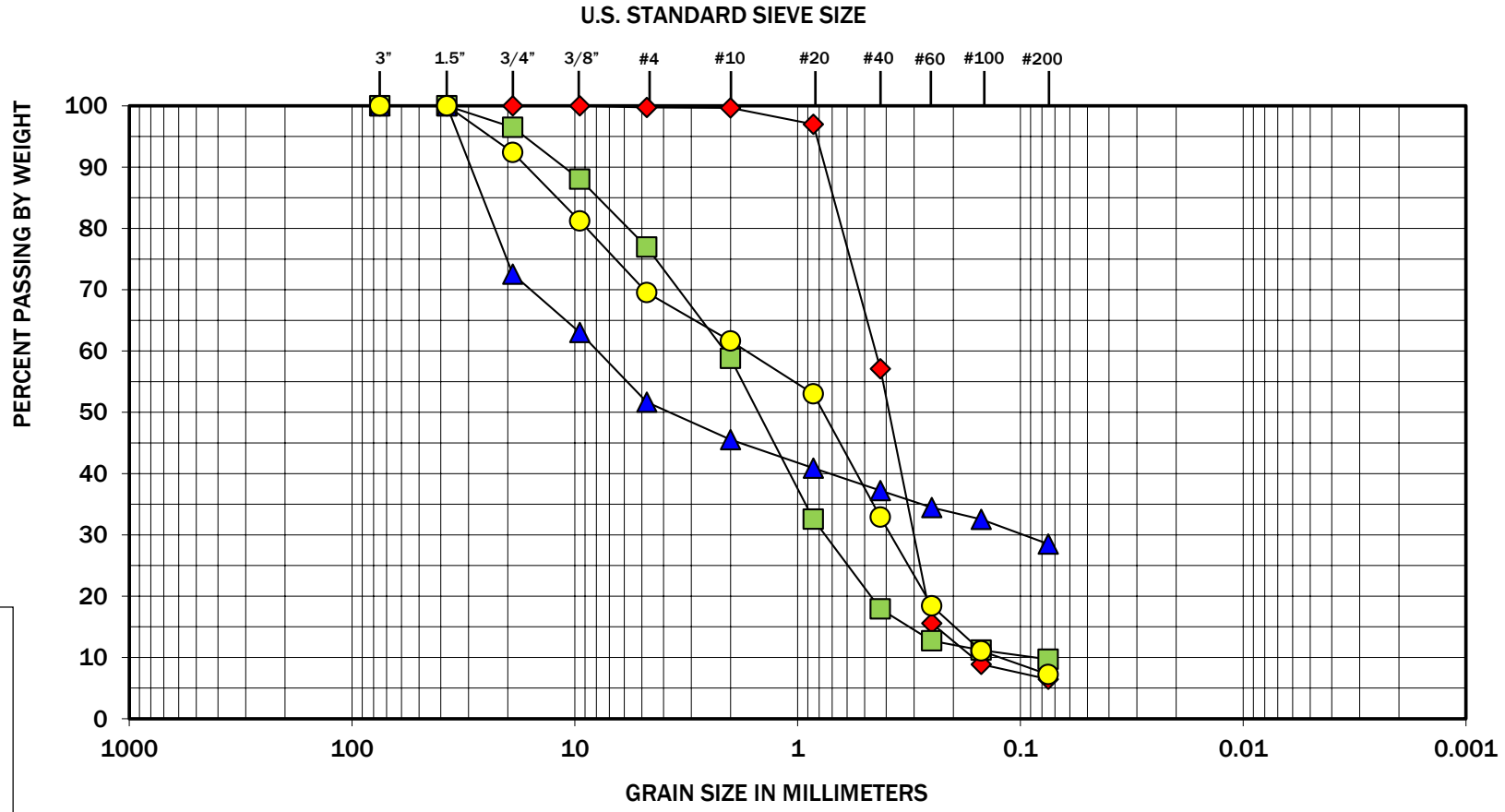
Totem Lake Connector
Kirkland, Washington

Sieve Analysis Results

Figure B-6



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-18	7½	24	Fine to medium sand with silt (SP-SM)
■	B-18	20	18	Medium to coarse sand with silt and gravel (SP-SM)
▲	B-18	30	13	Silty fine to coarse gravel with sand (GM)
●	B-18	60	12	Fine to medium sand with silt and gravel (SP-SM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913.

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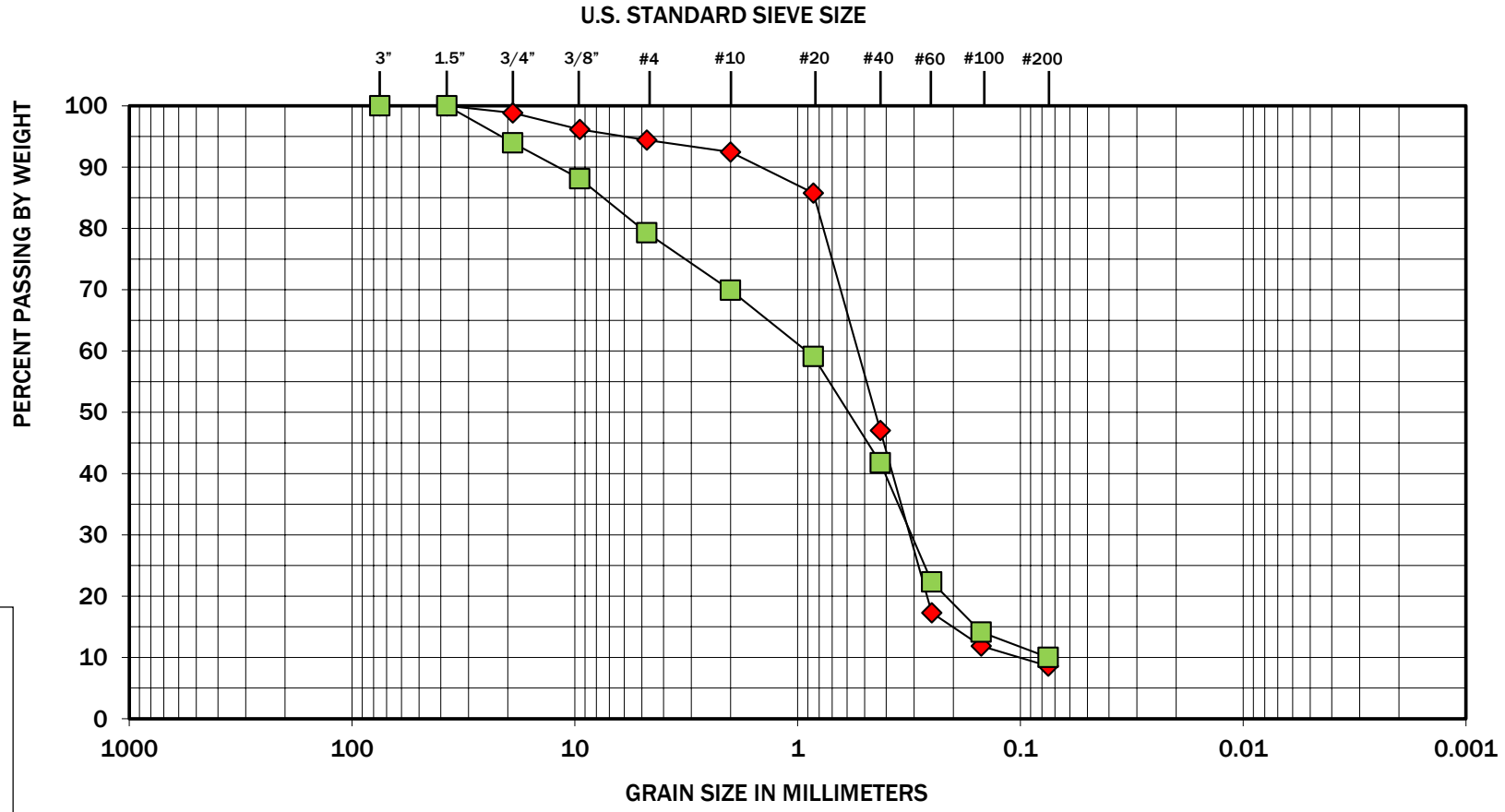
Totem Lake Connector
Kirkland, Washington

Sieve Analysis Results

Figure B-7



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-19	10	24	Fine to medium sand with silt (SP-SM)
■	B-19	60	14	Fine to medium sand with silt and gravel (SP-SM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913 ASTM D422.

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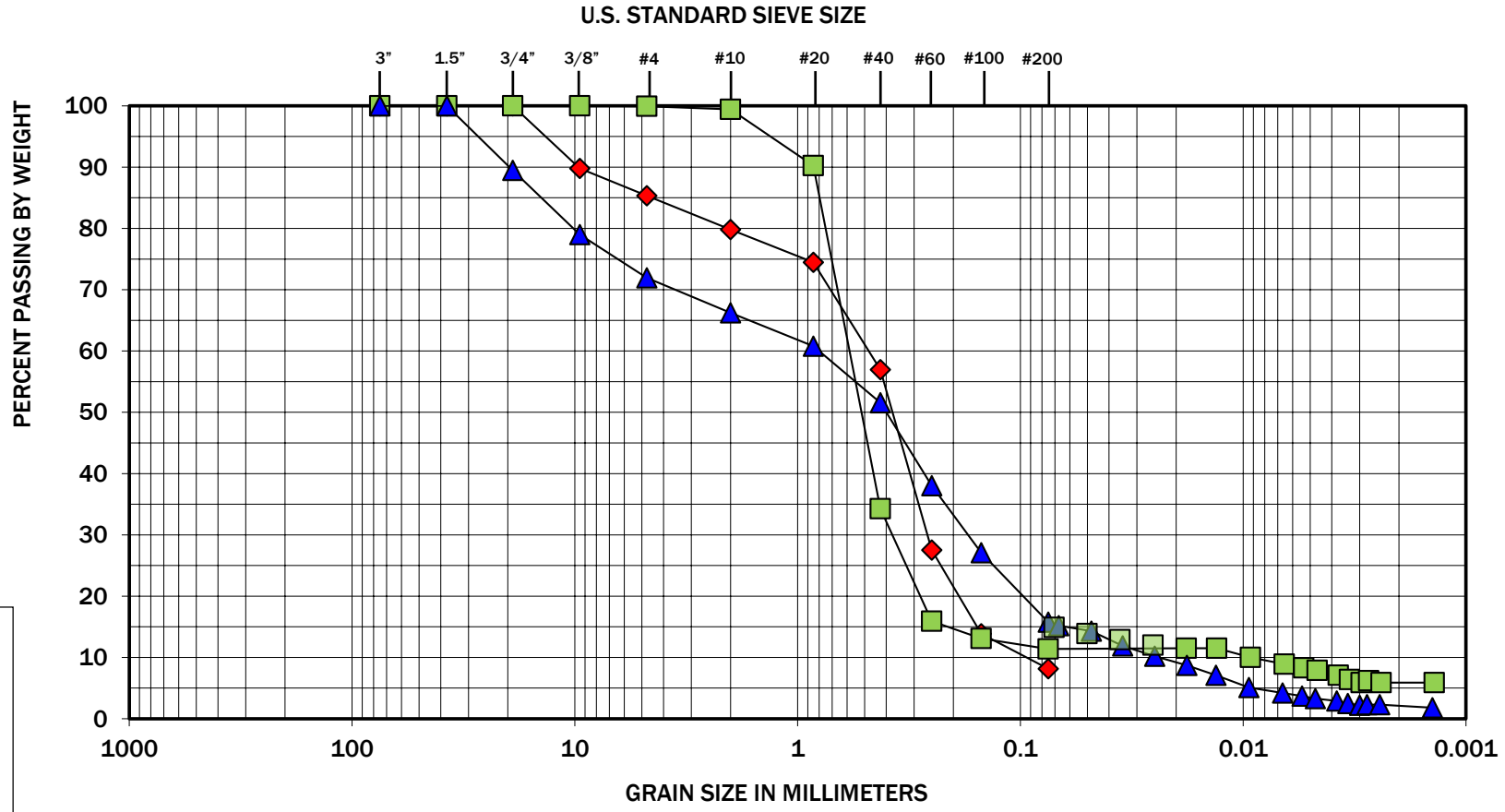
Totem Lake Connector
Kirkland, Washington

Sieve Analysis Results

Figure B-8



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-20	65	14	Fine to medium sand with silt and gravel (SP-SM)
■	TP-1	4	9	Fine to medium sand with silt(SP-SM)
▲	TP-2	4	8	Silty fine to medium sand with gravel (SM)

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The grain size analysis results were obtained in general accordance with ASTM D 6913.

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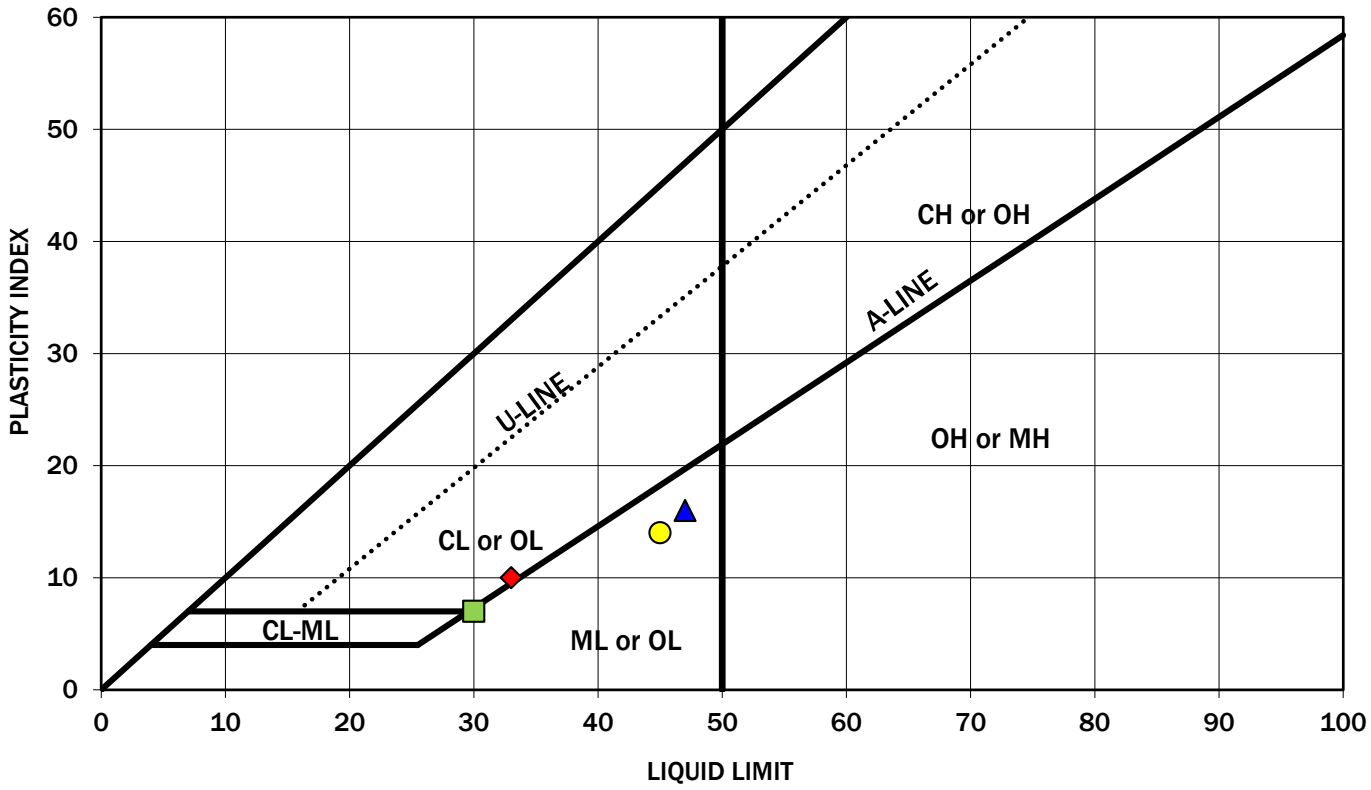
Totem Lake Connector
Kirkland, Washington

Sieve-Hydrometer Analysis Results

Figure B-9

PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
◆	B-1	35	24	33	10	Lean clay with sand and gravel (CL)
■	B-2	35	22	30	7	Silt with sand (ML)
▲	B-4	25	30	47	16	Silt with sand (ML)
●	B-5	10	26	45	14	Silt with sand and occasional gravel (ML)

The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318.

Atterberg Limits Test Results

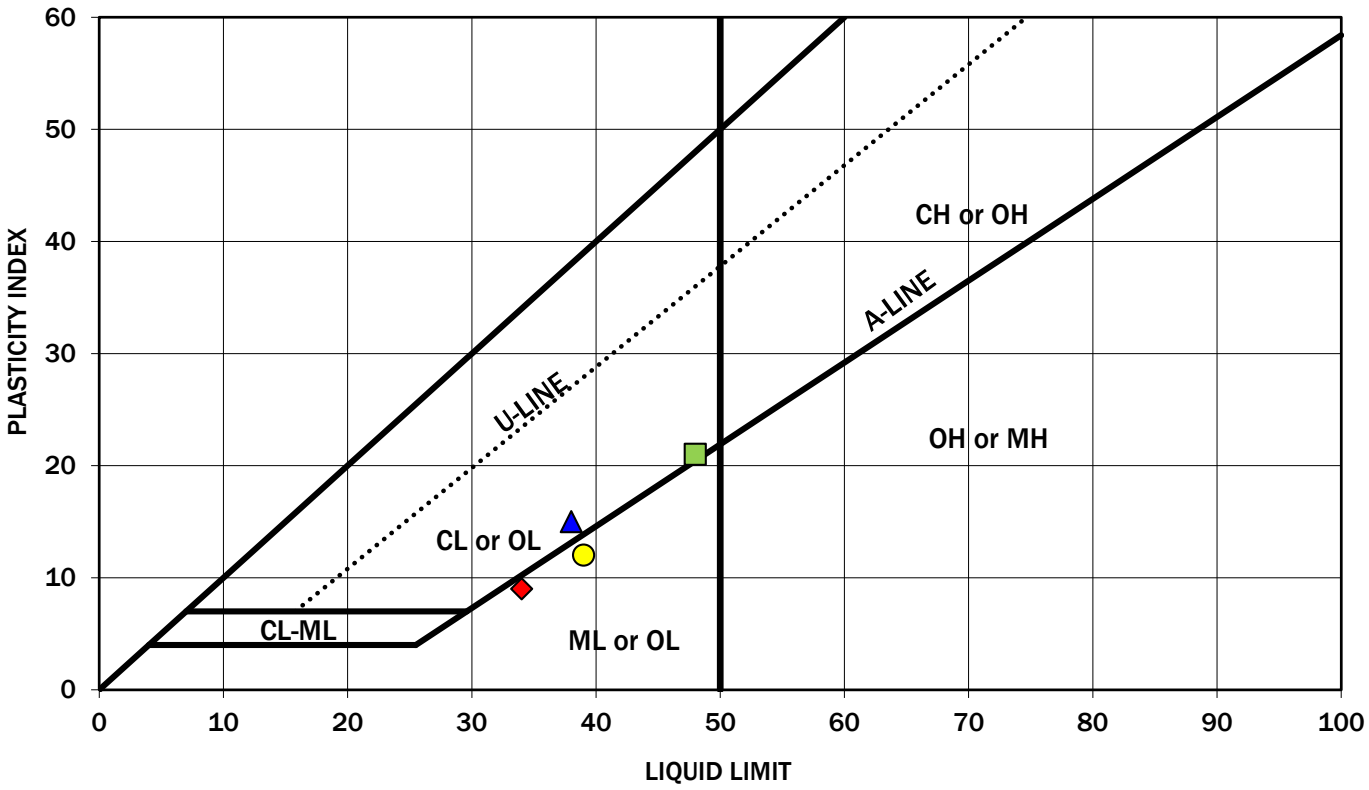
Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure B-10

0231-090-00 Date Exported: 02/09/17

PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
◆	B-9	15	31	34	9	Silt (ML)
■	B-10	10	31	48	21	Lean clay with sand (CL)
▲	B-10	35	25	38	23	Lean clay with sand (CL)
●	B-11	25	28	39	12	Silt with sand (ML)

The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318.

Atterberg Limits Test Results

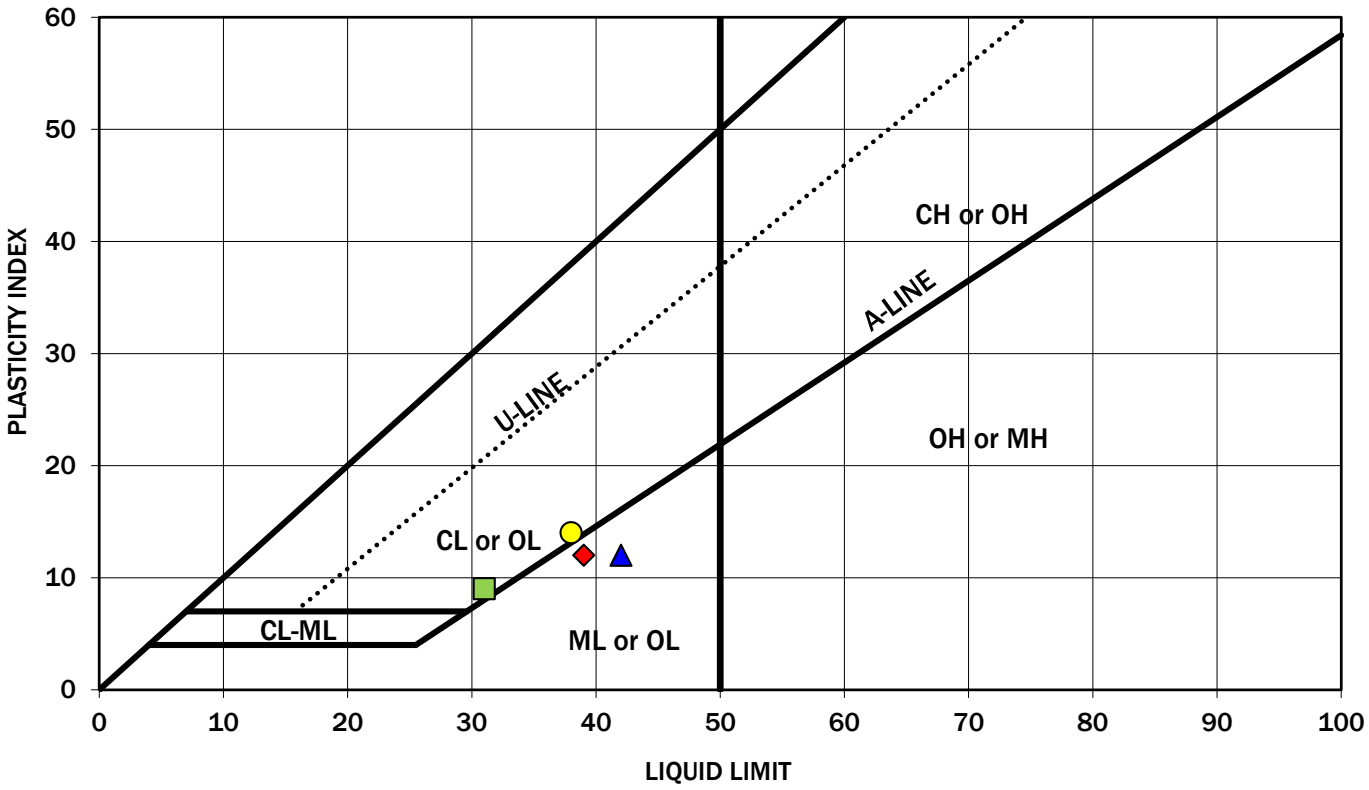
Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure B-11

231-090-01 Date Exported: 10/27/17

PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
◆	B-12	25	28	39	12	Silt with sand (ML)
■	B-13	30	20	31	9	Lean clay with sand (CL)
▲	B-14	30	36	42	12	Silt with sand (ML)
●	B-15	30	21	38	14	Clay with sand and gravel (CL)

The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318.

Atterberg Limits Test Results

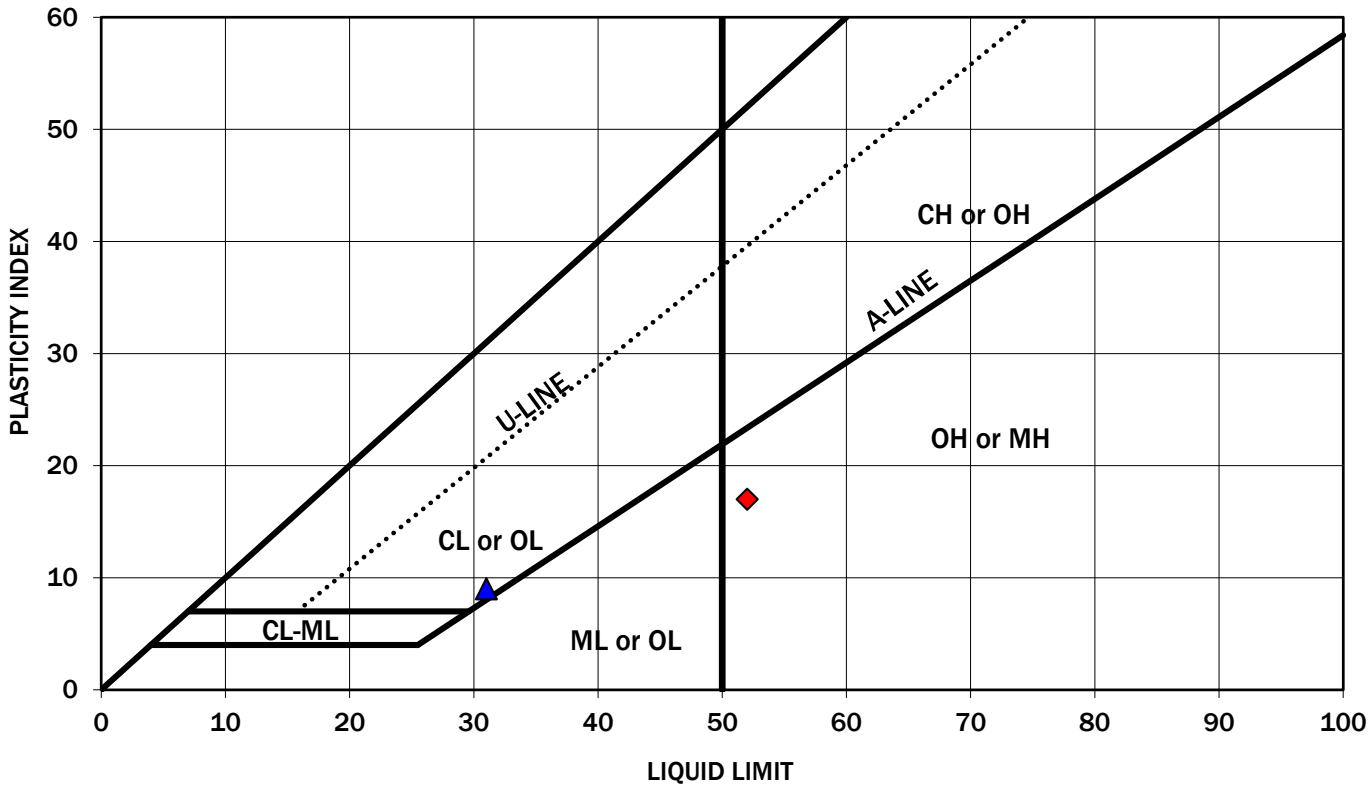
Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure B-12

231-090-01 Date Exported: 10/27/17

PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
◆	B-16	30	45	52	17	Elastic Silt (MH)
■	B-16	45	28	-	-	Non-Plastic silt with sand (ML)
▲	B-17	40	28	31	9	Lean clay (CL)

The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318.

Atterberg Limits Test Results

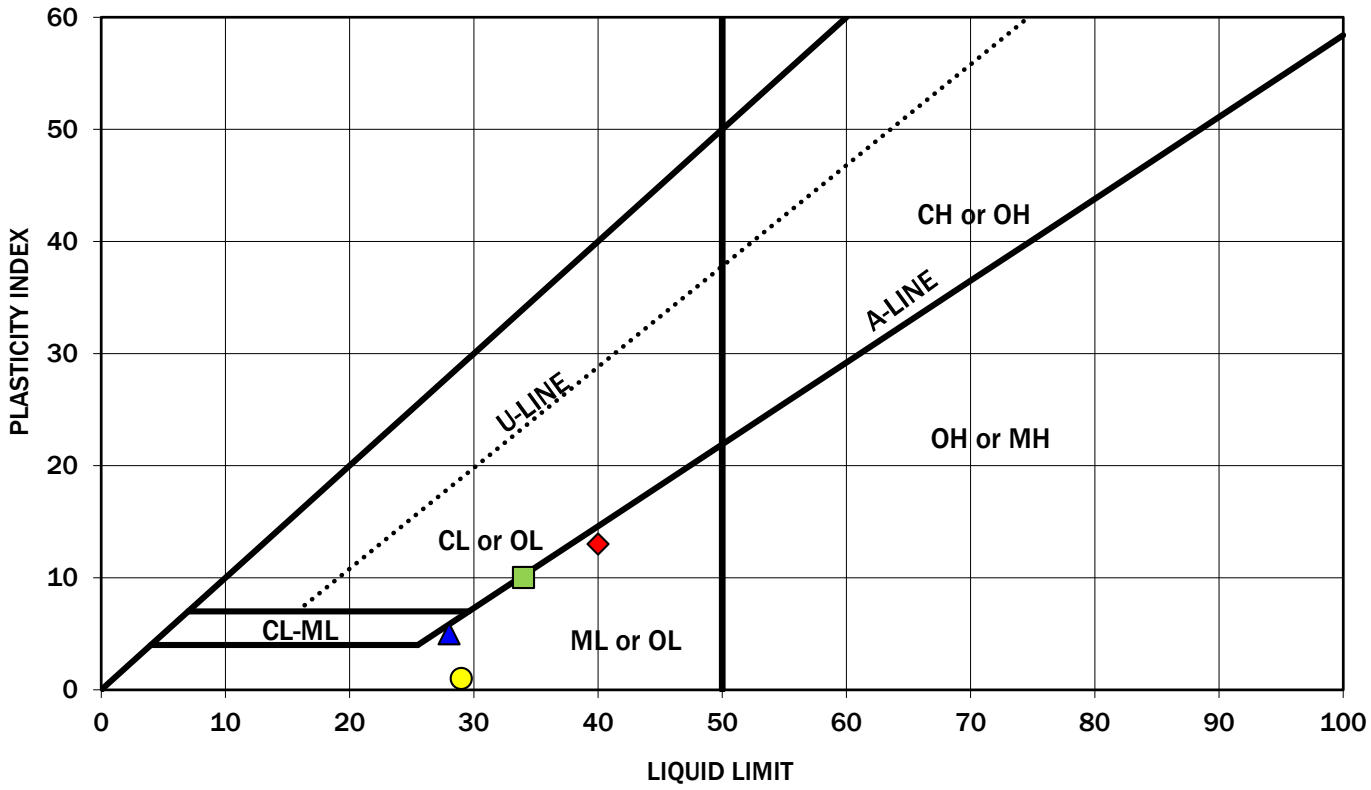
Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure B-13

213-090-01 Date Exported: 07/31/2018

PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
◆	B-18	30	31	40	13	Silty fine to coarse gravel with sand (GM)
■	B-18	40	31	34	10	Silt (ML)
▲	B-19	30	22	28	5	Sandy silt (ML)
●	B-20	35	28	29	1	Silt with sand (ML)

The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318.

Atterberg Limits Test Results

Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure B-14

231-090-01 Date Exported: 10/27/17

- Borehole Logs B-1 through B-20 are located in the plans, pages 112-133.

- Borehole Logs B-87, B-89, B-93 are located in this Appendix B.

- Borehole Logs were not produced for TP3, TP4, TP5 and are not included in the contract documents.

APPENDIX C
PREVIOUS EXPLORATIONS

Appendix C presents the logs of previous explorations by others along or near the project alignment, including three borings (B-87, B-89, and B-93) completed by Converse Consultants NW in 1987 for the Redmond Connection sewer force main project. The locations of these borings are shown on Figure 2.

DATE DRILLED: 11/23/87

SUMMARY: BORING NO. B-87 508

ELEVATION: Approx. 130'

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

DEPTH IN FEET	SAMPLE NO.*	SAMPLE	BLOWS/6"	OTHER TESTS**	FIELD MOISTURE % OF DRY WEIGHT	DRY DENSITY PCF	DESCRIPTION	SYMBOL	MOISTURE	CONSISTENCY
0	1A	9 8 12/2"	80	delete			SILTY SAND W/GRAVEL (Fill); brown mottled rust, fine to medium sand, fine to coarse gravel, low plasticity - encountered obstruction at 3'	SM 15	slightly moist	medium dense
5	2A	5 3 6	9	Fill			- increasing gravel		moist	loose
10	3A	2 2 3	5	Qvr			PEAT; brown, abundant wood fibers and fine roots, interbedded with silty sand, occasional laminations of organic silt	Pt 100	▽ 9.5 wet wet	soft
	4B	push								
15	5A	2 1 1	2							
	6C	5 1 2								
20							SAND; description on following page	SP		m.dense

(Continued)

* A. 2" split-spoon sampler
B. 3" O.D. thin-wall sampler C. 3-1/4" O.D. x 2-1/2" liner
D. 3-1/2" O.D. split barrel sampler X. sample not recovered

** A - Atterberg, C - consolidation, DS - direct shear, G - grain size, T - triaxial, P - permeability

▽ water level
impervious seal
piezometer tip

REDMOND CONNECTION PROJECT
for HNTB

Project No.
86-35289-04

Drawing No.
A-40

Converse Consultants Geotechnical Engineering and Applied Sciences

DATE DRILLED:

SUMMARY: BORING NO. B-87 SOS (Cont.)

ELEVATION:

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

DEPTH IN FEET	SAMPLE NO.*	SAMPLE	BLOWS/6"	OTHER TESTS**	FIELD MOISTURE % OF DRY WEIGHT	DRY DENSITY PCF	DESCRIPTION	SYMBOL	MOISTURE	CONSISTENCY
20	7A		7 13 18 41		23		SAND; light gray-brown, fine to medium, few silt, occasional laminations of brown fine sandy silt	SP-SM	wet	medium dense
							- 6" to 8" log at depth 23'			
25	8A		7 8 9 17				- occasionally stained rust-brown			
30	9A		9 10 11 21		19					
35	10A		17 17 16 33				- grades to trace silt	SP		
40							(Continued)			

* A. 2" split-spoon sampler
B. 3" O.D. thin-wall sampler C. 3-1/4" O.D. x 2-1/2" liner X. sample not recovered
D. 3-1/2" O.D. split barrel sampler

** A - Atterberg, C - consolidation, DS - direct shear, G - grain size, T - triaxial, P - permeability

water level
impervious seal
piezometer tip

REDMOND CONNECTION PROJECT
for HNTB

Project No.
86-35289-04

Converse Consultants Geotechnical Engineering and Applied Sciences

Drawing No.
A-41

DATE DRILLED:

SUMMARY: BORING NO. B-87 508 (Cont.)

ELEVATION:

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

DEPTH IN FEET	SAMPLE NO.*	SAMPLE	BLOWS/6"	OTHER TESTS**	FIELD MOISTURE % OF DRY WEIGHT	DRY DENSITY PCF	DESCRIPTION	SYMBOL	MOISTURE	CONSISTENCY
40	11A		5 8 7 15	Qur	1		SAND (Continued) - large log at depth 42.5'	SP 4	wet	medium dense
45	12C		40 52 67		9	134	SANDY GRAVEL; brown mottled orange-brown, fine to coarse, medium to coarse sand, few silt, little silt in indistinct beds	GW-GM 3		very dense
50	13A		18 24 36 60				- grades to gray-brown mottled orange-brown, little silt, medium plasticity	GM 13		
55	14A		27 36 23 59					13		
	15A		10 11 13 24		14		SILT; gray, little fine sand, occasional indistinct beds of gravelly silt with sand	ML 85	moist	very dense
60							Total depth approximately 60.0'			

3/4" diameter PVC piezometer installed to 58.5' with 2' screen interval at bottom; backfilled with pea gravel; bentonite seal placed at surface.

* A. 2" split-spoon sampler
B. 3" O.D. thin-wall sampler C. 3-1/4" O.D. x 2-1/2" liner X. sample not recovered
D. 3-1/2" O.D. split barrel sampler

** A - Atterberg, C - consolidation, DS - direct shear, G - grain size, T - triaxial, P - permeability

water level
impervious seal
piezometer tip

REDMOND CONNECTION PROJECT
for HNTB

Project No.
86-35289-04

Converse Consultants Geotechnical Engineering and Applied Sciences

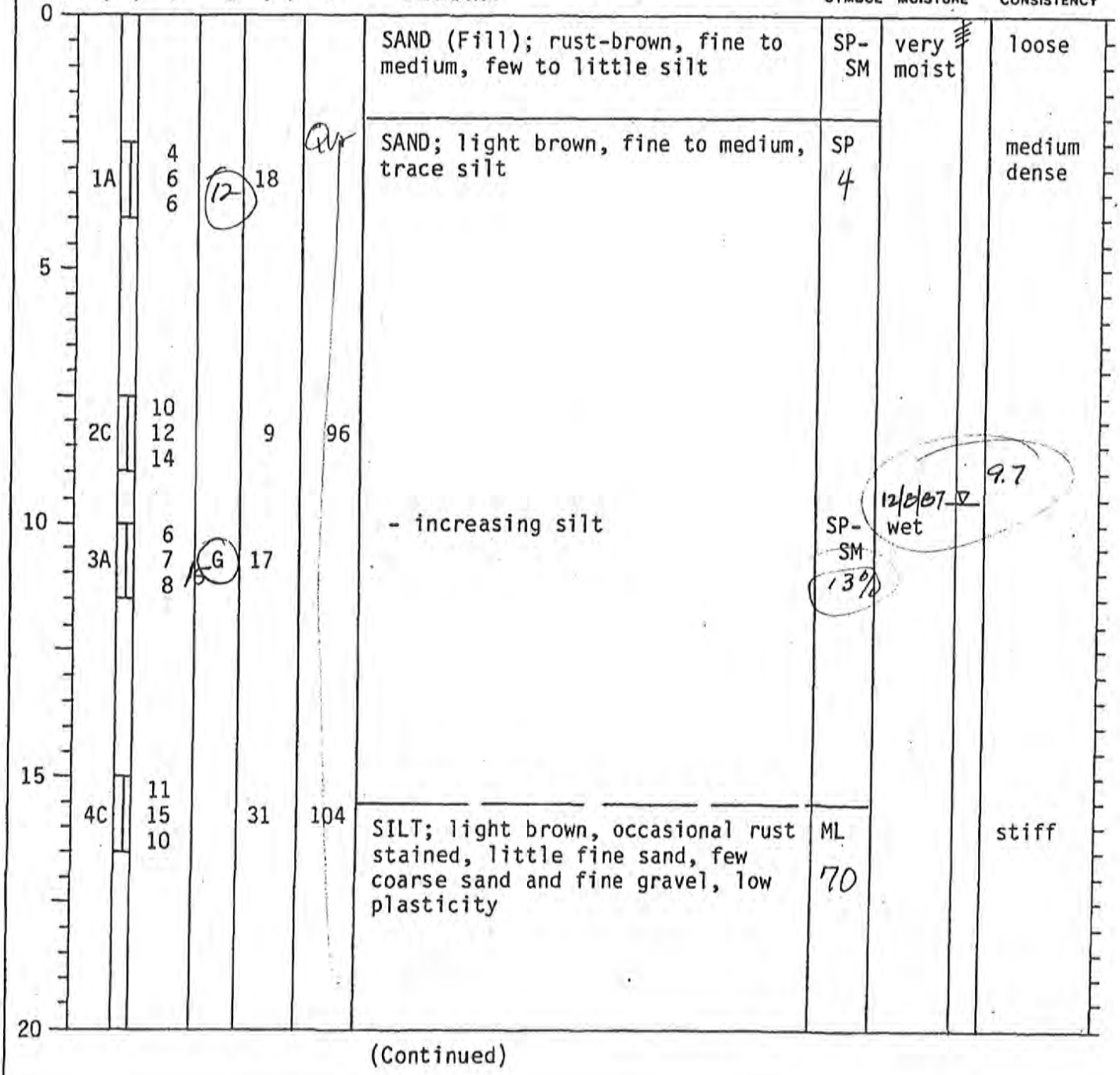
Drawing No.
A-42

DATE DRILLED: 11/23/87

SUMMARY: BORING NO. B-89 509

ELEVATION: Approx. 133'

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.



* A. 2" split-spoon sampler
B. 3" O.D. thin-wall sampler C. 3-1/4" O.D. x 2-1/2" liner D. 3-1/2" O.D. split barrel sampler X. sample not recovered

** A - Atterberg, C - consolidation, DS - direct shear, G - grain size, T - triaxial, P - permeability

water level
impervious seal
piezometer tip

REDMOND CONNECTION PROJECT
for HNTB

Project No.
86-35289-04

Converse Consultants Geotechnical Engineering and Applied Sciences

Drawing No.
A-43

DATE DRILLED:

SUMMARY: BORING NO. B-89 509 (Cont.) ELEVATION:

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

DEPTH IN FEET	SAMPLE NO.*	SAMPLE BLOWS/6"	OTHER TESTS**	FIELD MOISTURE % OF DRY WEIGHT	DRY DENSITY PCF	DESCRIPTION	SYMBOL	MOISTURE	CONSISTENCY
20	5A	5 5 6	11			SILT (Cont.); occasional indistinct beds of silty gravel with sand	ML 65	wet	firm
						SILT; dark gray-brown, little fine sand, occasional medium beds of silty fine sand, occasional thin laminations of peat and decaying wood	ML 70		very stiff
25	6A	11 15 17 32		29		- occasional gravel layers			
						SANDY GRAVEL; orange-brown, fine to coarse, medium to coarse sand, few silt, occasional beds with little silt	GW-GM		dense
30	7C	22 41 40							
						Total depth approximately 31.5 3/4" diameter PVC piezometer installed to 30' with 2' screen interval at bottom; backfilled with pea gravel; bentonite seal placed at surface.			

* A. 2" split-spoon sampler
B. 3" O.D. thin-wall sampler C. 3-1/4" O.D. x 2-1/2" liner
D. 3-1/2" O.D. split barrel sampler X. sample not recovered

** A - Atterberg, C - consolidation, DS - direct shear, G - grain size, T - triaxial, P - permeability

▽ water level
impervious seal
piezometer tip

REDMOND CONNECTION PROJECT
for HNTB

Project No.
86-35289-04

Drawing No.
A-44

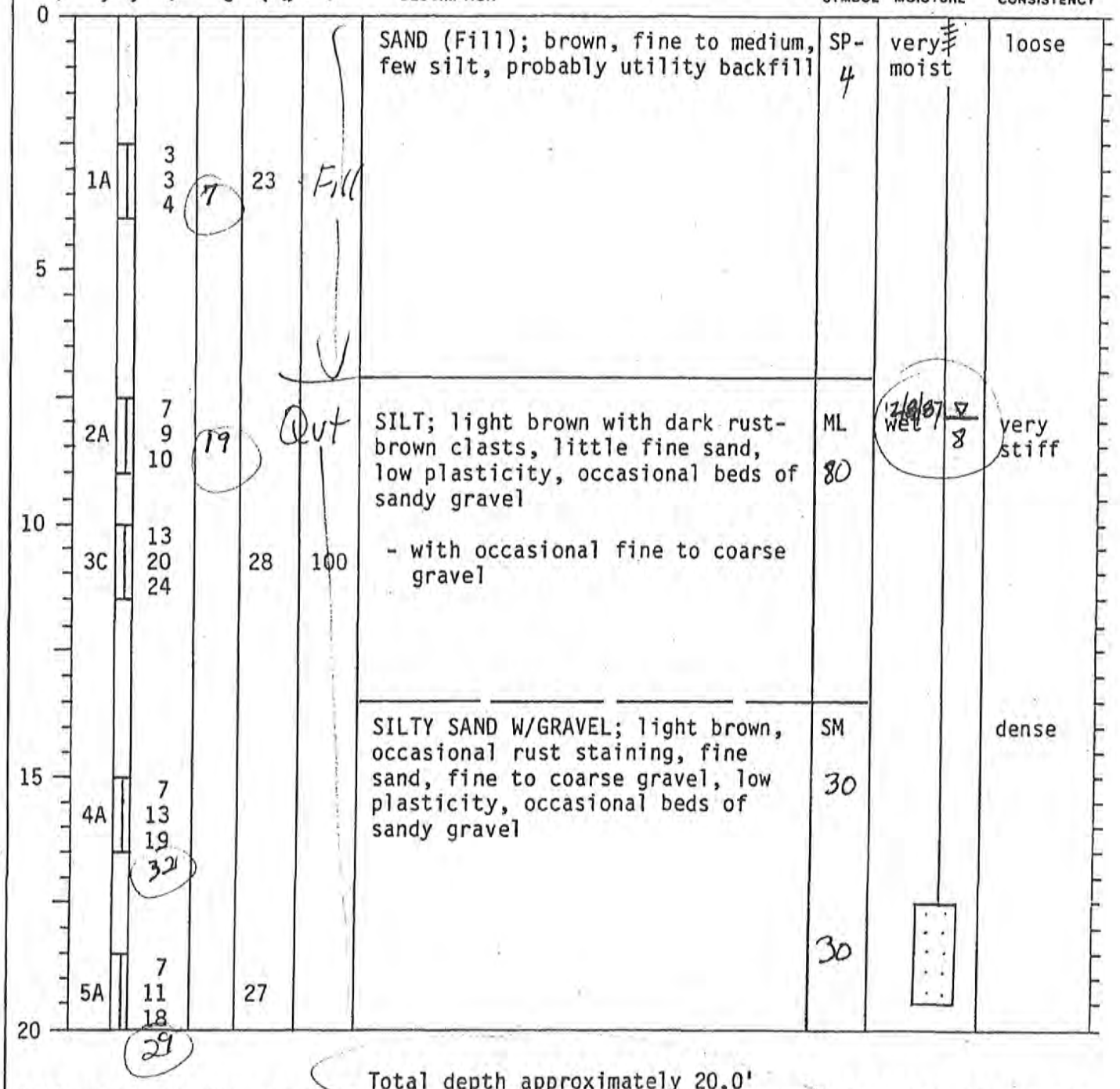
Converse Consultants Geotechnical Engineering and Applied Sciences

DATE DRILLED: 12/1/87

SUMMARY: BORING NO. B-93-570

ELEVATION: Approx. 242'

THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.



Total depth approximately 20.0'

3/4" diameter PVC piezometer installed to 19.5' with 2' screen interval at bottom; backfilled with pea gravel; bentonite seal placed at surface.

* A. 2" split-spoon sampler
B. 3" O.D. thin-wall sampler C. 3-1/4" O.D. x 2-1/2" liner
D. 3-1/2" O.D. split barrel sampler X. sample not recovered

**A - Atterberg, C - consolidation, DS - direct shear, G - grain size, T - triaxial, P - permeability

water level
impervious seal
piezometer tip

REDMOND CONNECTION PROJECT
for HNTB

Project No. 86-35289-04

Converse Consultants Geotechnical Engineering and Applied Sciences

Drawing No. A-45

APPENDIX C - PERMITS

City of Kirkland

HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: June 27, 2019
Project End Date: June 26, 2024

Permit Number: 2019-4-384+01
FPA/Public Notice Number: N/A
Application ID: 15094

PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
City of Kirkland, Public Works	GeoEngineers, Inc.
ATTENTION: Aaron McDonald	ATTENTION: David Conlin
123 5th Avenue	1101 Fawcett Ave, Ste 200
Kirkland, WA 98033-6189	Tacoma, WA 98402-2012

Project Name: Totem Lake Connector

Project Description: The project includes construction of a non-motorized bridge (grade separation) between segments of the existing Cross Kirkland Corridor (CKC) trail spanning the intersection of NE 124th Street/Totem Lake Boulevard NE in Kirkland, Washington. The conceptual bridge design includes: an embankment for the south approach ramp flanked by vegetated-faced retaining walls; the bridge spanning over NE 124th Street and Totem Lake Boulevard NE with a "touchdown" support in the triangular property bounded by these roadways and a Rite Aid store on the west; and a spiral ramp located just northeast of Totem Lake Boulevard NE extending over the park and portion of a wetland associated with Totem Lake, transitioning back to the existing interim trail alignment.

PROVISIONS

TIMING - PLANS - INVASIVE SPECIES CONTROL

1. TIMING LIMITATION: You may begin the project immediately and you must complete the project by June 26th, 2024; provided: All work be conducted in the dry.

2. APPROVED PLANS: You must accomplish the work per plans and specifications submitted with the application and approved by the Washington Department of Fish and Wildlife, entitled "Pages from 181116_TLPB_CIVIL_LANDSCAPE_100-REV2.pdf", dated December 11th, 2019, and " Pages from 8_TLC_100pct_Dwgs_Struct-Arch.pdf", dated December 11th,2019, and "023109000_JARPA_ACI_All Sheet Plans.pdf" dated December 11th, 2019, and "Totem Lake Connector_Conceptual Mitigation Plan_20180516.pdf" dated June 6th, 2019. except as modified by this Hydraulic Project Approval. You must have a copy of these plans available on site during all phases of the project construction.

3. INVASIVE SPECIES CONTROL: Follow Level 1 Decontamination protocol for low risk locations. Thoroughly remove visible dirt and organic debris from all equipment and gear (including drive mechanisms, wheels, tires, tracks, buckets and undercarriage) before arriving and leaving the job site to prevent the transport and introduction of invasive species. Properly dispose of any water and chemicals used to clean gear and equipment. For contaminated or high risk sites please refer to the Level 2 Decontamination protocol. You can find this and additional information in the Washington Department of Fish and Wildlife's "Invasive Species Management Protocols", available online at https://wdfw.wa.gov/species-habitats/invasive/prevention.

NOTIFICATION REQUIREMENTS

4. PRE- AND POST-CONSTRUCTION NOTIFICATION: You, your agent, or contractor must contact the Washington Department of Fish and Wildlife by e-mail at HPAapplications@dfw.wa.gov; mail to Post Office Box 43234, Olympia, Washington 98504-3234; or fax to (360) 902-2946 at least three business days before starting work, and again within seven days after completing the work. The notification must include the permittee's name, project location, starting date

for work or date the work was completed, and the permit number. The Washington Department of Fish and Wildlife may conduct inspections during and after construction; however, the Washington Department of Fish and Wildlife will notify you or your agent before conducting the inspection.

5. PHOTOGRAPHS: You, your agent, or contractor must take photographs of the job site before the work begins and after the work is completed. You must upload the photographs to the post-permit requirement page in the Aquatic Protection Permitting System (APPS) or mail them to Washington Department of Fish and Wildlife at Post Office Box 43234, Olympia, Washington 98504-3234 within 30-days after the work is completed.

6. FISH KILL/ WATER QUALITY PROBLEM NOTIFICATION: If a fish kill occurs or fish are observed in distress at the job site, immediately stop all activities causing harm. Immediately notify the Washington Department of Fish and Wildlife of the problem. If the likely cause of the fish kill or fish distress is related to water quality, also notify the Washington Military Department Emergency Management Division at 1-800-258-5990. Activities related to the fish kill or fish distress must not resume until the Washington Department of Fish and Wildlife gives approval. The Washington Department of Fish and Wildlife may require additional measures to mitigate impacts.

STAGING, JOB SITE ACCESS, AND EQUIPMENT

7. Establish staging areas (used for equipment storage, vehicle storage, fueling, servicing, and hazardous material storage) in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials from entering waters of the state.

8. Use existing roadways or travel paths.

9. Clearly mark boundaries to establish the limit of work associated with site access and construction.

10. This Hydraulic Project Approval authorizes only the removal of the woody vegetation shown in the approved plan. Clearly mark all large woody vegetation authorized for removal before starting work.

11. All wood greater than 5" DBH must be retained and used on site for Large Woody Debris Habitat within the project footprint, as noted in the email entitled: "RE Kirkland Totem Lake Connector Project - WDFW Site Visit.txt ", dated June 27th, 2019.

12. Retain all natural habitat features on the bed or banks including large woody material and boulders. You may move these natural habitat features during construction but you must place them near the preproject location before leaving the job site.

13. Confine the use of equipment to the specific access and work corridor shown in the approved plans.

14. Limit the use of equipment waterward of the ordinary high water line to that necessary to gain position for the work.

15. Equipment used for this project may operate waterward of the ordinary high water line, provided the drive mechanisms (wheels, tracks, tires, etc.) do not enter or operate waterward of the ordinary high water line.

16. Remove soil or debris from the drive mechanisms (wheels, tires, tracks, etc.) and undercarriage of equipment prior to operating the equipment waterward of the ordinary high water line.

17. If wet or muddy conditions exist, in or near a riparian zone or wetland area, use equipment that reduces ground pressure.

18. Check equipment daily for leaks and complete any required repairs in an upland location before using the equipment in or near the water.

19. Use environmentally acceptable lubricants composed of biodegradable base oils such as vegetable oils, synthetic esters, and polyalkylene glycols in equipment operated in or near the water.

CONSTRUCTION-RELATED SEDIMENT, EROSION AND POLLUTION CONTAINMENT

20. Protect all disturbed areas from erosion. Maintain erosion and sediment control until all work and cleanup of the job site is complete.

21. All erosion control materials that will remain onsite must be composed of 100% biodegradable materials.

22. Straw used for erosion and sediment control, must be certified free of noxious weeds and their seeds.

23. Stop all hydraulic project activities except those needed to control erosion and siltation, if flow conditions arise that will result in erosion or siltation of waters of the state.

24. Prevent project contaminants, such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials, from entering or leaching into waters of the state.

25. Deposit waste material from the project, such as construction debris, silt, excess dirt, or overburden, in an upland area above the limits of anticipated floodwater unless the material is approved by the Washington Department of Fish and Wildlife for reuse in the project.

CONSTRUCTION MATERIALS

26. Store all construction and deconstruction material in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials from entering waters of the state.

27. Do not stockpile construction material waterward of the ordinary high water line.

28. Angular rock, the rock must be large enough and installed to withstand the 100-year peak flow.

29. To prevent leaching, construct forms to contain any wet concrete. Place impervious material over wet concrete that will come in contact with waters of the state. Forms and impervious materials must remain in place until the concrete is cured.

30. Do not use wood treated with oil-type preservatives (creosote, pentachlorophenol) in any hydraulic project. You may use wood treated with waterborne preservatives (ACZA, ACQ) provided the wood is approved by the Western Wood Preservers Institute for use in the aquatic environment. Any use of treated wood in the aquatic environment must follow guidelines and best management practices available at www.wwpinstitute.org.

CULVERT

31. Establish the culvert invert elevation with reference point(s) or benchmark(s) created before to starting work on this project. Clearly mark and preserve the reference point(s) for post-project compliance. Before backfilling, confirm the invert elevation, as stated on the plans, relative to the reference points with at least a construction-grade leveling device (such as an optical auto-level or laser level).

32. The length of the culvert must not exceed ten feet.

33. Countersink the no-slope culvert a minimum of twenty percent of the culvert rise at the culvert outlet downstream and a maximum of forty-percent of the culvert rise at the culvert inlet upstream.

34. Embed the top of footings of bottomless culverts sufficiently below potential scour depth to prevent exposure of the footing surface and undermining.

35. Protect structural fill associated with the culvert installation from erosion to the 100-year peak flow.

36. Minimize damage to the bed and banks when placing the culvert.

37. Approach material must be structurally stable and composed of material that if eroded into the water will not harm fish life.

38. Install the culvert in the dry or in isolation from the stream flow by using a bypass channel or culvert, or by pumping the stream flow around the work area. The Washington Department of Fish and Wildlife may grant exception if installing the culvert in the flowing stream reduces siltation or turbidity.

39. Route the construction water (wastewater) from the project to an upland area above the limits of anticipated floodwater. Remove fine sediment and other contaminants before discharging the construction water to waters of the state.

HYDRAULIC PROJECT APPROVAL

Issued Date: June 27, 2019
Project End Date: June 26, 2024

Permit Number: 2019-4-384+01
FPA/Public Notice Number: N/A
Application ID: 15094

DEMOBILIZATION AND CLEANUP

40. Completely remove any temporary fill before the end of the in-water timing window if the fill material could erode and deliver sediment-laden water into waters of the state.

41. Restore bed and bank elevations and contours to preproject condition.

42. To prevent fish from stranding, backfill trenches, depressions, and holes in the bed that may entrain fish during high water or wave action.

43. To minimize sediment delivery to the stream or stream channel, do not return in-stream flows to the work area until all in-channel work is completed and the bed and banks are stabilized.

44. Stabilize the bed with clean material sized to match undisturbed sediments.

45. Seed areas disturbed by construction activities with a native seed mix suitable for the site that has at least one quick-establishing plant species.

46. Replace native riparian zone and aquatic vegetation, and wetland vascular plants (except noxious weeds) damaged or destroyed by construction using a proven methodology.

47. Replant the job site with the plant species composition and planting densities approved by the Washington Department of Fish and Wildlife.

48. Complete replanting of riparian vegetation during the first dormant season (late fall through late winter) after project completion per the approved plan. Maintain plantings for at least three years to ensure at least eighty percent of the plantings survive. Failure to achieve the eighty percent survival in year three will require you to submit a plan with follow-up measures to achieve requirements or reasons to modify requirements.

49. Install fencing or other structures to prevent livestock, wildlife, or unauthorized persons from accessing the replanted riparian and wetland sites until the plantings are well established.

50. Upon completion of the project, remove all materials or equipment from the site and dispose of all excess spoils and waste materials in an upland area above the limits of anticipated floodwater.

51. Return water flow slowly to the in-water work area to prevent the downstream release of sediment laden water. If necessary, install silt fencing above the bypass outlet to capture sediment during re-watering of the channel.

52. Remove temporary erosion and sediment control methods after job site is stabilized or within three months of project completion, whichever is sooner.

LOCATION #1:	Site Name: Totem Lake Connector 12307 NE Totem Lake Way, Kirkland, WA 98034					
WORK START:	June 27, 2019			WORK END:	June 26, 2024	
WRIA		Waterbody:			Tributary to:	
08 - Cedar - Sammamish		Unknown Stream Number			Unknown	
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:
SE 1/4	28	26 N	05 E	47.708956	-122.176709	King
Location #1 Driving Directions						

HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
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From Kirkland Washington, head north on I-405 from Central Way and NE 85th Street. Continue on I-405 N to Totem Lake Blvd. Take Exit 20B from I-405 N. Turn right onto Totem Lake Blvd and continue for about 0.2 miles and the site will be on your left.

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW. Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person (s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day and/or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.

MINOR MODIFICATIONS TO THIS HPA: You may request approval of minor modifications to the required work timing or to the plans and specifications approved in this HPA unless this is a General HPA. If this is a General HPA you must use the Major Modification process described below. Any approved minor modification will require issuance of a letter documenting the approval. A minor modification to the required work timing means any change to the work start or end dates of the current work season to enable project or work phase completion. Minor modifications will be approved only if spawning or incubating fish are not present within the vicinity of the project. You may request subsequent minor modifications to the required work timing. A minor modification of the plans and specifications means any changes in the materials, characteristics or construction of your project that does not alter the project's impact to fish life or habitat and does not require a change in the provisions of the HPA to mitigate the impacts of the modification. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a minor modification through APPS. A link to APPS is at http://wdfw.wa.gov/licensing/hpa/. If you did not use APPS you must submit a written request that clearly indicates you are seeking a minor modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234, or by email to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: June 27, 2019
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Permit Number: 2019-4-384+01
FPA/Public Notice Number: N/A
Application ID: 15094

MAJOR MODIFICATIONS TO THIS HPA: You may request approval of major modifications to any aspect of your HPA. Any approved change other than a minor modification to your HPA will require issuance of a new HPA. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a major modification through APPS. A link to APPS is at http://wdfw.wa.gov/licensing/hpa/. If you did not use APPS you must submit a written request that clearly indicates you are requesting a major modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send your written request by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. You may email your request for a major modification to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-660-460 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee may conduct an informal hearing or review and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-660-470 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.

HYDRAULIC PROJECT APPROVAL

Washington Department of
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PO Box 43234
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FPA/Public Notice Number: N/A
Application ID: 15094

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

Habitat Biologist	Ezekiel.Rohloff@dfw.wa.gov	Ezekiel Rohloff	for Director
Ezekiel Rohloff	425-420-0601		WDFW

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

Regulatory Branch June 10, 2019

Mr. Aaron McDonald
City of Kirkland, Public Works
123 5th Avenue
Kirkland, Washington 98033

Reference: NWS-2018-557
Kirkland, City of
(Totem Lake Non-Motorized Bridge)

Dear Mr. McDonald:

We have reviewed your application to discharge up to 138 cubic yards of dredged material and up to 138 cubic yards of concrete fill for the construction of a pedestrian bridge in a wetland near Kirkland, King County, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 14, *Linear Transportation Projects* (Federal Register January 6, 2017, Vol. 82, No. 4), authorizes your proposal as depicted on the enclosed drawings dated November 13, 2017, provided you implement the mitigation plan dated May 16, 2018.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 14, Terms and Conditions* and the following special conditions:

a. You shall implement and abide by the mitigation plan, *Conceptual Mitigation Plan – Totem Lake Connector* dated May 16, 2018, and as modified by the permit special conditions. Mitigation shall be constructed following completion of the work authorized by the permit.

b. The maintenance plan and performance standards in the mitigation plan, *Conceptual Mitigation Plan – Totem Lake Connector*, dated May 16, 2018, are hereby modified as follows:

i. Planted, native species in the scrub-shrub/forested wetland at the mitigation site will achieve 100 percent survival one year after the site is planted. If dead plantings are replaced, the performance standard will be met.

ii. By Year 5, the scrub-shrub/forested wetland will have a minimum of 30 percent aerial cover by planted/volunteer native, woody vegetation (excluding areas designated as open water, emergent vegetation, or non-vegetated).

iii. By Year 7, the scrub-shrub/forested wetland will have a minimum of 50 percent aerial cover by planted/volunteer native, woody vegetation (excluding areas designated as open water, emergent vegetation, or non-vegetated).

iv. By Year 10, the scrub-shrub/forested wetland will have a minimum of 75 percent aerial cover by planted/volunteer native, woody vegetation (excluding areas designated as open water, emergent vegetation, or non-vegetated).

v. During All Years, non-native, invasive plant species, with the exception of reed canarygrass, will not exceed 20 percent aerial cover in the wetland and buffer area on the enhancement mitigation site.

vi. In Years 3-10, reed canarygrass aerial cover will not exceed 20 percent.

vii. In Year 1, planted, woody species in the upland buffer at the mitigation site will achieve 100 percent survival one year after the site is planted. If dead woody plantings are replaced, the performance standard will be met.

viii. The aerial cover of planted/volunteer native, woody species in year 5 will be at least 25 percent, in year 7 will be at least 35 percent, and in year 10 will be at least 50 percent aerial cover in the upland buffer at the mitigation site.

c. A status report on the implementation of the authorized work and on the construction of the mitigation shall be submitted annually to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch (Corps) by October 31st each year until mitigation construction is complete as determined by the Corps. This report must prominently display the reference number NWS-2018-557.

d. An as-built mitigation construction report and as-built drawings of the mitigation area(s) shall be submitted upon completion of mitigation construction, in lieu of the status report described in Special Condition "c". This report must be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch (Corps) for review and approval and must prominently display the reference number NWS-208-557. The year mitigation construction is completed, as determined by the Corps, represents Year 0 for mitigation monitoring.

e. Mitigation monitoring reports shall be submitted and for monitoring years 1, 2, 3, 5, 7, and 10 to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch (Corps) by October 31st of each monitoring year. Year 1 monitoring will occur at least one year after completion of the mitigation site(s) as determined by the Corps. All reports must prominently display the reference number NWS-2018-557.

f. A delineation using the currently approved federal wetland delineation manual and appropriate regional supplement must be included with the final monitoring report and shall include all mitigation areas.

g. To ensure the long-term protection of the mitigation site, you shall record on the mitigation site property deed a copy of this Department of the Army permit and a description of the mitigation area identified in the final mitigation plan. These documents shall be recorded with the Registrar of Deeds or other appropriate official charged with maintaining records on real property. Proof of this recorded documentation must be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch within 60 days from the date of permit issuance.

h. Your responsibility to complete the required compensatory mitigation as set forth in Special Conditions "a" through "g" will not be considered fulfilled until you have demonstrated mitigation success and have received written verification from the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch.

The Federal Highway Administration completed no effect determinations for the National Historic Preservation Act, Section 7 of the Endangered Species Act (ESA), and Magnuson Stevens Act essential fish habitat (EFH) for its involvement in the proposed activity. For the purpose of this Department of the Army authorization, we have determined this project will comply with the requirements of these laws provided you comply with all of the permit general conditions. We have determined the permit action is sufficiently addressed in their ESA and EFH consultation documents. By this letter we are advising you and the Services, in accordance with 50 CFR 402.07 and 50 CFR 600.920(b), that this agency has served as the lead Federal agency for the ESA and EFH consultation responsibilities for the activity described above.

The authorized work complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification (WQC) requirements and Coastal Zone Management (CZM) consistency determination response for this NWP. No further coordination with Ecology for WQC and CZM is required.

You have not requested a jurisdictional determination for this proposed project. If you believe the U.S. Army Corps of Engineers does not have jurisdiction over all or portions of your project you may request a preliminary or approved jurisdictional determination (JD). If one is requested, please be aware that we may require the submittal of additional information to

complete the JD and work authorized in this letter may not occur until the JD has been completed.

Our verification of this NWP authorization is valid until March 18, 2022, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence this activity before March 18, 2022, you will have until March 18, 2023, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act. You must also obtain all local, State, and other Federal permits that apply to this project.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit*. Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey. These documents and information about our program are available on our website at www.nws.usace.army.mil, select "Regulatory Branch, Permit Information" and then "Contact Us." A copy of this letter with enclosures will be furnished to Mr. David Conlin of GeoEngineers, Inc. at dconlin@geoengineers.com. If you have any questions, please contact me at jenae.churchill@usace.army.mil or (206) 764-5527.

Sincerely,

Jenae Churchill

Jenae Churchill, Project Manager
Regulatory Branch

Enclosures

US Army Corps of Engineers
Seattle District

NATIONWIDE PERMIT 14
Terms and Conditions

Effective Date: March 19, 2017

In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit (NWP) authorization to be valid in Washington State.

A. DESCRIPTION OF AUTHORIZED ACTIVITIES

14. Linear Transportation Projects. Activities required for crossings of waters of the United States associated with the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10-acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: For linear transportation projects crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Linear transportation projects must

comply with 33 CFR 330.6(d). Note 2: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under section 404(f) of the Clean Water Act (see 33 CFR 323.4). Note 3: For NWP 14 activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

B. CORPS NATIONAL GENERAL CONDITIONS FOR ALL NWPs

To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. (b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management

responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status. (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs. (e) Authorization of an activity by an NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word "harm" in the definition of "take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required. (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether "incidental take" permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer

determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. (d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum

extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal. (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)). (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses. (f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation. (2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)). (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation. (4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs

to address the baseline conditions at the impact site and the number of credits to be provided. (6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs. (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management. (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a

road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

_____
(Transferee)

_____
(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include: (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions; (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and (c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not

commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals. (d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal. (2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes. (3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame

concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5. (4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision: 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre. 2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns. 3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than

minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer. 4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information: 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP. 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law. 3. NWPs do not grant any property rights or exclusive privileges. 4. NWPs do not authorize any injury to the property or rights of others. 5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

C. CORPS SEATTLE DISTRICT REGIONAL GENERAL CONDITIONS: The following conditions apply to all NWPs for the Seattle District in Washington State, unless specified.

1. Project Drawings: Drawings must be submitted with pre-construction notification (PCN). Drawings must provide a clear understanding of the proposed project, and how waters of the U.S. will be affected. Drawings must be originals and not reduced copies of large-scale plans. Engineering drawings are not required. Existing and proposed site conditions (manmade and landscape features) must be drawn to scale.

2. Aquatic Resources Requiring Special Protection: Activities resulting in a loss of waters of the United States in mature forested wetlands, bogs and peatlands, aspen-dominated wetlands, alkali

wetlands, vernal pools, camas prairie wetlands, estuarine wetlands, wetlands in coastal lagoons, and wetlands in dunal systems along the Washington coast cannot be authorized by a NWP, except by the following NWPs:

NWP 3 – Maintenance
NWP 20 – Response Operations for Oil and Hazardous Substances
NWP 32 – Completed Enforcement Actions
NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, prospective permittees must submit a PCN to the Corps of Engineers (see NWP general condition 32) and obtain written authorization before commencing work.

3. New Bank Stabilization in Tidal Waters of Puget Sound: Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the areas identified on Figures 1a through 1e on Corps website) cannot be authorized by NWP.

4. Commencement Bay: The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 2 on Corps website):

NWP 12 – Utility Line Activities (substations)
NWP 13 – Bank Stabilization
NWP 14 – Linear Transportation Projects
NWP 23 – Approved Categorical Exclusions
NWP 29 – Residential Developments
NWP 39 – Commercial and Institutional Developments
NWP 40 – Agricultural Activities
NWP 41 – Reshaping Existing Drainage Ditches
NWP 42 – Recreational Facilities
NWP 43 – Stormwater and Wastewater Management Facilities

5. Bank Stabilization: All projects including new or maintenance bank stabilization activities require PCN to the Corps of Engineers (see NWP general condition 32). For new bank stabilization projects only, the following must be submitted to the Corps of Engineers:

a. The cause of the erosion and the distance of any existing structures from the area(s) being stabilized.
b. The type and length of existing bank stabilization within 300 feet of the proposed project.
c. A description of current conditions and expected post-project conditions in the waterbody.
d. A statement describing how the project incorporates elements avoiding and minimizing adverse environmental effects to the aquatic environment and nearshore riparian area, including vegetation impacts in the waterbody.

In addition to a. through d., the results from any relevant geotechnical investigations can be submitted with the PCN if it describes current or expected conditions in the waterbody.

6. Crossings of Waters of the United States: Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts or bridges, requires submittal of a PCN to the Corps of Engineers (see NWP general condition 32). If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, the project must apply the stream simulation design method from the Washington Department of Fish and Wildlife located in the *Water Crossing Design Guidelines* (2013), or a design method which provides passage at all life stages at all flows where the salmonid species would naturally seek passage. If the stream simulation design method is not applied for a culvert where salmonid species are present or could be present, the project proponent must provide a rationale in the PCN sufficient to establish one of the following:

a. The existence of extraordinary site conditions.

b. How the proposed design will provide equivalent or better fish passage and fisheries habitat benefits than the stream simulation design method.

If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, project proponents must provide a monitoring plan with the PCN that specifies how the proposed culvert will be assessed over a five-year period from the time of construction completion to ensure its effectiveness in providing passage at all life stages at all flows where the salmonid species would naturally seek passage. Culverts installed under emergency authorization that do not meet the above design criteria will be required to meet the above design criteria to receive an after-the-fact nationwide permit verification.

7. Stream Loss: A PCN is required for all activities that result in the loss of any linear feet of stream beds. No activity shall result in the loss of any linear feet of perennial stream beds or the loss of greater than 300 linear feet of intermittent and/or ephemeral stream beds. A stream may be rerouted if it is designed in a manner that maintains or restores hydrologic, ecologic, and geomorphic stream processes, provided there is not a reduction in the linear feet of stream bed. Streams include brooks, creeks, rivers, and historical waters of the U.S. that have been channelized into ditches. This condition does not apply to ditches constructed in uplands. Stream loss restrictions may be waived by the district engineer on a case-by-case basis provided the activities result in net increases of aquatic resource functions and services.

8. Mitigation: Pre-construction notification is required for any project that will result in permanent wetland losses that exceed 1,000 square feet. In addition to the requirements of General Condition 23 (Mitigation), compensatory mitigation at a minimum one-to-one ratio will be required for all permanent wetland losses that exceed 1,000 square feet. When a PCN is required for wetland losses less than 1,000 square feet, the Corps of Engineers may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation for impacts to marine waters, lakes, and streams will be determined on a case-by-case basis. If temporary impacts to waters of the U.S. exceed six months, the Corps of Engineers may require compensatory mitigation for temporal effects.

9. Magnuson-Stevens Fishery Conservation and Management Act – Essential Fish Habitat

Essential Fish Habitat (EFH) is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. If EFH may be adversely affected by a proposed activity, the prospective permittee must provide a written EFH assessment with an analysis of the effects of the proposed action on EFH. The assessment must identify the type(s) of essential fish habitat (i.e., Pacific salmon, groundfish, and/or coastal-pelagic species) that may be affected. If the Corps of Engineers determines the project will adversely affect EFH, consultation with NOAA Fisheries will be required. Federal agencies should follow their own procedures for complying with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act. If PCN is required for the proposed activity, Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

10. Forage Fish: For projects in forage fish spawning habitat, in-water work must occur within designated forage fish work windows, or when forage fish are not spawning. If working outside of a designated work window, or if forage fish work windows are closed year round, work may occur if the work window restriction is released for a period of time after a forage fish spawning survey has been conducted by a biologist approved by the Washington State Department of Fish and Wildlife (WDFW). Forage fish species with designated in-water work windows include Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea pallasi*), and surf smelt (*Hypomesus pretiosus*). This RGC does not apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

11. Notification of Permit Requirements: The permittee must provide a copy of the nationwide permit authorization letter, conditions, and permit drawings to all contractors and any other parties performing the authorized work prior to the commencement of any work in waters of the U.S. The permittee must ensure all appropriate contractors and any other parties performing the authorized work at the project site have read and understand relevant NWP conditions as well as plans, approvals, and documents referenced in the NWP letter. A copy of these documents must be maintained onsite throughout the duration of construction.

12. Construction Boundaries: Permittees must clearly mark all construction area boundaries before beginning work on projects that involve grading or placement of fill. Boundary markers and/or construction fencing must be maintained and clearly visible for the duration of construction. Permittees should avoid and minimize removal of native vegetation (including submerged aquatic vegetation) to the maximum extent possible.

13. Temporary Impacts and Site Restoration

a. Temporary impacts to waters of the U.S. must not exceed six months unless the prospective permittee requests and receives a waiver by the district engineer. Temporary impacts to waters of the U.S. must be identified in the PCN.
b. No more than 1/2 acre of waters of the U.S. may be temporarily filled unless the prospective permittee requests and receives a waiver from the district engineer (temporary fills do not affect specified limits for loss of waters associated with specific nationwide permits).
c. Native soils removed from waters of the U.S. for project construction should be stockpiled and used for site restoration. Restoration of temporarily disturbed areas must include returning the area to pre-project ground surface contours. If native soil is not available from the project site for restoration, suitable clean soil of the same textural class may be used. Other soils may be used only if identified in the PCN.
d. The permittee must revegetate disturbed areas with native plant species sufficient in number, spacing, and diversity to restore affected functions. A maintenance and monitoring plan commensurate with the impacts, may be required. Revegetation must begin as soon as site conditions allow within the same growing season as the disturbance unless the schedule is approved by the Corps of Engineers. Native plants removed from waters of the U.S. for project construction should be stockpiled and used for revegetation when feasible. Temporary Erosion and Sediment Control measures must be removed as soon as the area has established vegetation sufficient to control erosion and sediment.
e. If the Corps determines the project will result in temporary impacts of submerged aquatic vegetation (SAV) that are more than minimal, a monitoring plan must be submitted. If recovery is not achieved by the end of the monitoring period, contingencies must be implemented, and additional monitoring will be required.

This RGC does not apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

D. CORPS REGIONAL SPECIFIC CONDITIONS FOR THIS NWPS:

1. Private residential driveways in waters of the U.S. with footprints wider than 22 feet or longer than 200 feet are not authorized by this NWP. For this requirement, "footprint" refers to the bottom width of the roadway fill prism.

2. A pre-construction notification must be submitted to the district engineer (see NWP general condition 32) for linear transportation project crossings in tidal waters.

E. ECOLOGY 401 CERTIFICATION: GENERAL CONDITIONS

In addition to all the Corps National and Seattle Districts' Regional permit conditions, the following State General Section 401 Water Quality Certification (Section 401) conditions apply to all Nationwide Permits whether **certified** or **partially certified** in the State of Washington.

1. **For in-water construction activities**. Ecology Section 401 review is required for projects or activities authorized under NWPs that will cause, or may be likely to cause or contribute to an exceedance of a State water quality standard (Chapter 173-201A WAC) or sediment management standard (Chapter 173-204 WAC). State water quality standards and sediment management standards are available on Ecology's website. Note: In-water activities include any activity within a wetland and/or activities below the ordinary high water mark (OHWM).

2. **Projects or Activities Discharging to Impaired Waters**. Ecology Section 401 review is required for projects or activities authorized under NWPs if the project or activity will occur in a 303(d) listed segment of a waterbody or upstream of a listed segment and may result in further exceedances of the specific listed parameter. To determine if your project or activity is in a 303(d) listed segment of a waterbody, visit Ecology's Water Quality Assessment webpage for maps and search tools.

3. **Application**. For projects or activities that will require Ecology Section 401 review, applicants must provide Ecology with a Joint Aquatic Resources Permit Application (JARPA) along with the documentation provided to the Corps, as described in National General Condition 32, Pre-Construction Notification, including, when applicable: (a) A description of the project, including site plans, project purpose, direct and indirect adverse environmental effects the project would cause, best management practices (BMPs), and any other Department of the Army or federal agency permits used or intended to be used to authorize any part of the proposed project or any related activity. (b) Drawings indicating the Ordinary High Water Mark (OHWM), delineation of special aquatic sites and other waters of the state. Wetland delineations must be prepared in accordance with the current method required by the Corps and shall include Ecology's Wetland Rating form. Wetland rating forms are subject to review and verification by Ecology staff. Guidance for determining the OHWM is available on Ecology's website. (c) A statement describing how the mitigation requirement will be satisfied. A conceptual or detailed mitigation or restoration plan may be submitted. See State General Condition 5 for details on mitigation requirements. (d) Other applicable requirements of Corps Nationwide Permit General Condition 32, Corps Regional Conditions, or notification conditions of the applicable NWP. (e) Within 180 calendar days from receipt of applicable documents noted above **and** a copy of the final authorization letter from the Corps providing coverage for a proposed project or activity under the NWP Program Ecology will provide the applicant notice of whether an individual Section 401 will be required for the project. If Ecology fails to act within a year after receipt of **both** of these documents, Section 401 is presumed waived.

4. **Aquatic resources requiring special protection**. Certain aquatic resources are unique, difficult-to-replace components of the aquatic environment in Washington State. Activities that would affect these resources must be avoided to the greatest extent possible. Compensating for adverse impacts to high value aquatic resources is typically difficult, prohibitively expensive, and may not be possible in some landscape settings. Ecology Section 401 review is required for activities in or affecting the following aquatic resources (and not prohibited by Seattle District Regional General Condition): (a) Wetlands with special characteristics (as defined in the Washington State Wetland Rating Systems for western and eastern Washington, Ecology Publications #14-06-029 and #14-06-030):

- Estuarine wetlands.
- Wetlands of High Conservation Value.
- Bogs.
- Old-growth and mature forested wetlands.
- Wetlands in coastal lagoons.
- Interdunal wetlands.

- Vernal pools.
- Alkali wetlands.

(b) Fens, aspen-dominated wetlands, camas prairie wetlands. (c) Marine water with eelgrass (*Zostera marina*) beds (except for NWP 48). (d) Category I wetlands. (e) Category II wetlands with a habitat score ≥ 8 points. This State General Condition does not apply to the following Nationwide Permits:
NWP 20 – *Response Operations for Oil and Hazardous Substances,* NWP 32 – *Completed Enforcement Actions*

5. Mitigation. Applicants are required to show that they have followed the mitigation sequence and have first avoided and minimized impacts to aquatic resources wherever practicable. For projects requiring Ecology Section 401 review with unavoidable impacts to aquatics resources, adequate compensatory mitigation must be provided.

(a) Wetland mitigation plans submitted for Ecology review and approval shall be based on the most current guidance provided in Wetland Mitigation in Washington State, Parts 1 and 2 (available on Ecology's website) and shall, at a minimum, include the following:

i. A description of the measures taken to avoid and minimize impacts to wetlands and other waters of the U.S.
ii. The nature of the proposed impacts (i.e., acreage of wetlands and functions lost or degraded).
iii. The rationale for the mitigation site that was selected.
iv. The goals and objectives of the compensatory mitigation project.
v. How the mitigation project will be accomplished, including construction sequencing, best management practices to protect water quality, proposed performance standards for measuring success and the proposed buffer widths.
vi. How it will be maintained and monitored to assess progress towards goals and objectives. Monitoring will generally be required for a minimum of five years. For forested and scrub-shrub wetlands, 10 years of monitoring will often be necessary.
vii. How the compensatory mitigation site will be legally protected for the long term.

Refer to Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans (Ecology Publication #06-06-011b) and Selecting Wetland Mitigation Sites Using a Watershed Approach (Ecology Publications #09-06-032 (Western Washington) and #10-06-007 (Eastern Washington)) for guidance on selecting suitable mitigation sites and developing mitigation plans. Ecology encourages the use of alternative mitigation approaches, including credit/debit methodology, advance mitigation, and other programmatic approach such as mitigation banks and in-lieu fee programs. If you are interested in proposing use of an alternative mitigation approach, consult with the appropriate Ecology regional staff person. Information on alternative mitigation approaches is available on Ecology's website.

(b) Mitigation for other aquatic resource impacts will be determined on a case-by-case basis.

6. Temporary Fills. Ecology Section 401 review is required for any project or activity with temporary fill in wetlands or other waters of the state for more than 90 days, unless the applicant has received written approval from Ecology. Note: This State General Condition does not apply to projects or activities authorized under NWP 33, *Temporary Construction, Access, and Dewatering*

7. Stormwater pollution prevention: All projects that involve land disturbance or impervious surfaces must implement stormwater pollution prevention or control measures to avoid discharge of pollutants in stormwater runoff to waters of the State.

(a) For land disturbances during construction, the applicant must obtain and implement permits (e.g., Construction Stormwater General Permit) where required and follow Ecology's current stormwater manual.

(b) Following construction, prevention or treatment of on-going stormwater runoff from impervious surfaces shall be provided.

Ecology's Stormwater Management and Design Manuals and stormwater permit information are available on Ecology's website.

8. State Section 401 Review for PCNs not receiving 45-day response from the Seattle District. In the event the Seattle District Corps does not issue a NWP authorization letter within 45 calendar days of receipt of a **complete** pre-construction notification, the applicant must contact Ecology for Section 401 review prior to commencing work.

F. ECOLOGY 401 CERTIFICATION: SPECIFIC CONDITIONS FOR THIS NWP:

Certified subject to conditions. Ecology Section 401 review is required for projects or activities authorized under this NWP if:

1. The project or activity impacts more than more than 1/3 acre of waters of the state.

2. The project includes fill related to a residential and/or commercial development.

3. The project or activity is in or adjoining a known contaminated or cleanup site.

G. COASTAL ZONE MANAGEMENT CONSISTENCY RESPONSE FOR THIS NWP:
(Note: This is only applies in the following counties: Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum and Whatcom)

Response: Ecology concurs that this NWP is consistent with the CZMP, subject to the following condition: An individual Coastal Zone Management Consistency Determination is required for project or activities under this NWP if State Section 401 review is required.

General Conditions: For Non-Federal Permittees
1. Necessary Data and Information. A Coastal Zone Management Program "Certification of Consistency" form is required for projects located within a coastal county. "Certification of Consistency" forms are available on Ecology's website. The form shall include a description of the proposed project or activity and evidence of compliance with the applicable enforceable policies of the Washington Coastal Zone Management Program (CZMP). Also, a map of the site location is required.
2. Timing. Within 6 months from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 6 month period, concurrence with the CZMP is presumed.

General Conditions: For Federal Permittees (Agencies)
1. Necessary Data and Information. Federal agencies shall submit the determination, information, and analysis required by 15 CFR 930.39 to obtain a federal consistency determination.
2. Timing. Within 60 days from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 60 day period, concurrence with the CZMP is presumed.

Data Source:
Mapbox Open Street Map, 2016.

Projection:
NAD83 Washington State Planes,
North Zone, US Foot.

0 1,000 2,000
SCALE IN FEET

Sheet	Title
1	Vicinity Map
2	Existing Conditions
3	Proposed Alignment and Impacts
4	Proposed Alignment and Impacts
5	Mitigation Areas
6	Mitigation Areas
7	Mitigation Areas

Vicinity Map

Applicant: City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Reference Number: NWS-2018-557

Subject & Adjacent Property Owners:

1. Kirkland Totem Lake LLC Parcel #2826059027
2. City of Kirkland Parcel #2826059138
3. City of Kirkland Parcel #8663270060

Location: Totem Lake and Associated Drainages

Lat/Long: 47.70961107°N, -122.1760459°W

Datum: WA State Plane North
Horizontal=NAD83
Vertical=NAVD 88

Sheet: 1 of 7 **Date:** 11/13/2017

Proposed Project:
NE 124th St. / 124th Ave. NE Pedestrian Bridge (Totem Lake Non-Motorized Bridge)

In: Totem Lake Blvd. NE

Near/At: Kirkland

County: King

State: WA

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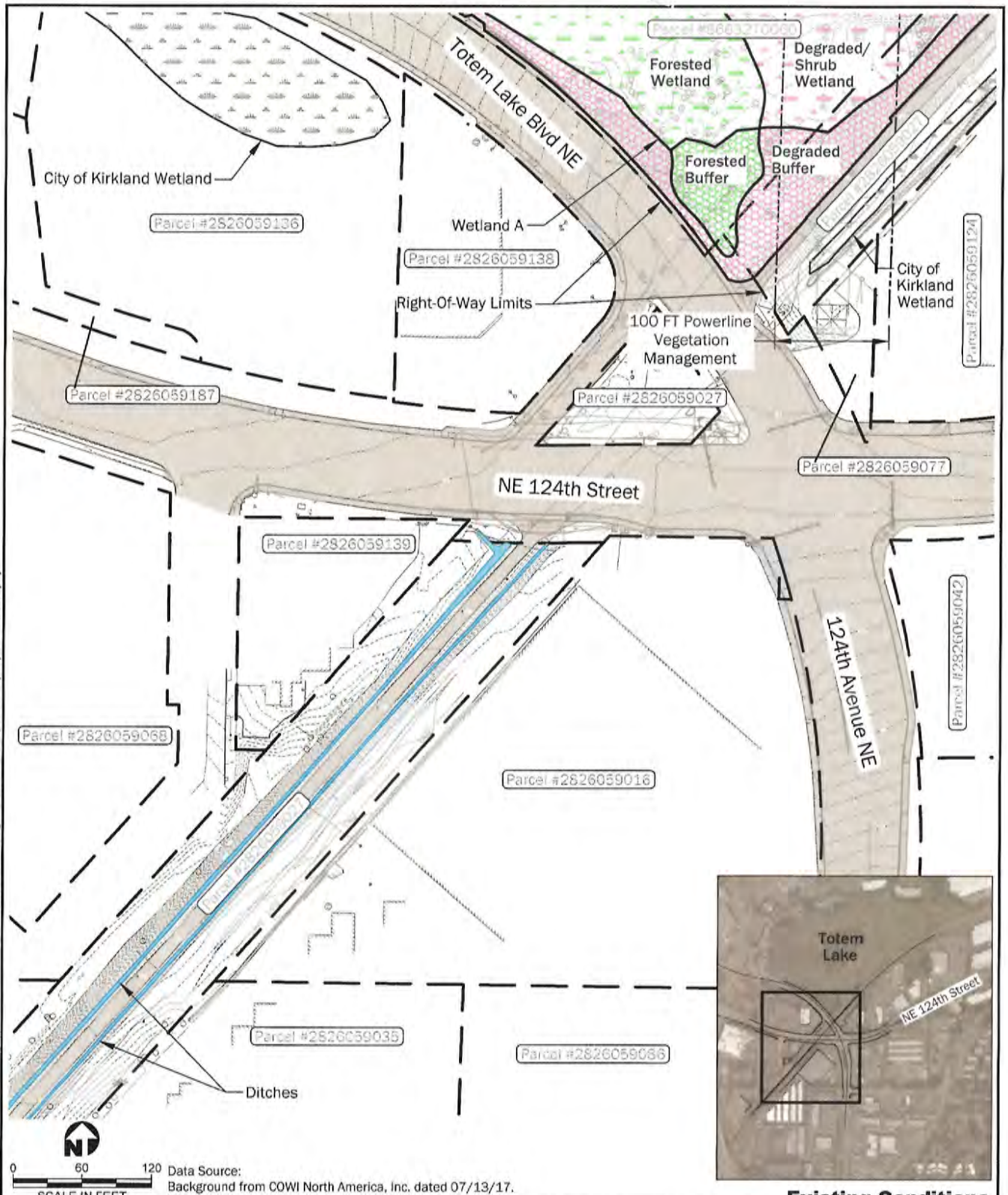

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Applicant: City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Reference Number: NWS-2018-557

Subject & Adjacent Property Owners:

1. Kirkland Totem Lake LLC Parcel #2826059027
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3. City of Kirkland Parcel #8663270060

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Datum: WA State Plane North
Horizontal=NAD83
Vertical=NAVD 88

Sheet: 2 of 7 **Date:** 11/13/2017

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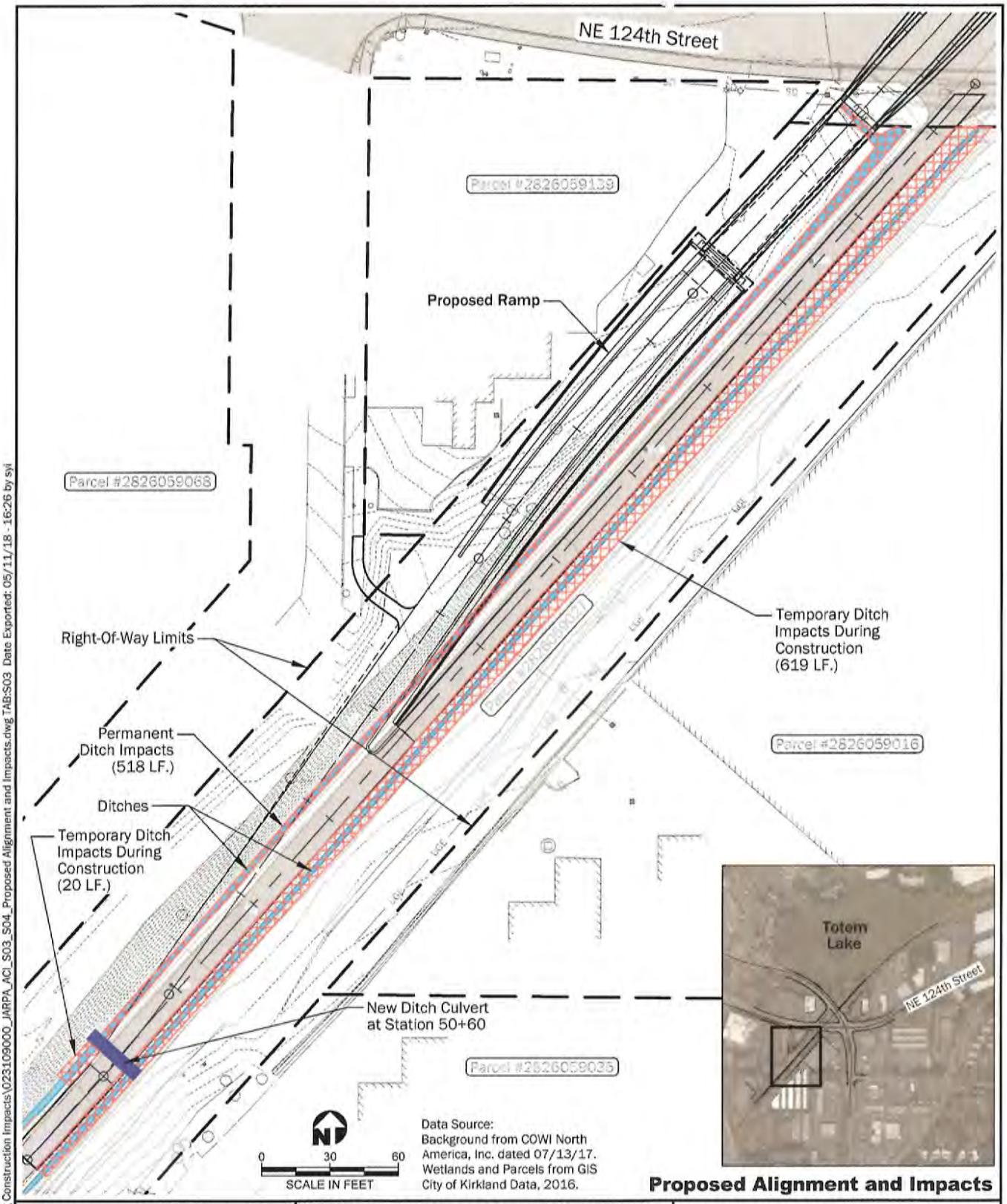
NE 124th St. / 124th Ave. NE Pedestrian Bridge (Totem Lake Non-Motorized Bridge)

In: Totem Lake Blvd. NE

Near/At: Kirkland

County: King

State: WA



Proposed Alignment and Impacts

Applicant: City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Reference Number: NWS-2018-557

Subject & Adjacent Property Owners:

1. Kirkland Totem Lake LLC Parcel #2826059027
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Location: Totem Lake and Associated Drainages

Lat/Long: 47.70961107°N, -122.1760459°W

Datum: WA State Plane North
Horizontal=NAD83
Vertical=NAVD 88

Sheet: 3 of 7 **Date:** 05/11/2018

Proposed Project:
NE 124th St. / 124th Ave. NE Pedestrian Bridge (Totem Lake Non-Motorized Bridge)

In: Totem Lake Blvd. NE

Near/At: Kirkland

County: King

State: WA

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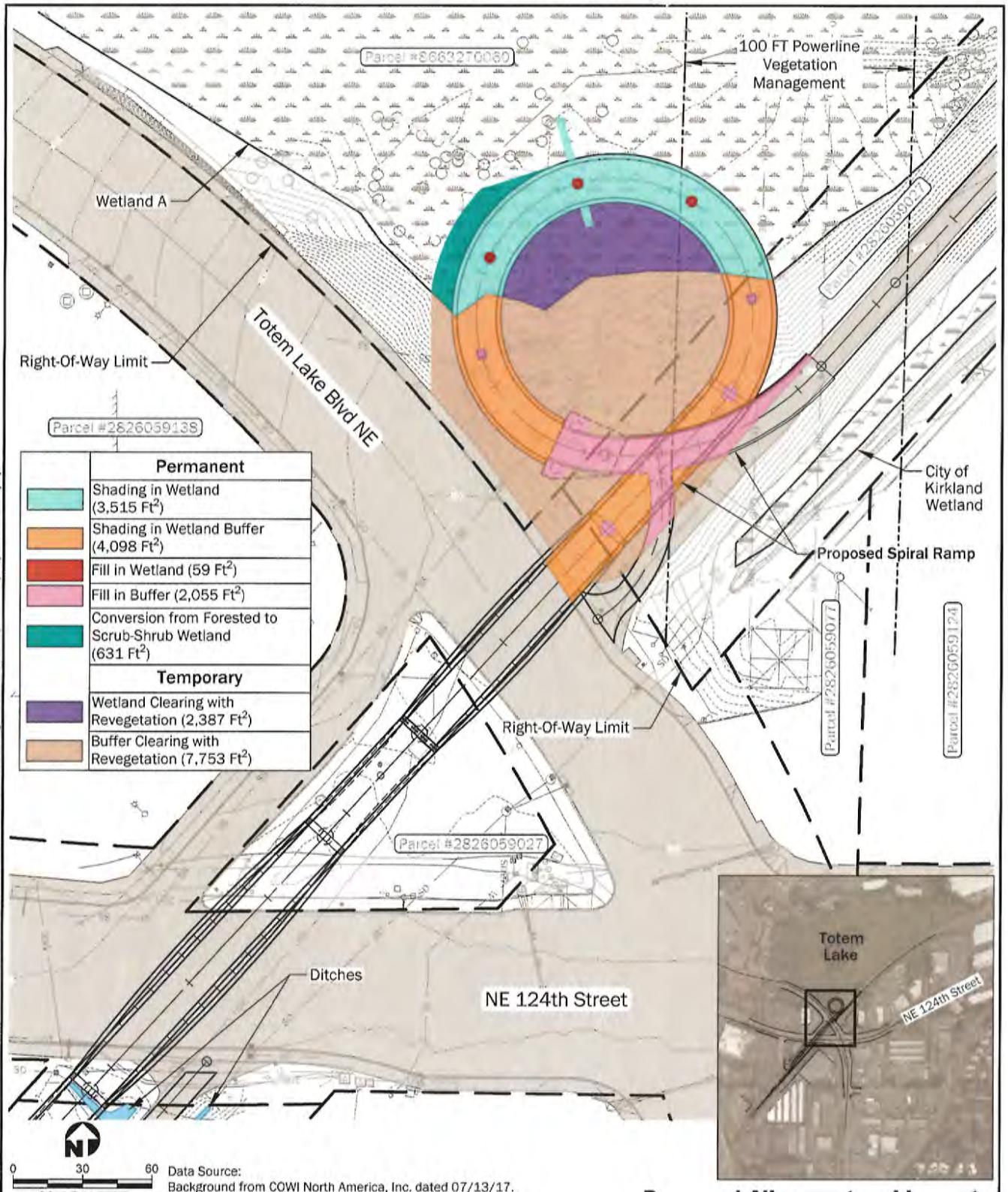

Proposed Alignment and Impacts

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Applicant: City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Reference Number: NWS-2018-557

Subject & Adjacent Property Owners:

1. Kirkland Totem Lake LLC Parcel #2826059027
2. City of Kirkland Parcel #2826059138
3. City of Kirkland Parcel #8663270060

Location: Totem Lake and Associated Drainages

Lat/Long: 47.70961107°N, -122.1760459°W

Datum: WA State Plane North
Horizontal=NAD83
Vertical=NAVD 88

Sheet: 4 of 7 **Date:** 01/09/2018

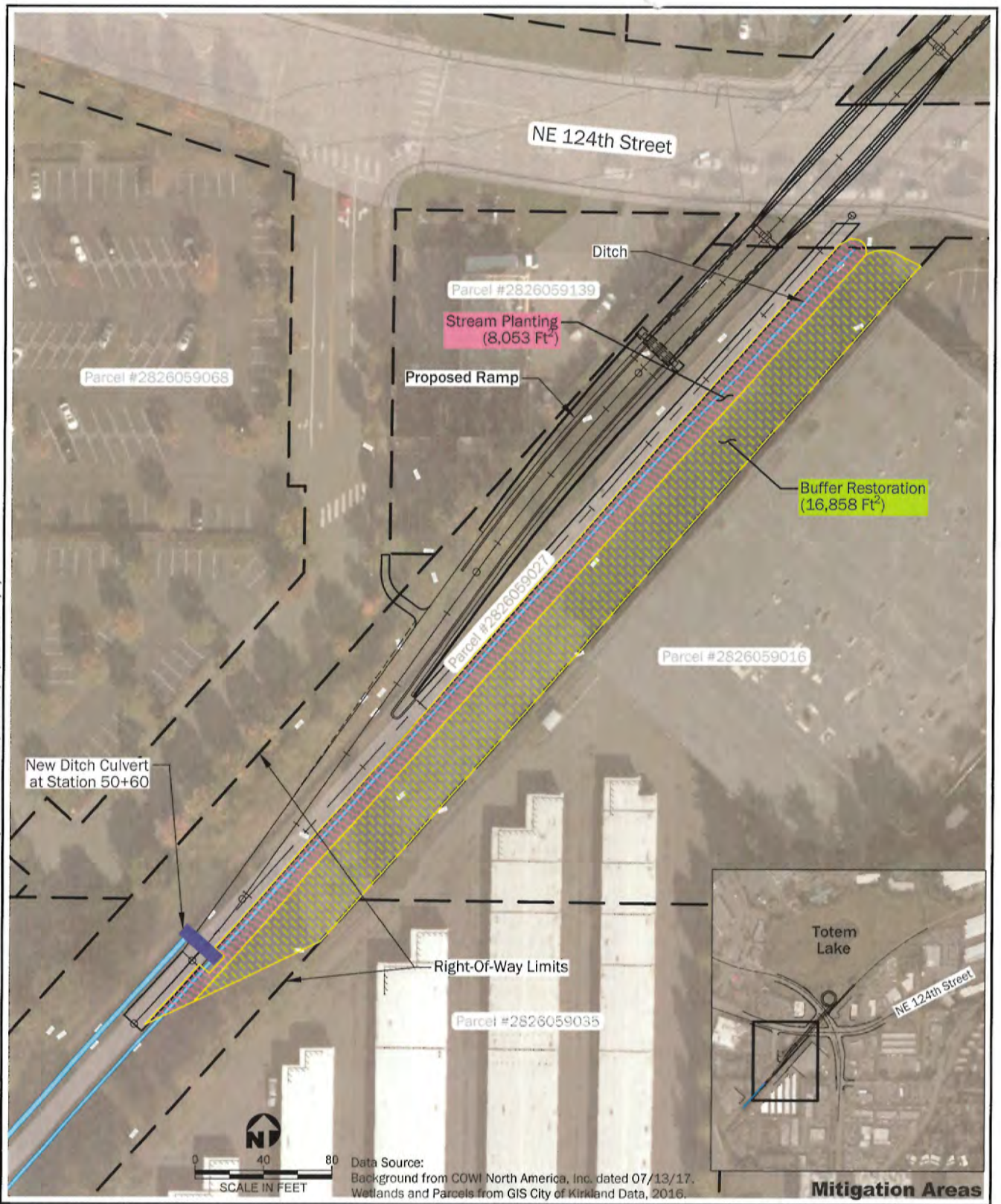
Proposed Project:
NE 124th St. / 124th Ave. NE Pedestrian Bridge (Totem Lake Non-Motorized Bridge)

In: Totem Lake Blvd. NE

Near/At: Kirkland

County: King

State: WA



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Applicant: City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Reference Number: NWS-2018-557

Subject & Adjacent Property Owners:

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2. City of Kirkland Parcel #2826059138
3. City of Kirkland Parcel #8663270060

Location: Totem Lake and Associated Drainages

Lat/Long: 47.70961107°N, -122.1760459°W

Datum: WA State Plane North
Horizontal=NAD83
Vertical=NAVD 88

Sheet: 5 of 7 **Date:** 05/11/2018

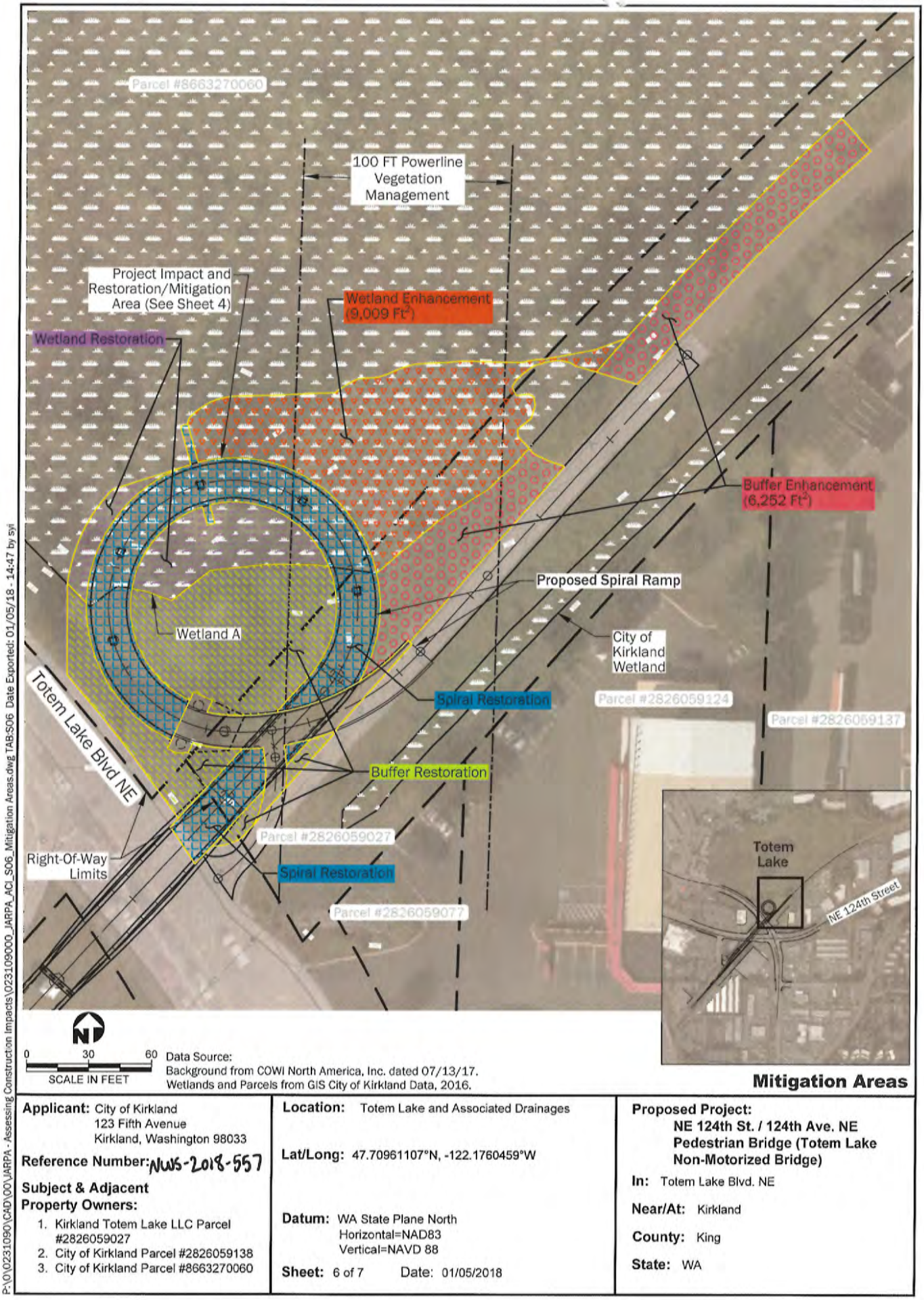
Proposed Project:
NE 124th St. / 124th Ave. NE Pedestrian Bridge (Totem Lake Non-Motorized Bridge)

In: Totem Lake Blvd. NE

Near/At: Kirkland

County: King

State: WA



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Applicant: City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Reference Number: NWS-2018-557

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Horizontal=NAD83
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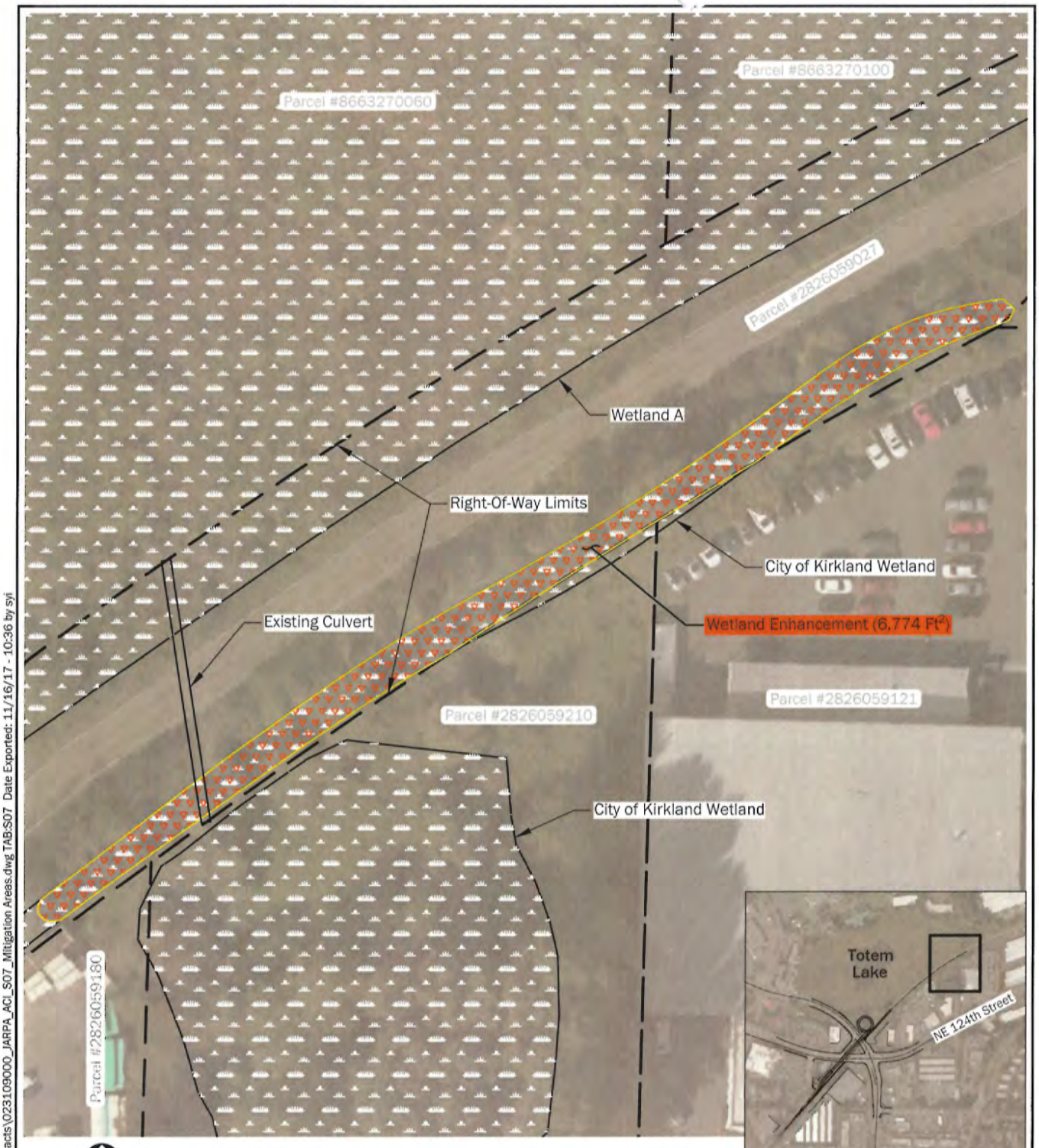

Mitigation Areas

Applicant: City of Kirkland
123 Fifth Avenue
Kirkland, Washington 98033

Reference Number: NWS-2018-557

Subject & Adjacent Property Owners:

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Sheet: 7 of 7 **Date:** 11/13/2017

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In: Totem Lake Blvd. NE

Near/At: Kirkland

County: King

State: WA

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US Army Corps of Engineers ®
Seattle District

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

Permit Number: NWS-_____

Name of Permittee: _____

Date of Issuance: _____

Upon completion of the activity authorized by this permit, please check the applicable boxes below, date and sign this certification, and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle, Washington 98124-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your permit may be subject to suspension, modification, or revocation.

☐	The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit. Date work complete: _____ ☐ Photographs and as-built drawings of the authorized work (OPTIONAL, unless required as a Special Condition of the permit).

☐	If applicable, the mitigation required (e.g., construction and plantings) in the above-referenced permit has been completed in accordance with the terms and conditions of this permit (not including future monitoring). Date work complete: _____ ☐ N/A ☐ Photographs and as-built drawings of the mitigation (OPTIONAL, unless required as a Special Condition of the permit).

☐	Provide phone number/email for scheduling site visits (must have legal authority to grant property access). Printed Name: _____ Phone Number: _____ Email: _____

Printed Name: _____

Signature: _____

Date: _____

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

October 7, 2019

Rod Steitzer
City of Kirkland
123 5th Ave
Kirkland, WA 98033-6121

RE: Coverage under the Construction Stormwater General Permit (CSWGP)

Permit number:	**WAR308422**
Site Name:	**Future Totem Lake Connector Bridge**
Location:	**Intersection of Totem Lake Blvd and NE 124th St**
	Kirkland, WA County: King
Disturbed Acres:	**2**

Dear Rod Steitzer:

The Washington State Department of Ecology (Ecology) received your Notice of Intent for coverage under Ecology's Construction Stormwater General Permit (CSWGP). This is your permit coverage letter. Your permit coverage is effective October 7, 2019. **Please retain this permit coverage letter as the official record of permit coverage for your site.**

Ecology has approved use of electronic formats as long as they are easily produced on your construction site. A mobile friendly copy of the CSWGP permit, permit forms, and information related to your permit can be viewed and downloaded at www.ecology.wa.gov/eCoverage-packet. Please contact your Permit Administrator, listed below, if you would like to receive a hard copy of the CSWGP.

Please take time to read the entire permit and contact Ecology if you have any questions.

Electronic Discharge Monitoring Reports (WQWebDMR)
This permit requires that Permittees submit monthly discharge monitoring reports (DMRs) for the full duration of permit coverage (from issuance date to termination). DMRs must be submitted electronically using Ecology's secure online system, WQWebDMR. To sign up for WQWebDMR go to www.ecy.wa.gov/programs/wq/permits/paris/webdmr.html. If you have questions, contact the portal staff at (360) 407-7097 (Olympia area), or (800) 633-6193/option 3, or email WQWebPortal@ecy.wa.gov.

Appeal Process
You have a right to appeal coverage under the general permit to the Pollution Control Hearing Board (PCHB). Appeals must be filed within 30 days of the date of receipt of this letter. Any appeal is limited to the general permit's applicability or non-applicability to a specific discharger. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2). For more information regarding your right to appeal, go to https://fortress.wa.gov/ecy/publications/SummaryPages/1710007.html to view Ecology's Focus Sheet: *Appeal of General Permit Coverage*.

Ecology Field Inspector Assistance
If you have questions regarding stormwater management at your construction site, please contact Mathew Kwartin of Ecology's Northwest Regional Office in Bellevue at mathew.kwartin@ecy.wa.gov, or (425) 649-4484.

Questions or Additional Information
Ecology is committed to providing assistance. Please review our web page at www.ecology.wa.gov/constructionstormwaterpermit. If you have questions about the Construction Stormwater General Permit, please contact your Permit Administrator, Noel Tamboer at noel.tamboer@ecy.wa.gov, or (360) 407-7229.

Sincerely,

Vincent McGowan, P.E., Manager
Program Development Services Section
Water Quality Program

Issuance Date: November 18, 2015
Effective Date: January 1, 2016
Expiration Date: December 31, 2020

Modification Issuance Date: March 22, 2017
Modification Effective Date: May 5, 2017

CONSTRUCTION STORMWATER GENERAL PERMIT

National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity

State of Washington
Department of Ecology
Olympia, Washington 98504

In compliance with the provisions of
Chapter 90.48 Revised Code of Washington
(State of Washington Water Pollution Control Act)
and
Title 33 United States Code, Section 1251 et seq.
The Federal Water Pollution Control Act (The Clean Water Act)

Until this permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions that follow.

Heather R. Bartlett
Water Quality Program Manager
Washington State Department of Ecology

TABLE OF CONTENTS

LIST OF TABLES

SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions within this permit for additional submittal requirements. Appendix A provides a list of definitions. Appendix B provides a list of acronyms.

Table 1: Summary of Required Submittals

Permit Section	Submittal	Frequency	First Submittal Date
S5.A and S8	High Turbidity/Transparency Phone Reporting	As Necessary	Within 24 hours
S5.B	Discharge Monitoring Report	Monthly*	Within 15 days following the end of each month
S5.F and S8	Noncompliance Notification – Telephone Notification	As necessary	Within 24-hours
S5.F	Noncompliance Notification – Written Report	As necessary	Within 5 Days of non-compliance
S9.C	Request for Chemical Treatment Form	As necessary	Written approval from Ecology is required prior to using chemical treatment (with the exception of dry ice or CO_2 to adjust pH)
G2	Notice of Change in Authorization	As necessary	
G6	Permit Application for Substantive Changes to the Discharge	As necessary	
G8	Application for Permit Renewal	1/permit cycle	No later than 180 days before expiration
G9	Notice of Permit Transfer	As necessary	
G20	Notice of Planned Changes	As necessary	
G22	Reporting Anticipated Non-compliance	As necessary	

SPECIAL NOTE: *Permittees must submit electronic Discharge Monitoring Reports (DMRs) to the Washington State Department of Ecology monthly, regardless of site discharge, for the full duration of permit coverage. Refer to Section S5.B of this General Permit for more specific information regarding DMRs.

Table 2: Summary of Required On-site Documentation

Document Title	Permit Conditions
Permit Coverage Letter	See Conditions S2, S5
Construction Stormwater General Permit	See Conditions S2, S5
Site Log Book	See Conditions S4, S5
Stormwater Pollution Prevention Plan (SWPPP)	See Conditions S9, S5

SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Permit Area

This Construction Stormwater General Permit (CSWGP) covers all areas of Washington State, except for federal operators and Indian Country as specified in Special Condition S1.E.3.

B. Operators Required to Seek Coverage Under this General Permit:

1. Operators of the following construction activities are required to seek coverage under this CSWGP:

   a. Clearing, grading and/or excavation that results in the disturbance of one or more acres (including off-site disturbance acreage authorized in S1.C.2) and discharges stormwater to surface waters of the State; and clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more and discharge stormwater to surface waters of the State.

      i. This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, and discharge to surface waters of the State (that is, forest practices that prepare a site for construction activities); and

   b. Any size construction activity discharging stormwater to waters of the State that the Washington State Department of Ecology (Ecology):

      i. Determines to be a significant contributor of pollutants to waters of the State of Washington.

      ii. Reasonably expects to cause a violation of any water quality standard.

2. Operators of the following activities are not required to seek coverage under this CSWGP (unless specifically required under Special Condition S1.B.1.b. above):

   a. Construction activities that discharge all stormwater and non-stormwater to ground water, sanitary sewer, or combined sewer, and have no point source discharge to either surface water or a storm sewer system that drains to surface waters of the State.

   b. Construction activities covered under an Erosivity Waiver (Special Condition S2.C).

   c. Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

C. Authorized Discharges:

1. *Stormwater Associated with Construction Activity*. Subject to compliance with the terms and conditions of this permit, Permittees are authorized to discharge stormwater associated with construction activity to surface waters of the State or to a storm sewer system that drains to surface waters of the State. (Note that "surface waters of the State" may exist on a construction site as well as off site; for example, a creek running through a site.)

2. *Stormwater Associated with Construction Support Activity*. This permit also authorizes stormwater discharge from support activities related to the permitted construction site (for example, an on-site portable rock crusher, off-site equipment staging yards, material storage areas, borrow areas, etc.) provided:

   a. The support activity relates directly to the permitted construction site that is required to have an NPDES permit; and

   b. The support activity is not a commercial operation serving multiple unrelated construction projects, and does not operate beyond the completion of the construction activity; and

   c. Appropriate controls and measures are identified in the Stormwater Pollution Prevention Plan (SWPPP) for the discharges from the support activity areas.

3. *Non-Stormwater Discharges*. The categories and sources of non-stormwater discharges identified below are authorized conditionally, provided the discharge is consistent with the terms and conditions of this permit:

   a. Discharges from fire-fighting activities.

   b. Fire hydrant system flushing.

   c. Potable water, including uncontaminated water line flushing.

   d. Hydrostatic test water.

   e. Uncontaminated air conditioning or compressor condensate.

   f. Uncontaminated ground water or spring water.

   g. Uncontaminated excavation dewatering water (in accordance with S9.D.10).

   h. Uncontaminated discharges from foundation or footing drains.

   i. Uncontaminated or potable water used to control dust. Permittees must minimize the amount of dust control water used.

   j. Routine external building wash down that does not use detergents.

   k. Landscape irrigation water.

The SWPPP must adequately address all authorized non-stormwater discharges, except for discharges from fire-fighting activities, and must comply with Special Condition S3.

At a minimum, discharges from potable water (including water line flushing), fire hydrant system flushing, and pipeline hydrostatic test water must undergo the following: dechlorination to a concentration of 0.1 parts per million (ppm) or less, and pH adjustment to within 6.5 – 8.5 standard units (su), if necessary.

D. Prohibited Discharges:

The following discharges to waters of the State, including ground water, are prohibited.

1. Concrete wastewater.
2. Wastewater from washout and clean-up of stucco, paint, form release oils, curing compounds and other construction materials.
3. Process wastewater as defined by 40 Code of Federal Regulations (CFR) 122.2 (see Appendix A of this permit).
4. Slurry materials and waste from shaft drilling, including process wastewater from shaft drilling for construction of building, road, and bridge foundations unless managed according to Special Condition S9.D.9.j.
5. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.
6. Soaps or solvents used in vehicle and equipment washing.
7. Wheel wash wastewater, unless managed according to Special Condition S9.D.9.
8. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed according to Special Condition S9.D.10.

E. Limits on Coverage

Ecology may require any discharger to apply for and obtain coverage under an individual permit or another more specific general permit. Such alternative coverage will be required when Ecology determines that this CSWGP does not provide adequate assurance that water quality will be protected, or there is a reasonable potential for the project to cause or contribute to a violation of water quality standards.

The following stormwater discharges are not covered by this permit:

1. Post-construction stormwater discharges that originate from the site after completion of construction activities and the site has undergone final stabilization.
2. Non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance, from which there is natural runoff as excluded in 40 CFR Subpart 122.
3. Stormwater from any federal operator.

4. Stormwater from facilities located on "Indian Country" as defined in 18 U.S.C.§1151, except portions of the Puyallup Reservation as noted below.

   Indian Country includes:

   a. All land within any Indian Reservation notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation. This includes all federal, tribal, and Indian and non-Indian privately owned land within the reservation.

   b. All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

   c. All off-reservation federal trust lands held for Native American Tribes.

      Puyallup Exception: Following the *Puyallup Tribes of Indians Land Settlement Act of 1989*, 25 U.S.C. §1773; the permit does apply to land within the Puyallup Reservation except for discharges to surface water on land held in trust by the federal government.

5. Stormwater from any site covered under an existing NPDES individual permit in which stormwater management and/or treatment requirements are included for all stormwater discharges associated with construction activity.

6. Stormwater from a site where an applicable Total Maximum Daily Load (TMDL) requirement specifically precludes or prohibits discharges from construction activity.

S2. APPLICATION REQUIREMENTS

A. Permit Application Forms

1. Notice of Intent Form/Timeline

   a. Operators of new or previously unpermitted construction activities must submit a complete and accurate permit application (Notice of Intent, or NOI) to Ecology.

   b. Operators must apply using the electronic application form (NOI) available on Ecology's website http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html. Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

      Department of Ecology
      Water Quality Program - Construction Stormwater
      PO Box 47696
      Olympia, Washington 98504-7696

c. The operator must submit the NOI at least 60 days before discharging stormwater from construction activities and must submit it on or before the date of the first public notice (see Special Condition S2.B below for details). The 30-day public comment period begins on the publication date of the second public notice. Unless Ecology responds to the complete application in writing, based on public comments, or any other relevant factors, coverage under the general permit will automatically commence on the thirty-first day following receipt by Ecology of a completed NOI, or the issuance date of this permit, whichever is later; unless Ecology specifies a later date in writing as required by WAC173-226-200(2).

d. If an applicant intends to use a Best Management Practice (BMP) selected on the basis of Special Condition S9.C.4 ("demonstrably equivalent" BMPs), the applicant must notify Ecology of its selection as part of the NOI. In the event the applicant selects BMPs after submission of the NOI, it must provide notice of the selection of an equivalent BMP to Ecology at least 60 days before intended use of the equivalent BMP.

e. Permittees must notify Ecology regarding any changes to the information provided on the NOI by submitting an updated NOI. Examples of such changes include, but are not limited to:

    i. Changes to the Permittee's mailing address,

    ii. Changes to the on-site contact person information, ***and***

    iii. Changes to the area/acreage affected by construction activity.

f. Applicants must notify Ecology if they are aware of contaminated soils and/or groundwater associated with the construction activity. Provide detailed information with the NOI (as known and readily available) on the nature and extent of the contamination (concentrations, locations, and depth), as well as pollution prevention and/or treatment BMPs proposed to control the discharge of soil and/or groundwater contaminants in stormwater. Examples of such detail may include, but are not limited to:

    i. List or table of all known contaminants with laboratory test results showing concentration and depth,

    ii. Map with sample locations,

    iii. Temporary Erosion and Sediment Control (TESC) plans,

    iv. Related portions of the Stormwater Pollution Prevention Plan (SWPPP) that address the management of contaminated and potentially contaminated construction stormwater and dewatering water,

    v. Dewatering plan and/or dewatering contingency plan.

2. Transfer of Coverage Form

   The Permittee can transfer current coverage under this permit to one or more new operators, including operators of sites within a Common Plan of Development, provided the Permittee submits a Transfer of Coverage Form in accordance with General Condition G9. Transfers do not require public notice.

B. Public Notice

For new or previously unpermitted construction activities, the applicant must publish a public notice at least one time each week for two consecutive weeks, at least 7 days apart, in a newspaper with general circulation in the county where the construction is to take place. The notice must contain:

1. A statement that "The applicant is seeking coverage under the Washington State Department of Ecology's Construction Stormwater NPDES and State Waste Discharge General Permit".

2. The name, address and location of the construction site.

3. The name and address of the applicant.

4. The type of construction activity that will result in a discharge (for example, residential construction, commercial construction, etc.), and the number of acres to be disturbed.

5. The name of the receiving water(s) (that is, the surface water(s) to which the site will discharge), or, if the discharge is through a storm sewer system, the name of the operator of the system.

6. The statement: "Any persons desiring to present their views to the Washington State Department of Ecology regarding this application, or interested in Ecology's action on this application, may notify Ecology in writing no later than 30 days of the last date of publication of this notice. Ecology reviews public comments and considers whether discharges from this project would cause a measurable change in receiving water quality, and, if so, whether the project is necessary and in the overriding public interest according to Tier II antidegradation requirements under WAC 173-201A-320. Comments can be submitted to: Department of Ecology, PO Box 47696, Olympia, Washington 98504-7696 Attn: Water Quality Program, Construction Stormwater."

C. Erosivity Waiver

Construction site operators may qualify for an erosivity waiver from the CSWGP if the following conditions are met:

1. The site will result in the disturbance of fewer than 5 acres and the site is not a portion of a common plan of development or sale that will disturb 5 acres or greater.

2. Calculation of Erosivity "R" Factor and Regional Timeframe:

   a. The project's rainfall erosivity factor ("R" Factor) must be less than 5 during the period of construction activity, as calculated (see the CSWGP homepage http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html for a link to the EPA's calculator and step by step instructions on computing the "R" Factor in the EPA Erosivity Waiver Fact Sheet). The period of construction activity starts when the land is first disturbed and ends with final stabilization. In addition:

   b. The entire period of construction activity must fall within the following timeframes:

      i. For sites west of the Cascades Crest: June 15 – September 15.

      ii. For sites east of the Cascades Crest, excluding the Central Basin: June 15 – October 15.

      iii. For sites east of the Cascades Crest, within the Central Basin: no additional timeframe restrictions apply. The Central Basin is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches. For a map of the Central Basin (Average Annual Precipitation Region 2), refer to http://www.ecy.wa.gov/programs/wq/stormwater/construction/resourcesguidance.html.

3. Construction site operators must submit a complete Erosivity Waiver certification form at least one week before disturbing the land. Certification must include statements that the operator will:

   a. Comply with applicable local stormwater requirements; ***and***

   b. Implement appropriate erosion and sediment control BMPs to prevent violations of water quality standards.

4. This waiver is not available for facilities declared significant contributors of pollutants as defined in Special Condition S1.B.1.b. or for any size construction activity that could reasonably expect to cause a violation of any water quality standard as defined in Special Condition S1.B.1.b.ii.

5. This waiver does not apply to construction activities which include non-stormwater discharges listed in Special Condition S1.C.3.

6. If construction activity extends beyond the certified waiver period for any reason, the operator must either:

    a. Recalculate the rainfall erosivity "R" factor using the original start date and a new projected ending date and, if the "R" factor is still under 5 *and* the entire project falls within the applicable regional timeframe in Special Condition S2.C.2.b, complete and submit an amended waiver certification form before the original waiver expires; ***or***

    b. Submit a complete permit application to Ecology in accordance with Special Condition S2.A and B before the end of the certified waiver period.

S3. COMPLIANCE WITH STANDARDS

A. Discharges must not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR Part 131.36). Discharges not in compliance with these standards are not authorized.

B. Prior to the discharge of stormwater and non-stormwater to waters of the State, the Permittee must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). This includes the preparation and implementation of an adequate SWPPP, with all appropriate BMPs installed and maintained in accordance with the SWPPP and the terms and conditions of this permit.

C. Ecology presumes that a Permittee complies with water quality standards unless discharge monitoring data or other site-specific information demonstrates that a discharge causes or contributes to a violation of water quality standards, when the Permittee complies with the following conditions. The Permittee must fully:

    1. Comply with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions.

    2. Implement stormwater BMPs contained in stormwater management manuals published or approved by Ecology, or BMPs that are demonstrably equivalent to BMPs contained in stormwater technical manuals published or approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for on-site pollution control. (For purposes of this section, the stormwater manuals listed in Appendix 10 of the Phase I Municipal Stormwater Permit are approved by Ecology.)

D. Where construction sites also discharge to ground water, the ground water discharges must also meet the terms and conditions of this CSWGP. Permittees who discharge to ground water through an injection well must also comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.

S4. MONITORING REQUIREMENTS, BENCHMARKS AND REPORTING TRIGGERS

A. Site Log Book

The Permittee must maintain a site log book that contains a record of the implementation of the SWPPP and other permit requirements, including the installation and maintenance of BMPs, site inspections, and stormwater monitoring.

B. Site Inspections

The Permittee's site inspections must include all areas disturbed by construction activities, all BMPs, and all stormwater discharge points under the Permittee's operational control. (See Special Conditions S4.B.3 and B.4 below for detailed requirements of the Permittee's Certified Erosion and Sediment Control Lead [CESCL].)

Construction sites one acre or larger that discharge stormwater to surface waters of the State must have site inspections conducted by a certified CESCL. Sites less than one acre may have a person without CESCL certification conduct inspections.

1. The Permittee must examine stormwater visually for the presence of suspended sediment, turbidity, discoloration, and oil sheen. The Permittee must evaluate the effectiveness of BMPs and determine if it is necessary to install, maintain, or repair BMPs to improve the quality of stormwater discharges.

   Based on the results of the inspection, the Permittee must correct the problems identified by:

   a. Reviewing the SWPPP for compliance with Special Condition S9 and making appropriate revisions within 7 days of the inspection.

   b. Immediately beginning the process of fully implementing and maintaining appropriate source control and/or treatment BMPs as soon as possible, addressing the problems no later than within 10 days of the inspection. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.

   c. Documenting BMP implementation and maintenance in the site log book.

2. The Permittee must inspect all areas disturbed by construction activities, all BMPs, and all stormwater discharge points at least once every calendar week and within 24 hours of any discharge from the site. (For purposes of this condition, individual discharge events that last more than one day do not require daily inspections. For example, if a stormwater pond discharges continuously over the course of a week, only one inspection is required that week.) The Permittee may reduce the inspection frequency for temporarily stabilized, inactive sites to once every calendar month.

3. The Permittee must have staff knowledgeable in the principles and practices of erosion and sediment control. The CESCL (sites one acre or more) or inspector (sites less than one acre) must have the skills to assess the:

   a. Site conditions and construction activities that could impact the quality of stormwater, ***and***

   b. Effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges.

4. The SWPPP must identify the CESCL or inspector, who must be present on site or on-call at all times. The CESCL must obtain this certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (see BMP C160 in the manual referred to in Special Condition S9.C.1 and 2).

5. The Permittee must summarize the results of each inspection in an inspection report or checklist and enter the report/checklist into, or attach it to, the site log book. At a minimum, each inspection report or checklist must include:

   a. Inspection date and time.

   b. Weather information, the general conditions during inspection and the approximate amount of precipitation since the last inspection, and precipitation within the last 24 hours.

   c. A summary or list of all implemented BMPs, including observations of all erosion/sediment control structures or practices.

   d. A description of the locations:

      i. Of BMPs inspected;

      ii. Of BMPs that need maintenance and why;

      iii. Of BMPs that failed to operate as designed or intended; ***and***

      iv. Where additional or different BMPs are needed, and why.

   e. A description of stormwater discharged from the site. The Permittee must note the presence of suspended sediment, turbidity, discoloration, and oil sheen, as applicable.

   f. Any water quality monitoring performed during inspection.

   g. General comments and notes, including a brief description of any BMP repairs, maintenance or installations made following the inspection.

   h. A summary report and a schedule of implementation of the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.

i. The name, title, and signature of the person conducting the site inspection, a phone number or other reliable method to reach this person, and the following statement: "I certify that this report is true, accurate, and complete to the best of my knowledge and belief."

Table 3: Summary of Primary Monitoring Requirements

Size of Soil Disturbance[1]	Weekly Site Inspections	Weekly Sampling w/ Turbidity Meter	Weekly Sampling w/ Transparency Tube	Weekly pH Sampling[2]	CESCL Required for Inspections?
Sites that disturb less than 1 acre, but are part of a larger Common Plan of Development	Required	Not Required	Not Required	Not Required	No
Sites that disturb 1 acre or more, but fewer than 5 acres	Required	Sampling Required – either method[3]		Required	Yes
Sites that disturb 5 acres or more	Required	Required	Not Required[4]	Required	Yes

[1] Soil disturbance is calculated by adding together all areas that will be affected by construction activity. Construction activity means clearing, grading, excavation, and any other activity that disturbs the surface of the land, including ingress/egress from the site.

[2] If construction activity results in the disturbance of 1 acre or more, and involves significant concrete work (1,000 cubic yards of poured concrete or recycled concrete over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer stormwater collection system that drains to other surface waters of the State, the Permittee must conduct pH sampling in accordance with Special Condition S4.D.

[3] Sites with one or more acres, but fewer than 5 acres of soil disturbance, must conduct turbidity or transparency sampling in accordance with Special Condition S4.C.

[4] Sites equal to or greater than 5 acres of soil disturbance must conduct turbidity sampling using a turbidity meter in accordance with Special Condition S4.C.

C. Turbidity/Transparency Sampling Requirements

1. Sampling Methods

   a. If construction activity involves the disturbance of 5 acres or more, the Permittee must conduct turbidity sampling per Special Condition S4.C.

   b. If construction activity involves 1 acre or more but fewer than 5 acres of soil disturbance, the Permittee must conduct either transparency sampling **or** turbidity sampling per Special Condition S4.C.

2. Sampling Frequency

   a. The Permittee must sample all discharge points at least once every calendar week when stormwater (or authorized non-stormwater) discharges from the site or enters any on-site surface waters of the state (for example, a creek running through a site); sampling is not required on sites that disturb less than an acre.

   b. Samples must be representative of the flow and characteristics of the discharge.

   c. Sampling is not required when there is no discharge during a calendar week.

   d. Sampling is not required outside of normal working hours or during unsafe conditions.

   e. If the Permittee is unable to sample during a monitoring period, the Permittee must include a brief explanation in the monthly Discharge Monitoring Report (DMR).

   f. Sampling is not required before construction activity begins.

   g. The Permittee may reduce the sampling frequency for temporarily stabilized, inactive sites to once every calendar month.

3. Sampling Locations

   a. Sampling is required at all points where stormwater associated with construction activity (or authorized non-stormwater) is discharged off site, including where it enters any on-site surface waters of the state (for example, a creek running through a site).

   b. The Permittee may discontinue sampling at discharge points that drain areas of the project that are fully stabilized to prevent erosion.

   c. The Permittee must identify all sampling point(s) on the SWPPP site map and clearly mark these points in the field with a flag, tape, stake or other visible marker.

   d. Sampling is not required for discharge that is sent directly to sanitary or combined sewer systems.

e. The Permittee may discontinue sampling at discharge points in areas of the project where the Permittee no longer has operational control of the construction activity.

4. Sampling and Analysis Methods

a. The Permittee performs turbidity analysis with a calibrated turbidity meter (turbidimeter) either on site or at an accredited lab. The Permittee must record the results in the site log book in nephelometric turbidity units (NTUs).

b. The Permittee performs transparency analysis on site with a 1¾-inch-diameter, 60-centimeter (cm)-long transparency tube. The Permittee will record the results in the site log book in centimeters (cm).

Table 4: Monitoring and Reporting Requirements

Parameter	Unit	Analytical Method	Sampling Frequency	Benchmark Value	Phone Reporting Trigger Value
Turbidity	NTU	SM2130	Weekly, if discharging	25 NTUs	250 NTUs
Transparency	cm	Manufacturer instructions, or Ecology guidance	Weekly, if discharging	33 cm	6 cm

5. Turbidity/Transparency Benchmark Values and Reporting Triggers

The benchmark value for turbidity is 25 NTUs or less. The benchmark value for transparency is 33 centimeters (cm). Note: Benchmark values do not apply to discharges to segments of water bodies on Washington State's 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus; these discharges are subject to a numeric effluent limit for turbidity. Refer to Special Condition S8 for more information.

a. Turbidity 26 – 249 NTUs, or Transparency 32 – 7 cm:

If the discharge turbidity is 26 to 249 NTUs; or if discharge transparency is less than 33 cm, but equal to or greater than 6 cm, the Permittee must:

i. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.

ii. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.

iii. Document BMP implementation and maintenance in the site log book.

b. Turbidity 250 NTUs or greater, or Transparency 6 cm or less:

If a discharge point's turbidity is 250 NTUs or greater, or if discharge transparency is less than or equal to 6 cm, the Permittee must complete the reporting and adaptive management process described below.

i. Telephone or submit an electronic report to the applicable Ecology Region's Environmental Report Tracking System (ERTS) number (or through Ecology's Water Quality Permitting Portal [WQWebPortal] – Permit Submittals when the form is available) within 24 hours, in accordance with Special Condition S5.A.

- **Central Region** (Okanogan, Chelan, Douglas, Kittitas, Yakima, Klickitat, Benton): (509) 575-2490
- **Eastern Region** (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman): (509) 329-3400
- **Northwest Region** (Kitsap, Snohomish, Island, King, San Juan, Skagit, Whatcom): (425) 649-7000
- **Southwest Region** (Grays Harbor, Lewis, Mason, Thurston, Pierce, Clark, Cowlitz, Skamania, Wahkiakum, Clallam, Jefferson, Pacific): (360) 407-6300

Links to these numbers and the ERTS reporting page are located on the following web site: http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html.

ii. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.

iii. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.

iv. Document BMP implementation and maintenance in the site log book.

v. Sample discharges daily until:

a) Turbidity is 25 NTUs (or lower); ***or***

b) Transparency is 33 cm (or greater); ***or***

c) The Permittee has demonstrated compliance with the water quality limit for turbidity:

1) No more than 5 NTUs over background turbidity, if background is less than 50 NTUs, ***or***

2) No more than 10% over background turbidity, if background is 50 NTUs or greater; ***or***

d) The discharge stops or is eliminated.

D. pH Sampling Requirements – Significant Concrete Work or Engineered Soils

If construction activity results in the disturbance of 1 acre or more, ***and*** involves significant concrete work (significant concrete work means greater than 1000 cubic yards poured concrete or recycled concrete used over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer system that drains to surface waters of the State, the Permittee must conduct pH sampling as set forth below. Note: In addition, discharges to segments of water bodies on Washington State's 303(d) list (Category 5) for high pH are subject to a numeric effluent limit for pH; refer to Special Condition S8.

1. For sites with significant concrete work, the Permittee must begin the pH sampling period when the concrete is first poured and exposed to precipitation, and continue weekly throughout and after the concrete pour and curing period, until stormwater pH is in the range of 6.5 to 8.5 (su).

2. For sites with recycled concrete where monitoring is required, the Permittee must begin the weekly pH sampling period when the recycled concrete is first exposed to precipitation and must continue until the recycled concrete is fully stabilized with the stormwater pH in the range of 6.5 to 8.5 (su).

3. For sites with engineered soils, the Permittee must begin the pH sampling period when the soil amendments are first exposed to precipitation and must continue until the area of engineered soils is fully stabilized.

4. During the applicable pH monitoring period defined above, the Permittee must obtain a representative sample of stormwater and conduct pH analysis at least once per week.

5. The Permittee must sample pH in the sediment trap/pond(s) or other locations that receive stormwater runoff from the area of significant concrete work or engineered soils before the stormwater discharges to surface waters.

6. The benchmark value for pH is 8.5 standard units. Anytime sampling indicates that pH is 8.5 or greater, the Permittee must either:

a. Prevent the high pH water (8.5 or above) from entering storm sewer systems or surface waters; ***or***

b. If necessary, adjust or neutralize the high pH water until it is in the range of pH 6.5 to 8.5 (su) using an appropriate treatment BMP such as carbon dioxide (CO_2) sparging or dry ice. The Permittee must obtain written approval from Ecology before using any form of chemical treatment other than CO_2 sparging or dry ice.

7. The Permittee must perform pH analysis on site with a calibrated pH meter, pH test kit, or wide range pH indicator paper. The Permittee must record pH sampling results in the site log book.

S5. REPORTING AND RECORDKEEPING REQUIREMENTS

A. High Turbidity Reporting

Anytime sampling performed in accordance with Special Condition S4.C indicates turbidity has reached the 250 NTUs or more (or transparency less than or equal to 6 cm) high turbidity reporting level, the Permittee must either call the applicable Ecology Region's Environmental Report Tracking System (ERTS) number by phone within 24 hours of analysis or submit an electronic ERTS report (or submit an electronic report through Ecology's Water Quality Permitting Portal (WQWebPortal) – Permit Submittals when the form is available). See the CSWGP web site for links to ERTS and the WQWebPortal: http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html. Also, see phone numbers in Special Condition S4.C.5.b.i.

B. Discharge Monitoring Reports (DMRs)

Permittees required to conduct water quality sampling in accordance with Special Conditions S4.C (Turbidity/Transparency), S4.D (pH), S8 (303[d]/TMDL sampling), and/or G13 (Additional Sampling) must submit the results to Ecology.

Permittees must submit monitoring data using Ecology's WQWebDMR web application accessed through Ecology's Water Quality Permitting Portal. To find out more information and to sign up for WQWebDMR go to: http://www.ecy.wa.gov/programs/wq/permits/paris/portal.html.

Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper copy DMR at:

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, Washington 98504-7696

Permittees who obtain a waiver not to use WQWebDMR must use the forms provided to them by Ecology; submittals must be mailed to the address above. Permittees shall

submit DMR forms to be received by Ecology within 15 days following the end of each month.

If there was no discharge during a given monitoring period, all Permittees must submit a DMR as required with “no discharge" entered in place of the monitoring results. DMRs are required for the full duration of permit coverage (from issuance date to termination). For more information, contact Ecology staff using information provided at the following web site: www.ecy.wa.gov/programs/wq/permits/paris/contacts.html.

C. Records Retention

The Permittee must retain records of all monitoring information (site log book, sampling results, inspection reports/checklists, etc.), Stormwater Pollution Prevention Plan, copy of the permit coverage letter (including Transfer of Coverage documentation), and any other documentation of compliance with permit requirements for the entire life of the construction project and for a minimum of three years following the termination of permit coverage. Such information must include all calibration and maintenance records, and records of all data used to complete the application for this permit. This period of retention must be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

D. Recording Results

For each measurement or sample taken, the Permittee must record the following information:

1. Date, place, method, and time of sampling or measurement.
2. The first and last name of the individual who performed the sampling or measurement.
3. The date(s) the analyses were performed.
4. The first and last name of the individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

E. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Special Condition S4 of this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Permittee’s DMR.

F. Noncompliance Notification

In the event the Permittee is unable to comply with any part of the terms and conditions of this permit, and the resulting noncompliance may cause a threat to human health or the environment (such as but not limited to spills of fuels or other materials, catastrophic pond or slope failure, and discharges that violate water quality standards), or exceed

numeric effluent limitations (see S8. Discharges to 303(d) or TMDL Waterbodies), the Permittee must, upon becoming aware of the circumstance:

1. Notify Ecology within 24-hours of the failure to comply by calling the applicable Regional office ERTS phone number (refer to Special Condition S4.C.5.b.i. or www.ecy.wa.gov/programs/wq/stormwater/construction/turbidity.html for Regional ERTS phone numbers).

2. Immediately take action to prevent the discharge/pollution, or otherwise stop or correct the noncompliance, and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to Ecology within five (5) days of becoming aware of the violation.

3. Submit a detailed written report to Ecology within five (5) days, of the time the Permittee becomes aware of the circumstances, unless requested earlier by Ecology. The report must be submitted using Ecology's Water Quality Permitting Portal (WQWebPortal) - Permit Submittals, unless a waiver from electronic reporting has been granted according to S5.B. The report must contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   The Permittee must report any unanticipated bypass and/or upset that exceeds any effluent limit in the permit in accordance with the 24-hour reporting requirement contained in 40 C.F.R. 122.41(l)(6).

   Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply. Upon request of the Permittee, Ecology may waive the requirement for a written report on a case-by-case basis, if the immediate notification is received by Ecology within 24 hours.

G. Access to Plans and Records

1. The Permittee must retain the following permit documentation (plans and records) on site, or within reasonable access to the site, for use by the operator or for on-site review by Ecology or the local jurisdiction:

   a. General Permit

   b. Permit Coverage Letter

   c. Stormwater Pollution Prevention Plan (SWPPP)

   d. Site Log Book

2. The Permittee must address written requests for plans and records listed above (Special Condition S5.G.1) as follows:

a. The Permittee must provide a copy of plans and records to Ecology within 14 days of receipt of a written request from Ecology.

b. The Permittee must provide a copy of plans and records to the public when requested in writing. Upon receiving a written request from the public for the Permittee's plans and records, the Permittee must either:

   i. Provide a copy of the plans and records to the requester within 14 days of a receipt of the written request; ***or***

   ii. Notify the requester within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed; and provide access to the plans and records within 14 days of receipt of the written request; ***or***

   iii. Within 14 days of receipt of the written request, the Permittee may submit a copy of the plans and records to Ecology for viewing and/or copying by the requester at an Ecology office, or a mutually agreed location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Permittee will provide reasonable access to copying services for which a reasonable fee may be charged. The Permittee must notify the requester within 10 days of receipt of the request where the plans and records may be viewed and/or copied.

S6. PERMIT FEES

The Permittee must pay permit fees assessed by Ecology. Fees for stormwater discharges covered under this permit are established by Chapter 173-224 WAC. Ecology continues to assess permit fees until the permit is terminated in accordance with Special Condition S10 or revoked in accordance with General Condition G5.

S7. SOLID AND LIQUID WASTE DISPOSAL

The Permittee must handle and dispose of solid and liquid wastes generated by construction activity, such as demolition debris, construction materials, contaminated materials, and waste materials from maintenance activities, including liquids and solids from cleaning catch basins and other stormwater facilities, in accordance with:

A. Special Condition S3, Compliance with Standards

B. WAC 173-216-110

C. Other applicable regulations

S8. DISCHARGES TO 303(d) OR TMDL WATERBODIES

A. Sampling and Numeric Effluent Limits For Certain Discharges to 303(d)-listed Waterbodies

1. Permittees who discharge to segments of waterbodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorus, must conduct water quality sampling according to the requirements of this section, and Special Conditions S4.C.2.b-f and S4.C.3.b-d, and must comply with the applicable numeric effluent limitations in S8.C and S8.D.

2. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current listing by Ecology of impaired waters (Category 5) that exists on January 1, 2016, or the date when the operator's complete permit application is received by Ecology, whichever is later.

B. Limits on Coverage for New Discharges to TMDL or 303(d)-listed Waters

Operators of construction sites that discharge to a TMDL or 303(d)-listed waterbody are not eligible for coverage under this permit *unless* the operator:

1. Prevents exposing stormwater to pollutants for which the waterbody is impaired, and retains documentation in the SWPPP that details procedures taken to prevent exposure on site; ***or***

2. Documents that the pollutants for which the waterbody is impaired are not present at the site, and retains documentation of this finding within the SWPPP; ***or***

3. Provides Ecology with data indicating the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retains such data on site with the SWPPP. The operator must provide data and other technical information to Ecology that sufficiently demonstrate:

   a. For discharges to waters without an EPA-approved or -established TMDL, that the discharge of the pollutant for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; ***or***

   b. For discharges to waters with an EPA-approved or -established TMDL, that there is sufficient remaining wasteload allocation in the TMDL to allow construction stormwater discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

   Operators of construction sites are eligible for coverage under this permit if Ecology issues permit coverage based upon an affirmative determination that the *discharge will not cause or contribute to the existing impairment.*

C. Sampling and Numeric Effluent Limits for Discharges to Water Bodies on the 303(d) List for Turbidity, Fine Sediment, or Phosphorus

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus must conduct turbidity sampling in accordance with Special Condition S4.C.2 and comply with either of the numeric effluent limits noted in Table 5 below.

2. As an alternative to the 25 NTUs effluent limit noted in Table 5 below (applied at the point where stormwater [or authorized non-stormwater] is discharged off-site), Permittees may choose to comply with the surface water quality standard for turbidity. The standard is: no more than 5 NTUs over background turbidity when the background turbidity is 50 NTUs or less, or no more than a 10% increase in turbidity when the background turbidity is more than 50 NTUs. In order to use the water quality standard requirement, the sampling must take place at the following locations:

   a. Background turbidity in the 303(d)-listed receiving water immediately upstream (upgradient) or outside the area of influence of the discharge.

   b. Turbidity at the point of discharge into the 303(d)-listed receiving water, inside the area of influence of the discharge.

3. Discharges that exceed the numeric effluent limit for turbidity constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit shall sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

Table 5: Turbidity, Fine Sediment & Phosphorus Sampling and Limits for 303(d)-Listed Waters

Parameter identified in 303(d) listing	Parameter Sampled	Unit	Analytical Method	Sampling Frequency	Numeric Effluent Limit[1]
• Turbidity • Fine Sediment • Phosphorus	Turbidity	NTU	SM2130	Weekly, if discharging	25 NTUs, at the point where stormwater is discharged from the site; OR In compliance with the surface water quality standard for turbidity (S8.C.2.a)

[1]Permittees subject to a numeric effluent limit for turbidity may, at their discretion, choose either numeric effluent limitation based on site-specific considerations including, but not limited to, safety, access and convenience.

D. Discharges to Water Bodies on the 303(d) List for High pH

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for high pH must conduct pH sampling in accordance with the table below, and comply with the numeric effluent limit of pH 6.5 to 8.5 su (Table 6).

Table 6: pH Sampling and Limits for 303(d)-Listed Waters

Parameter identified in 303(d) listing	Parameter Sampled/Units	Analytical Method	Sampling Frequency	Numeric Effluent Limit
High pH	pH /Standard Units	pH meter	Weekly, if discharging	In the range of 6.5 – 8.5

2. At the Permittee's discretion, compliance with the limit shall be assessed at one of the following locations:

   a. Directly in the 303(d)-listed waterbody segment, inside the immediate area of influence of the discharge; or

   b. Alternatively, the Permittee may measure pH at the point where the discharge leaves the construction site, rather than in the receiving water.

3. Discharges that exceed the numeric effluent limit for pH (outside the range of 6.5 – 8.5 su) constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit shall sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

E. Sampling and Limits for Sites Discharging to Waters Covered by a TMDL or Another Pollution Control Plan

1. Discharges to a waterbody that is subject to a Total Maximum Daily Load (TMDL) for turbidity, fine sediment, high pH, or phosphorus must be consistent with the TMDL. Refer to http://www.ecy.wa.gov/programs/wq/tmdl/TMDLsbyWria/TMDLbyWria.html for more information on TMDLs.

   a. Where an applicable TMDL sets specific waste load allocations or requirements for discharges covered by this permit, discharges must be consistent with any specific waste load allocations or requirements established by the applicable TMDL.

      i. The Permittee must sample discharges weekly or as otherwise specified by the TMDL to evaluate compliance with the specific waste load allocations or requirements.

      ii. Analytical methods used to meet the monitoring requirements must conform to the latest revision of the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136. Turbidity and pH methods need not be accredited or registered unless conducted at a laboratory which must otherwise be accredited or registered.

   b. Where an applicable TMDL has established a general waste load allocation for construction stormwater discharges, but has not identified specific requirements,

compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

c. Where an applicable TMDL has not specified a waste load allocation for construction stormwater discharges, but has not excluded these discharges, compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

d. Where an applicable TMDL specifically precludes or prohibits discharges from construction activity, the operator is not eligible for coverage under this permit.

2. Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus that is completed and approved by EPA before January 1, 2016, or before the date the operator's complete permit application is received by Ecology, whichever is later. TMDLs completed after the operator's complete permit application is received by Ecology become applicable to the Permittee only if they are imposed through an administrative order by Ecology, or through a modification of permit coverage.

S9. STORMWATER POLLUTION PREVENTION PLAN

The Permittee must prepare and properly implement an adequate Stormwater Pollution Prevention Plan (SWPPP) for construction activity in accordance with the requirements of this permit beginning with initial soil disturbance and until final stabilization.

A. The Permittee's SWPPP must meet the following objectives:

1. To implement best management practices (BMPs) to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent stormwater contamination and water pollution from construction activity.

2. To prevent violations of surface water quality, ground water quality, or sediment management standards.

3. To control peak volumetric flow rates and velocities of stormwater discharges.

B. General Requirements

1. The SWPPP must include a narrative and drawings. All BMPs must be clearly referenced in the narrative and marked on the drawings. The SWPPP narrative must include documentation to explain and justify the pollution prevention decisions made for the project. Documentation must include:

a. Information about existing site conditions (topography, drainage, soils, vegetation, etc.).

b. Potential erosion problem areas.

c. The 13 elements of a SWPPP in Special Condition S9.D.1-13, including BMPs used to address each element.

d. Construction phasing/sequence and general BMP implementation schedule.

e. The actions to be taken if BMP performance goals are not achieved—for example, a contingency plan for additional treatment and/or storage of stormwater that would violate the water quality standards if discharged.

f. Engineering calculations for ponds, treatment systems, and any other designed structures. When a treatment system requires engineering calculations, these calculations must be included in the SWPPP. Engineering calculations do not need to be included in the SWPPP for treatment systems that do not require such calculations.

2. The Permittee must modify the SWPPP if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP is, or would be, ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site. The Permittee must then:

a. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the inspection or investigation.

b. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems no later than 10 days from the inspection or investigation. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.

c. Document BMP implementation and maintenance in the site log book.

The Permittee must modify the SWPPP whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

C. Stormwater Best Management Practices (BMPs)

BMPs must be consistent with:

1. Stormwater Management Manual for Western Washington (most current approved edition at the time this permit was issued), for sites west of the crest of the Cascade Mountains; ***or***

2. Stormwater Management Manual for Eastern Washington (most current approved edition at the time this permit was issued), for sites east of the crest of the Cascade Mountains; ***or***

3. Revisions to the manuals listed in Special Condition S9.C.1. & 2., or other stormwater management guidance documents or manuals which provide an equivalent level of pollution prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-226-230; ***or***

4. Documentation in the SWPPP that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable Stormwater Management Manuals, including:

    a. The technical basis for the selection of all stormwater BMPs (scientific, technical studies, and/or modeling) that support the performance claims for the BMPs being selected.

    b. An assessment of how the selected BMP will satisfy AKART requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

D. SWPPP – Narrative Contents and Requirements

The Permittee must include each of the 13 elements below in Special Condition S9.D.1-13 in the narrative of the SWPPP and implement them unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP.

1. Preserve Vegetation/Mark Clearing Limits

    a. Before beginning land-disturbing activities, including clearing and grading, clearly mark all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area.

    b. Retain the duff layer, native topsoil, and natural vegetation in an undisturbed state to the maximum degree practicable.

2. Establish Construction Access

    a. Limit construction vehicle access and exit to one route, if possible.

    b. Stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent BMPs, to minimize tracking sediment onto roads.

    c. Locate wheel wash or tire baths on site, if the stabilized construction entrance is not effective in preventing tracking sediment onto roads.

    d. If sediment is tracked off site, clean the affected roadway thoroughly at the end of each day, or more frequently as necessary (for example, during wet weather). Remove sediment from roads by shoveling, sweeping, or pickup and transport of the sediment to a controlled sediment disposal area.

    e. Conduct street washing only after sediment removal in accordance with Special Condition S9.D.2.d. Control street wash wastewater by pumping back on site or otherwise preventing it from discharging into systems tributary to waters of the State.

3. Control Flow Rates

    a. Protect properties and waterways downstream of development sites from erosion and the associated discharge of turbid waters due to increases in the

velocity and peak volumetric flow rate of stormwater runoff from the project site, as required by local plan approval authority.

b. Where necessary to comply with Special Condition S9.D.3.a, construct stormwater retention or detention facilities as one of the first steps in grading. Assure that detention facilities function properly before constructing site improvements (for example, impervious surfaces).

c. If permanent infiltration ponds are used for flow control during construction, protect these facilities from siltation during the construction phase.

4. Install Sediment Controls

The Permittee must design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, the Permittee must design, install and maintain such controls to:

a. Construct sediment control BMPs (sediment ponds, traps, filters, infiltration facilities, etc.) as one of the first steps in grading. These BMPs must be functional before other land disturbing activities take place.

b. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site.

c. Direct stormwater runoff from disturbed areas through a sediment pond or other appropriate sediment removal BMP, before the runoff leaves a construction site or before discharge to an infiltration facility. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but must meet the flow control performance standard of Special Condition S9.D.3.a.

d. Locate BMPs intended to trap sediment on site in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

e. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible.

f. Where feasible, design outlet structures that withdraw impounded stormwater from the surface to avoid discharging sediment that is still suspended lower in the water column.

5. Stabilize Soils

a. The Permittee must stabilize exposed and unworked soils by application of effective BMPs that prevent erosion. Applicable BMPs include, but are not limited to: temporary and permanent seeding, sodding, mulching, plastic covering, erosion control fabrics and matting, soil application of polyacrylamide

(PAM), the early application of gravel base on areas to be paved, and dust control.

b. The Permittee must control stormwater volume and velocity within the site to minimize soil erosion.

c. The Permittee must control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion.

d. Depending on the geographic location of the project, the Permittee must not allow soils to remain exposed and unworked for more than the time periods set forth below to prevent erosion:

West of the Cascade Mountains Crest
During the dry season (May 1 - September 30): 7 days
During the wet season (October 1 - April 30): 2 days

East of the Cascade Mountains Crest, except for Central Basin*
During the dry season (July 1 - September 30): 10 days
During the wet season (October 1 - June 30): 5 days

The Central Basin*, East of the Cascade Mountains Crest
During the dry season (July 1 - September 30): 30 days
During the wet season (October 1 - June 30): 15 days

*Note: The Central Basin is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches.

e. The Permittee must stabilize soils at the end of the shift before a holiday or weekend if needed based on the weather forecast.

f. The Permittee must stabilize soil stockpiles from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.

g. The Permittee must minimize the amount of soil exposed during construction activity.

h. The Permittee must minimize the disturbance of steep slopes.

i. The Permittee must minimize soil compaction and, unless infeasible, preserve topsoil.

6. Protect Slopes

a. The Permittee must design and construct cut-and-fill slopes in a manner to minimize erosion. Applicable practices include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, and roughening slope surfaces (for example, track walking).

b. The Permittee must divert off-site stormwater (run-on) or ground water away from slopes and disturbed areas with interceptor dikes, pipes, and/or swales. Off-site stormwater should be managed separately from stormwater generated on the site.

c. At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion.

   i. West of the Cascade Mountains Crest: Temporary pipe slope drains must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas should be modeled as "landscaped area."

   ii. East of the Cascade Mountains Crest: Temporary pipe slope drains must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

d. Place excavated material on the uphill side of trenches, consistent with safety and space considerations.

e. Place check dams at regular intervals within constructed channels that are cut down a slope.

7. Protect Drain Inlets

   a. Protect all storm drain inlets made operable during construction so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.

   b. Clean or remove and replace inlet protection devices when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

8. Stabilize Channels and Outlets

   a. Design, construct and stabilize all on-site conveyance channels to prevent erosion from the following expected peak flows:

      i. West of the Cascade Mountains Crest: Channels must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate indicated by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land

cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."

ii. East of the Cascade Mountains Crest: Channels must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

b. Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches at the outlets of all conveyance systems.

9. Control Pollutants

Design, install, implement and maintain effective pollution prevention measures to minimize the discharge of pollutants. The Permittee must:

a. Handle and dispose of all pollutants, including waste materials and demolition debris that occur on site in a manner that does not cause contamination of stormwater.

b. Provide cover, containment, and protection from vandalism for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. On-site fueling tanks must include secondary containment. Secondary containment means placing tanks or containers within an impervious structure capable of containing 110% of the volume contained in the largest tank within the containment structure. Double-walled tanks do not require additional secondary containment.

c. Conduct maintenance, fueling, and repair of heavy equipment and vehicles using spill prevention and control measures. Clean contaminated surfaces immediately following any spill incident.

d. Discharge wheel wash or tire bath wastewater to a separate on-site treatment system that prevents discharge to surface water, such as closed-loop recirculation or upland land application, or to the sanitary sewer with local sewer district approval.

e. Apply fertilizers and pesticides in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Follow manufacturers' label requirements for application rates and procedures.

f. Use BMPs to prevent contamination of stormwater runoff by pH-modifying sources. The sources for this contamination include, but are not limited to: bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, recycled concrete stockpiles, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete

pumping and mixer washout waters. (Also refer to the definition for "concrete wastewater" in Appendix A--Definitions.)

g. Adjust the pH of stormwater or authorized non-stormwater if necessary to prevent an exceedance of groundwater and/or surface water quality standards.

h. Assure that washout of concrete trucks is performed off-site or in designated concrete washout areas only. Do not wash out concrete truck drums or concrete handling equipment onto the ground, or into storm drains, open ditches, streets, or streams. Washout of concrete handling equipment may be disposed of in a designated concrete washout area or in a formed area awating concrete where it will not contaminate surface or ground water. Do not dump excess concrete on site, except in designated concrete washout areas. Concrete spillage or concrete discharge directly to groundwater or surface waters of the State is prohibited. Do not wash out to formed areas awaiting LID facilities.

i. Obtain written approval from Ecology before using any chemical treatment, with the exception of CO_2 or dry ice used to adjust pH.

j. Uncontaminated water from water-only based shaft drilling for construction of building, road, and bridge foundations may be infiltrated provided the wastewater is managed in a way that prohibits discharge to surface waters. Prior to infiltration, water from water-only based shaft drilling that comes into contact with curing concrete must be neutralized until pH is in the range of 6.5 to 8.5 (su).

10. Control Dewatering

a. Permittees must discharge foundation, vault, and trench dewatering water, which have characteristics similar to stormwater runoff at the site, into a controlled conveyance system before discharge to a sediment trap or sediment pond.

b. Permittees may discharge clean, non-turbid dewatering water, such as well-point ground water, to systems tributary to, or directly into surface waters of the State, as specified in Special Condition S9.D.8, provided the dewatering flow does not cause erosion or flooding of receiving waters. Do not route clean dewatering water through stormwater sediment ponds. Note that “surface waters of the State” may exist on a construction site as well as off site; for example, a creek running through a site.

c. Other dewatering treatment or disposal options may include:

i. Infiltration.

ii. Transport off site in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters.

iii. Ecology-approved on-site chemical treatment or other suitable treatment technologies (see S9.D.9.i. regarding chemical treatment written approval).

iv. Sanitary or combined sewer discharge with local sewer district approval, if there is no other option.

v. Use of a sedimentation bag with discharge to a ditch or swale for small volumes of localized dewatering.

d. Permittees must handle highly turbid or contaminated dewatering water separately from stormwater.

11. Maintain BMPs

a. Permittees must maintain and repair all temporary and permanent erosion and sediment control BMPs as needed to assure continued performance of their intended function in accordance with BMP specifications.

b. Permittees must remove all temporary erosion and sediment control BMPs within 30 days after achieving final site stabilization or after the temporary BMPs are no longer needed.

12. Manage the Project

a. Phase development projects to the maximum degree practicable and take into account seasonal work limitations.

b. Inspection and monitoring – Inspect, maintain and repair all BMPs as needed to assure continued performance of their intended function. Conduct site inspections and monitoring in accordance with Special Condition S4.

c. Maintaining an updated construction SWPPP – Maintain, update, and implement the SWPPP in accordance with Special Conditions S3, S4 and S9.

13. Protect Low Impact Development (LID) BMPs

The primary purpose of LID BMPs/On-site LID Stormwater Management BMPs is to reduce the disruption of the natural site hydrology. LID BMPs are permanent facilities.

a. Permittees must protect all Bioretention and Rain Garden facilities from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities. Restore the facilities to their fully functioning condition if they accumulate sediment during construction. Restoring the facility must include removal of sediment and any sediment-laden Bioretention/Rain Garden soils, and replacing the removed soils with soils meeting the design specification.

b. Permittees must maintain the infiltration capabilities of Bioretention and Rain Garden facilities by protecting against compaction by construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.

c. Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements.

d. Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer's procedures.

e. Permittees must keep all heavy equipment off existing soils under LID facilities that have been excavated to final grade to retain the infiltration rate of the soils.

E. SWPPP – Map Contents and Requirements

The Permittee's SWPPP must also include a vicinity map or general location map (for example, a USGS quadrangle map, a portion of a county or city map, or other appropriate map) with enough detail to identify the location of the construction site and receiving waters within one mile of the site.

The SWPPP must also include a legible site map (or maps) showing the entire construction site. The following features must be identified, unless not applicable due to site conditions:

1. The direction of north, property lines, and existing structures and roads.
2. Cut and fill slopes indicating the top and bottom of slope catch lines.
3. Approximate slopes, contours, and direction of stormwater flow before and after major grading activities.
4. Areas of soil disturbance and areas that will not be disturbed.
5. Locations of structural and nonstructural controls (BMPs) identified in the SWPPP.
6. Locations of off-site material, stockpiles, waste storage, borrow areas, and vehicle/equipment storage areas.
7. Locations of all surface water bodies, including wetlands.
8. Locations where stormwater or non-stormwater discharges off-site and/or to a surface waterbody, including wetlands.
9. Location of water quality sampling station(s), if sampling is required by state or local permitting authority.

10. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.

11. Location or proposed location of LID facilities.

S10. NOTICE OF TERMINATION

A. The site is eligible for termination of coverage when it has met any of the following conditions:

1. The site has undergone final stabilization, the Permittee has removed all temporary BMPs (except biodegradable BMPs clearly manufactured with the intention for the material to be left in place and not interfere with maintenance or land use), and all stormwater discharges associated with construction activity have been eliminated; ***or***

2. All portions of the site that have not undergone final stabilization per Special Condition S10.A.1 have been sold and/or transferred (per General Condition G9), and the Permittee no longer has operational control of the construction activity; ***or***

3. For residential construction only, the Permittee has completed temporary stabilization and the homeowners have taken possession of the residences.

B. When the site is eligible for termination, the Permittee must submit a complete and accurate Notice of Termination (NOT) form, signed in accordance with General Condition G2, to:

Department of Ecology
Water Quality Program – Construction Stormwater
PO Box 47696
Olympia, Washington 98504-7696

When an electronic termination form is available, the Permittee may choose to submit a complete and accurate Notice of Termination (NOT) form through the Water Quality Permitting Portal rather than mailing a hardcopy as noted above.

The termination is effective on the thirty-first calendar day following the date Ecology receives a complete NOT form, unless Ecology notifies the Permittee that the termination request is denied because the Permittee has not met the eligibility requirements in Special Condition S10.A.

Permittees are required to comply with all conditions and effluent limitations in the permit until the permit has been terminated.

Permittees transferring the property to a new property owner or operator/Permittee are required to complete and submit the Notice of Transfer form to Ecology, but are not required to submit a Notice of Termination form for this type of transaction.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this general permit must be consistent with the terms and conditions of this general permit. Any discharge of any pollutant more frequent than or at a level in excess of that identified and authorized by the general permit must constitute a violation of the terms and conditions of this permit.

G2. SIGNATORY REQUIREMENTS

A. All permit applications must bear a certification of correctness to be signed:

1. In the case of corporations, by a responsible corporate officer;
2. In the case of a partnership, by a general partner of a partnership;
3. In the case of sole proprietorship, by the proprietor; ***or***
4. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by Ecology (including NOIs, NOTs, and Transfer of Coverage forms) must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

C. Changes to authorization. If an authorization under paragraph G2.B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G2.B.2 above must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

> "I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my

knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G3. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records are kept under the terms and conditions of this permit.

B. To have access to and copy – at reasonable times and at reasonable cost – any records required to be kept under the terms and conditions of this permit.

C. To inspect – at reasonable times – any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor – at reasonable times – any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G4. GENERAL PERMIT MODIFICATION AND REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of Chapter 173-226 WAC. Grounds for modification, revocation and reissuance, or termination include, but are not limited to, the following:

A. When a change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this permit.

B. When effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of dischargers covered under this permit.

C. When a water quality management plan containing requirements applicable to the category of dischargers covered under this permit is approved, ***or***

D. When information is obtained that indicates cumulative effects on the environment from dischargers covered under this permit are unacceptable.

G5. REVOCATION OF COVERAGE UNDER THE PERMIT

Pursuant to Chapter 43.21B RCW and Chapter 173-226 WAC, the Director may terminate coverage for any discharger under this permit for cause. Cases where coverage may be terminated include, but are not limited to, the following:

A. Violation of any term or condition of this permit.

B. Obtaining coverage under this permit by misrepresentation or failure to disclose fully all relevant facts.

C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

D. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

E. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations.

F. Nonpayment of permit fees or penalties assessed pursuant to RCW 90.48.465 and Chapter 173-224 WAC.

G. Failure of the Permittee to satisfy the public notice requirements of WAC 173-226-130(5), when applicable.

The Director may require any discharger under this permit to apply for and obtain coverage under an individual permit or another more specific general permit. Permittees who have their coverage revoked for cause according to WAC 173-226-240 may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within ninety (90) days from the time of revocation and is submitted along with a complete individual permit application form.

G6. REPORTING A CAUSE FOR MODIFICATION

The Permittee must submit a new application, or a supplement to the previous application, whenever a material change to the construction activity or in the quantity or type of discharge is anticipated which is not specifically authorized by this permit. This application must be submitted at least sixty (60) days prior to any proposed changes. Filing a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G7. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit will be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G8. DUTY TO REAPPLY

The Permittee must apply for permit renewal at least 180 days prior to the specified expiration date of this permit. The Permittee must reapply using the electronic application form (NOI) available on Ecology's website. Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, Washington 98504-7696

G9. TRANSFER OF GENERAL PERMIT COVERAGE

Coverage under this general permit is automatically transferred to a new discharger, including operators of lots/parcels within a common plan of development or sale, if:

A. A written agreement (Transfer of Coverage Form) between the current discharger (Permittee) and new discharger, signed by both parties and containing a specific date for transfer of permit responsibility, coverage, and liability (including any Administrative Orders associated with the Permit) is submitted to the Director; and

B. The Director does not notify the current discharger and new discharger of the Director's intent to revoke coverage under the general permit. If this notice is not given, the transfer is effective on the date specified in the written agreement.

When a current discharger (Permittee) transfers a portion of a permitted site, the current discharger must also submit an updated application form (NOI) to the Director indicating the remaining permitted acreage after the transfer.

G10. REMOVED SUBSTANCES

The Permittee must not re-suspend or reintroduce collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to the final effluent stream for discharge to state waters.

G11. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information that Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology, upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

G12. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G13. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G14. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment at the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G15. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in Special Condition S5.F, and; 4) the Permittee complied with any remedial measures required under this permit.

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G16. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G17. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G18. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G19. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or imprisonment of not more than four (4) years, or both.

G20. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, give notice to Ecology of planned physical alterations, modifications or additions to the permitted construction activity. The Permittee should be aware that, depending on the nature and size of the changes to the original permit, a new public notice and other permit process requirements may be required. Changes in activities that require reporting to Ecology include those that will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant change in the nature or an increase in quantity of pollutants discharged, including but not limited to: for sites 5 acres or larger, a 20% or greater increase in acreage disturbed by construction activity.

C. A change in or addition of surface water(s) receiving stormwater or non-stormwater from the construction activity.

D. A change in the construction plans and/or activity that affects the Permittee's monitoring requirements in Special Condition S4.

Following such notice, permit coverage may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G21. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to Ecology, it must promptly submit such facts or information.

G22. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee must give advance notice to Ecology by submission of a new application or supplement thereto at least forty-five (45) days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate

unavoidable interruption of operation and degradation of effluent quality, must be scheduled during non-critical water quality periods and carried out in a manner approved by Ecology.

G23. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER THE PERMIT

Any discharger authorized by this permit may request to be excluded from coverage under the general permit by applying for an individual permit. The discharger must submit to the Director an application as described in WAC 173-220-040 or WAC 173-216-070, whichever is applicable, with reasons supporting the request. These reasons will fully document how an individual permit will apply to the applicant in a way that the general permit cannot. Ecology may make specific requests for information to support the request. The Director will either issue an individual permit or deny the request with a statement explaining the reason for the denial. When an individual permit is issued to a discharger otherwise subject to the construction stormwater general permit, the applicability of the construction stormwater general permit to that Permittee is automatically terminated on the effective date of the individual permit.

G24. APPEALS

A. The terms and conditions of this general permit, as they apply to the appropriate class of dischargers, are subject to appeal by any person within 30 days of issuance of this general permit, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.

B. The terms and conditions of this general permit, as they apply to an individual discharger, are appealable in accordance with Chapter 43.21B RCW within 30 days of the effective date of coverage of that discharger. Consideration of an appeal of general permit coverage of an individual discharger is limited to the general permit's applicability or nonapplicability to that individual discharger.

C. The appeal of general permit coverage of an individual discharger does not affect any other dischargers covered under this general permit. If the terms and conditions of this general permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

G25. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

G26. BYPASS PROHIBITED

A. Bypass Procedures

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited for stormwater events below the design criteria for

stormwater management. Ecology may take enforcement action against a Permittee for bypass unless one of the following circumstances (1, 2, 3 or 4) is applicable.

1. Bypass of stormwater is consistent with the design criteria and part of an approved management practice in the applicable stormwater management manual.

2. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

   Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health.

3. Bypass of stormwater is unavoidable, unanticipated, and results in noncompliance of this permit.

   This bypass is permitted only if:

   a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.

   c. Ecology is properly notified of the bypass as required in Special Condition S5.F of this permit.

4. A planned action that would cause bypass of stormwater and has the potential to result in noncompliance of this permit during a storm event.

   The Permittee must notify Ecology at least thirty (30) days before the planned date of bypass. The notice must contain:

   a. A description of the bypass and its cause.

   b. An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.

   c. A cost-effectiveness analysis of alternatives including comparative resource damage assessment.

   d. The minimum and maximum duration of bypass under each alternative.

   e. A recommendation as to the preferred alternative for conducting the bypass.

f. The projected date of bypass initiation.

g. A statement of compliance with SEPA.

h. A request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated.

i. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

5. For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above must be considered during preparation of the Stormwater Pollution Prevention Plan (SWPPP) and must be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

   Ecology will consider the following before issuing an administrative order for this type bypass:

   a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

   b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

   c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

   After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve, conditionally approve, or deny the request. The public must be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by Ecology under RCW 90.48.120.

B. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

APPENDIX A – DEFINITIONS

AKART is an acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the *pollutants* and controlling pollution associated with a discharge.

Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus, which was completed and approved by EPA before January 1, 2016, or before the date the operator's complete permit application is received by Ecology, whichever is later.

Applicant means an *operator* seeking coverage under this permit.

Benchmark means a *pollutant* concentration used as a permit threshold, below which a *pollutant* is considered unlikely to cause a water quality violation, and above which it may. When *pollutant* concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not water quality standards and are not numeric effluent limitations; they are indicator values.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: *stormwater* associated with construction activity, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Buffer means an area designated by a local *jurisdiction* that is contiguous to and intended to protect a sensitive area.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Calendar Day A period of 24 consecutive hours starting at 12:00 midnight and ending the following 12:00 midnight.

Calendar Week (same as **Week**) means a period of seven consecutive days starting at 12:01 a.m. (0:01 hours) on Sunday.

Certified Erosion and Sediment Control Lead (CESCL) means a person who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (see BMP C160 in the SWMM).

Chemical Treatment means the addition of chemicals to *stormwater* and/or authorized non-stormwater prior to filtration and discharge to surface waters.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.

Common Plan of Development or Sale means a site where multiple separate and distinct *construction activities* may be taking place at different times on different schedules and/or by different contractors, but still under a single plan. Examples include: 1) phased projects and projects with multiple filings or lots, even if the separate phases or filings/lots will be constructed under separate contract or by separate owners (e.g., a development where lots are sold to separate builders); 2) a development plan that may be phased over multiple years, but is still under a consistent plan for long-term development; 3) projects in a contiguous area that may be unrelated but still under the same contract, such as construction of a building extension and a new parking lot at the same facility; and 4) linear projects such as roads, pipelines, or utilities. If the project is part of a common plan of development or sale, the disturbed area of the entire plan must be used in determining permit requirements.

Composite Sample means a mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increases while maintaining a constant time interval between the aliquots.

Concrete Wastewater means any water used in the production, pouring and/or clean-up of concrete or concrete products, and any water used to cut, grind, wash, or otherwise modify concrete or concrete products. Examples include water used for or resulting from concrete truck/mixer/pumper/tool/chute rinsing or washing, concrete saw cutting and surfacing (sawing, coring, grinding, roughening, hydro-demolition, bridge and road surfacing). When *stormwater* comingles with concrete wastewater, the resulting water is considered concrete wastewater and must be managed to prevent discharge to *waters of the State*, including *ground water*.

Construction Activity means land disturbing operations including clearing, grading or excavation which disturbs the surface of the land. Such activities may include road construction, construction of residential houses, office buildings, or industrial buildings, site preparation, soil compaction, movement and stockpiling of topsoils, and demolition activity.

Contaminant means any hazardous substance that does not occur naturally or occurs at greater than natural background levels. See definition of "*hazardous substance*" and WAC 173-340-200.

Contaminated Groundwater means groundwater which contains *contaminants*, *pollutants*, or *hazardous substances* that do not occur naturally or occur at levels greater than natural background.

Contaminated Soil means soil which contains *contaminants*, *pollutants*, or *hazardous substances* that do not occur naturally or occur at levels greater than natural background.

Demonstrably Equivalent means that the technical basis for the selection of all stormwater BMPs is documented within a SWPPP, including:

1. The method and reasons for choosing the stormwater BMPs selected.

2. The *pollutant* removal performance expected from the BMPs selected.
3. The technical basis supporting the performance claims for the BMPs selected, including any available data concerning field performance of the BMPs selected.
4. An assessment of how the selected BMPs will comply with state water quality standards.
5. An assessment of how the selected BMPs will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment (AKART).

Department means the Washington State Department of Ecology.

Detention means the temporary storage of *stormwater* to improve quality and/or to reduce the mass flow rate of discharge.

Dewatering means the act of pumping *ground water* or *stormwater* away from an active construction site.

Director means the Director of the Washington State Department of Ecology or his/her authorized representative.

Discharger means an owner or *operator* of any facility or activity subject to regulation under Chapter 90.48 RCW or the Federal Clean Water Act.

Domestic Wastewater means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such ground water infiltration or surface waters as may be present.

Ecology means the Washington State Department of Ecology.

Engineered Soils means the use of soil amendments including, but not limited, to Portland cement treated base (CTB), cement kiln dust (CKD), or fly ash to achieve certain desirable soil characteristics.

Equivalent BMPs means operational, source control, treatment, or innovative BMPs which result in equal or better quality of stormwater discharge to *surface water* or to *ground water* than BMPs selected from the SWMM.

Erosion means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Erosion and Sediment Control BMPs means BMPs intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, sediment traps, and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.

Federal Operator is an entity that meets the definition of "*Operator*" in this permit and is either any department, agency or instrumentality of the executive, legislative, and judicial branches of

the Federal government of the United States, or another entity, such as a private contractor, performing construction activity for any such department, agency, or instrumentality.

Final Stabilization (same as **fully stabilized** or **full stabilization**) means the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (examples of permanent non-vegetative stabilization methods include, but are not limited to riprap, gabions or geotextiles) which prevents erosion.

Ground Water means water in a saturated zone or stratum beneath the land surface or a surface waterbody.

Hazardous Substance means any dangerous or extremely hazardous waste as defined in RCW 70.105.010 (5) and (6), or any dangerous or extremely dangerous waste as designated by rule under chapter 70.105 RCW; any hazardous substance as defined in RCW 70.105.010(10) or any hazardous substance as defined by rule under chapter 70.105 RCW; any substance that, on the effective date of this section, is a hazardous substance under section 101(14) of the federal cleanup law, 42 U.S.C., Sec. 9601(14); petroleum or petroleum products; and any substance or category of substances, including solid waste decomposition products, determined by the director by rule to present a threat to human health or the environment if released into the environment. The term hazardous substance does not include any of the following when contained in an underground storage tank from which there is not a release: crude oil or any fraction thereof or petroleum, if the tank is in compliance with all applicable federal, state, and local law.

Injection Well means a well that is used for the subsurface emplacement of fluids. (See Well.)

Jurisdiction means a political unit such as a city, town or county; incorporated for local self-government.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of *pollutants* to surface waters of the State from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington State Department of Ecology.

Notice of Intent (NOI) means the application for, or a request for coverage under this general permit pursuant to WAC 173-226-200.

Notice of Termination (NOT) means a request for termination of coverage under this general permit as specified by Special Condition S10 of this permit.

Operator means any party associated with a construction project that meets either of the following two criteria:

- The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or

- The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

Permittee means individual or entity that receives notice of coverage under this general permit.

pH means a liquid's measure of acidity or alkalinity. A pH of 7 is defined as neutral. Large variations above or below this value are considered harmful to most aquatic life.

pH Monitoring Period means the time period in which the pH of *stormwater* runoff from a site must be tested a minimum of once every seven days to determine if *stormwater* pH is between 6.5 and 8.5.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, and container from which *pollutants* are or may be discharged to surface waters of the State. This term does not include return flows from irrigated agriculture. (See Fact Sheet for further explanation.)

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the CWA, nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the CWA.

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the State; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any *waters of the State* as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish or other aquatic life.

Process Wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. If *stormwater* commingles with process wastewater, the commingled water is considered process wastewater.

Receiving Water means the waterbody at the point of discharge. If the discharge is to a *storm sewer system*, either surface or subsurface, the receiving water is the waterbody to which the storm system discharges. Systems designed primarily for other purposes such as for ground water drainage, redirecting stream natural flows, or for conveyance of irrigation water/return flows that coincidentally convey *stormwater* are considered the receiving water.

Representative means a *stormwater* or wastewater sample which represents the flow and characteristics of the discharge. Representative samples may be a grab sample, a time-proportionate *composite sample*, or a flow proportionate sample. Ecology's Construction Stormwater Monitoring Manual provides guidance on representative sampling.

Responsible Corporate Officer for the purpose of signatory authority means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

Sediment means the fragmented material that originates from the weathering and erosion of rocks or unconsolidated deposits, and is transported by, suspended in, or deposited by water.

Sedimentation means the depositing or formation of sediment.

Sensitive Area means a waterbody, wetland, stream, aquifer recharge area, or channel migration zone.

SEPA (State Environmental Policy Act) means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

Significant Amount means an amount of a *pollutant* in a discharge that is amenable to available and reasonable methods of prevention or treatment; or an amount of a *pollutant* that has a reasonable potential to cause a violation of surface or ground water quality or sediment management standards.

Significant Concrete Work means greater than 1000 cubic yards poured concrete or recycled concrete used over the life of a project.

Significant Contributor of Pollutants means a facility determined by Ecology to be a contributor of a significant amount(s) of a *pollutant*(s) to waters of the State of Washington.

Site means the land or water area where any "facility or activity" is physically located or conducted.

Source Control BMPs means physical, structural or mechanical devices or facilities that are intended to prevent *pollutants* from entering *stormwater*. A few examples of source control

BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the *sanitary sewer* or a dead end sump.

Stabilization means the application of appropriate BMPs to prevent the erosion of soils, such as, temporary and permanent seeding, vegetative covers, mulching and matting, plastic covering and sodding. See also the definition of Erosion and Sediment Control BMPs.

Storm Drain means any drain which drains directly into a *storm sewer system*, usually found along roadways or in parking lots.

Storm Sewer System means a means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains designed or used for collecting or conveying *stormwater*. This does not include systems which are part of a *combined sewer* or Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

Stormwater means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface waterbody, or a constructed infiltration facility.

Stormwater Management Manual (SWMM) or **Manual** means the technical Manual published by Ecology for use by local governments that contain descriptions of and design criteria for BMPs to prevent, control, or treat *pollutants* in *stormwater*.

Stormwater Pollution Prevention Plan (SWPPP) means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of *stormwater*.

Surface Waters of the State includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

Temporary Stabilization means the exposed ground surface has been covered with appropriate materials to provide temporary stabilization of the surface from water or wind erosion. Materials include, but are not limited to, mulch, riprap, erosion control mats or blankets and temporary cover crops. Seeding alone is not considered stabilization. Temporary stabilization is not a substitute for the more permanent "*final stabilization*."

Total Maximum Daily Load (TMDL) means a calculation of the maximum amount of a *pollutant* that a waterbody can receive and still meet state water quality standards. Percentages of the total maximum daily load are allocated to the various pollutant sources. A TMDL is the sum of the allowable loads of a single *pollutant* from all contributing point and nonpoint sources. The TMDL calculations must include a "margin of safety" to ensure that the waterbody can be protected in case there are unforeseen events or unknown sources of the *pollutant*. The calculation must also account for seasonable variation in water quality.

Transfer of Coverage (TOC) means a request for transfer of coverage under this general permit as specified by General Condition G9 of this permit.

Treatment BMPs means BMPs that are intended to remove *pollutants* from *stormwater*. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands.

Transparency means a measurement of water clarity in centimeters (cm), using a 60 cm transparency tube. The transparency tube is used to estimate the relative clarity or transparency of water by noting the depth at which a black and white Secchi disc becomes visible when water is released from a value in the bottom of the tube. A transparency tube is sometimes referred to as a "turbidity tube."

Turbidity means the clarity of water expressed as nephelometric turbidity units (NTUs) and measured with a calibrated turbidimeter.

Uncontaminated means free from any contaminant. See definition of "*contaminant*" and WAC 173-340-200.

Waste Load Allocation (WLA) means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality based effluent limitation (40 CFR 130.2[h]).

Water-only Based Shaft Drilling is a shaft drilling process that uses water only and no additives are involved in the drilling of shafts for construction of building, road, or bridge foundations.

Water quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the State" as defined in Chapter 90.48 RCW, which include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Well means a bored, drilled or driven shaft, or dug hole whose depth is greater than the largest surface dimension. (See Injection well.)

Wheel Wash Wastewater means any water used in, or resulting from the operation of, a tire bath or wheel wash (BMP C106: Wheel Wash), or other structure or practice that uses water to physically remove mud and debris from vehicles leaving a construction site and prevent track-out onto roads. When *stormwater* comingles with wheel wash wastewater, the resulting water is considered wheel wash wastewater and must be managed according to Special Condition S9.D.9.

APPENDIX B – ACRONYMS

AKART	All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment
BMP	Best Management Practice
CESCL	Certified Erosion and Sediment Control Lead
CFR	Code of Federal Regulations
CKD	Cement Kiln Dust
cm	Centimeters
CTB	Cement-Treated Base
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
ERTS	Environmental Report Tracking System
ESC	Erosion and Sediment Control
FR	Federal Register
LID	Low Impact Development
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
SWMM	Stormwater Management Manual
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UIC	Underground Injection Control
USC	United States Code
USEPA	United States Environmental Protection Agency
WAC	Washington Administrative Code
WQ	Water Quality
WWHM	Western Washington Hydrology Model

Instructions for Transfer of Coverage

Construction Stormwater General Permit

DEPARTMENT OF ECOLOGY
State of Washington

Instructions

This form is used to process two types of permit transfers: 1) Complete Transfer, or 2) Partial Transfer. Determine which type of transfer applies to your situation before filling out this form.

1. Complete Transfer: The original permittee has sold, or otherwise released control of the entire site to another party.

Required Paperwork for Complete Transfer:

- Either the current permittee, or the new permittee(s), must submit a complete and accurate Transfer of Coverage form to Ecology for each new party. The form must be signed by the current permittee ***and*** the new permittee.

2. Partial Transfer: The original permittee retains control over some portion of the site after selling or releasing control over a portion of the site.

Required Paperwork for Partial Transfer

- Either the current permittee or the new permittee(s) must submit a complete and accurate Transfer of Coverage Form for each new operator to Ecology. The form must be signed by the current permittee and the new permittee.
- For partial transfers, once all transfers are submitted, the original permittee should submit the Notice of Termination only if the portion(s) they still own or control have undergone final stabilization and meet the criteria for termination.

For Your Information

- When this form is 1) completed, 2) signed by the current and new permittee, and 3) submitted to Ecology, permit transfers are effective on the date specified at the top of page 1 (unless Ecology notifies the current permittee and new permittee of its intention to revoke coverage under the General Permit or if Ecology sends notice that the application is incomplete). If no date for the transfer of coverage is specified, Ecology will use the date of the last signature.
- The new permittee should keep a copy of the signed Transfer of Coverage form (which serves as proof of permit coverage) until Ecology sends documentation in the mail.
- Following the transfer, the new permittee must either: (1) use the Stormwater Pollution Prevention Plan (SWPPP) developed by the original operator, and modified as necessary, or (2) develop and use a new SWPPP that meets the requirements of the Construction Stormwater General Permit.
- For projects for which the original permittee has completed a Proposed New Discharge to an Impaired Waterbody Form (ECY 070-399), or for projects that are operating on sites with soil or groundwater contamination: Upon completion of the Transfer of Coverage form, the new permittee will adopt any special provisions made to protect water quality for sites that have existing contamination or that discharge to an impaired waterbody.

To request ADA accommodation including materials in a format for the visually impaired, call the Water Quality Program at 360-407-6600 or visit https://ecology.wa.gov/accessibility. *People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call 877-833-6341.*

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DEPARTMENT OF ECOLOGY
State of Washington

Transfer of Coverage

Permit # WAR_____

Construction Stormwater General Permit

This form transfers permit coverage for all, or a portion of a site to one or more new operators.

Type of permit transfer (check one): ☐ Partial transfer (complete the Partial Transfer acreage below) ☐ Complete transfer

Specific date that permit responsibility, coverage, and liability is transferred to new operator: _____

**If no date is indicated Ecology will determine the date of transfer.*

Please see instructions for details on type of transfer.

For PARTIAL TRANSFERS indicate the acreage remaining under your operational control:

- List *total size of project/site* remaining under your operational control following the partial transfer: _____ acres.
- List *total area of soil disturbance* remaining under your operational control following the partial transfer: _____ acres.
- Submitting this form meets the requirement to submit an updated NOI (General Permit Condition G9)

Current Operator/Permittee Information

Current Operator/Permittee Name:		Company:		
Business Phone:	Ext:	Mailing Address:		
Cell Phone:	Fax (optional):			
Email:		City:	State:	Zip+4:
Signature* (see signatory requirements in Section VIII): Title: Date:				

New Operator/Permittee Information

(the remainder of this form applies to the new Operator/Permittee)

I. New Operator/Permittee (Party with operational control over plans and specifications or day-to-day operational control of activities which ensure compliance with Stormwater Pollution Prevention Plan (SWPPP) and permit conditions. Ecology will send correspondence and permit fee invoices to the permittee on record.)

Name:		Company:		
Business Phone:	Ext:	Unified Business Identifier (UBI): *(UBI is a nine-digit number used to identify a business entity. Write "none" if you do not have a UBI number.)*		
Cell Phone (Optional):	Fax (Optional):	E-mail:		
Mailing Address:		City:	State:	Zip + 4:

II. Property Owner (The party listed on the County Assessor's records as owner and taxpayer of the parcel[s] for which permit coverage is requested. Ecology will *not* send correspondence and permit fee invoices to the Property Owner. The Property Owner information will be used for emergency contact purposes.)

Name:		Company:		
Business Phone:	Ext:	Unified Business Identifier (UBI): *(UBI is a nine-digit number used to identify a business entity. Write "none" if you do not have a UBI number.)*		
Cell Phone (Optional):	Fax (Optional):	E-mail:		
Mailing Address:		City:	State:	Zip + 4:

III. On-Site Contact Person(s) (Typically the Certified Erosion and Sediment Control Lead or Operator/Permittee)

Name:		Company:		
Business Phone:	Ext:	Mailing Address:		
Cell Phone:	Fax(Optional):	City:	State:	Zip+4:
Email:				

IV. Site/Project Information

Site or Project Name

Street Address or Location Description (*If the site lacks a street address, list its specific location. For example, Intersection of Highway 61 and 34.)*

Parcel ID#: _____ *(Optional)*

Type of Construction Activity (*check all that apply*):
- ☐ Residential
- ☐ Commercial
- ☐ Industrial
- ☐ Highway or Road (city ,county, state)
- ☐ Utilities (specify): _____.
- ☐ Other (specify):_____.

Site Acreage
Total size of your site/project (that you own/control): _____acres. *(Note: 1 acre = 43,560 sq. ft.*)

Total area of soil disturbance for your site/project over the life of the project: _____acres. Include grading, equipment staging, excavation, borrow pit, material storage areas, dump areas, haul roads, side-cast areas, off-site construction support areas, and all other soil disturbance acreage associated with the project. (Note: 1 acre = 43,560 sq. ft.)

City (or nearest city):	Zip Code:	Estimated project start-up date (mm/dd/yy):
County:		Estimated project completion date (mm/dd/yy):

Record the latitude and longitude of the *main entrance* to the site or the approximate center of site.

Latitude: _____°N Longitude: _____°W

V. Existing Site Conditions

1. Are you aware of contaminated soils present on the site? ☐ Yes ☐ No

2. Are you aware of groundwater contamination located within the site boundary? ☐ Yes ☐ No

3. If you answered yes to questions 1 or 2, will any contaminated soils be disturbed or will any contaminated groundwater be discharged due to the proposed construction activity? ☐ Yes ☐ No

("Contaminated" and "contamination" here mean containing any hazardous substance (as defined in WAC 173-340-200) that does not occur naturally or occurs at greater than natural background levels.)

If you answered yes to Question 3, please provide detailed information with the NOI (as known and readily available) on the natures and extent of the contamination (concentrations, locations, and depth), as well as pollution prevention and/or treatment Best Management Practices (BMPs) proposed to control the discharge of soil and/or groundwater contaminants in stormwater. This should include information that would be included in related portions of the Stormwater Pollution Prevention Plan (SWPPP) that describe how contaminated and potentially contaminated construction stormwater and dewatering water will be managed.

VI. WQWebDMR (Electronic Discharge Monitoring Reporting)

You must submit monthly discharge monitoring reports using Ecology's WQWebDMR system. To sign up for WQWebDMR, or to register a new site, go to https://www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance. If you are unable to submit your DMRs electronically, you may contact Ecology to request a waiver. Ecology will generally only grant waiver requests to those permittees without internet access. Only a permittee or representative, designated in writing, may request access to or a waiver from WQWebDMR. To have the ability to use the system immediately, you must submit the Electronic Signature Agreement with your transfer of coverage form. If you have questions on this process, contact Ecology's WQWebDMR staff at WebDMRPortal@ecy.wa.gov or 800/633-6193 or 360-407-7097 (local). Note: DMRs are optional for permitted sites under 1 acre that do not discharge to impaired waterbodies.

VII. Discharge/Receiving Water Information

Indicate whether your site's stormwater and/or dewatering water could enter surface waters, ***directly and/or indirectly***:

☐ Water will discharge directly or indirectly (through a storm drain system or roadside ditch) into one or more surface waterbodies (wetlands, creeks, lakes, and all other surface waters and water courses).

If your discharge is to a storm sewer system, provide the name of the operator of the storm sewer system:

(e.g., City of Tacoma): _____

☐ Water will discharge to ground with 100% infiltration, with no potential to reach surface waters under any conditions.

If your project includes dewatering, you must include dewatering plans and discharge locations in your site Stormwater Pollution Prevention Plan.

Location of Outfall into Surface Waterbody

Enter the outfall identifier code, waterbody name, and latitude/longitude of the point(s) where the site has the potential to discharge into a waterbody (the outfall). Enter all locations. See illustration of Surface Waterbody Outfall locations at the end of this form.

- Include the names and locations of both direct and indirect discharges to surface waterbodies, even if the risk of discharge is low or limited to periods of extreme weather. Attach a separate list if necessary.
- Give each point a unique 1-4 digit alpha numeric code. This code will be used for identifying these points in WQWebDMR.
- Some large construction projects (for example, subdivisions, roads, or pipelines) may discharge into several waterbodies.
- If the creek or tributary is unnamed, use a format such as "unnamed tributary to Deschutes River."
- If the site discharges to a stormwater conveyance system that in turn flows to a surface waterbody, include the surface waterbody name and location.

Outfall Identifier Code. These cannot be symbols. (Maximum of 4 characters).				Surface Waterbody Name at the Outfall	Latitude Decimal Degrees	Longitude Decimal Degrees
Example: 001A				Example: Puget Sound	47.5289247° N	-122.3123550° W
					° N	° W
					° N	° W
					° N	° W

If your site discharges to a waterbody that is on the impaired waterbodies list (e.g., 303[d] list) for turbidity, fine sediment, high pH, or phosphorus, Ecology will require additional documentation before issuing permit coverage and these sites will be subject to additional sampling and numeric effluent limits (per Permit Condition S8). Ecology will notify you if any additional sampling requirements apply. Information on impaired waterbodies is available online at: https://www.ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d.

Before signing, please use the following checklist to ensure this form is complete:

☐ All spaces on this form have been completed. (Attach additional sheets if necessary)

☐ The transfer form has been signed by both the current permittee (see Page 1) *and* the new permittee (see Section VIII below).

☐ The date permit responsibility was transferred is specified. (See Page 1)

☐ New Operator/Permittee: Before you submit this form to Ecology, please retain a copy for your records – this will serve as proof of permit coverage until documentation arrives from Ecology.

☐ For partial transfers: If the original permittee no longer owns or controls any portions of the site that meet the criteria for termination, the original permittee must submit a Notice of Termination (NOT) to terminate permit coverage. See the CSWGP website for a link to the NOT form: www.ecology.wa.gov/constructionstormwaterpermit.

☐ For sites with contaminated soils/groundwater or a new discharger to an impaired waterbody: Any special provisions to protect water quality put in place at the time of initial coverage have been reviewed and adopted by the new permittee.

Administrative Order Docket No. _____

VIII. Certification of New Permittee

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed/Typed Name	Company (operator/permittee only)	Title
Signature of New Operator/Permittee		*Date*

Signature of Operator/Permittee requirements:

A. For a corporation: By a responsible corporate officer.
B. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively.
C. For a municipality, state, federal, or other public facility: By either a principal executive officer or ranking elected official.

Please sign and return this ORIGINAL document to the following address:

Department of Ecology – Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

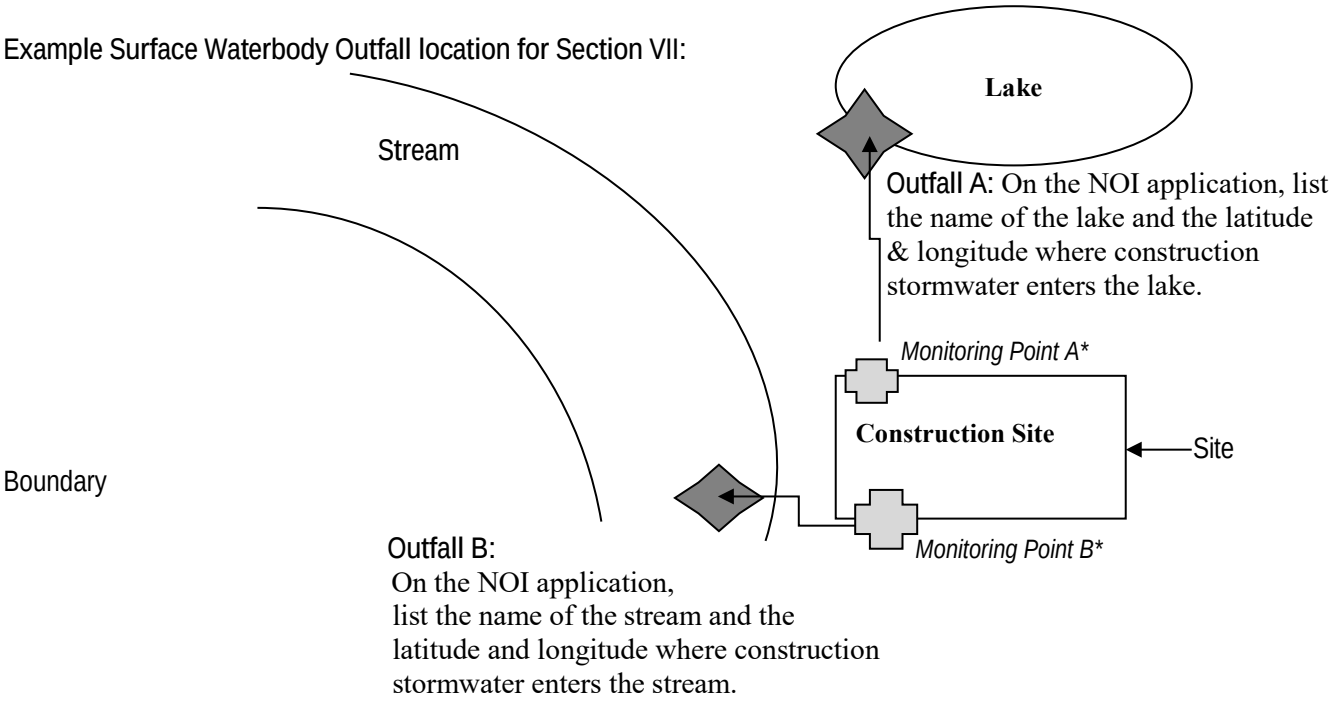
If you have questions about this form, contact the following Ecology staff:

Location	Contact Name	Phone	E-mail
City of Seattle, and Kitsap, Pierce, and Thurston counties	Josh Klimek	360-407-7451	josh.klimek@ecy.wa.gov
Island, King, and San Juan counties	RaChelle Stane	360-407-6556	rachelle.stane@ecy.wa.gov
Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Skagit, Snohomish, Spokane, Stevens, Walla, Whatcom, and Whitman counties.	Shawn Hopkins	360-407-6442	shawn.hopkins@ecy.wa.gov
Benton, Chelan, Clallam, Clark, Cowlitz, Douglas, Grays Harbor, Jefferson, Kittitas, Klickitat, Lewis, Mason, Okanogan, Pacific, Skamania, Wahkiakum, and Yakima counties.	Joyce Smith	360-407-6858	joyce.smith@ecy.wa.gov

You must submit monthly discharge monitoring reports using Ecology's WQWebDMR system. To sign up for WQWebDMR, or to register a new site, go to www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance. If you are unable to submit your DMRs electronically, you may contact Ecology to request a waiver. Ecology will generally only grant waiver requests to those permittees without internet access. Only a permittee or representative, designated in writing, may request access to or a waiver from WQWebDMR. To have the ability to use the system immediately, you must submit the Electronic Signature Agreement with your application.

If you have questions on this process, contact Ecology's WQWebDMR staff at WQWebPortal@ecy.wa.gov or 800-633-6193 or 360-407-7097 (local).

Example Surface Waterbody Outfall location for Section VII:



*Note: The monitoring points are for illustration only and are not required on this Notice of Intent application form. Monitoring point information will be entered on the monthly discharge monitoring report as required for active permits.

To request ADA accommodation including materials in a format for the visually impaired, call the Water Quality Program at 360-407-6600 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TYY at 877-833-6341.

APPENDIX D – PREVAILING WAGE RATES

City of Kirkland

"General Decision Number: WA20200070 08/14/2020

Superseded General Decision Number: WA20190070

State: Washington

Construction Type: Heavy
including water and sewer line construction

County: King County in Washington.

HEAVY CONSTRUCTION PROJECTS (including sewer/water construction).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.80 for calendar year 2020 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.80 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2020. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate,if it is

higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/03/2020
1	02/28/2020
2	03/13/2020
3	04/17/2020
4	07/03/2020
5	07/10/2020
6	08/14/2020

ASBE0007-001 06/01/2020

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR (Pipe and Duct Insulation)	$ 59.37	17.90

CARP0030-014 06/01/2019

	Rates	Fringes
CARPENTER (Including Formwork)...	$ 45.92	16.52
MILLWRIGHT.....	$ 47.42	16.52
PILEDRIVERMAN.....	$ 46.17	16.52

(HOURLY ZONE PAY: WESTERN AND CENTRAL WASHINGTON - ALL CLASSIFICATIONS EXCEPT MILLWRIGHTS AND PILEDRIVERS

Hourly Zone Pay shall be paid on jobs located outside of the free zone computed from the city center of the following listed cities:

Seattle	Olympia	Bellingham
Auburn	Bremerton	Anacortes
Renton	Shelton	Yakima
Aberdeen-Hoquiam	Tacoma	Wenatchee
Ellensburg	Everett	Port Angeles
Centralia	Mount Vernon	Sunnyside
Chelan	Pt. Townsend	

Zone Pay:

0 -25 radius miles	Free
26-35 radius miles	$1.00/hour
36-45 radius miles	$1.15/hour
46-55 radius miles	$1.35/hour
Over 55 radius miles	$1.55/hour

(HOURLY ZONE PAY: WESTERN AND CENTRAL WASHINGTON - MILLWRIGHT AND PILEDRIVER ONLY)

Hourly Zone Pay shall be computed from Seattle Union Hall, Tacoma City center, and Everett City center

Zone Pay:

0 -25 radius miles Free

26-45 radius miles $ .70/hour

Over 45 radius miles $1.50/hour

ELEC0046-006 02/03/2020

	Rates	Fringes
ELECTRICIAN	$ 57.51	3%+22.06

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* ELEC0077-001 02/01/2019

	Rates	Fringes
Line Construction:		
LINEMEN	$ 52.76	19.42

ENGI0302-026 06/01/2020

	Rates	Fringes

Power equipment operators:

Group 1A	$ 49.50	22.47
Group 1AA	$ 50.22	22.47
Group 1AAA	$ 50.94	22.47
Group 1	$ 48.77	22.47
Group 2	$ 48.15	22.47
Group 3	$ 47.60	22.47
Group 4	$ 44.55	22.47

Zone Differential (Add to Zone 1 rates):

Zone 2 (26-45 radius miles) - $1.00

Zone 3 (Over 45 radius miles) - $1.30

BASEPOINTS: Aberdeen, Bellingham, Bremerton, Everett, Kent, Mount Vernon, Port Angeles, Port Townsend, Seattle, Shelton, Wenatchee, Yakima

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1AAA - Cranes-over 300 tons, or 300 ft of boom (including jib with attachments)

GROUP 1AA - Cranes 200 to 300 tons, or 250 ft of boom (including jib with attachments);Tower crane over 175 ft in height, base to boom; Excavator/Trackhoe: Over 90 metric tons

GROUP 1A - Cranes, 100 tons thru 199 tons, or 150 ft of boom (including jib with attachments);Crane-overhead, bridge

type, 100 tons and over; Tower crane up to 175 ft in height base to boom; Loaders-overhead, 8 yards and over; excavator/Trackhoe: over 50 metric tons to 90 metric tons; Backhoe- 6 yards and over with attachments

GROUP 1 - Cranes 45 tons thru 99 tons, under 150 ft of boom (including jib with attachments);Crane-overhead, bridge type, 45 tons thru 99 tons; Derricks on building work; Excavator/Trackhoe: over 30 metric tons to 50 metric tons; Loader- overhead 6 yards to, but not including 8 yards; Dozer D-10; Screedman; Scrapers: 45 yards and over; Grader/Blade; Paver

GROUP 2 - Cranes, 20 tons thru 44 tons with attachments;Crane-overhead, bridge type-20 tons through 44 tons; Drilling machine; Excavator/Trackhoe: 15 to 30 metric tons; Horizontal/directional drill operator; Loaders-overhead under 6 yards; Crane Oiler-100 Tons and Over; Scraper: under 45 tons; Backhoe- 3 yards and under; Mechanic; Piledriver; Boring Machine

GROUP 3 - Cranes-thru 19 tons with attachments;A-frame crane over 10 tons; Dozers-D-9 and under; Motor patrol grader-nonfinishing; Roller-Plant Mix; Crane Oiler under 100 tons; Excavator/Trackhoe: under 15 metric tons; Service Oiler; Conveyors; Backhoe 75 hp and under; Boom Truck over 10 tons

GROUP 4 - Cranes-A frame-10 tons and under; Roller-other than

plant mix; Rigger/Bellman; Grade Checker; Drill Assistant;
Boom Truck 10 tons and under

IRON0086-010 07/01/2019

	Rates	Fringes
IRONWORKER (Reinforcing, Structural and Ornamental).....	$ 42.35	29.56

LABO0242-004 06/01/2020

	Rates	Fringes
Laborers:		
GROUP 2A.....	$ 31.82	12.35
GROUP 3.....	$ 39.81	12.35
GROUP 4.....	$ 40.77	12.35
GROUP 5.....	$ 41.43	12.35

ZONE DIFFERENTIAL (ADD TO ZONE 1 RATES):
ZONE 2 - $1.00
ZONE 3 - $1.30

BASE POINTS: BELLINGHAM, MT. VERNON, EVERETT, SEATTLE, KENT, TACOMA, OLYMPIA, CENTRALIA, ABERDEEN, SHELTON, PT. TOWNSEND, PT. ANGELES, AND BREMERTON

ZONE 1 - Projects within 25 radius miles of the respective city hall

ZONE 2 - More than 25 but less than 45 radius miles from the respective city hall

ZONE 3 - More than 45 radius miles from the respective city hall

LABORERS CLASSIFICATIONS

GROUP 2A: Flagman

GROUP 3: General Laborer; Form Stripping; Sign Erector/Installer

GROUP 4: Handheld Drill; Pipe Layer; Jackhammer

GROUP 5: Grade Checker; High Scaler; Mason Tender-Brick; Mason Tender-Cement/Concrete

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PAIN0005-008 07/01/2018

	Rates	Fringes
PAINTER (Brush, Roller and Spray)	$ 22.94	11.61

PLAS0528-004 06/01/2020

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 45.80	18.54

PLUM0032-011 06/01/2020

	Rates	Fringes
Plumbers and Pipefitters	$ 63.71	26.38

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* TEAM0174-003 06/01/2019

	Rates	Fringes
Truck drivers:		
ZONE A:		
GROUP 1:	$ 40.38	20.46
GROUP 2:	$ 39.54	20.46

ZONE B (25-45 miles from center of listed cities*): Add $.70 per hour to Zone A rates.

ZONE C (over 45 miles from centr of listed cities*): Add $1.00 per hour to Zone A rates.

*Zone pay will be calculated from the city center of the following listed cities:

BELLINGHAM CENTRALIA RAYMOND OLYMPIA
EVERETT SHELTON ANACORTES BELLEVUE

SEATTLE PORT ANGELES MT. VERNON KENT

TACOMA PORT TOWNSEND ABERDEEN BREMERTON

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Dump Trucks, side, end and bottom dump, including semi-trucks and trains or combinations thereof with 16 yards to 30 yards capacity: Over 30 yards $.15 per hour additional for each 10 yard increment.; Water Truck-3,000 gallons and over; Semi-Trailer Truck

GROUP 2 - Dump trucks, side, end and bottom dump, including semi-trucks and trains or combinations thereof with less than 16 yards capacity; Water Truck- less than 3,000 gallons

HAZMAT PROJECTS

Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in addition to the classification working in as follows:
LEVEL C: +$.25 per hour - This level uses an air purifying respirator or additional protective clothing.
LEVEL B: +$.50 per hour - Uses same respirator protection as Level A. Supplied air line is provided in conjunction with a chemical ""splash suit.""
LEVEL A: +$.75 per hour - This level utilizes a fully-encapsulated suit with a self-contained breathing apparatus or a supplied air line.

SUWA2009-061 08/07/2009

	Rates	Fringes
LABORER: Landscape & Irrigation	$ 8.77	1.80
OPERATOR: Asphalt Plant	$ 34.14	0.68
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 10.63	0.00
OPERATOR: Broom/Sweeper	$ 30.39	3.77
OPERATOR: Forklift	$ 28.03	7.28
OPERATOR: Power Shovel	$ 25.12	7.83
TRUCK DRIVER: Flatbed Truck	$ 22.74	6.29
TRUCK DRIVER: Lowboy Truck	$ 22.89	5.72

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification

and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date

for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

State Journey Level Prevailing Wages

State of Washington
Department of Labor & Industries

Prevailing Wage Section - Telephone 360-902-5335
PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 8/25/2020

County	Trade	Job Classification	Wage	Holiday	Overtime	Note	*Risk Class
King	Asbestos Abatement Workers	Journey Level	$50.86	5D	1H		View
King	Boilermakers	Journey Level	$69.29	5N	1C		View
King	Brick Mason	Journey Level	$58.82	5A	1M		View
King	Brick Mason	Pointer-Caulker-Cleaner	$58.82	5A	1M		View
King	Building Service Employees	Janitor	$25.58	5S	2F		View
King	Building Service Employees	Traveling Waxer/Shampooer	$26.03	5S	2F		View
King	Building Service Employees	Window Cleaner (Non-Scaffold)	$29.33	5S	2F		View
King	Building Service Employees	Window Cleaner (Scaffold)	$30.33	5S	2F		View
King	Cabinet Makers (In Shop)	Journey Level	$22.74		1		View
King	Carpenters	Acoustical Worker	$62.44	7A	4C		View
King	Carpenters	Carpenter	$62.44	7A	4C		View
King	Carpenters	Carpenters on Stationary Tools	$62.57	7A	4C		View
King	Carpenters	Creosoted Material	$62.54	7A	4C		View
King	Carpenters	Floor Finisher	$62.44	7A	4C		View
King	Carpenters	Floor Layer	$62.44	7A	4C		View
King	Carpenters	Scaffold Erector	$62.44	7A	4C		View
King	Cement Masons	Application of all Composition Mastic	$62.97	7A	4U		View
King	Cement Masons	Application of all Epoxy Material	$62.47	7A	4U		View
King	Cement Masons	Application of all Plastic Material	$62.97	7A	4U		View
King	Cement Masons	Application of Sealing Compound	$62.47	7A	4U		View
King	Cement Masons	Application of Underlayment	$62.97	7A	4U		View
King	Cement Masons	Building General	$62.47	7A	4U		View
King	Cement Masons	Composition or Kalman Floors	$62.97	7A	4U		View
King	Cement Masons	Concrete Paving	$62.47	7A	4U		View
King	Cement Masons	Curb & Gutter Machine	$62.97	7A	4U		View
King	Cement Masons	Curb & Gutter, Sidewalks	$62.47	7A	4U		View
King	Cement Masons	Curing Concrete	$62.47	7A	4U		View

State Journey Level Prevailing Wages

King	Cement Masons	Finish Colored Concrete	$62.97	7A	4U		View
King	Cement Masons	Floor Grinding	$62.97	7A	4U		View
King	Cement Masons	Floor Grinding/Polisher	$62.47	7A	4U		View
King	Cement Masons	Green Concrete Saw, self-powered	$62.97	7A	4U		View
King	Cement Masons	Grouting of all Plates	$62.47	7A	4U		View
King	Cement Masons	Grouting of all Tilt-up Panels	$62.47	7A	4U		View
King	Cement Masons	Gunite Nozzleman	$62.97	7A	4U		View
King	Cement Masons	Hand Powered Grinder	$62.97	7A	4U		View
King	Cement Masons	Journey Level	$62.47	7A	4U		View
King	Cement Masons	Patching Concrete	$62.47	7A	4U		View
King	Cement Masons	Pneumatic Power Tools	$62.97	7A	4U		View
King	Cement Masons	Power Chipping & Brushing	$62.97	7A	4U		View
King	Cement Masons	Sand Blasting Architectural Finish	$62.97	7A	4U		View
King	Cement Masons	Screed & Rodding Machine	$62.97	7A	4U		View
King	Cement Masons	Spackling or Skim Coat Concrete	$62.47	7A	4U		View
King	Cement Masons	Troweling Machine Operator	$62.97	7A	4U		View
King	Cement Masons	Troweling Machine Operator on Colored Slabs	$62.97	7A	4U		View
King	Cement Masons	Tunnel Workers	$62.97	7A	4U		View
King	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	$116.20	7A	4C		View
King	Divers & Tenders	Dive Supervisor/Master	$79.23	7A	4C		View
King	Divers & Tenders	Diver	$116.20	7A	4C	8V	View
King	Divers & Tenders	Diver On Standby	$74.23	7A	4C		View
King	Divers & Tenders	Diver Tender	$67.31	7A	4C		View
King	Divers & Tenders	Manifold Operator	$67.31	7A	4C		View
King	Divers & Tenders	Manifold Operator Mixed Gas	$72.31	7A	4C		View
King	Divers & Tenders	Remote Operated Vehicle Operator/Technician	$67.31	7A	4C		View
King	Divers & Tenders	Remote Operated Vehicle Tender	$62.69	7A	4C		View
King	Dredge Workers	Assistant Engineer	$56.44	5D	3F		View
King	Dredge Workers	Assistant Mate (Deckhand)	$56.00	5D	3F		View
King	Dredge Workers	Boatmen	$56.44	5D	3F		View
King	Dredge Workers	Engineer Welder	$57.51	5D	3F		View
King	Dredge Workers	Leverman, Hydraulic	$58.67	5D	3F		View
King	Dredge Workers	Mates	$56.44	5D	3F		View
King	Dredge Workers	Oiler	$56.00	5D	3F		View
King	Drywall Applicator	Journey Level	$62.44	5D	1H		View
King	Drywall Tapers	Journey Level	$62.81	5P	1E		View
King	Electrical Fixture Maintenance Workers	Journey Level	$31.99	5L	1E		View
King	Electricians - Inside	Cable Splicer	$87.22	7C	4E		View
King	Electricians - Inside	Cable Splicer (tunnel)	$93.74	7C	4E		View
King	Electricians - Inside	Certified Welder	$84.26	7C	4E		View
						D19	

State Journey Level Prevailing Wages

King	Electricians - Inside	Certified Welder (tunnel)	$90.47	7C	4E		View
King	Electricians - Inside	Construction Stock Person	$43.18	7C	4E		View
King	Electricians - Inside	Journey Level	$81.30	7C	4E		View
King	Electricians - Inside	Journey Level (tunnel)	$87.22	7C	4E		View
King	Electricians - Motor Shop	Journey Level	$47.53	5A	1B		View
King	Electricians - Powerline Construction	Cable Splicer	$82.39	5A	4D		View
King	Electricians - Powerline Construction	Certified Line Welder	$75.64	5A	4D		View
King	Electricians - Powerline Construction	Groundperson	$49.17	5A	4D		View
King	Electricians - Powerline Construction	Heavy Line Equipment Operator	$75.64	5A	4D		View
King	Electricians - Powerline Construction	Journey Level Lineperson	$75.64	5A	4D		View
King	Electricians - Powerline Construction	Line Equipment Operator	$64.54	5A	4D		View
King	Electricians - Powerline Construction	Meter Installer	$49.17	5A	4D	8W	View
King	Electricians - Powerline Construction	Pole Sprayer	$75.64	5A	4D		View
King	Electricians - Powerline Construction	Powderperson	$56.49	5A	4D		View
King	Electronic Technicians	Journey Level	$53.57	7E	1E		View
King	Elevator Constructors	Mechanic	$97.31	7D	4A		View
King	Elevator Constructors	Mechanic In Charge	$105.06	7D	4A		View
King	Fabricated Precast Concrete Products	All Classifications - In-Factory Work Only	$18.25	5B	1R		View
King	Fence Erectors	Fence Erector	$43.11	7A	4V	8Y	View
King	Fence Erectors	Fence Laborer	$43.11	7A	4V	8Y	View
King	Flaggers	Journey Level	$43.11	7A	4V	8Y	View
King	Glaziers	Journey Level	$66.51	7L	1Y		View
King	Heat & Frost Insulators And Asbestos Workers	Journeyman	$76.61	5J	4H		View
King	Heating Equipment Mechanics	Journey Level	$85.88	7F	1E		View
King	Hod Carriers & Mason Tenders	Journey Level	$52.44	7A	4V	8Y	View
King	Industrial Power Vacuum Cleaner	Journey Level	$13.50		1		View
King	Inland Boatmen	Boat Operator	$61.41	5B	1K		View
King	Inland Boatmen	Cook	$56.48	5B	1K		View
King	Inland Boatmen	Deckhand	$57.48	5B	1K		View
King	Inland Boatmen	Deckhand Engineer	$58.81	5B	1K		View
King	Inland Boatmen	Launch Operator	$58.89	5B	1K		View
King	Inland Boatmen	Mate	$57.31	5B	1K		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator, Foamer Operator	$31.49		1		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	$13.50		1		View
						D20	

State Journey Level Prevailing Wages

King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	$24.91		1		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	$19.33		1		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Tv Truck Operator	$20.45		1		View
King	Insulation Applicators	Journey Level	$62.44	7A	4C		View
King	Ironworkers	Journeyman	$73.73	7N	1O		View
King	Laborers	Air, Gas Or Electric Vibrating Screed	$50.86	7A	4V	8Y	View
King	Laborers	Airtrac Drill Operator	$52.44	7A	4V	8Y	View
King	Laborers	Ballast Regular Machine	$50.86	7A	4V	8Y	View
King	Laborers	Batch Weighman	$43.11	7A	4V	8Y	View
King	Laborers	Brick Pavers	$50.86	7A	4V	8Y	View
King	Laborers	Brush Cutter	$50.86	7A	4V	8Y	View
King	Laborers	Brush Hog Feeder	$50.86	7A	4V	8Y	View
King	Laborers	Burner	$50.86	7A	4V	8Y	View
King	Laborers	Caisson Worker	$52.44	7A	4V	8Y	View
King	Laborers	Carpenter Tender	$50.86	7A	4V	8Y	View
King	Laborers	Cement Dumper-paving	$51.80	7A	4V	8Y	View
King	Laborers	Cement Finisher Tender	$50.86	7A	4V	8Y	View
King	Laborers	Change House Or Dry Shack	$50.86	7A	4V	8Y	View
King	Laborers	Chipping Gun (30 Lbs. And Over)	$51.80	7A	4V	8Y	View
King	Laborers	Chipping Gun (Under 30 Lbs.)	$50.86	7A	4V	8Y	View
King	Laborers	Choker Setter	$50.86	7A	4V	8Y	View
King	Laborers	Chuck Tender	$50.86	7A	4V	8Y	View
King	Laborers	Clary Power Spreader	$51.80	7A	4V	8Y	View
King	Laborers	Clean-up Laborer	$50.86	7A	4V	8Y	View
King	Laborers	Concrete Dumper/Chute Operator	$51.80	7A	4V	8Y	View
King	Laborers	Concrete Form Stripper	$50.86	7A	4V	8Y	View
King	Laborers	Concrete Placement Crew	$51.80	7A	4V	8Y	View
King	Laborers	Concrete Saw Operator/Core Driller	$51.80	7A	4V	8Y	View
King	Laborers	Crusher Feeder	$43.11	7A	4V	8Y	View
King	Laborers	Curing Laborer	$50.86	7A	4V	8Y	View
King	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	$50.86	7A	4V	8Y	View
King	Laborers	Ditch Digger	$50.86	7A	4V	8Y	View
King	Laborers	Diver	$52.44	7A	4V	8Y	View
King	Laborers	Drill Operator (Hydraulic, Diamond)	$51.80	7A	4V	8Y	View
King	Laborers	Dry Stack Walls	$50.86	7A	4V	8Y	View
King	Laborers	Dump Person	$50.86	7A	4V	8Y	View
King	Laborers	Epoxy Technician	$50.86	7A	4V	8Y	View

State Journey Level Prevailing Wages

King	Laborers	Erosion Control Worker	$50.86	7A	4V	8Y	View
King	Laborers	Faller & Bucker Chain Saw	$51.80	7A	4V	8Y	View
King	Laborers	Fine Graders	$50.86	7A	4V	8Y	View
King	Laborers	Firewatch	$43.11	7A	4V	8Y	View
King	Laborers	Form Setter	$50.86	7A	4V	8Y	View
King	Laborers	Gabian Basket Builders	$50.86	7A	4V	8Y	View
King	Laborers	General Laborer	$50.86	7A	4V	8Y	View
King	Laborers	Grade Checker & Transit Person	$52.44	7A	4V	8Y	View
King	Laborers	Grinders	$50.86	7A	4V	8Y	View
King	Laborers	Grout Machine Tender	$50.86	7A	4V	8Y	View
King	Laborers	Groutmen (Pressure) Including Post Tension Beams	$51.80	7A	4V	8Y	View
King	Laborers	Guardrail Erector	$50.86	7A	4V	8Y	View
King	Laborers	Hazardous Waste Worker (Level A)	$52.44	7A	4V	8Y	View
King	Laborers	Hazardous Waste Worker (Level B)	$51.80	7A	4V	8Y	View
King	Laborers	Hazardous Waste Worker (Level C)	$50.86	7A	4V	8Y	View
King	Laborers	High Scaler	$52.44	7A	4V	8Y	View
King	Laborers	Jackhammer	$51.80	7A	4V	8Y	View
King	Laborers	Laserbeam Operator	$51.80	7A	4V	8Y	View
King	Laborers	Maintenance Person	$50.86	7A	4V	8Y	View
King	Laborers	Manhole Builder-Mudman	$51.80	7A	4V	8Y	View
King	Laborers	Material Yard Person	$50.86	7A	4V	8Y	View
King	Laborers	Motorman-Dinky Locomotive	$51.80	7A	4V	8Y	View
King	Laborers	Nozzleman (Concrete Pump, Green Cutter When Using Combination Of High Pressure Air & Water On Concrete & Rock, Sandblast, Gunite, Shotcrete, Water Blaster, Vacuum Blaster)	$51.80	7A	4V	8Y	View
King	Laborers	Pavement Breaker	$51.80	7A	4V	8Y	View
King	Laborers	Pilot Car	$43.11	7A	4V	8Y	View
King	Laborers	Pipe Layer Lead	$52.44	7A	4V	8Y	View
King	Laborers	Pipe Layer/Tailor	$51.80	7A	4V	8Y	View
King	Laborers	Pipe Pot Tender	$51.80	7A	4V	8Y	View
King	Laborers	Pipe Reliner	$51.80	7A	4V	8Y	View
King	Laborers	Pipe Wrapper	$51.80	7A	4V	8Y	View
King	Laborers	Pot Tender	$50.86	7A	4V	8Y	View
King	Laborers	Powderman	$52.44	7A	4V	8Y	View
King	Laborers	Powderman's Helper	$50.86	7A	4V	8Y	View
King	Laborers	Power Jacks	$51.80	7A	4V	8Y	View
King	Laborers	Railroad Spike Puller - Power	$51.80	7A	4V	8Y	View
King	Laborers	Raker - Asphalt	$52.44	7A	4V	8Y	View
King	Laborers	Re-timberman	$52.44	7A	4V	8Y	View
King	Laborers	Remote Equipment Operator	$51.80	7A	4V	8Y	View
King	Laborers	Rigger/Signal Person	$51.80	7A	4V	8Y	View

State Journey Level Prevailing Wages

King	Laborers	Rip Rap Person	$50.86	7A	4V	8Y	View
King	Laborers	Rivet Buster	$51.80	7A	4V	8Y	View
King	Laborers	Rodder	$51.80	7A	4V	8Y	View
King	Laborers	Scaffold Erector	$50.86	7A	4V	8Y	View
King	Laborers	Scale Person	$50.86	7A	4V	8Y	View
King	Laborers	Sloper (Over 20")	$51.80	7A	4V	8Y	View
King	Laborers	Sloper Sprayer	$50.86	7A	4V	8Y	View
King	Laborers	Spreader (Concrete)	$51.80	7A	4V	8Y	View
King	Laborers	Stake Hopper	$50.86	7A	4V	8Y	View
King	Laborers	Stock Piler	$50.86	7A	4V	8Y	View
King	Laborers	Swinging Stage/Boatswain Chair	$43.11	7A	4V	8Y	View
King	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	$51.80	7A	4V	8Y	View
King	Laborers	Tamper (Multiple & Self-propelled)	$51.80	7A	4V	8Y	View
King	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	$51.80	7A	4V	8Y	View
King	Laborers	Toolroom Person (at Jobsite)	$50.86	7A	4V	8Y	View
King	Laborers	Topper	$50.86	7A	4V	8Y	View
King	Laborers	Track Laborer	$50.86	7A	4V	8Y	View
King	Laborers	Track Liner (Power)	$51.80	7A	4V	8Y	View
King	Laborers	Traffic Control Laborer	$46.10	7A	4V	9C	View
King	Laborers	Traffic Control Supervisor	$48.84	7A	4V	9C	View
King	Laborers	Truck Spotter	$50.86	7A	4V	8Y	View
King	Laborers	Tugger Operator	$51.80	7A	4V	8Y	View
King	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	$120.61	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	$125.64	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	$129.32	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	$135.02	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	$137.14	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	$142.24	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	$144.14	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	$146.14	7A	4V	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	$148.14	7A	4V	9B	View
King	Laborers	Tunnel Work-Guage and Lock Tender	$52.54	7A	4V	8Y	View
King	Laborers	Tunnel Work-Miner	$52.54	7A	4V	8Y	View
King	Laborers	Vibrator	$51.80	7A	4V	8Y	View
King	Laborers	Vinyl Seamer	$50.86	7A	4V	8Y	View
King	Laborers	Watchman	$39.18	7A	4V	8Y	View

State Journey Level Prevailing Wages

King	Laborers	Welder	$51.80	7A	4V	8Y	View
King	Laborers	Well Point Laborer	$51.80	7A	4V	8Y	View
King	Laborers	Window Washer/Cleaner	$39.18	7A	4V	8Y	View
King	Laborers - Underground Sewer & Water	General Laborer & Topman	$50.86	7A	4V	8Y	View
King	Laborers - Underground Sewer & Water	Pipe Layer	$51.80	7A	4V	8Y	View
King	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	$39.18	7A	4V	8Y	View
King	Landscape Construction	Landscape Operator	$68.02	7A	3K	8X	View
King	Landscape Maintenance	Groundskeeper	$17.87		1		View
King	Lathers	Journey Level	$62.44	5D	1H		View
King	Marble Setters	Journey Level	$58.82	5A	1M		View
King	Metal Fabrication (In Shop)	Fitter	$15.86		1		View
King	Metal Fabrication (In Shop)	Laborer	$13.50		1		View
King	Metal Fabrication (In Shop)	Machine Operator	$13.50		1		View
King	Metal Fabrication (In Shop)	Painter	$13.50		1		View
King	Metal Fabrication (In Shop)	Welder	$15.48		1		View
King	Millwright	Journey Level	$63.94	7A	4C		View
King	Modular Buildings	Cabinet Assembly	$13.50		1		View
King	Modular Buildings	Electrician	$13.50		1		View
King	Modular Buildings	Equipment Maintenance	$13.50		1		View
King	Modular Buildings	Plumber	$13.50		1		View
King	Modular Buildings	Production Worker	$13.50		1		View
King	Modular Buildings	Tool Maintenance	$13.50		1		View
King	Modular Buildings	Utility Person	$13.50		1		View
King	Modular Buildings	Welder	$13.50		1		View
King	Painters	Journey Level	$43.40	6Z	2B		View
King	Pile Driver	Crew Tender	$67.31	7A	4C		View
King	Pile Driver	Crew Tender/Technician	$67.31	7A	4C		View
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	$77.93	7A	4C		View
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	$82.93	7A	4C		View
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	$86.93	7A	4C		View
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	$91.93	7A	4C		View
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	$94.43	7A	4C		View
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	$99.43	7A	4C		View
King	Pile Driver	Hyperbaric Worker -	$101.43	7A	4C		View

State Journey Level Prevailing Wages

		Compressed Air Worker 68.01 - 70.00 PSI					
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	$103.43	7A	4C		View
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	$105.43	7A	4C		View
King	Pile Driver	Journey Level	$62.69	7A	4C		View
King	Plasterers	Journey Level	$59.29	7Q	1R		View
King	Playground & Park Equipment Installers	Journey Level	$13.50		1		View
King	Plumbers & Pipefitters	Journey Level	$89.19	6Z	1G		View
King	Power Equipment Operators	Asphalt Plant Operators	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Assistant Engineer	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Barrier Machine (zipper)	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Batch Plant Operator: concrete	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Bobcat	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Brokk - Remote Demolition Equipment	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Brooms	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Bump Cutter	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Cableways	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Chipper	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Compressor	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Concrete Finish Machine - Laser Screed	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Conveyors	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Cranes friction: 200 tons and over	$71.26	7A	3K	8X	View
King	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$69.85	7A	3K	8X	View
King	Power Equipment Operators	Cranes: 20 Tons Through 44 Tons With Attachments	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$70.57	7A	3K	8X	View
King	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	$71.26	7A	3K	8X	View
King	Power Equipment Operators	Cranes: 45 Tons Through 99	$69.16	7A	3K	8X	View

State Journey Level Prevailing Wages

		Tons, Under 150' Of Boom (including Jib With Attachments)					
King	Power Equipment Operators	Cranes: A-frame - 10 Tons And Under	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Cranes: Friction cranes through 199 tons	$70.57	7A	3K	8X	View
King	Power Equipment Operators	Cranes: through 19 tons with attachments, A-frame over 10 tons	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Crusher	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Deck Engineer/Deck Winches (power)	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Derricks, On Building Work	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Dozers D-9 & Under	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Drilling Machine	$69.85	7A	3K	8X	View
King	Power Equipment Operators	Elevator And Man-lift: Permanent And Shaft Type	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Forklift: 3000 Lbs And Over With Attachments	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Forklifts: Under 3000 Lbs. With Attachments	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Gradechecker/Stakeman	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Guardrail Punch	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Horizontal/Directional Drill Locator	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Horizontal/Directional Drill Operator	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Hydralifts/Boom Trucks, 10 Tons And Under	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Loader, Overhead 8 Yards. & Over	$69.85	7A	3K	8X	View
King	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Loaders, Overhead Under 6 Yards	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Loaders, Plant Feed	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Loaders: Elevating Type Belt	$68.02	7A	3K	8X	View

State Journey Level Prevailing Wages

King	Power Equipment Operators	Locomotives, All	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Material Transfer Device	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)	$69.85	7A	3K	8X	View
King	Power Equipment Operators	Motor Patrol Graders	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Overhead, Bridge Type: 100 Tons And Over	$69.85	7A	3K	8X	View
King	Power Equipment Operators	Overhead, Bridge Type: 45 Tons Through 99 Tons	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Pavement Breaker	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Pile Driver (other Than Crane Mount)	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Posthole Digger, Mechanical	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Power Plant	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Pumps - Water	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Quad 9, Hd 41, D10 And Over	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Rigger and Bellman	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Rigger/Signal Person, Bellman (Certified)	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Rollagon	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Roller, Other Than Plant Mix	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Roto-mill, Roto-grinder	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Saws - Concrete	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Scrapers - Concrete & Carry All	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Service Engineers - Equipment	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Shotcrete/Gunite Equipment	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$68.02	7A	3K	8X	View

State Journey Level Prevailing Wages

King	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$69.85	7A	3K	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$70.57	7A	3K	8X	View
King	Power Equipment Operators	Slipform Pavers	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Spreader, Topsider & Screedman	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Subgrader Trimmer	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Tower Bucket Elevators	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Tower Crane Up To 175' In Height Base To Boom	$69.85	7A	3K	8X	View
King	Power Equipment Operators	Tower Crane: over 175’ through 250’ in height, base to boom	$70.57	7A	3K	8X	View
King	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	$71.26	7A	3K	8X	View
King	Power Equipment Operators	Transporters, All Track Or Truck Type	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Trenching Machines	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Truck Crane Oiler/driver - 100 Tons And Over	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Truck Crane Oiler/Driver Under 100 Tons	$68.02	7A	3K	8X	View
King	Power Equipment Operators	Truck Mount Portable Conveyor	$68.55	7A	3K	8X	View
King	Power Equipment Operators	Welder	$69.16	7A	3K	8X	View
King	Power Equipment Operators	Wheel Tractors, Farmall Type	$65.05	7A	3K	8X	View
King	Power Equipment Operators	Yo Yo Pay Dozer	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator, Concrete	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Bobcat	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Brokk - Remote Demolition Equipment	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Brooms	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Bump Cutter	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cableways	$69.16	7A	3K	8X	View
King	Power Equipment Operators-	Chipper	$68.55	7A	3K	8X	View

State Journey Level Prevailing Wages

	Underground Sewer & Water						
King	Power Equipment Operators-Underground Sewer & Water	Compressor	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine - Laser Screed	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Conveyors	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes friction: 200 tons and over	$71.26	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$69.85	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 20 Tons Through 44 Tons With Attachments	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$70.57	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	$71.26	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: A-frame - 10 Tons And Under	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	$70.57	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: through 19 tons with attachments, A-frame over 10 tons	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Crusher	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Deck Engineer/Deck Winches (power)	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Dozers D-9 & Under	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Drilling Machine	$69.85	7A	3K	8X	View
King	Power Equipment Operators-	Elevator And Man-lift:	$65.05	7A	3K	8X	View

State Journey Level Prevailing Wages

	Underground Sewer & Water	Permanent And Shaft Type					
King	Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 Lbs And Over With Attachments	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Forklifts: Under 3000 Lbs. With Attachments	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Gradechecker/Stakeman	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Guardrail Punch	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Locator	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Operator	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hydralifts/Boom Trucks Over 10 Tons	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hydralifts/Boom Trucks, 10 Tons And Under	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loader, Overhead 8 Yards. & Over	$69.85	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loaders, Overhead Under 6 Yards	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loaders, Plant Feed	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loaders: Elevating Type Belt	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Locomotives, All	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Material Transfer Device	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)	$69.85	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Motor Patrol Graders	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato	$68.02	7A	3K	8X	View

State Journey Level Prevailing Wages

King	Power Equipment Operators-Underground Sewer & Water	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Overhead, Bridge Type: 100 Tons And Over	$69.85	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Overhead, Bridge Type: 45 Tons Through 99 Tons	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Pavement Breaker	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Power Plant	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Pumps - Water	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Rigger and Bellman	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman (Certified)	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Rollagon	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Service Engineers - Equipment	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shotcrete/Gunite Equipment	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$68.02	7A	3K	8X	View
King	Power Equipment Operators-	Shovel, Excavator, Backhoe:	$69.16	7A	3K	8X	View

State Journey Level Prevailing Wages

	Underground Sewer & Water	Over 30 Metric Tons To 50 Metric Tons					
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$69.85	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$70.57	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Slipform Pavers	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Spreader, Topsider & Screedman	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Subgrader Trimmer	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower Bucket Elevators	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower Crane Up To 175' In Height Base To Boom	$69.85	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower Crane: over 175’ through 250’ in height, base to boom	$70.57	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	$71.26	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Transporters, All Track Or Truck Type	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Trenching Machines	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/driver - 100 Tons And Over	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/Driver Under 100 Tons	$68.02	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Truck Mount Portable Conveyor	$68.55	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Welder	$69.16	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Wheel Tractors, Farmall Type	$65.05	7A	3K	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Yo Yo Pay Dozer	$68.55	7A	3K	8X	View
King	Power Line Clearance Tree Trimmers	Journey Level In Charge	$53.10	5A	4A		View
King	Power Line Clearance Tree Trimmers	Spray Person	$50.40	5A	4A		View
King	Power Line Clearance Tree Trimmers	Tree Equipment Operator	$53.10	5A	4A		View
King	Power Line Clearance Tree Trimmers	Tree Trimmer	$47.48	5A	4A		View
King	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	$36.10	5A	4A		View
King	Refrigeration & Air Conditioning Mechanics	Journey Level	$84.01	6Z	1G		View
King	Residential Brick Mason	Journey Level	$58.82	5A	1M		View

State Journey Level Prevailing Wages

King	Residential Carpenters	Journey Level	$32.06		1		View
King	Residential Cement Masons	Journey Level	$29.25		1		View
King	Residential Drywall Applicators	Journey Level	$46.43	7A	4C		View
King	Residential Drywall Tapers	Journey Level	$47.04	5P	1E		View
King	Residential Electricians	Journey Level	$36.01		1		View
King	Residential Glaziers	Journey Level	$45.90	7L	1H		View
King	Residential Insulation Applicators	Journey Level	$29.87		1		View
King	Residential Laborers	Journey Level	$26.18		1		View
King	Residential Marble Setters	Journey Level	$27.38		1		View
King	Residential Painters	Journey Level	$27.80		1		View
King	Residential Plumbers & Pipefitters	Journey Level	$39.43		1		View
King	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	$54.12	5A	1G		View
King	Residential Sheet Metal Workers	Journey Level (Field or Shop)	$51.89	7F	1R		View
King	Residential Soft Floor Layers	Journey Level	$51.07	5A	3J		View
King	Residential Sprinkler Fitters (Fire Protection)	Journey Level	$50.89	5C	2R		View
King	Residential Stone Masons	Journey Level	$58.82	5A	1M		View
King	Residential Terrazzo Workers	Journey Level	$54.06	5A	1M		View
King	Residential Terrazzo/Tile Finishers	Journey Level	$24.39		1		View
King	Residential Tile Setters	Journey Level	$21.04		1		View
King	Roofers	Journey Level	$55.02	5A	3H		View
King	Roofers	Using Irritable Bituminous Materials	$58.02	5A	3H		View
King	Sheet Metal Workers	Journey Level (Field or Shop)	$85.88	7F	1E		View
King	Shipbuilding & Ship Repair	New Construction Boilermaker	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Carpenter	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Crane Operator	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Electrician	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	$76.61	5J	4H		View
King	Shipbuilding & Ship Repair	New Construction Laborer	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Machinist	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Operating Engineer	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Painter	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Pipefitter	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Rigger	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Sheet Metal	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Shipfitter	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	$36.36	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Welder / Burner	$36.36	7V	1		View

State Journey Level Prevailing Wages

King	Shipbuilding & Ship Repair	Ship Repair Boilermaker	$46.15	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Carpenter	$44.95	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Crane Operator	$45.06	7Y	4K		View
King	Shipbuilding & Ship Repair	Ship Repair Electrician	$46.22	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	$76.61	5J	4H		View
King	Shipbuilding & Ship Repair	Ship Repair Laborer	$46.15	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Machinist	$46.15	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Operating Engineer	$45.06	7Y	4K		View
King	Shipbuilding & Ship Repair	Ship Repair Painter	$46.15	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Pipefitter	$46.15	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Rigger	$46.15	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Sheet Metal	$46.15	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Shipwright	$44.95	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	$45.06	7Y	4K		View
King	Sign Makers & Installers (Electrical)	Journey Level	$49.44	0	1		View
King	Sign Makers & Installers (Non-Electrical)	Journey Level	$31.96	0	1		View
King	Soft Floor Layers	Journey Level	$51.07	5A	3J		View
King	Solar Controls For Windows	Journey Level	$13.50		1		View
King	Sprinkler Fitters (Fire Protection)	Journey Level	$82.39	5C	1X		View
King	Stage Rigging Mechanics (Non Structural)	Journey Level	$13.50		1		View
King	Stone Masons	Journey Level	$58.82	5A	1M		View
King	Street And Parking Lot Sweeper Workers	Journey Level	$19.09		1		View
King	Surveyors	Assistant Construction Site Surveyor	$68.02	7A	3K	8X	View
King	Surveyors	Chainman	$65.05	7A	3K	8X	View
King	Surveyors	Construction Site Surveyor	$69.16	7A	3K	8X	View
King	Telecommunication Technicians	Journey Level	$53.57	7E	1E		View
King	Telephone Line Construction - Outside	Cable Splicer	$41.81	5A	2B		View
King	Telephone Line Construction - Outside	Hole Digger/Ground Person	$23.53	5A	2B		View
King	Telephone Line Construction - Outside	Installer (Repairer)	$40.09	5A	2B		View
King	Telephone Line Construction - Outside	Special Aparatus Installer I	$41.81	5A	2B		View
King	Telephone Line Construction - Outside	Special Apparatus Installer II	$40.99	5A	2B		View
King	Telephone Line Construction - Outside	Telephone Equipment Operator (Heavy)	$41.81	5A	2B		View
King	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	$38.92	5A	2B		View
King	Telephone Line Construction - Outside	Telephone Lineperson	$38.92	5A	2B		View

State Journey Level Prevailing Wages

King	Telephone Line Construction - Outside	Television Groundperson	$22.32	5A	2B		View
King	Telephone Line Construction - Outside	Television Lineperson/Installer	$29.60	5A	2B		View
King	Telephone Line Construction - Outside	Television System Technician	$35.20	5A	2B		View
King	Telephone Line Construction - Outside	Television Technician	$31.67	5A	2B		View
King	Telephone Line Construction - Outside	Tree Trimmer	$38.92	5A	2B		View
King	Terrazzo Workers	Journey Level	$54.06	5A	1M		View
King	Tile Setters	Journey Level	$54.06	5A	1M		View
King	Tile, Marble & Terrazzo Finishers	Finisher	$44.89	5A	1B		View
King	Traffic Control Stripers	Journey Level	$47.68	7A	1K		View
King	Truck Drivers	Asphalt Mix Over 16 Yards	$61.59	5D	4Y	8L	View
King	Truck Drivers	Asphalt Mix To 16 Yards	$60.75	5D	4Y	8L	View
King	Truck Drivers	Dump Truck	$60.75	5D	4Y	8L	View
King	Truck Drivers	Dump Truck & Trailer	$61.59	5D	4Y	8L	View
King	Truck Drivers	Other Trucks	$61.59	5D	4Y	8L	View
King	Truck Drivers - Ready Mix	Transit Mix	$61.59	5D	4Y	8L	View
King	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	$17.71		1		View
King	Well Drillers & Irrigation Pump Installers	Oiler	$13.50		1		View
King	Well Drillers & Irrigation Pump Installers	Well Driller	$18.00		1		View

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Asbestos Abatement Workers	Journey Level	$50.86	5D	1H	
King	Boilermakers	Journey Level	$69.29	5N	1C	
King	Brick Mason	Journey Level	$58.82	5A	1M	
King	Brick Mason	Pointer-Caulker-Cleaner	$58.82	5A	1M	
King	Building Service Employees	Janitor	$25.58	5S	2F	
King	Building Service Employees	Traveling Waxer/Shampooer	$26.03	5S	2F	
King	Building Service Employees	Window Cleaner (Non-Scaffold)	$29.33	5S	2F	
King	Building Service Employees	Window Cleaner (Scaffold)	$30.33	5S	2F	
King	Cabinet Makers (In Shop)	Journey Level	$22.74			1
King	Carpenters	Acoustical Worker	$62.44	7A	4C	
King	Carpenters	Carpenter	$62.44	7A	4C	
King	Carpenters	Carpenters on Stationary Tools	$62.57	7A	4C	
King	Carpenters	Creosoted Material	$62.54	7A	4C	
King	Carpenters	Floor Finisher	$62.44	7A	4C	
King	Carpenters	Floor Layer	$62.44	7A	4C	
King	Carpenters	Scaffold Erector	$62.44	7A	4C	
King	Cement Masons	Application of all Composition Mastic	$62.97	7A	4U	
King	Cement Masons	Application of all Epoxy Material	$62.47	7A	4U	
King	Cement Masons	Application of all Plastic Material	$62.97	7A	4U	
King	Cement Masons	Application of Sealing Compound	$62.47	7A	4U	
King	Cement Masons	Application of Underlayment	$62.97	7A	4U	
King	Cement Masons	Building General	$62.47	7A	4U	
King	Cement Masons	Composition or Kalman Floors	$62.97	7A	4U	
King	Cement Masons	Concrete Paving	$62.47	7A	4U	
King	Cement Masons	Curb & Gutter Machine	$62.97	7A	4U	
King	Cement Masons	Curb & Gutter, Sidewalks	$62.47	7A	4U	
King	Cement Masons	Curing Concrete	$62.47	7A	4U	
King	Cement Masons	Finish Colored Concrete	$62.97	7A	4U	
King	Cement Masons	Floor Grinding	$62.97	7A	4U	
King	Cement Masons	Floor Grinding/Polisher	$62.47	7A	4U	
King	Cement Masons	Green Concrete Saw, self-powered	$62.97	7A	4U	
King	Cement Masons	Grouting of all Plates	$62.47	7A	4U	
King	Cement Masons	Grouting of all Tilt-up Panels	$62.47	7A	4U	
King	Cement Masons	Gunite Nozzleman	$62.97	7A	4U	
King	Cement Masons	Hand Powered Grinder	$62.97	7A	4U	
King	Cement Masons	Journey Level	$62.47	7A	4U	
King	Cement Masons	Patching Concrete	$62.47	7A	4U	
King	Cement Masons	Pneumatic Power Tools	$62.97	7A	4U	
King	Cement Masons	Power Chipping & Brushing	$62.97	7A	4U	
King	Cement Masons	Sand Blasting Architectural Finish	$62.97	7A	4U	
King	Cement Masons	Screed & Rodding Machine	$62.97	7A	4U	
King	Cement Masons	Spackling or Skim Coat Concrete	$62.47	7A	4U	
King	Cement Masons	Troweling Machine Operator	$62.97	7A	4U	
King	Cement Masons	Troweling Machine Operator on Colored Slabs	$62.97	7A	4U	
King	Cement Masons	Tunnel Workers	$62.97	7A	4U	
King	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	$116.20	7A	4C	
King	Divers & Tenders	Dive Supervisor/Master	$79.23	7A	4C	
King	Divers & Tenders	Diver	$116.20	7A	4C	8V
King	Divers & Tenders	Diver On Standby	$74.23	7A	4C	
King	Divers & Tenders	Diver Tender	$67.31	7A	4C	
King	Divers & Tenders	Manifold Operator	$67.31	7A	4C	
King	Divers & Tenders	Manifold Operator Mixed Gas	$72.31	7A	4C	
King	Divers & Tenders	Remote Operated Vehicle Operator/Technician	$67.31	7A	4C	
King	Divers & Tenders	Remote Operated Vehicle Tender	$62.69	7A	4C	
King	Dredge Workers	Assistant Engineer	$56.44	5D	3F	
King	Dredge Workers	Assistant Mate (Deckhand)	$56.00	5D	3F	
King	Dredge Workers	Boatmen	$56.44	5D	3F	
King	Dredge Workers	Engineer Welder	$57.51	5D	3F	
King	Dredge Workers	Leverman, Hydraulic	$58.67	5D	3F	
King	Dredge Workers	Mates	$56.44	5D	3F	
King	Dredge Workers	Oiler	$56.00	5D	3F	
King	Drywall Applicator	Journey Level	$62.44	5D	1H	
King	Drywall Tapers	Journey Level	$62.81	5P	1E	
King	Electrical Fixture Maintenance Workers	Journey Level	$31.99	5L	1E	
King	Electricians - Inside	Cable Splicer	$87.22	7C	4E	
King	Electricians - Inside	Cable Splicer (tunnel)	$93.74	7C	4E	
King	Electricians - Inside	Certified Welder	$84.26	7C	4E	
King	Electricians - Inside	Certified Welder (tunnel)	$90.47	7C	4E	
King	Electricians - Inside	Construction Stock Person	$43.18	7C	4E	
King	Electricians - Inside	Journey Level	$81.30	7C	4E	
King	Electricians - Inside	Journey Level (tunnel)	$87.22	7C	4E	
King	Electricians - Motor Shop	Journey Level	$47.53	5A	1B	
King	Electricians - Powerline Construction	Cable Splicer	$82.39	5A	4D	
King	Electricians - Powerline Construction	Certified Line Welder	$75.64	5A	4D	
King	Electricians - Powerline Construction	Groundperson	$49.17	5A	4D	
King	Electricians - Powerline Construction	Heavy Line Equipment Operator	$75.64	5A	4D	
King	Electricians - Powerline Construction	Journey Level Lineperson	$75.64	5A	4D	
King	Electricians - Powerline Construction	Line Equipment Operator	$64.54	5A	4D	
King	Electricians - Powerline Construction	Meter Installer	$49.17	5A	4D	8W
King	Electricians - Powerline Construction	Pole Sprayer	$75.64	5A	4D	
King	Electricians - Powerline Construction	Powderperson	$56.49	5A	4D	
King	Electronic Technicians	Journey Level	$53.57	7E	1E	
King	Elevator Constructors	Mechanic	$97.31	7D	4A	
King	Elevator Constructors	Mechanic In Charge	$105.06	7D	4A	
King	Fabricated Precast Concrete Products	All Classifications - In-Factory Work Only	$18.25	5B	1R	

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Fence Erectors	Fence Erector	$43.11	7A	4V	8Y
King	Fence Erectors	Fence Laborer	$43.11	7A	4V	8Y
King	Flaggers	Journey Level	$43.11	7A	4V	8Y
King	Glaziers	Journey Level	$66.51	7L	1Y	
King	Heat & Frost Insulators And Asbestos Workers	Journeyman	$76.61	5J	4H	
King	Heating Equipment Mechanics	Journey Level	$85.88	7F	1E	
King	Hod Carriers & Mason Tenders	Journey Level	$52.44	7A	4V	8Y
King	Industrial Power Vacuum Cleaner	Journey Level	$13.50			1
King	Inland Boatmen	Boat Operator	$61.41	5B	1K	
King	Inland Boatmen	Cook	$56.48	5B	1K	
King	Inland Boatmen	Deckhand	$57.48	5B	1K	
King	Inland Boatmen	Deckhand Engineer	$58.81	5B	1K	
King	Inland Boatmen	Launch Operator	$58.89	5B	1K	
King	Inland Boatmen	Mate	$57.31	5B	1K	
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator, Foamer Operator	$31.49			1
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	$13.50			1
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	$24.91			1
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	$19.33			1
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Tv Truck Operator	$20.45			1
King	Insulation Applicators	Journey Level	$62.44	7A	4C	
King	Ironworkers	Journeyman	$73.73	7N	1O	
King	Laborers	Air, Gas Or Electric Vibrating Screed	$50.86	7A	4V	8Y
King	Laborers	Airtrac Drill Operator	$52.44	7A	4V	8Y
King	Laborers	Ballast Regular Machine	$50.86	7A	4V	8Y
King	Laborers	Batch Weighman	$43.11	7A	4V	8Y
King	Laborers	Brick Pavers	$50.86	7A	4V	8Y
King	Laborers	Brush Cutter	$50.86	7A	4V	8Y
King	Laborers	Brush Hog Feeder	$50.86	7A	4V	8Y
King	Laborers	Burner	$50.86	7A	4V	8Y
King	Laborers	Caisson Worker	$52.44	7A	4V	8Y
King	Laborers	Carpenter Tender	$50.86	7A	4V	8Y
King	Laborers	Cement Dumper-paving	$51.80	7A	4V	8Y
King	Laborers	Cement Finisher Tender	$50.86	7A	4V	8Y
King	Laborers	Change House Or Dry Shack	$50.86	7A	4V	8Y
King	Laborers	Chipping Gun (30 Lbs. And Over)	$51.80	7A	4V	8Y
King	Laborers	Chipping Gun (Under 30 Lbs.)	$50.86	7A	4V	8Y
King	Laborers	Choker Setter	$50.86	7A	4V	8Y
King	Laborers	Chuck Tender	$50.86	7A	4V	8Y
King	Laborers	Clary Power Spreader	$51.80	7A	4V	8Y
King	Laborers	Clean-up Laborer	$50.86	7A	4V	8Y
King	Laborers	Concrete Dumper/Chute Operator	$51.80	7A	4V	8Y
King	Laborers	Concrete Form Stripper	$50.86	7A	4V	8Y
King	Laborers	Concrete Placement Crew	$51.80	7A	4V	8Y
King	Laborers	Concrete Saw Operator/Core Driller	$51.80	7A	4V	8Y
King	Laborers	Crusher Feeder	$43.11	7A	4V	8Y
King	Laborers	Curing Laborer	$50.86	7A	4V	8Y
King	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	$50.86	7A	4V	8Y
King	Laborers	Ditch Digger	$50.86	7A	4V	8Y
King	Laborers	Diver	$52.44	7A	4V	8Y
King	Laborers	Drill Operator (Hydraulic, Diamond)	$51.80	7A	4V	8Y
King	Laborers	Dry Stack Walls	$50.86	7A	4V	8Y
King	Laborers	Dump Person	$50.86	7A	4V	8Y
King	Laborers	Epoxy Technician	$50.86	7A	4V	8Y
King	Laborers	Erosion Control Worker	$50.86	7A	4V	8Y
King	Laborers	Faller & Bucker Chain Saw	$51.80	7A	4V	8Y
King	Laborers	Fine Graders	$50.86	7A	4V	8Y
King	Laborers	Firewatch	$43.11	7A	4V	8Y
King	Laborers	Form Setter	$50.86	7A	4V	8Y
King	Laborers	Gabian Basket Builders	$50.86	7A	4V	8Y
King	Laborers	General Laborer	$50.86	7A	4V	8Y
King	Laborers	Grade Checker & Transit Person	$52.44	7A	4V	8Y
King	Laborers	Grinders	$50.86	7A	4V	8Y
King	Laborers	Grout Machine Tender	$50.86	7A	4V	8Y
King	Laborers	Groutmen (Pressure) Including Post Tension Beams	$51.80	7A	4V	8Y
King	Laborers	Guardrail Erector	$50.86	7A	4V	8Y
King	Laborers	Hazardous Waste Worker (Level A)	$52.44	7A	4V	8Y
King	Laborers	Hazardous Waste Worker (Level B)	$51.80	7A	4V	8Y
King	Laborers	Hazardous Waste Worker (Level C)	$50.86	7A	4V	8Y
King	Laborers	High Scaler	$52.44	7A	4V	8Y
King	Laborers	Jackhammer	$51.80	7A	4V	8Y
King	Laborers	Laserbeam Operator	$51.80	7A	4V	8Y
King	Laborers	Maintenance Person	$50.86	7A	4V	8Y
King	Laborers	Manhole Builder-Mudman	$51.80	7A	4V	8Y
King	Laborers	Material Yard Person	$50.86	7A	4V	8Y
King	Laborers	Motorman-Dinky Locomotive	$51.80	7A	4V	8Y
King	Laborers	Nozzleman (Concrete Pump, Green Cutter When Using Combination Of High Pressure Air & Water On Concrete & Rock, Sandblast, Gunite, Shotcrete, Water Blaster, Vacuum Blaster)	$51.80	7A	4V	8Y
King	Laborers	Pavement Breaker	$51.80	7A	4V	8Y
King	Laborers	Pilot Car	$43.11	7A	4V	8Y

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Laborers	Pipe Layer Lead	$52.44	7A	4V	8Y
King	Laborers	Pipe Layer/Tailor	$51.80	7A	4V	8Y
King	Laborers	Pipe Pot Tender	$51.80	7A	4V	8Y
King	Laborers	Pipe Reliner	$51.80	7A	4V	8Y
King	Laborers	Pipe Wrapper	$51.80	7A	4V	8Y
King	Laborers	Pot Tender	$50.86	7A	4V	8Y
King	Laborers	Powderman	$52.44	7A	4V	8Y
King	Laborers	Powderman's Helper	$50.86	7A	4V	8Y
King	Laborers	Power Jacks	$51.80	7A	4V	8Y
King	Laborers	Railroad Spike Puller - Power	$51.80	7A	4V	8Y
King	Laborers	Raker - Asphalt	$52.44	7A	4V	8Y
King	Laborers	Re-timberman	$52.44	7A	4V	8Y
King	Laborers	Remote Equipment Operator	$51.80	7A	4V	8Y
King	Laborers	Rigger/Signal Person	$51.80	7A	4V	8Y
King	Laborers	Rip Rap Person	$50.86	7A	4V	8Y
King	Laborers	Rivet Buster	$51.80	7A	4V	8Y
King	Laborers	Rodder	$51.80	7A	4V	8Y
King	Laborers	Scaffold Erector	$50.86	7A	4V	8Y
King	Laborers	Scale Person	$50.86	7A	4V	8Y
King	Laborers	Sloper (Over 20)"	$51.80	7A	4V	8Y
King	Laborers	Sloper Sprayer	$50.86	7A	4V	8Y
King	Laborers	Spreader (Concrete)	$51.80	7A	4V	8Y
King	Laborers	Stake Hopper	$50.86	7A	4V	8Y
King	Laborers	Stock Piler	$50.86	7A	4V	8Y
King	Laborers	Swinging Stage/Boatswain Chair	$43.11	7A	4V	8Y
King	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	$51.80	7A	4V	8Y
King	Laborers	Tamper (Multiple & Self-propelled)	$51.80	7A	4V	8Y
King	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	$51.80	7A	4V	8Y
King	Laborers	Toolroom Person (at Jobsite)	$50.86	7A	4V	8Y
King	Laborers	Topper	$50.86	7A	4V	8Y
King	Laborers	Track Laborer	$50.86	7A	4V	8Y
King	Laborers	Track Liner (Power)	$51.80	7A	4V	8Y
King	Laborers	Traffic Control Laborer	$46.10	7A	4V	9C
King	Laborers	Traffic Control Supervisor	$48.84	7A	4V	9C
King	Laborers	Truck Spotter	$50.86	7A	4V	8Y
King	Laborers	Tugger Operator	$51.80	7A	4V	8Y
King	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	$120.61	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	$125.64	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	$129.32	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	$135.02	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	$137.14	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	$142.24	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	$144.14	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	$146.14	7A	4V	9B
King	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	$148.14	7A	4V	9B
King	Laborers	Tunnel Work-Guage and Lock Tender	$52.54	7A	4V	8Y
King	Laborers	Tunnel Work-Miner	$52.54	7A	4V	8Y
King	Laborers	Vibrator	$51.80	7A	4V	8Y
King	Laborers	Vinyl Seamer	$50.86	7A	4V	8Y
King	Laborers	Watchman	$39.18	7A	4V	8Y
King	Laborers	Welder	$51.80	7A	4V	8Y
King	Laborers	Well Point Laborer	$51.80	7A	4V	8Y
King	Laborers	Window Washer/Cleaner	$39.18	7A	4V	8Y
King	Laborers - Underground Sewer & Water	General Laborer & Topman	$50.86	7A	4V	8Y
King	Laborers - Underground Sewer & Water	Pipe Layer	$51.80	7A	4V	8Y
King	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	$39.18	7A	4V	8Y
King	Landscape Construction	Landscape Operator	$68.02	7A	3K	8X
King	Landscape Maintenance	Groundskeeper	$17.87			1
King	Lathers	Journey Level	$62.44	5D	1H	
King	Marble Setters	Journey Level	$58.82	5A	1M	
King	Metal Fabrication (In Shop)	Fitter	$15.86			1
King	Metal Fabrication (In Shop)	Laborer	$13.50			1
King	Metal Fabrication (In Shop)	Machine Operator	$13.50			1
King	Metal Fabrication (In Shop)	Painter	$13.50			1
King	Metal Fabrication (In Shop)	Welder	$15.48			1
King	Millwright	Journey Level	$63.94	7A	4C	
King	Modular Buildings	Cabinet Assembly	$13.50			1
King	Modular Buildings	Electrician	$13.50			1
King	Modular Buildings	Equipment Maintenance	$13.50			1
King	Modular Buildings	Plumber	$13.50			1
King	Modular Buildings	Production Worker	$13.50			1
King	Modular Buildings	Tool Maintenance	$13.50			1
King	Modular Buildings	Utility Person	$13.50			1
King	Modular Buildings	Welder	$13.50			1
King	Painters	Journey Level	$43.40	6Z	2B	
King	Pile Driver	Crew Tender	$67.31	7A	4C	
King	Pile Driver	Crew Tender/Technician	$67.31	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	$77.93	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	$82.93	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	$86.93	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	$91.93	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	$94.43	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	$99.43	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	$101.43	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	$103.43	7A	4C	
King	Pile Driver	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	$105.43	7A	4C	

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Pile Driver	Journey Level	$62.69	7A	4C	
King	Plasterers	Journey Level	$59.29	7Q	1R	
King	Playground & Park Equipment Installers	Journey Level	$13.50			1
King	Plumbers & Pipefitters	Journey Level	$89.19	6Z	1G	
King	Power Equipment Operators	Asphalt Plant Operators	$69.16	7A	3K	8X
King	Power Equipment Operators	Assistant Engineer	$65.05	7A	3K	8X
King	Power Equipment Operators	Barrier Machine (zipper)	$68.55	7A	3K	8X
King	Power Equipment Operators	Batch Plant Operator: concrete	$68.55	7A	3K	8X
King	Power Equipment Operators	Bobcat	$65.05	7A	3K	8X
King	Power Equipment Operators	Brokk - Remote Demolition Equipment	$65.05	7A	3K	8X
King	Power Equipment Operators	Brooms	$65.05	7A	3K	8X
King	Power Equipment Operators	Bump Cutter	$68.55	7A	3K	8X
King	Power Equipment Operators	Cableways	$69.16	7A	3K	8X
King	Power Equipment Operators	Chipper	$68.55	7A	3K	8X
King	Power Equipment Operators	Compressor	$65.05	7A	3K	8X
King	Power Equipment Operators	Concrete Finish Machine - Laser Screed	$65.05	7A	3K	8X
King	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$68.02	7A	3K	8X
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$69.16	7A	3K	8X
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$68.55	7A	3K	8X
King	Power Equipment Operators	Conveyors	$68.02	7A	3K	8X
King	Power Equipment Operators	Cranes friction: 200 tons and over	$71.26	7A	3K	8X
King	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$69.85	7A	3K	8X
King	Power Equipment Operators	Cranes: 20 Tons Through 44 Tons With Attachments	$68.55	7A	3K	8X
King	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$70.57	7A	3K	8X
King	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	$71.26	7A	3K	8X
King	Power Equipment Operators	Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)	$69.16	7A	3K	8X
King	Power Equipment Operators	Cranes: A-frame - 10 Tons And Under	$65.05	7A	3K	8X
King	Power Equipment Operators	Cranes: Friction cranes through 199 tons	$70.57	7A	3K	8X
King	Power Equipment Operators	Cranes: through 19 tons with attachments, A-frame over 10 tons	$68.02	7A	3K	8X
King	Power Equipment Operators	Crusher	$68.55	7A	3K	8X
King	Power Equipment Operators	Deck Engineer/Deck Winches (power)	$68.55	7A	3K	8X
King	Power Equipment Operators	Derricks, On Building Work	$69.16	7A	3K	8X
King	Power Equipment Operators	Dozers D-9 & Under	$68.02	7A	3K	8X
King	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	$68.02	7A	3K	8X
King	Power Equipment Operators	Drilling Machine	$69.85	7A	3K	8X
King	Power Equipment Operators	Elevator And Man-lift: Permanent And Shaft Type	$65.05	7A	3K	8X
King	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$68.55	7A	3K	8X
King	Power Equipment Operators	Forklift: 3000 Lbs And Over With Attachments	$68.02	7A	3K	8X
King	Power Equipment Operators	Forklifts: Under 3000 Lbs. With Attachments	$65.05	7A	3K	8X
King	Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$68.55	7A	3K	8X
King	Power Equipment Operators	Gradechecker/Stakeman	$65.05	7A	3K	8X
King	Power Equipment Operators	Guardrail Punch	$68.55	7A	3K	8X
King	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$69.16	7A	3K	8X
King	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$68.55	7A	3K	8X
King	Power Equipment Operators	Horizontal/Directional Drill Locator	$68.02	7A	3K	8X
King	Power Equipment Operators	Horizontal/Directional Drill Operator	$68.55	7A	3K	8X
King	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	$68.02	7A	3K	8X
King	Power Equipment Operators	Hydralifts/Boom Trucks, 10 Tons And Under	$65.05	7A	3K	8X
King	Power Equipment Operators	Loader, Overhead 8 Yards. & Over	$69.85	7A	3K	8X
King	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$69.16	7A	3K	8X
King	Power Equipment Operators	Loaders, Overhead Under 6 Yards	$68.55	7A	3K	8X
King	Power Equipment Operators	Loaders, Plant Feed	$68.55	7A	3K	8X
King	Power Equipment Operators	Loaders: Elevating Type Belt	$68.02	7A	3K	8X
King	Power Equipment Operators	Locomotives, All	$68.55	7A	3K	8X
King	Power Equipment Operators	Material Transfer Device	$68.55	7A	3K	8X
King	Power Equipment Operators	Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)	$69.85	7A	3K	8X
King	Power Equipment Operators	Motor Patrol Graders	$69.16	7A	3K	8X
King	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$69.16	7A	3K	8X
King	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$65.05	7A	3K	8X
King	Power Equipment Operators	Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato	$68.02	7A	3K	8X
King	Power Equipment Operators	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	$68.55	7A	3K	8X
King	Power Equipment Operators	Overhead, Bridge Type: 100 Tons And Over	$69.85	7A	3K	8X
King	Power Equipment Operators	Overhead, Bridge Type: 45 Tons Through 99 Tons	$69.16	7A	3K	8X
King	Power Equipment Operators	Pavement Breaker	$65.05	7A	3K	8X
King	Power Equipment Operators	Pile Driver (other Than Crane Mount)	$68.55	7A	3K	8X
King	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	$68.02	7A	3K	8X
King	Power Equipment Operators	Posthole Digger, Mechanical	$65.05	7A	3K	8X
King	Power Equipment Operators	Power Plant	$65.05	7A	3K	8X
King	Power Equipment Operators	Pumps - Water	$65.05	7A	3K	8X
King	Power Equipment Operators	Quad 9, Hd 41, D10 And Over	$69.16	7A	3K	8X
King	Power Equipment Operators	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	$65.05	7A	3K	8X
King	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	$69.16	7A	3K	8X
King	Power Equipment Operators	Rigger and Bellman	$65.05	7A	3K	8X
King	Power Equipment Operators	Rigger/Signal Person, Bellman (Certified)	$68.02	7A	3K	8X
King	Power Equipment Operators	Rollagon	$69.16	7A	3K	8X
King	Power Equipment Operators	Roller, Other Than Plant Mix	$65.05	7A	3K	8X
King	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	$68.02	7A	3K	8X

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Power Equipment Operators	Roto-mill, Roto-grinder	$68.55	7A	3K	8X
King	Power Equipment Operators	Saws - Concrete	$68.02	7A	3K	8X
King	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	$68.55	7A	3K	8X
King	Power Equipment Operators	Scrapers - Concrete & Carry All	$68.02	7A	3K	8X
King	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	$69.16	7A	3K	8X
King	Power Equipment Operators	Service Engineers - Equipment	$68.02	7A	3K	8X
King	Power Equipment Operators	Shotcrete/Gunite Equipment	$65.05	7A	3K	8X
King	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$68.02	7A	3K	8X
King	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$69.16	7A	3K	8X
King	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$68.55	7A	3K	8X
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$69.85	7A	3K	8X
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$70.57	7A	3K	8X
King	Power Equipment Operators	Slipform Pavers	$69.16	7A	3K	8X
King	Power Equipment Operators	Spreader, Topsider & Screedman	$69.16	7A	3K	8X
King	Power Equipment Operators	Subgrader Trimmer	$68.55	7A	3K	8X
King	Power Equipment Operators	Tower Bucket Elevators	$68.02	7A	3K	8X
King	Power Equipment Operators	Tower Crane Up To 175' In Height Base To Boom	$69.85	7A	3K	8X
King	Power Equipment Operators	Tower Crane: over 175â€™ through 250â€™ in height, base to boom	$70.57	7A	3K	8X
King	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	$71.26	7A	3K	8X
King	Power Equipment Operators	Transporters, All Track Or Truck Type	$69.16	7A	3K	8X
King	Power Equipment Operators	Trenching Machines	$68.02	7A	3K	8X
King	Power Equipment Operators	Truck Crane Oiler/driver - 100 Tons And Over	$68.55	7A	3K	8X
King	Power Equipment Operators	Truck Crane Oiler/Driver Under 100 Tons	$68.02	7A	3K	8X
King	Power Equipment Operators	Truck Mount Portable Conveyor	$68.55	7A	3K	8X
King	Power Equipment Operators	Welder	$69.16	7A	3K	8X
King	Power Equipment Operators	Wheel Tractors, Farmall Type	$65.05	7A	3K	8X
King	Power Equipment Operators	Yo Yo Pay Dozer	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Asphalt Plant Operators	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Assistant Engineer	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Barrier Machine (zipper)	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Batch Plant Operator, Concrete	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Bobcat	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Brokk - Remote Demolition Equipment	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Brooms	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Bump Cutter	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cableways	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Chipper	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Compressor	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Concrete Finish Machine - Laser Screed	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Conveyors	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes friction: 200 tons and over	$71.26	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$69.85	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: 20 Tons Through 44 Tons With Attachments	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$70.57	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	$71.26	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: A-frame - 10 Tons And Under	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: Friction cranes through 199 tons	$70.57	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Cranes: through 19 tons with attachments, A-frame over 10 tons	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Crusher	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Deck Engineer/Deck Winches (power)	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Derricks, On Building Work	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Dozers D-9 & Under	$68.02	7A	3K	8X

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Power Equipment Operators- Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Drilling Machine	$69.85	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Elevator And Man-lift: Permanent And Shaft Type	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Forklift: 3000 Lbs And Over With Attachments	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Forklifts: Under 3000 Lbs. With Attachments	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Gradechecker/Stakeman	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Guardrail Punch	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Horizontal/Directional Drill Locator	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Horizontal/Directional Drill Operator	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Hydralifts/Boom Trucks Over 10 Tons	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Hydralifts/Boom Trucks, 10 Tons And Under	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Loader, Overhead 8 Yards. & Over	$69.85	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Loaders, Overhead Under 6 Yards	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Loaders, Plant Feed	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Loaders: Elevating Type Belt	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Locomotives, All	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Material Transfer Device	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Mechanics, All (leadmen - $0.50 Per Hour Over Mechanic)	$69.85	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Motor Patrol Graders	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Overhead, Bridge Type: 100 Tons And Over	$69.85	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Overhead, Bridge Type: 45 Tons Through 99 Tons	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Pavement Breaker	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Pile Driver (other Than Crane Mount)	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Posthole Digger, Mechanical	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Power Plant	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Pumps - Water	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Rigger and Bellman	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Rigger/Signal Person, Bellman (Certified)	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Rollagon	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Roller, Other Than Plant Mix	$65.05	7A	3K	8X

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Power Equipment Operators- Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Roto-mill, Roto-grinder	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Saws - Concrete	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Scrapers - Concrete & Carry All	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Service Engineers - Equipment	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Shotcrete/Gunite Equipment	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$69.85	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$70.57	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Slipform Pavers	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Spreader, Topsider & Screedman	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Subgrader Trimmer	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Tower Bucket Elevators	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Tower Crane Up To 175' In Height Base To Boom	$69.85	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Tower Crane: over 175â€™ through 250â€™ in height, base to boom	$70.57	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	$71.26	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Transporters, All Track Or Truck Type	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Trenching Machines	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Truck Crane Oiler/driver - 100 Tons And Over	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Truck Crane Oiler/Driver Under 100 Tons	$68.02	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Truck Mount Portable Conveyor	$68.55	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Welder	$69.16	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Wheel Tractors, Farmall Type	$65.05	7A	3K	8X
King	Power Equipment Operators- Underground Sewer & Water	Yo Yo Pay Dozer	$68.55	7A	3K	8X
King	Power Line Clearance Tree Trimmers	Journey Level In Charge	$53.10	5A	4A	
King	Power Line Clearance Tree Trimmers	Spray Person	$50.40	5A	4A	
King	Power Line Clearance Tree Trimmers	Tree Equipment Operator	$53.10	5A	4A	
King	Power Line Clearance Tree Trimmers	Tree Trimmer	$47.48	5A	4A	
King	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	$36.10	5A	4A	
King	Refrigeration & Air Conditioning Mechanics	Journey Level	$84.01	6Z	1G	
King	Residential Brick Mason	Journey Level	$58.82	5A	1M	
King	Residential Carpenters	Journey Level	$32.06			1
King	Residential Cement Masons	Journey Level	$29.25			1
King	Residential Drywall Applicators	Journey Level	$46.43	7A	4C	
King	Residential Drywall Tapers	Journey Level	$47.04	5P	1E	
King	Residential Electricians	Journey Level	$36.01			1
King	Residential Glaziers	Journey Level	$45.90	7L	1H	
King	Residential Insulation Applicators	Journey Level	$29.87			1
King	Residential Laborers	Journey Level	$26.18			1
King	Residential Marble Setters	Journey Level	$27.38			1
King	Residential Painters	Journey Level	$27.80			1
King	Residential Plumbers & Pipefitters	Journey Level	$39.43			1
King	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	$54.12	5A	1G	
King	Residential Sheet Metal Workers	Journey Level (Field or Shop)	$51.89	7F	1R	
King	Residential Soft Floor Layers	Journey Level	$51.07	5A	3J	
King	Residential Sprinkler Fitters (Fire Protection)	Journey Level	$50.89	5C	2R	
King	Residential Stone Masons	Journey Level	$58.82	5A	1M	
King	Residential Terrazzo Workers	Journey Level	$54.06	5A	1M	
King	Residential Terrazzo/Tile Finishers	Journey Level	$24.39			1
King	Residential Tile Setters	Journey Level	$21.04			1
King	Roofers	Journey Level	$55.02	5A	3H	

WA State Apprentice Prevailing Wages

County	Trade	Job Classification	Wage	Holiday	Overtime	Notes
King	Roofers	Using Irritable Bituminous Materials	$58.02	5A	3H	
King	Sheet Metal Workers	Journey Level (Field or Shop)	$85.88	7F	1E	
King	Shipbuilding & Ship Repair	New Construction Boilermaker	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Carpenter	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Crane Operator	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Electrician	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	$76.61	5J	4H	
King	Shipbuilding & Ship Repair	New Construction Laborer	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Machinist	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Operating Engineer	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Painter	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Pipefitter	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Rigger	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Sheet Metal	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Shipfitter	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	$36.36	7V		1
King	Shipbuilding & Ship Repair	New Construction Welder / Burner	$36.36	7V		1
King	Shipbuilding & Ship Repair	Ship Repair Boilermaker	$46.15	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Carpenter	$44.95	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Crane Operator	$45.06	7Y	4K	
King	Shipbuilding & Ship Repair	Ship Repair Electrician	$46.22	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	$76.61	5J	4H	
King	Shipbuilding & Ship Repair	Ship Repair Laborer	$46.15	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Machinist	$46.15	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Operating Engineer	$45.06	7Y	4K	
King	Shipbuilding & Ship Repair	Ship Repair Painter	$46.15	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Pipefitter	$46.15	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Rigger	$46.15	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Sheet Metal	$46.15	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Shipwright	$44.95	7X	4J	
King	Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	$45.06	7Y	4K	
King	Sign Makers & Installers (Electrical)	Journey Level	$49.44		0	1
King	Sign Makers & Installers (Non-Electrical)	Journey Level	$31.96		0	1
King	Soft Floor Layers	Journey Level	$51.07	5A	3J	
King	Solar Controls For Windows	Journey Level	$13.50			1
King	Sprinkler Fitters (Fire Protection)	Journey Level	$82.39	5C	1X	
King	Stage Rigging Mechanics (Non Structural)	Journey Level	$13.50			1
King	Stone Masons	Journey Level	$58.82	5A	1M	
King	Street And Parking Lot Sweeper Workers	Journey Level	$19.09			1
King	Surveyors	Assistant Construction Site Surveyor	$68.02	7A	3K	8X
King	Surveyors	Chainman	$65.05	7A	3K	8X
King	Surveyors	Construction Site Surveyor	$69.16	7A	3K	8X
King	Telecommunication Technicians	Journey Level	$53.57	7E	1E	
King	Telephone Line Construction - Outside	Cable Splicer	$41.81	5A	2B	
King	Telephone Line Construction - Outside	Hole Digger/Ground Person	$23.53	5A	2B	
King	Telephone Line Construction - Outside	Installer (Repairer)	$40.09	5A	2B	
King	Telephone Line Construction - Outside	Special Aparatus Installer I	$41.81	5A	2B	
King	Telephone Line Construction - Outside	Special Apparatus Installer II	$40.99	5A	2B	
King	Telephone Line Construction - Outside	Telephone Equipment Operator (Heavy)	$41.81	5A	2B	
King	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	$38.92	5A	2B	
King	Telephone Line Construction - Outside	Telephone Lineperson	$38.92	5A	2B	
King	Telephone Line Construction - Outside	Television Groundperson	$22.32	5A	2B	
King	Telephone Line Construction - Outside	Television Lineperson/Installer	$29.60	5A	2B	
King	Telephone Line Construction - Outside	Television System Technician	$35.20	5A	2B	
King	Telephone Line Construction - Outside	Television Technician	$31.67	5A	2B	
King	Telephone Line Construction - Outside	Tree Trimmer	$38.92	5A	2B	
King	Terrazzo Workers	Journey Level	$54.06	5A	1M	
King	Tile Setters	Journey Level	$54.06	5A	1M	
King	Tile, Marble & Terrazzo Finishers	Finisher	$44.89	5A	1B	
King	Traffic Control Stripers	Journey Level	$47.68	7A	1K	
King	Truck Drivers	Asphalt Mix Over 16 Yards	$61.59	5D	4Y	8L
King	Truck Drivers	Asphalt Mix To 16 Yards	$60.75	5D	4Y	8L
King	Truck Drivers	Dump Truck	$60.75	5D	4Y	8L
King	Truck Drivers	Dump Truck & Trailer	$61.59	5D	4Y	8L
King	Truck Drivers	Other Trucks	$61.59	5D	4Y	8L
King	Truck Drivers - Ready Mix	Transit Mix	$61.59	5D	4Y	8L
King	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	$17.71			1
King	Well Drillers & Irrigation Pump Installers	Oiler	$13.50			1
King	Well Drillers & Irrigation Pump Installers	Well Driller	$18.00			1

APPENDIX E

REQUIRED CONTRACT PROVISIONS, FEDERAL AID CONTRACTS

City of Kirkland

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

APPENDIX F

SOIL ANALYTICAL TEST RESULTS

City of Kirkland

Surface Soil Sample SS-2		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Diesel	150 mg/kg
0 to 0.25 feet bgs	Lube Oil	820 mg/kg
0 to 0.25 feet bgs	cPAHs	0.071 mg/kg
0 to 0.25 feet bgs	Heptachlor	2.1 mg/kg
0 to 0.25 feet bgs	TCLP Heptachlor	ND
0 to 0.25 feet bgs	alpha-Chlordane	0.091 mg/kg
0 to 0.25 feet bgs	Endosulfan Sulfate	0.08 mg/kg
0 to 0.25 feet bgs	Lead	36 mg/kg

Surface Soil Sample SS-3		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Heptachlor	0.22 mg/kg
0 to 0.25 feet bgs	TCLP Heptachlor	ND
0 to 0.25 feet bgs	alpha-Chlordane	0.043 mg/kg

Surface Soil Sample SS-1		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	cPAHs	0.026 mg/kg
0 to 0.25 feet bgs	Heptachlor	2 mg/kg
0 to 0.25 feet bgs	TCLP Heptachlor	ND
0 to 0.25 feet bgs	alpha-Chlordane	0.27 mg/kg
0 to 0.25 feet bgs	Endosulfan Sulfate	0.11 mg/kg

SS-1 SS-2 SS-3 SS-4 SS-5 SS-6 SS-7 SS-8 SS-9 SS-10 SS-11 SS-12 SS-13 SS-14 SS-15

MATCHLINE (SEE FIGURE 2B)

Surface Soil Sample SS-8		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Lube oil	79 mg/kg

Surface Soil Sample SS-6		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Heptachlor	0.32 mg/kg
0 to 0.25 feet bgs	TCLP Heptachlor	0.083 µg/L
0 to 0.25 feet bgs	alpha-Chlordane	0.029 mg/kg
0 to 0.25 feet bgs	Endosulfan Sulfate	0.015 mg/kg

Surface Soil Sample SS-15		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Lube oil	670 mg/kg
0 to 0.25 feet bgs	Heptachlor	0.023 mg/kg

Abbreviations

MTCA = Model Toxics Control Act
bgs = below ground surface
cPAHS = carcinogenic polycyclic aromatic hydrocarbons
COC = chemical of concern
mg/kg = milligram per kilogram
µg/L – micrograms per Liter
TTEC = Total Toxic Equivalent Concentration
ULU = Unrestricted Land Use
ND = Not Detected

Soil Results

Chemical analytical data are shown if detected for diesel- and lube-oil range petroleum hydrocarbons, cPAHs, heptachlor, alpha-chlorodane, and endosulfan sulfate. Other analytes not shown were either not detected or detected at concentrations less than the relevant MTCA Screening levels.

Environmental Explorations

SS-1 ◉ Surface Soil Sample

MTCA Cleanup Levels

Diesel = 2,000 mg/kg (Method A ULU)
Lube Oil = 2,000 mg/kg (Method A ULU)
cPAHs = 0.1 TTEC (Method A ULU)
Heptachlor = 0.22 mg/kg (Method B)
alpha-Chlordane = 2.86 mg/kg (Method B)
Endosulfan Sulfate = 480 mg/kg (Method B)

30 0 30
Feet

Data Source: Background from COWI North America, Inc. dated 11/07/17.

Vertical Datum: NAVD 88.

Projection: NAD83 (HARN) Washington State Planes, North Zone, US Foot.

Site Plan and Environmental Soil Sample Results

Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure 2A

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Boring B-10		
Sample Depth	COC	Concentration
5 feet bgs	cPAHs	0.002 mg/kg

Boring B-11		
5 feet bgs	cPAHs	0.013 mg/kg
10 feet bgs	cPAHs	0.009 mg/kg

Boring B-12		
Sample Depth	COC	Concentration
5 feet bgs	cPAHs	0.032 mg/kg

Surface Soil Sample SS-17		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Lube oil	530 mg/kg

B-9 SS-16 B-10 SS-17 B-11 SS-18 B-12 SS-19

NE 124th Street

Totem Lake Blvd NE

MATCHLINE (SEE FIGURE 2B)

MATCHLINE (SEE FIGURE 2C)

Abbreviations

MTCA = Model Toxics Control Act
bgs = below ground surface
cPAHS = carcinogenic polycyclic aromatic hydrocarbons
COC = chemical of concern
mg/kg = milligram per kilogram
µg/L – micrograms per Liter
TTEC = Total Toxic Equivalent Concentration
ULU = Unrestricted Land Use
ND = Not Detected

Soil Results

Chemical analytical data are shown if detected for diesel- and lube-oil range petroleum hydrocarbons, cPAHs, heptachlor, alpha-chlorodane, and endosulfan sulfate. Other analytes not shown were either not detected or detected at concentrations less than the relevant MTCA Screening levels.

Environmental Explorations

SS-16 Surface Soil Sample

B-9 Soil Boring

MTCA Cleanup Levels

Diesel = 2,000 mg/kg (Method A ULU)
Lube Oil = 2,000 mg/kg (Method A ULU)
cPAHs = 0.1 TTEC (Method A ULU)
Heptachlor = 0.22 mg/kg (Method B)
alpha-Chlordane = 2.86 mg/kg (Method B)
Endosulfan Sulfate = 480 mg/kg (Method B)

Data Source: Background from COWI North America, Inc. dated 11/07/17.

Vertical Datum: NAVD 88.

Projection: NAD83 (HARN) Washington State Planes, North Zone, US Foot.

Site Plan and Environmental Soil Sample Results

Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure 2B

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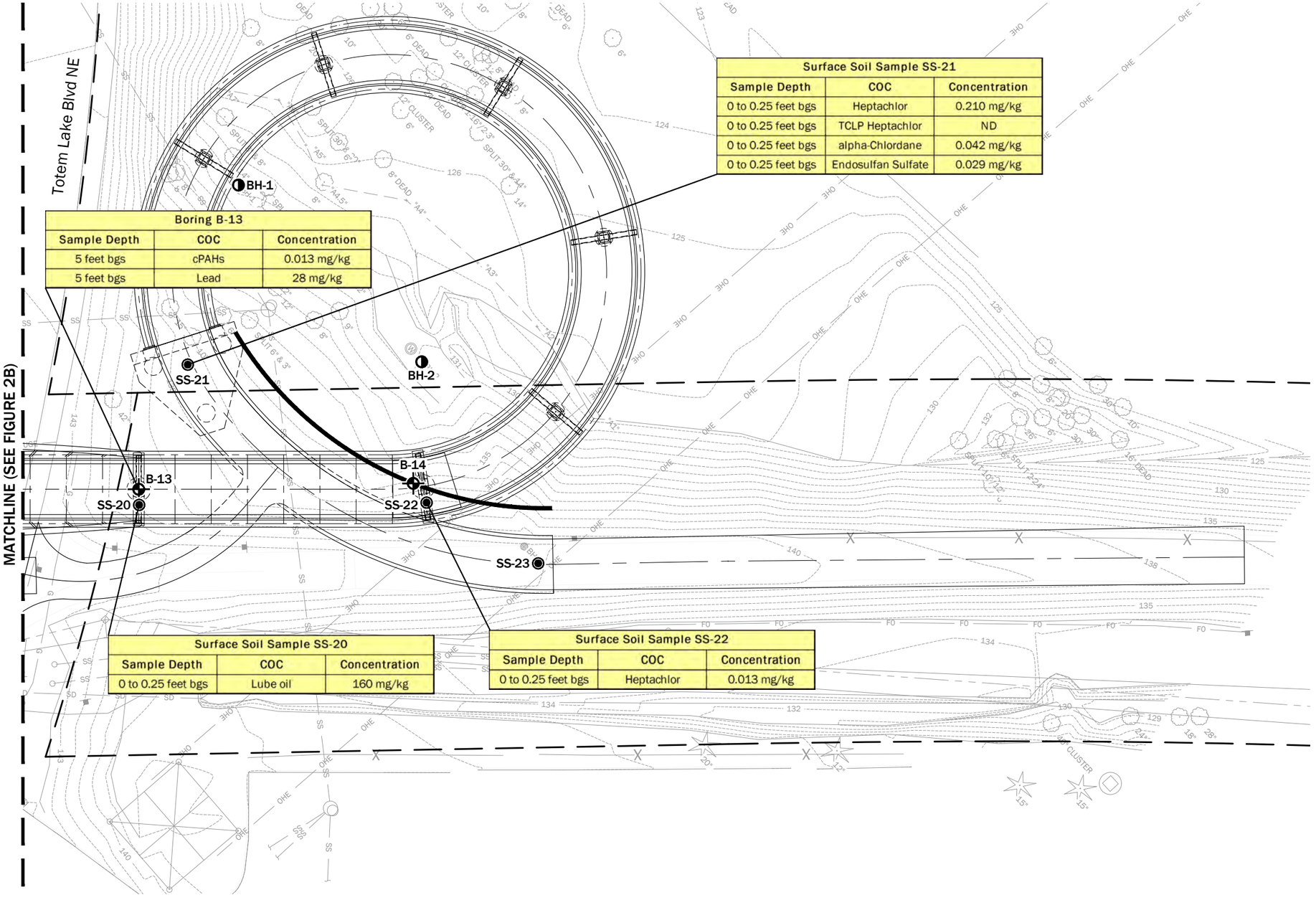

Surface Soil Sample SS-21		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Heptachlor	0.210 mg/kg
0 to 0.25 feet bgs	TCLP Heptachlor	ND
0 to 0.25 feet bgs	alpha-Chlordane	0.042 mg/kg
0 to 0.25 feet bgs	Endosulfan Sulfate	0.029 mg/kg

Boring B-13		
Sample Depth	COC	Concentration
5 feet bgs	cPAHs	0.013 mg/kg
5 feet bgs	Lead	28 mg/kg

Surface Soil Sample SS-20		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Lube oil	160 mg/kg

Surface Soil Sample SS-22		
Sample Depth	COC	Concentration
0 to 0.25 feet bgs	Heptachlor	0.013 mg/kg

Soil Results

Chemical analytical data are shown if detected for diesel- and lube-oil range petroleum hydrocarbons, cPAHs, heptachlor, alpha-chlorodane, and endosulfan sulfate. Other analytes not shown were either not detected or detected at concentrations less than the relevant MTCA Screening levels.

Environmental Explorations

SS-20 Surface Soil Sample

B-13 Soil Boring

BH-1 Monitoring Well

MTCA Cleanup Levels

Diesel = 2,000 mg/kg (Method A ULU)
Lube Oil = 2,000 mg/kg (Method A ULU)
cPAHs = 0.1 TTEC (Method A ULU)
Heptachlor = 0.22 mg/kg (Method B)
alpha-Chlordane = 2.86 mg/kg (Method B)
Endosulfan Sulfate = 480 mg/kg (Method B)

Abbreviations

MTCA = Model Toxics Control Act
bgs = below ground surface
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COC = chemical of concern
mg/kg = milligram per kilogram
µg/L – micrograms per Liter
TTEC = Total Toxic Equivalent Concentration
ULU = Unrestricted Land Use
ND = Not Detected

Data Source: Background from COWI North America, Inc. dated 11/07/17.

Vertical Datum: NAVD 88.

Projection: NAD83 (HARN) Washington State Planes, North Zone, US Foot.

30 0 30
Feet

Site Plan and Environmental Soil Sample Results

Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure 2C

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Table 1

Soil Chemical Analytical Results[1]

Petroleum Hydrocarbons and Metals

Totem Lake Connector
Kirkland, Washington

Exploration Identification	Sample Identification[2]	Sample Date	Sample Depth (feet bgs)	Approximate Sample Elevation (NAVD88)[3]	Field Screening Results[4]		Total Petroleum Hydrocarbons (mg/kg)					Metals[7] (mg/kg)							
							NWTPH-HCID[5]			NWTPH-Dx[6]									
					Headspace Vapors (ppm)	Sheen	Gasoline-Range	Diesel-Range	Lube-Oil Range	Diesel-Range	Lube Oil-Range	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
B-9	B-9-05	10/10/2017	5	143	<1	NS	ND	ND	ND	--	--	11 U	**70**	0.53 U	**32**	5.3 U	0.27 U	11 U	1.1 U
	B-9-15	10/10/2017	15	133	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
B-10	B-10-5.0	10/10/2017	5	140	<1	SS	ND	ND	ND	--	--	12 U	**100**	0.58 U	**21**	**7.1**	0.29 U	12 U	1.2 U
	B-10-20.0	10/10/2017	20	125	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
B-11	B-11-5.0	10/9/2017	5	139	<1	NS	ND	ND	ND	--	--	11 U	**86**	0.55 U	**30**	**17**	0.28 U	11 U	1.1 U
	B-11-10.0	10/9/2017	10	134	<1	NS	ND	ND	ND	--	--	11 U	**69**	0.56 U	**24**	**7.9**	0.28 U	11 U	1.1 U
B-12	B-12-5.0	10/9/2017	5	140	<1	NS	ND	ND	ND	--	--	12 U	**130**	0.58 U	**24**	**23**	0.29 U	12 U	1.2 U
	B-12-15.0	10/9/2017	15	130	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
B-13	B-13-05	10/16/2017	5	135	<1	NS	ND	ND	ND	--	--	11 U	**95**	0.54 U	**30**	**28**	0.27 U	11 U	1.1 U
	B-13-10	10/16/2017	10	130	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
B-14	B-14-05	10/16/2017	5	131	<1	NS	ND	ND	ND	--	--	10 U	**59**	0.52 U	**20**	5.2 U	0.26 U	10 U	1.0 U
	B-14-10	10/16/2017	10	126	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-1		10/9/2017	0.25	156	<1	NS	ND	ND	ND	--	--	14 U	**100**	0.68 U	**32**	**15**	0.34 U	14 U	1.4 U
SS-2		10/9/2017	0.25	154	<1	NS	ND	**DET**	**DET**	**150**	**820**	13 U	**96**	0.63 U	**23**	**36**	0.32 U	13 U	1.3 U
SS-3		2/21/2018	0.25	156	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-4		2/21/2018	0.25	152	<1	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-5		2/21/2018	0.25	156	1.0	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-6		2/21/2018	0.25	152	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-7		2/21/2018	0.25	149	2.0	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-8		2/21/2018	0.25	150	<1	NS	ND	ND	**DET**	36 U	**79**	--	--	--	--	--	--	--	--
SS-9		2/21/2018	0.25	150	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-10		2/21/2018	0.25	149	1.8	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-11		2/21/2018	0.25	148	3.2	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-12		2/21/2018	0.25	150	1.2	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-13		2/21/2018	0.25	148	1.1	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-14		2/21/2018	0.25	147	<1	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-15		2/21/2018	0.25	146	<1	NS	ND	ND	**DET**	170 U	**670**	--	--	--	--	--	--	--	--
SS-16		2/21/2018	0.25	148	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-17		2/21/2018	0.25	145	1.3	NS	ND	ND	**DET**	150 U	**530**	--	--	--	--	--	--	--	--
SS-18		2/21/2018	0.25	144	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-19		2/21/2018	0.25	145	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-20		2/21/2018	0.25	140	<1	SS	ND	ND	**DET**	30 U	**160**	--	--	--	--	--	--	--	--
SS-21		2/21/2018	0.25	137	<1	NS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-22		2/21/2018	0.25	138	<1	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
SS-23		2/21/2018	0.25	141	2.4	SS	ND	ND	ND	--	--	--	--	--	--	--	--	--	--
MTCA Method A or B Cleanup Level [8]							30/100[9]	2,000	2,000	2,000		20	16,000	2	2,000[10]	250	2	400	400
Naturally Occurring Background Metals in Puget Sound Soils[11]												7	NE	1	48	24	0.07	NE	NE

Notes on Page 2

Notes:

[1] Chemical analyses performed by OnSite Environmental of Redmond, Washington. Chemical analytical laboratory reports are included in Appendix B.

[2] Sample ID for Borings = Boring Number-depth of sample [feet bgs], Boring 9 collected at 5 feet bgs = B-9-05
Sample ID for surface soil samples = surface sample-number (surface samples collected from ground surface to approximately 3 inches below ground surface).

[3] Approximate sample elevation estimated from elevations presented on project survey maps provided by COWI.

[4] Field screening methods are described in Appendix A.

[5] Northwest method NWTPH-HCID.

[6] Northwest method NWTPH-Dx

[7] Metals analyzed by U.S. Environmental Protection Agency (EPA) Method 6010C/7471B.

[8] MTCA Method A cleanup levels shown if established. Method B cleanup level shown if no Method A cleanup level is established. The MTCA Method B cleanup level shown is the lowest for either carcinogen or non-carcinogen, based on direct contact.

[9] Cleanup level when benzene is not present.

[10] MTCA Method A cleanup level for Trivalent Chromium.

[11] Based on Ecology's 1994 publication: Natural Background Soil Metals Concentrations in Washington State

bgs = below ground surface

mg/kg = milligrams per kilogram

MTCA = Model Toxics Control Act

DET = analyte detected above reporting limit

NE = Not Established

NS = No sheen

SS = Slight sheen

-- = Not analyzed

ND = Not Detected

U = Analyte was not detected at or greater than the listed reporting limit

Bolded value indicates analyte detected at the concentration shown.

Table 2

Soil Chemical Analytical Results[1]

Semivolatile Organic Compounds (SVOCs)

Totem Lake Connector

Kirkland, Washington

Exploration Identification	Sample Identification	Sample Date	Sample Depth (feet bgs)	Semivolatile Organic Compounds[2,3] (mg/kg)																			
				PAHs/SVOCs													cPAHs							
				Phenol	Benzyl alcohol	Naphthalene	2-Methyl naphthalene	1-Methyl naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo[g,h,i]perylene	Benzo[a]anthracene (TEF = 0.1)	Chrysene (TEF = 0.01)	Benzo[b]fluoranthene (TEF = 0.1)	Benzo(j,k)fluoranthene (TEF = 0.1)	Benzo[a]pyrene (TEF = 1)	Indeno[1,2,3-cd]pyrene (TEF = 0.1)	Dibenz[a,h]anthracene (TEF = 0.1)	TEC of cPAHs (detects only)
B-9	B-9-05	10/10/2017	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	–
	B-9-15	10/10/2017	15	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
B-10	B-10-5.0	10/10/2017	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.011**	**0.010**	**0.0096**	ND	**0.0078**	**0.013**	ND	ND	**0.0086**	ND	**0.002**
	B-10-20.0	10/10/2017	20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
B-11	B-11-5.0	10/9/2017	5	ND	ND	ND	ND	ND	ND	ND	ND	**0.011**	ND	**0.015**	**0.015**	**0.0092**	**0.0086**	**0.011**	**0.015**	ND	**0.0098**	**0.0094**	ND	**0.013**
	B-11-10.0	10/9/2017	10	ND	ND	ND	ND	ND	ND	ND	ND	**0.0078**	ND	**0.010**	**0.010**	**0.0075**	ND	**0.0079**	**0.0099**	ND	**0.0076**	ND	ND	**0.009**
B-12	B-12-5.0	10/9/2017	5	ND	ND	**0.016**	**0.018**	**0.016**	ND	ND	ND	**0.036**	ND	**0.044**	**0.041**	**0.019**	**0.023**	**0.028**	**0.037**	**0.0090**	**0.023**	**0.021**	ND	**0.032**
	B-12-15.0	10/9/2017	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B-13	B-13-05	10/16/2017	5	ND	ND	**0.0074**	**0.011**	**0.0095**	ND	ND	ND	**0.013**	ND	**0.017**	**0.016**	**0.011**	**0.0078**	**0.012**	**0.017**	ND	**0.0098**	**0.010**	ND	**0.013**
	B-13-10	10/16/2017	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B-14	B-14-05	10/16/2017	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	–
	B-14-10	10/16/2017	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SS-1		10/9/2017	0.25	**0.55**	**27**	ND	ND	ND	**0.020**	**0.012**	**0.014**	**0.20**	ND	**0.32**	**0.26**	**0.015**	**0.011**	**0.026**	**0.019**	ND	**0.021**	**0.014**	ND	**0.026**
SS-2		10/9/2017	0.25	**0.28**	**14**	**0.061**	**0.079**	**0.045**	**0.047**	ND	**0.0089**	**0.068**	**0.087**	**0.11**	**0.092**	**0.053**	**0.050**	**0.092**	**0.11**	**0.018**	**0.045**	**0.061**	**0.0085**	**0.071**
MTCA Method A or B Cleanup Level[4]				24,000	8,000	5[5]			4,800	NE	3,200	NE	24,000	3,200	2,400	NE								0.1

Notes:

[1] Chemical analyses performed by OnSite Environmental of Redmond, Washington. Chemical analytical laboratory reports are included in Appendix B.

[2] Analytes detected in one or more samples are shown. Remaining analytes were not detected. Refer to chemical analytical report in Appendix B for complete list of method analytes and detection limits.

[3] Semivolatiles analyzed by U.S. Environmental Protection Agency (EPA) Method 8270D/SIM.

[4] MTCA Method A cleanup levels shown if established. Method B cleanup level shown if no Method A cleanup level is established. The MTCA Method B cleanup level shown is the lowest for either carcinogen or non-carcinogen, based on direct contact.

[5] Cleanup level based on a total value for naphthalene, 1-methyl naphthalene, and 2-methyl naphthalene.

bgs = below ground surface

mg/kg = milligrams per kilogram

MTCA = Model Toxics Control Act

NE = Not Established

ND = Not Detected above laboratory reporting limits

-- = Not analyzed

Bolded value indicates analyte detected at the concentration shown.

TEF = Toxicity Equivalency Factor as defined in WAC 173-340-900 Table 708-2

Total Toxic Equivalent Concentration (TTEC) is the sum of each individual cPAH concentration multiplied by its corresponding TEF.

Table 3

Soil Chemical Analytical Results[1]

Organochlorine Pesticides and Chlorinated Acid Herbicides

Totem Lake Connector

Kirkland, Washington

Sample Identification	Sample Date	Sample Depth (feet bgs)	Organochlorine Pesticides[2,3] (mg/kg)			TCLP Organochlorine Pesticides (µg/L)	Chlorinated Acid Herbicides[2,4] (mg/kg)	
			Heptachlor	alpha-Chlordane	Endosulfan Sulfate	TCLP Hetachlor	MCPP	MCPA
SS-1	10/9/2017	0.25	**2.0**	**0.27**	**0.110**	0.050 U	1.3 U	1.3 U
SS-2	10/9/2017	0.25	**2.1**	**0.091**	**0.080**	0.050 U	1.2 U	1.2 U
SS-3	2/21/2018	0.25	**0.22**	**0.043**	0.015 U	0.050 U	--	--
SS-4	2/21/2018	0.25	0.0057 U	0.011 U	0.011 U	--	--	--
SS-5	2/21/2018	0.25	0.0055 U	0.011 U	0.011 U	--	--	--
SS-6	2/21/2018	0.25	**0.32**	**0.029**	**0.015**	**0.083**	--	--
SS-7	2/21/2018	0.25	0.0054 U	0.011 U	0.011 U	--	--	--
SS-8	2/21/2018	0.25	0.0072 U	0.014 U	0.014 U	--	--	--
SS-9	2/21/2018	0.25	0.0065 U	0.013 U	0.013 U	--	--	--
SS-10	2/21/2018	0.25	0.0053 U	0.011 U	0.011 U	--	--	--
SS-11	2/21/2018	0.25	0.0059 U	0.012 U	0.012 U	--	--	--
SS-12	2/21/2018	0.25	0.0054 U	0.011 U	0.011 U	--	--	--
SS-13	2/21/2018	0.25	0.0058 U	0.012 U	0.012 U	--	--	--
SS-14	2/21/2018	0.25	0.0060 U	0.012 U	0.012 U	--	--	--
SS-15	2/21/2018	0.25	**0.023**	0.014 U	0.014 U	--	--	--
SS-16	2/21/2018	0.25	0.0070 U	0.014 U	0.014 U	--	--	--
SS-17	2/21/2018	0.25	0.0060 U	0.012 U	0.012 U	--	--	--
SS-18	2/21/2018	0.25	0.0069 U	0.014 U	0.014 U	--	--	--
SS-19	2/21/2018	0.25	0.0071 U	0.014 U	0.014 U	--	--	--
SS-20	2/21/2018	0.25	0.0057 U	0.011 U	0.011 U	--	--	--
SS-21	2/21/2018	0.25	**0.210**	**0.042**	**0.029**	0.050 U	--	--
SS-22	2/21/2018	0.25	**0.013**	0.012 U	0.012 U	--	--	--
SS-23	2/21/2018	0.25	0.0053 U	0.011 U	0.011 U	--	--	--
MTCA Method B Cleanup Level[5]			0.22	2.86	480	NA[6]	80	40

Notes:

[1] Chemical analyses performed by OnSite Environmental of Redmond, Washington. Chemical analytical laboratory reports are included in Appendix B.

[2] Analytes detected in one or more samples are shown. Remaining analytes were not detected. Refer to chemical analytical report in Appendix B for complete list of method analytes and detection limits.

[3] Organochlorine Pesticides analyzed by EPA Method 8081B with TCLP follow up by EPA Method 1311.

[4] Chlorinated Acid Herbicides analyzed by EPA Method 8151A.

[5] MTCA Method B cleanup level for direct contact is presented because MTCA Method A cleanup level has not been established; the cleanup level shown is the lowest for either carcinogen or non-carcinogen, based on direct contact.

[6] Dangerous waste threshold is 8 ug/L.

bgs = below ground surface

mg/kg = milligrams per kilogram

µg/L = micrograms per Liter

MTCA = Model Toxics Control Act

NA = Not available

ND = Not Detected

-- = Not analyzed

Bolded value indicates analyte detected at the concentration shown.

Table 4

Groundwater Chemical Analytical Results[1]

Petroleum Hydrocarbons and Volatile Organic Compounds (VOCs)

Totem Lake Connector

Kirkland, Washington

Sample Identification	Sample Date	Petroleum Hydrocarbons[2] (µg/L)			VOCs[3,4] (µg/L)			
		Gasoline Range	Diesel Range	Lube Oil Range	Benzene	Toluene	Ethylbenzene	Xylenes
B-10	10/10/2017	ND	ND	ND	--	--	--	--
BH-2	10/10/2017	ND	ND	ND	0.20 U	1.0 U	0.20 U	0.40 U
BH-4	10/10/2017	ND	ND	ND	--	--	--	--
MTCA Method A Cleanup Level		1,000[5]	500	500	5	1,000	700	1,000

Notes:

[1] Chemical analyses performed by OnSite Environmental of Redmond, Washington. Chemical analytical laboratory reports are included in Appendix B.

[2] Total Petroleum Hydrocarbons analyzed by Northwest Method NWTPH-HCID.

[3] VOCs analyzed by U.S. Environmental Protection Agency (EPA) Method 8260C.

[4] BTEX results are shown. Refer to chemical analytical report in Appendix B for complete list of method analytes and detection limits.

[5] Cleanup level when benzene is not present.

MTCA = Model Toxics Control Act

VOCs = Volatile Organic Compounds

µg/L = micrograms per liter

-- = Not analyzed

APPENDIX B
CHEMICAL ANALYTICAL DATA

Analytical Methods

Chain-of-custody procedures were followed during the transport of the soil and groundwater samples to the analytical laboratory. The samples were held in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference and laboratory quality control (QC) records are included in this appendix. The analytical results are also summarized in the text and tables of this report.

Analytical Data Review

The laboratory maintains an internal quality assurance program as documented in its laboratory quality assurance manual. The laboratory uses a combination of blanks, surrogate recoveries, duplicates, matrix spike recoveries, matrix spike duplicate recoveries, blank spike recoveries and blank spike duplicate recoveries to evaluate the validity of the analytical results. The laboratory also uses data quality goals for individual chemicals or groups of chemicals based on the long-term performance of the test methods. The data quality goals were included in the laboratory reports. The laboratory compared each group of samples with the existing data quality goals and noted any exceptions in the laboratory report. Data quality exceptions documented by the accredited laboratory were reviewed by GeoEngineers and are addressed in the data quality exception section of this appendix.

Analytical Data Review Summary

Following data quality exceptions were noted in the laboratory reports during our review.

- Semivolatiles EPA 8270D/SIM Analysis: Sample SS-2 had one surrogate recovery out of control limits. This was within allowance of the laboratory's standard operating procedure.
- Negative effects of the matrix from samples SS-2, -6, -8, -15, -16, -17, -19, -20, -21, and -22 on the instrument caused values for 4,4-'DDT, Endrin Aldehyde, and/or Methoxychlor in the continuing calibration verification standards to be low. Therefore, values can be greater than reported.
- TCLP Organochlorine Pesticides Analysis, samples SS-1 and SS-2: The percent recovery value for Endrin Aldehyde was below the quality control limits of 50-100% in the spike blank and spike blank duplicate. Due to the fact that the sample was non-detect for this analyte and all other QC was within quality control limits, no further action was performed by the laboratory.
- The duplicate RPD for chromium is outside control limits due to sample inhomogeneity for samples B-9-05 and B-10-5.0. The sample was re-extracted and re-analyzed with similar results.

Based on our data quality review, it is our opinion that the laboratory data qualifiers listed for the samples above are not significant with regard to the use of the data for characterization purposes. The samples/results were considered of acceptable quality for their intended use in this report.

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 18, 2017

Jacob Letts
GeoEngineers, Inc.
600 Stewart, Suite 1700
Seattle, WA 98101-1233

Re: Analytical Data for Project 0231-090-01
Laboratory Reference No. 1710-102

Dear Jacob:

Enclosed are the analytical results and associated quality control data for samples submitted on October 9, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

Case Narrative

Samples were collected on October 9, 2017 and received by the laboratory on October 9, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Semivolatiles EPA 8270D/SIM Analysis

Sample SS-2 had one surrogate recovery out of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

Organochlorine Pesticides by EPA 8081B Analysis

Due to matrix interference, the surrogate recovery for DCB in the sample SS-2 (293%) was above the quality control limits of 53-122%.

Due to negative effects of the matrix from the samples on the instrument, values for 4,4'-DDT and Methoxychlor in the closing continuing calibration verification standards (CCVs) were low. Therefore, values can be greater than reported. Since the degradation of the CCV standards was reproducible after re-injecting the sample extracts, the CCV degradation problem was attributed to the matrix of these samples. No further action was performed.

Total Metals EPA 6010C/7471B Analysis

The duplicate RPD for Chromium is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
B-11-5.0	10-102-01	Soil	10-9-17	10-9-17	
B-11-10.0	10-102-02	Soil	10-9-17	10-9-17	
SS-1	10-102-03	Soil	10-9-17	10-9-17	
SS-2	10-102-04	Soil	10-9-17	10-9-17	
B-12-5.0	10-102-05	Soil	10-9-17	10-9-17	
B-12-15.0	10-102-06	Soil	10-9-17	10-9-17	

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11-5.0**					
Laboratory ID:	10-102-01					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	55	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**B-11-10.0**					
Laboratory ID:	10-102-02					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	56	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				
Client ID:	**SS-1**					
Laboratory ID:	10-102-03					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	68	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*64*	*50-150*				
Client ID:	**SS-2**					
Laboratory ID:	10-102-04					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	63	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**Detected**	130	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*80*	*50-150*				
Client ID:	**B-12-5.0**					
Laboratory ID:	10-102-05					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	58	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12-15.0**					
Laboratory ID:	10-102-06					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	61	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-2**					
Laboratory ID:	10-102-04					
Diesel Range Organics	**150**	32	NWTPH-Dx	10-16-17	10-17-17	
Lube Oil Range Organics	**820**	63	NWTPH-Dx	10-16-17	10-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11-5.0**					
Laboratory ID:	10-102-01					
n-Nitrosodimethylamine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Pyridine	**ND**	0.37	EPA 8270D	10-10-17	10-11-17	
Phenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Aniline	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
bis(2-Chloroethyl)ether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Chlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,3-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,4-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Benzyl alcohol	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
1,2-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Methylphenol (o-Cresol)	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
bis(2-Chloroisopropyl)ether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
n-Nitroso-di-n-propylamine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Hexachloroethane	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Nitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Isophorone	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Nitrophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4-Dimethylphenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
bis(2-Chloroethoxy)methane	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4-Dichlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,2,4-Trichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Naphthalene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
4-Chloroaniline	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
Hexachlorobutadiene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
4-Chloro-3-methylphenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Methylnaphthalene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
1-Methylnaphthalene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Hexachlorocyclopentadiene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4,6-Trichlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,3-Dichloroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4,5-Trichlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Chloronaphthalene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,4-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Dimethylphthalate	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,3-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,6-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,2-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Acenaphthylene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
3-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	

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Laboratory Reference: 1710-102
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11-5.0**					
Laboratory ID:	10-102-01					
2,4-Dinitrophenol	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
Acenaphthene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
4-Nitrophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Dibenzofuran	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Diethylphthalate	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
4-Chlorophenyl-phenylether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
4-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Fluorene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
4,6-Dinitro-2-methylphenol	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
n-Nitrosodiphenylamine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,2-Diphenylhydrazine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
4-Bromophenyl-phenylether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Hexachlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Pentachlorophenol	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
Phenanthrene	**0.011**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Anthracene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Carbazole	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Di-n-butylphthalate	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
Fluoranthene	**0.015**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzidine	**ND**	0.37	EPA 8270D	10-10-17	10-11-17	
Pyrene	**0.015**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Butylbenzylphthalate	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
bis-2-Ethylhexyladipate	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
3,3'-Dichlorobenzidine	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
Benzo[a]anthracene	**0.0086**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Chrysene	**0.011**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
Di-n-octylphthalate	**ND**	0.18	EPA 8270D	10-10-17	10-11-17	
Benzo[b]fluoranthene	**0.015**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo(j,k)fluoranthene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[a]pyrene	**0.0098**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Indeno[1,2,3-cd]pyrene	**0.0094**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Dibenz[a,h]anthracene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[g,h,i]perylene	**0.0092**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*48*	*18 - 109*				
Phenol-d6	*52*	*25 - 111*				
Nitrobenzene-d5	*57*	*22 - 113*				
2-Fluorobiphenyl	*64*	*30 - 114*				
2,4,6-Tribromophenol	*63*	*22 - 116*				
Terphenyl-d14	*62*	*33 - 114*				

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11-10.0**					
Laboratory ID:	10-102-02					
n-Nitrosodimethylamine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Pyridine	**ND**	0.37	EPA 8270D	10-10-17	10-11-17	
Phenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Aniline	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
bis(2-Chloroethyl)ether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Chlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,3-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,4-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Benzyl alcohol	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
1,2-Dichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Methylphenol (o-Cresol)	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
bis(2-Chloroisopropyl)ether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
n-Nitroso-di-n-propylamine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Hexachloroethane	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Nitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Isophorone	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Nitrophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4-Dimethylphenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
bis(2-Chloroethoxy)methane	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4-Dichlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,2,4-Trichlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Naphthalene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
4-Chloroaniline	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
Hexachlorobutadiene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
4-Chloro-3-methylphenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Methylnaphthalene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
1-Methylnaphthalene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Hexachlorocyclopentadiene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4,6-Trichlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,3-Dichloroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4,5-Trichlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Chloronaphthalene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,4-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Dimethylphthalate	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,3-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,6-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,2-Dinitrobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Acenaphthylene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
3-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11-10.0**					
Laboratory ID:	10-102-02					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
Acenaphthene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
4-Nitrophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,4-Dinitrotoluene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Dibenzofuran	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Diethylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
4-Chlorophenyl-phenylether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
4-Nitroaniline	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Fluorene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
n-Nitrosodiphenylamine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
1,2-Diphenylhydrazine	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
4-Bromophenyl-phenylether	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Hexachlorobenzene	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Pentachlorophenol	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
Phenanthrene	**0.0078**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Anthracene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Carbazole	**ND**	0.037	EPA 8270D	10-10-17	10-11-17	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
Fluoranthene	**0.010**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzidine	**ND**	0.37	EPA 8270D	10-10-17	10-11-17	
Pyrene	**0.010**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Butylbenzylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
bis-2-Ethylhexyladipate	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
Benzo[a]anthracene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Chrysene	**0.0079**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
Di-n-octylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-11-17	
Benzo[b]fluoranthene	**0.0099**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo(j,k)fluoranthene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[a]pyrene	**0.0076**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Dibenz[a,h]anthracene	**ND**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[g,h,i]perylene	**0.0075**	0.0074	EPA 8270D/SIM	10-10-17	10-10-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*57*	*18 - 109*				
Phenol-d6	*61*	*25 - 111*				
Nitrobenzene-d5	*58*	*22 - 113*				
2-Fluorobiphenyl	*71*	*30 - 114*				
2,4,6-Tribromophenol	*71*	*22 - 116*				
Terphenyl-d14	*67*	*33 - 114*				

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-1**					
Laboratory ID:	10-102-03					
n-Nitrosodimethylamine	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Pyridine	**ND**	2.3	EPA 8270D	10-10-17	10-10-17	
Phenol	**0.55**	0.23	EPA 8270D	10-10-17	10-10-17	
Aniline	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethyl)ether	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2-Chlorophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
1,3-Dichlorobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
1,4-Dichlorobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Benzyl alcohol	**27**	11	EPA 8270D	10-10-17	10-11-17	
1,2-Dichlorobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2-Methylphenol (o-Cresol)	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroisopropyl)ether	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
n-Nitroso-di-n-propylamine	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Hexachloroethane	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Nitrobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Isophorone	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2-Nitrophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,4-Dimethylphenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethoxy)methane	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,4-Dichlorophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
1,2,4-Trichlorobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Naphthalene	**ND**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
4-Chloroaniline	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Hexachlorobutadiene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
4-Chloro-3-methylphenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2-Methylnaphthalene	**ND**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
1-Methylnaphthalene	**ND**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Hexachlorocyclopentadiene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,4,6-Trichlorophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,3-Dichloroaniline	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,4,5-Trichlorophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2-Chloronaphthalene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2-Nitroaniline	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
1,4-Dinitrobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Dimethylphthalate	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
1,3-Dinitrobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,6-Dinitrotoluene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
1,2-Dinitrobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Acenaphthylene	**0.020**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
3-Nitroaniline	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	

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Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-1**					
Laboratory ID:	10-102-03					
2,4-Dinitrophenol	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Acenaphthene	**0.012**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
4-Nitrophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,4-Dinitrotoluene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Dibenzofuran	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Diethylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
4-Chlorophenyl-phenylether	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
4-Nitroaniline	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Fluorene	**0.014**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
4,6-Dinitro-2-methylphenol	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
n-Nitrosodiphenylamine	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
1,2-Diphenylhydrazine	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
4-Bromophenyl-phenylether	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Hexachlorobenzene	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Pentachlorophenol	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Phenanthrene	**0.020**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Anthracene	**ND**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Carbazole	**ND**	0.23	EPA 8270D	10-10-17	10-10-17	
Di-n-butylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Fluoranthene	**0.032**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Benzidine	**ND**	2.3	EPA 8270D	10-10-17	10-10-17	
Pyrene	**0.026**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Butylbenzylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
bis-2-Ethylhexyladipate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
3,3'-Dichlorobenzidine	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Benzo[a]anthracene	**0.011**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Chrysene	**0.026**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
bis(2-Ethylhexyl)phthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Di-n-octylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Benzo[b]fluoranthene	**0.019**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Benzo(j,k)fluoranthene	**ND**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Benzo[a]pyrene	**0.021**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Indeno[1,2,3-cd]pyrene	**0.014**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Dibenz[a,h]anthracene	**ND**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Benzo[g,h,i]perylene	**0.015**	0.0091	EPA 8270D/SIM	10-10-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*23*	*18 - 109*				
Phenol-d6	*42*	*25 - 111*				
Nitrobenzene-d5	*46*	*22 - 113*				
2-Fluorobiphenyl	*52*	*30 - 114*				
2,4,6-Tribromophenol	*50*	*22 - 116*				
Terphenyl-d14	*48*	*33 - 114*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-2**					
Laboratory ID:	10-102-04					
n-Nitrosodimethylamine	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Pyridine	**ND**	2.1	EPA 8270D	10-10-17	10-10-17	
Phenol	**0.28**	0.21	EPA 8270D	10-10-17	10-10-17	
Aniline	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethyl)ether	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2-Chlorophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
1,3-Dichlorobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
1,4-Dichlorobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Benzyl alcohol	**14**	5.3	EPA 8270D	10-10-17	10-11-17	
1,2-Dichlorobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2-Methylphenol (o-Cresol)	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroisopropyl)ether	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
n-Nitroso-di-n-propylamine	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Hexachloroethane	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Nitrobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Isophorone	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2-Nitrophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,4-Dimethylphenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethoxy)methane	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,4-Dichlorophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
1,2,4-Trichlorobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Naphthalene	**0.061**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
4-Chloroaniline	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Hexachlorobutadiene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
4-Chloro-3-methylphenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2-Methylnaphthalene	**0.079**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
1-Methylnaphthalene	**0.045**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Hexachlorocyclopentadiene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,4,6-Trichlorophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,3-Dichloroaniline	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,4,5-Trichlorophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2-Chloronaphthalene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2-Nitroaniline	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
1,4-Dinitrobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Dimethylphthalate	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
1,3-Dinitrobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,6-Dinitrotoluene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
1,2-Dinitrobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Acenaphthylene	**0.047**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
3-Nitroaniline	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-2**					
Laboratory ID:	10-102-04					
2,4-Dinitrophenol	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Acenaphthene	**ND**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
4-Nitrophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,4-Dinitrotoluene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Dibenzofuran	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Diethylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
4-Chlorophenyl-phenylether	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
4-Nitroaniline	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Fluorene	**0.0089**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
4,6-Dinitro-2-methylphenol	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
n-Nitrosodiphenylamine	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
1,2-Diphenylhydrazine	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
4-Bromophenyl-phenylether	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Hexachlorobenzene	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Pentachlorophenol	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Phenanthrene	**0.068**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Anthracene	**0.087**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Carbazole	**ND**	0.21	EPA 8270D	10-10-17	10-10-17	
Di-n-butylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Fluoranthene	**0.11**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Benzidine	**ND**	2.1	EPA 8270D	10-10-17	10-10-17	
Pyrene	**0.092**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Butylbenzylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
bis-2-Ethylhexyladipate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
3,3'-Dichlorobenzidine	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Benzo[a]anthracene	**0.050**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Chrysene	**0.092**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
bis(2-Ethylhexyl)phthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Di-n-octylphthalate	**ND**	1.1	EPA 8270D	10-10-17	10-10-17	
Benzo[b]fluoranthene	**0.11**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Benzo(j,k)fluoranthene	**0.018**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Benzo[a]pyrene	**0.045**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Indeno[1,2,3-cd]pyrene	**0.061**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Dibenz[a,h]anthracene	**0.0085**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Benzo[g,h,i]perylene	**0.053**	0.0084	EPA 8270D/SIM	10-10-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*13*	*18 - 109*				Q
Phenol-d6	*27*	*25 - 111*				
Nitrobenzene-d5	*26*	*22 - 113*				
2-Fluorobiphenyl	*37*	*30 - 114*				
2,4,6-Tribromophenol	*36*	*22 - 116*				
Terphenyl-d14	*37*	*33 - 114*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12-5.0**					
Laboratory ID:	10-102-05					
n-Nitrosodimethylamine	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Pyridine	**ND**	0.39	EPA 8270D	10-10-17	10-10-17	
Phenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Aniline	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethyl)ether	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2-Chlorophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
1,3-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
1,4-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Benzyl alcohol	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
1,2-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2-Methylphenol (o-Cresol)	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroisopropyl)ether	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
n-Nitroso-di-n-propylamine	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Hexachloroethane	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Nitrobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Isophorone	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2-Nitrophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,4-Dimethylphenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethoxy)methane	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,4-Dichlorophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
1,2,4-Trichlorobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Naphthalene	**0.016**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
4-Chloroaniline	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
Hexachlorobutadiene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
4-Chloro-3-methylphenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2-Methylnaphthalene	**0.018**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
1-Methylnaphthalene	**0.016**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Hexachlorocyclopentadiene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,4,6-Trichlorophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,3-Dichloroaniline	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,4,5-Trichlorophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2-Chloronaphthalene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
1,4-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Dimethylphthalate	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
1,3-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,6-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
1,2-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Acenaphthylene	**ND**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
3-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-12-5.0**					
Laboratory ID:	10-102-05					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
Acenaphthene	**ND**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
4-Nitrophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,4-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Dibenzofuran	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Diethylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
4-Chlorophenyl-phenylether	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
4-Nitroaniline	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Fluorene	**ND**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
n-Nitrosodiphenylamine	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
1,2-Diphenylhydrazine	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
4-Bromophenyl-phenylether	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Hexachlorobenzene	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Pentachlorophenol	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
Phenanthrene	**0.036**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Anthracene	**ND**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Carbazole	**ND**	0.039	EPA 8270D	10-10-17	10-10-17	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
Fluoranthene	**0.044**	0.039	EPA 8270D	10-10-17	10-10-17	
Benzidine	**ND**	0.39	EPA 8270D	10-10-17	10-10-17	
Pyrene	**0.041**	0.039	EPA 8270D	10-10-17	10-10-17	
Butylbenzylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
bis-2-Ethylhexyladipate	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
Benzo[a]anthracene	**0.023**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Chrysene	**0.028**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
Di-n-octylphthalate	**ND**	0.19	EPA 8270D	10-10-17	10-10-17	
Benzo[b]fluoranthene	**0.037**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo(j,k)fluoranthene	**0.0090**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[a]pyrene	**0.023**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Indeno[1,2,3-cd]pyrene	**0.021**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[g,h,i]perylene	**0.019**	0.0077	EPA 8270D/SIM	10-10-17	10-10-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*31*	*18 - 109*				
Phenol-d6	*47*	*25 - 111*				
Nitrobenzene-d5	*46*	*22 - 113*				
2-Fluorobiphenyl	*58*	*30 - 114*				
2,4,6-Tribromophenol	*61*	*22 - 116*				
Terphenyl-d14	*61*	*33 - 114*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-1**					
Laboratory ID:	10-102-03					
alpha-BHC	**ND**	6.8	EPA 8081B	10-11-17	10-18-17	
gamma-BHC	**ND**	6.8	EPA 8081B	10-11-17	10-18-17	
beta-BHC	**ND**	6.8	EPA 8081B	10-11-17	10-18-17	
delta-BHC	**ND**	6.8	EPA 8081B	10-11-17	10-18-17	
Heptachlor	**2000**	68	EPA 8081B	10-11-17	10-17-17	
Aldrin	**ND**	6.8	EPA 8081B	10-11-17	10-18-17	
Heptachlor Epoxide	**ND**	6.8	EPA 8081B	10-11-17	10-18-17	
gamma-Chlordane	**ND**	14	EPA 8081B	10-11-17	10-18-17	
alpha-Chlordane	**270**	14	EPA 8081B	10-11-17	10-18-17	
4,4'-DDE	**ND**	14	EPA 8081B	10-11-17	10-18-17	
Endosulfan I	**ND**	6.8	EPA 8081B	10-11-17	10-18-17	
Dieldrin	**ND**	14	EPA 8081B	10-11-17	10-18-17	
Endrin	**ND**	14	EPA 8081B	10-11-17	10-18-17	
4,4'-DDD	**ND**	14	EPA 8081B	10-11-17	10-18-17	
Endosulfan II	**ND**	14	EPA 8081B	10-11-17	10-18-17	
4,4'-DDT	**ND**	14	EPA 8081B	10-11-17	10-18-17	
Endrin Aldehyde	**ND**	14	EPA 8081B	10-11-17	10-18-17	
Methoxychlor	**ND**	14	EPA 8081B	10-11-17	10-18-17	
Endosulfan Sulfate	**110**	14	EPA 8081B	10-11-17	10-18-17	
Endrin Ketone	**ND**	14	EPA 8081B	10-11-17	10-18-17	
Toxaphene	**ND**	68	EPA 8081B	10-11-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*46*	*46-106*				
DCB	*118*	*53-122*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-2**					
Laboratory ID:	10-102-04					
alpha-BHC	**ND**	6.3	EPA 8081B	10-11-17	10-18-17	
gamma-BHC	**ND**	6.3	EPA 8081B	10-11-17	10-18-17	
beta-BHC	**ND**	6.3	EPA 8081B	10-11-17	10-18-17	
delta-BHC	**ND**	6.3	EPA 8081B	10-11-17	10-18-17	
Heptachlor	**2100**	63	EPA 8081B	10-11-17	10-17-17	
Aldrin	**ND**	6.3	EPA 8081B	10-11-17	10-18-17	
Heptachlor Epoxide	**ND**	6.3	EPA 8081B	10-11-17	10-18-17	
gamma-Chlordane	**ND**	13	EPA 8081B	10-11-17	10-18-17	
alpha-Chlordane	**91**	13	EPA 8081B	10-11-17	10-18-17	
4,4'-DDE	**ND**	13	EPA 8081B	10-11-17	10-18-17	
Endosulfan I	**ND**	6.3	EPA 8081B	10-11-17	10-18-17	
Dieldrin	**ND**	13	EPA 8081B	10-11-17	10-18-17	
Endrin	**ND**	13	EPA 8081B	10-11-17	10-18-17	
4,4'-DDD	**ND**	13	EPA 8081B	10-11-17	10-18-17	
Endosulfan II	**ND**	13	EPA 8081B	10-11-17	10-18-17	
4,4'-DDT	**ND**	13	EPA 8081B	10-11-17	10-18-17	
Endrin Aldehyde	**ND**	13	EPA 8081B	10-11-17	10-18-17	
Methoxychlor	**ND**	13	EPA 8081B	10-11-17	10-18-17	
Endosulfan Sulfate	**80**	13	EPA 8081B	10-11-17	10-18-17	
Endrin Ketone	**ND**	13	EPA 8081B	10-11-17	10-18-17	
Toxaphene	**ND**	63	EPA 8081B	10-11-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*58*	*46-106*				
DCB	*293*	*53-122*				Q

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
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Project: 0231-090-01

CHLORINATED ACID HERBICIDES EPA 8151A

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-1**					
Laboratory ID:	10-102-03					
Dalapon	**ND**	310	EPA 8151A	10-13-17	10-16-17	
Dicamba	**ND**	13	EPA 8151A	10-13-17	10-16-17	
MCPP	**ND**	1300	EPA 8151A	10-13-17	10-16-17	
MCPA	**ND**	1300	EPA 8151A	10-13-17	10-16-17	
Dichlorprop	**ND**	97	EPA 8151A	10-13-17	10-16-17	
2,4-D	**ND**	13	EPA 8151A	10-13-17	10-16-17	
Pentachlorophenol	**ND**	6.5	EPA 8151A	10-13-17	10-16-17	
2,4,5-TP (Silvex)	**ND**	13	EPA 8151A	10-13-17	10-16-17	
2,4,5-T	**ND**	13	EPA 8151A	10-13-17	10-16-17	
2,4-DB	**ND**	13	EPA 8151A	10-13-17	10-16-17	
Dinoseb	**ND**	13	EPA 8151A	10-13-17	10-16-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCAA	*29*	*10-126*				
Client ID:	**SS-2**					
Laboratory ID:	10-102-04					
Dalapon	**ND**	290	EPA 8151A	10-13-17	10-16-17	
Dicamba	**ND**	12	EPA 8151A	10-13-17	10-16-17	
MCPP	**ND**	1200	EPA 8151A	10-13-17	10-16-17	
MCPA	**ND**	1200	EPA 8151A	10-13-17	10-16-17	
Dichlorprop	**ND**	89	EPA 8151A	10-13-17	10-16-17	
2,4-D	**ND**	12	EPA 8151A	10-13-17	10-16-17	
Pentachlorophenol	**ND**	6.0	EPA 8151A	10-13-17	10-16-17	
2,4,5-TP (Silvex)	**ND**	12	EPA 8151A	10-13-17	10-16-17	
2,4,5-T	**ND**	12	EPA 8151A	10-13-17	10-16-17	
2,4-DB	**ND**	12	EPA 8151A	10-13-17	10-16-17	
Dinoseb	**ND**	12	EPA 8151A	10-13-17	10-16-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCAA	*27*	*10-126*				

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Project: 0231-090-01

TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-102-01					
Client ID:	**B-11-5.0**					
Arsenic	**ND**	11	6010C	10-12-17	10-12-17	
Barium	**86**	2.8	6010C	10-12-17	10-12-17	
Cadmium	**ND**	0.55	6010C	10-12-17	10-12-17	
Chromium	**30**	0.55	6010C	10-12-17	10-12-17	
Lead	**17**	5.5	6010C	10-12-17	10-12-17	
Mercury	**ND**	0.28	7471B	10-12-17	10-12-17	
Selenium	**ND**	11	6010C	10-12-17	10-12-17	
Silver	**ND**	1.1	6010C	10-12-17	10-12-17	
Lab ID:	10-102-02					
Client ID:	**B-11-10.0**					
Arsenic	**ND**	11	6010C	10-12-17	10-12-17	
Barium	**69**	2.8	6010C	10-12-17	10-12-17	
Cadmium	**ND**	0.56	6010C	10-12-17	10-12-17	
Chromium	**24**	0.56	6010C	10-12-17	10-12-17	
Lead	**7.9**	5.6	6010C	10-12-17	10-12-17	
Mercury	**ND**	0.28	7471B	10-12-17	10-12-17	
Selenium	**ND**	11	6010C	10-12-17	10-12-17	
Silver	**ND**	1.1	6010C	10-12-17	10-12-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-102-03					
Client ID:	**SS-1**					
Arsenic	**ND**	14	6010C	10-12-17	10-12-17	
Barium	**100**	3.4	6010C	10-12-17	10-12-17	
Cadmium	**ND**	0.68	6010C	10-12-17	10-12-17	
Chromium	**32**	0.68	6010C	10-12-17	10-12-17	
Lead	**15**	6.8	6010C	10-12-17	10-12-17	
Mercury	**ND**	0.34	7471B	10-12-17	10-12-17	
Selenium	**ND**	14	6010C	10-12-17	10-12-17	
Silver	**ND**	1.4	6010C	10-12-17	10-12-17	
Lab ID:	10-102-04					
Client ID:	**SS-2**					
Arsenic	**ND**	13	6010C	10-12-17	10-12-17	
Barium	**96**	3.2	6010C	10-12-17	10-12-17	
Cadmium	**ND**	0.63	6010C	10-12-17	10-12-17	
Chromium	**23**	0.63	6010C	10-12-17	10-12-17	
Lead	**36**	6.3	6010C	10-12-17	10-12-17	
Mercury	**ND**	0.32	7471B	10-12-17	10-12-17	
Selenium	**ND**	13	6010C	10-12-17	10-12-17	
Silver	**ND**	1.3	6010C	10-12-17	10-12-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-102-05					
Client ID:	**B-12-5.0**					
Arsenic	**ND**	12	6010C	10-12-17	10-12-17	
Barium	**130**	2.9	6010C	10-12-17	10-12-17	
Cadmium	**ND**	0.58	6010C	10-12-17	10-12-17	
Chromium	**24**	0.58	6010C	10-12-17	10-12-17	
Lead	**23**	5.8	6010C	10-12-17	10-12-17	
Mercury	**ND**	0.29	7471B	10-12-17	10-12-17	
Selenium	**ND**	12	6010C	10-12-17	10-12-17	
Silver	**ND**	1.2	6010C	10-12-17	10-12-17	

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NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				

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NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1016S3					
Diesel Range Organics	**ND**	25	NWTPH-Dx	10-16-17	10-17-17	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	10-16-17	10-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*57*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-102-04										
	ORIG	DUP									
Diesel Range Organics	**119**	**76.0**	NA	NA		NA		NA	44	NA	
Lube Oil Range Organics	**651**	**453**	NA	NA		NA		NA	36	NA	
Surrogate:											
o-Terphenyl						*86*	*81*	*50-150*			

Date of Report: October 18, 2017
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Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Pyridine	**ND**	0.33	EPA 8270D	10-10-17	10-10-17	
Phenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Aniline	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Isophorone	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	

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SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1010S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Carbazole	**ND**	0.033	EPA 8270D	10-10-17	10-10-17	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Benzidine	**ND**	0.33	EPA 8270D	10-10-17	10-10-17	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	10-10-17	10-10-17	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-10-17	10-10-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*66*	*18 - 109*				
Phenol-d6	*74*	*25 - 111*				
Nitrobenzene-d5	*69*	*22 - 113*				
2-Fluorobiphenyl	*75*	*30 - 114*				
2,4,6-Tribromophenol	*78*	*22 - 116*				
Terphenyl-d14	*79*	*33 - 114*				

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Samples Submitted: October 9, 2017
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Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-102-05										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**0.583**	**0.725**	1.33	1.33	ND	44	55	25 - 99	22	36	
2-Chlorophenol	**0.619**	**0.794**	1.33	1.33	ND	47	60	21 - 104	25	38	
1,4-Dichlorobenzene	**0.243**	**0.315**	0.667	0.667	ND	36	47	20 - 110	26	40	
n-Nitroso-di-n-propylamine	**0.311**	**0.396**	0.667	0.667	ND	47	59	24 - 100	24	38	
1,2,4-Trichlorobenzene	**0.315**	**0.398**	0.667	0.667	ND	47	60	21 - 110	23	40	
4-Chloro-3-methylphenol	**0.661**	**0.796**	1.33	1.33	ND	50	60	26 - 109	19	29	
Acenaphthene	**0.378**	**0.466**	0.667	0.667	ND	57	70	33 - 99	21	30	
4-Nitrophenol	**0.559**	**0.704**	1.33	1.33	ND	42	53	21 - 107	23	29	
2,4-Dinitrotoluene	**0.309**	**0.378**	0.667	0.667	ND	46	57	20 - 106	20	30	
Pentachlorophenol	**0.875**	**1.13**	1.33	1.33	ND	66	85	20 - 113	25	31	
Pyrene	**0.367**	**0.459**	0.667	0.667	0.0352	50	64	24 - 115	22	28	
Surrogate:											
2-Fluorophenol						*30*	*37*	*18 - 109*			
Phenol-d6						*45*	*58*	*25 - 111*			
Nitrobenzene-d5						*50*	*62*	*22 - 113*			
2-Fluorobiphenyl						*54*	*68*	*30 - 114*			
2,4,6-Tribromophenol						*54*	*68*	*22 - 116*			
Terphenyl-d14						*53*	*67*	*33 - 114*			

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

ORGANOCHLORINE
PESTICIDES EPA 8081B
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S1					
alpha-BHC	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
gamma-BHC	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
beta-BHC	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
delta-BHC	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
Heptachlor	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
Aldrin	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
Heptachlor Epoxide	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
gamma-Chlordane	**ND**	10	EPA 8081B	10-11-17	10-11-17	
alpha-Chlordane	**ND**	10	EPA 8081B	10-11-17	10-11-17	
4,4'-DDE	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Endosulfan I	**ND**	5.0	EPA 8081B	10-11-17	10-11-17	
Dieldrin	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Endrin	**ND**	10	EPA 8081B	10-11-17	10-11-17	
4,4'-DDD	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Endosulfan II	**ND**	10	EPA 8081B	10-11-17	10-11-17	
4,4'-DDT	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Endrin Aldehyde	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Methoxychlor	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Endosulfan Sulfate	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Endrin Ketone	**ND**	10	EPA 8081B	10-11-17	10-11-17	
Toxaphene	**ND**	50	EPA 8081B	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*72*	*46-106*				
DCB	*68*	*53-122*				

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B SB/SBD QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1011S1										
	SB	SBD	SB	SBD		SB	SBD				
alpha-BHC	**72.9**	**76.5**	100	100	N/A	**73**	**76**	60-130	5	20	
gamma-BHC	**72.2**	**78.4**	100	100	N/A	**72**	**78**	42-133	8	15	
beta-BHC	**73.6**	**80.4**	100	100	N/A	**74**	**80**	60-130	9	20	
delta-BHC	**76.3**	**83.1**	100	100	N/A	**76**	**83**	60-130	9	20	
Heptachlor	**71.6**	**75.4**	100	100	N/A	**72**	**75**	53-120	5	15	
Aldrin	**71.1**	**76.0**	100	100	N/A	**71**	**76**	57-132	7	15	
Heptachlor Epoxide	**73.8**	**78.4**	100	100	N/A	**74**	**78**	60-130	6	20	
gamma-Chlordane	**75.9**	**81.4**	100	100	N/A	**76**	**81**	60-130	7	20	
alpha-Chlordane	**75.2**	**80.7**	100	100	N/A	**75**	**81**	60-130	7	20	
4,4'-DDE	**76.5**	**82.4**	100	100	N/A	**76**	**82**	60-130	7	20	
Endosulfan I	**83.0**	**89.1**	100	100	N/A	**83**	**89**	60-130	7	20	
Dieldrin	**74.2**	**80.1**	100	100	N/A	**74**	**80**	56-120	8	15	
Endrin	**76.4**	**83.0**	100	100	N/A	**76**	**83**	52-127	8	15	
4,4'-DDD	**80.3**	**87.9**	100	100	N/A	**80**	**88**	60-130	9	20	
Endosulfan II	**74.9**	**80.5**	100	100	N/A	**75**	**80**	60-130	7	20	
4,4'-DDT	**73.1**	**80.2**	100	100	N/A	**73**	**80**	51-124	9	15	
Endrin Aldehyde	**71.9**	**76.5**	100	100	N/A	**72**	**77**	60-130	6	20	
Methoxychlor	**67.6**	**74.2**	100	100	N/A	**68**	**74**	60-130	9	20	
Endosulfan Sulfate	**70.1**	**76.5**	100	100	N/A	**70**	**77**	60-130	9	20	
Endrin Ketone	**68.9**	**74.9**	100	100	N/A	**69**	**75**	60-130	8	20	
Surrogate:											
TCMX						*82*	*78*	*46-106*			
DCB						*85*	*82*	*53-122*			

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

CHLORINATED ACID HERBICIDES EPA 8151A QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1013S1					
Dalapon	**ND**	230	EPA 8151A	10-13-17	10-16-17	
Dicamba	**ND**	9.4	EPA 8151A	10-13-17	10-16-17	
MCPP	**ND**	940	EPA 8151A	10-13-17	10-16-17	
MCPA	**ND**	940	EPA 8151A	10-13-17	10-16-17	
Dichlorprop	**ND**	71	EPA 8151A	10-13-17	10-16-17	
2,4-D	**ND**	9.4	EPA 8151A	10-13-17	10-16-17	
Pentachlorophenol	**ND**	4.8	EPA 8151A	10-13-17	10-16-17	
2,4,5-TP (Silvex)	**ND**	9.5	EPA 8151A	10-13-17	10-16-17	
2,4,5-T	**ND**	9.5	EPA 8151A	10-13-17	10-16-17	
2,4-DB	**ND**	9.5	EPA 8151A	10-13-17	10-16-17	
Dinoseb	**ND**	9.5	EPA 8151A	10-13-17	10-16-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCAA	*40*	*10-126*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1013S1										
	SB	SBD	SB	SBD		SB	SBD				
Dicamba	**56.9**	**59.1**	100	100	N/A	**57**	**59**	26-113	4	20	
2,4-D	**40.8**	**35.5**	100	100	N/A	**41**	**36**	24-117	14	21	
Pentachlorophenol	**4.35**	**4.90**	10.0	10.0	N/A	**43**	**49**	38-112	12	23	
2,4,5-T	**45.0**	**41.2**	100	100	N/A	**45**	**41**	21-110	9	19	
2,4-DB	**36.5**	**34.3**	100	100	N/A	**37**	**34**	22-119	6	19	
Surrogate:											
DCAA						*42*	*40*	*10-126*			

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

TOTAL METALS
EPA 6010C
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1012SM1

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Barium	6010C	**ND**	2.5
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Lead	6010C	**ND**	5.0
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	1.0

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
METHOD BLANK QUALITY CONTROL

Date Extracted:	10-12-17
Date Analyzed:	10-12-17
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1012S1

Analyte	Method	Result	PQL
Mercury	7471B	**ND**	0.25

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

TOTAL METALS
EPA 6010C
DUPLICATE QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-079-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**85.2**	**96.2**	12	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**42.9**	**97.5**	78	0.50	K
Lead	**8.35**	**9.30**	11	5.0	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	1.0	

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-102-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.25	

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

TOTAL METALS
EPA 6010C
MS/MSD QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-079-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**94.2**	94	**92.9**	93	1	
Barium	100	**175**	90	**189**	104	8	
Cadmium	50.0	**44.2**	88	**43.6**	87	1	
Chromium	100	**133**	90	**137**	94	3	
Lead	250	**228**	88	**226**	87	1	
Selenium	100	**90.7**	91	**88.6**	89	2	
Silver	25.0	**21.2**	85	**20.8**	83	2	

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-102-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.500	**0.493**	99	**0.502**	100	2	

Date of Report: October 18, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102
Project: 0231-090-01

% MOISTURE

Date Analyzed: 10-10-17

Client ID	Lab ID	% Moisture
B-11-5.0	10-102-01	9
B-11-10.0	10-102-02	10
SS-1	10-102-03	27
SS-2	10-102-04	21
B-12-5.0	10-102-05	14
B-12-15.0	10-102-06	18

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert Miyahira / Matt Blakeslee

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-102

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A
1	B-11-5.0	10/09/17	0815	Soil	5	X							X				X DB		X			
2	B-11-10.0		0825		5	X							X						X			
3	SS-1		0940		6	X							X			X	X	X	X			
4	SS-2		0950		6	X			⊗				X			X	X	X	X			
5	B-12-5.0		1100		5	X							X						X			
6	B-12-15.0	↓	1115	↓	5	X						~~X~~ NO	~~X~~						~~X~~ NO			

	Signature	Company	Date	Time
Relinquished		GeoEngineers, Inc.	10/09/17	1340
Received			10/9/17	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Contact Jacob Letts to confirm requested analyses
⊗ Added 10/16/17. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

```
File       :C:\msdchem\2\data\V171011\1011-V12.d
Operator   :
Acquired   : 11 Oct 2017  15:23     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-102-01 HC
Misc Info  :
Vial Number: 12
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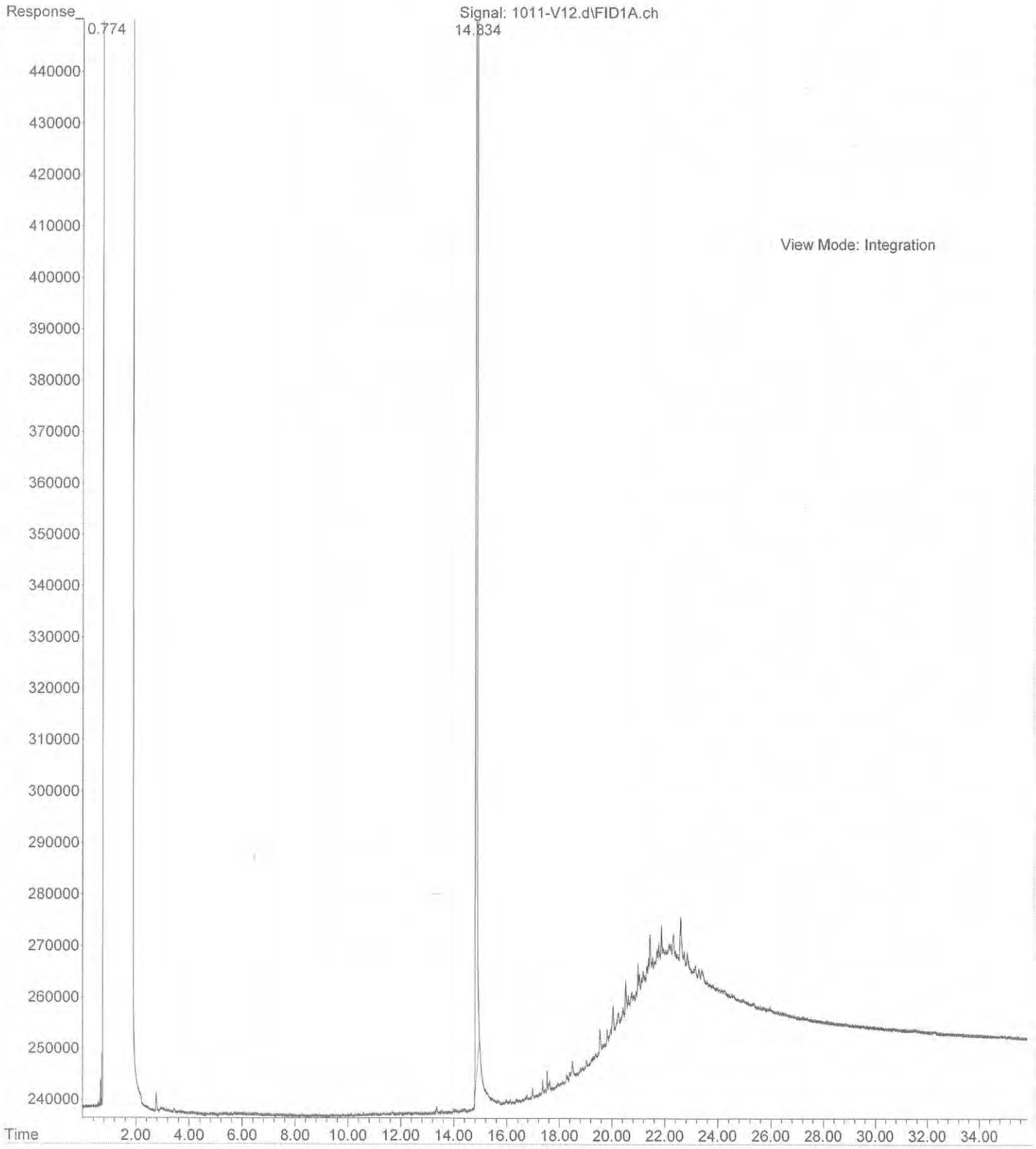

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File        :C:\msdchem\2\data\V171011\1011-V13.d
Operator    :
Acquired    : 11 Oct 2017  16:03     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-102-02 HC
Misc Info   :
Vial Number: 13
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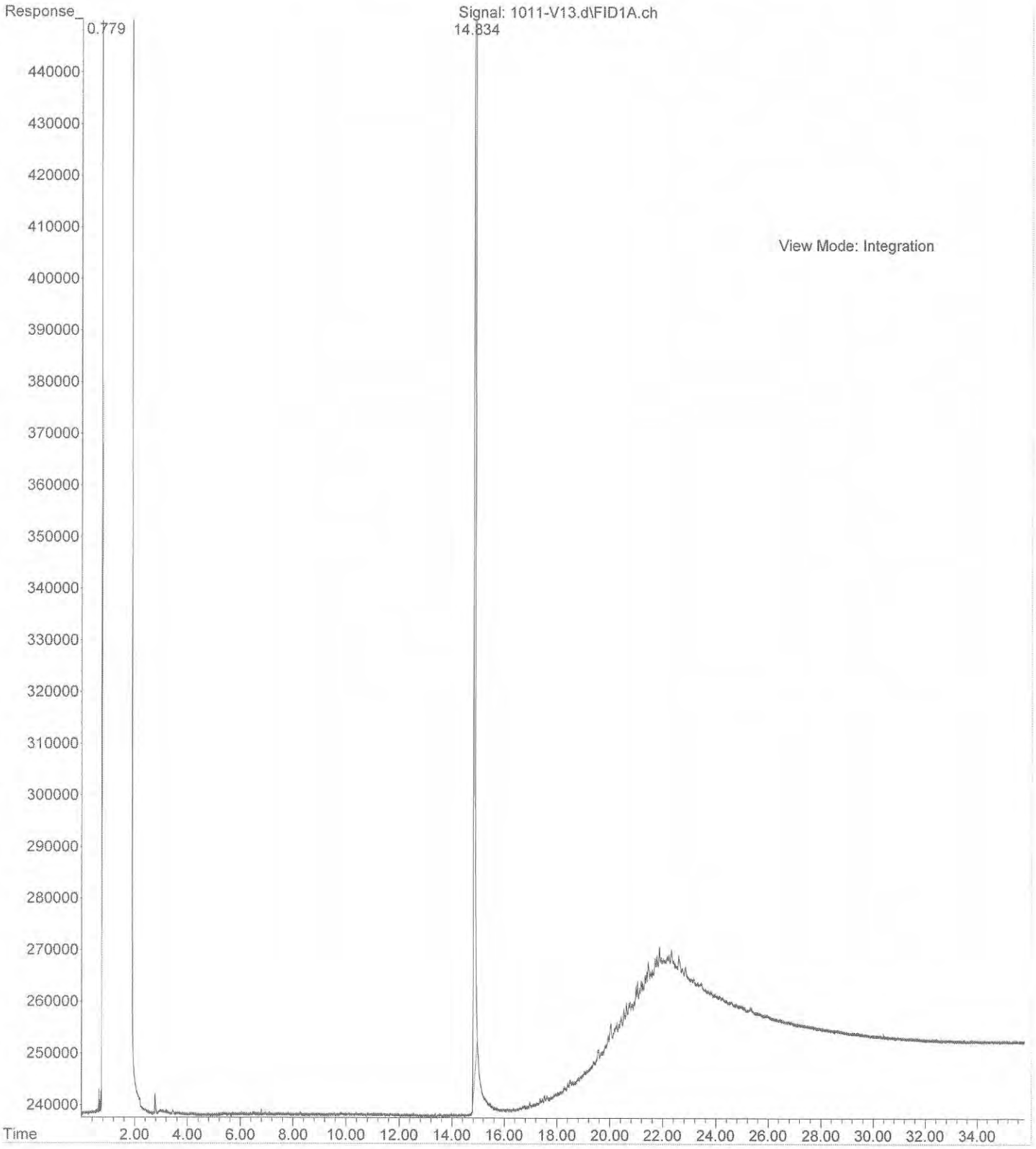

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Operator   :
Acquired   : 11 Oct 2017  23:10     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-102-03 HC
Misc Info  :
Vial Number: 23
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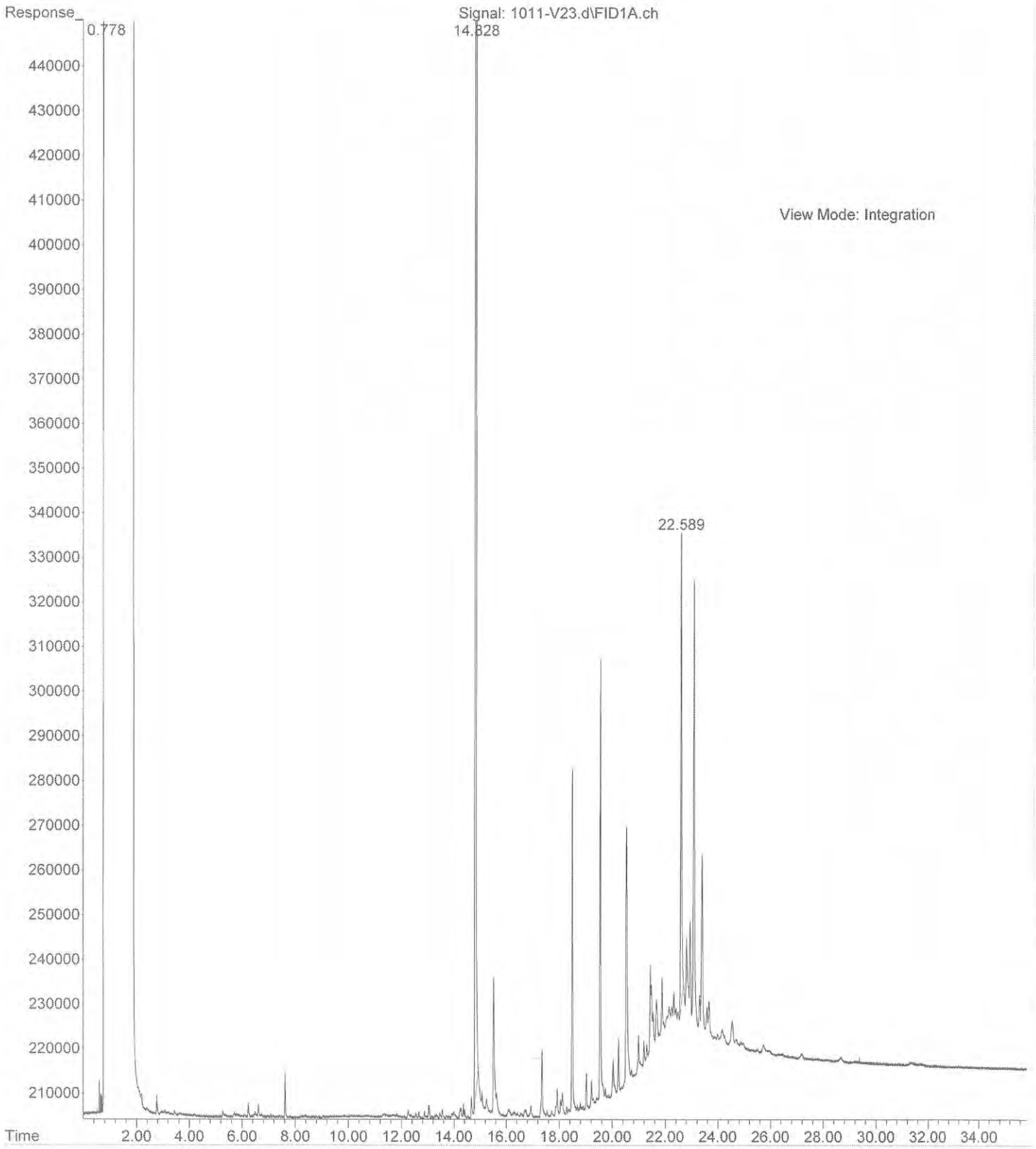

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File       :C:\msdchem\2\data\V171011\1011-V14.d
Operator   :
Acquired   : 11 Oct 2017  17:11     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-102-04 HC
Misc Info  :
Vial Number: 14
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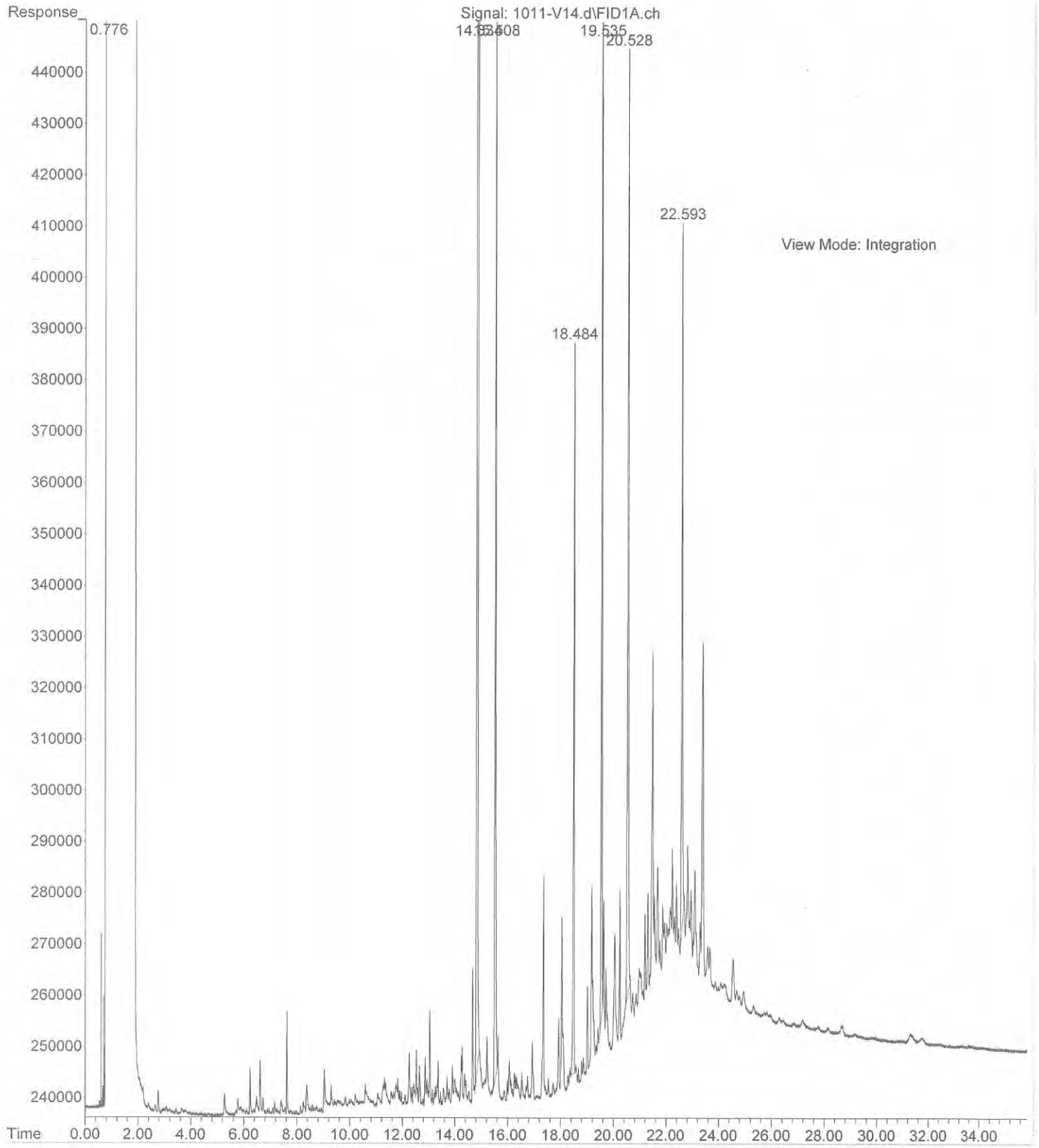

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File       :C:\msdchem\2\data\V171011\1011-V22.d
Operator   :
Acquired   : 11 Oct 2017  22:31     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-102-05 HC
Misc Info  :
Vial Number: 22
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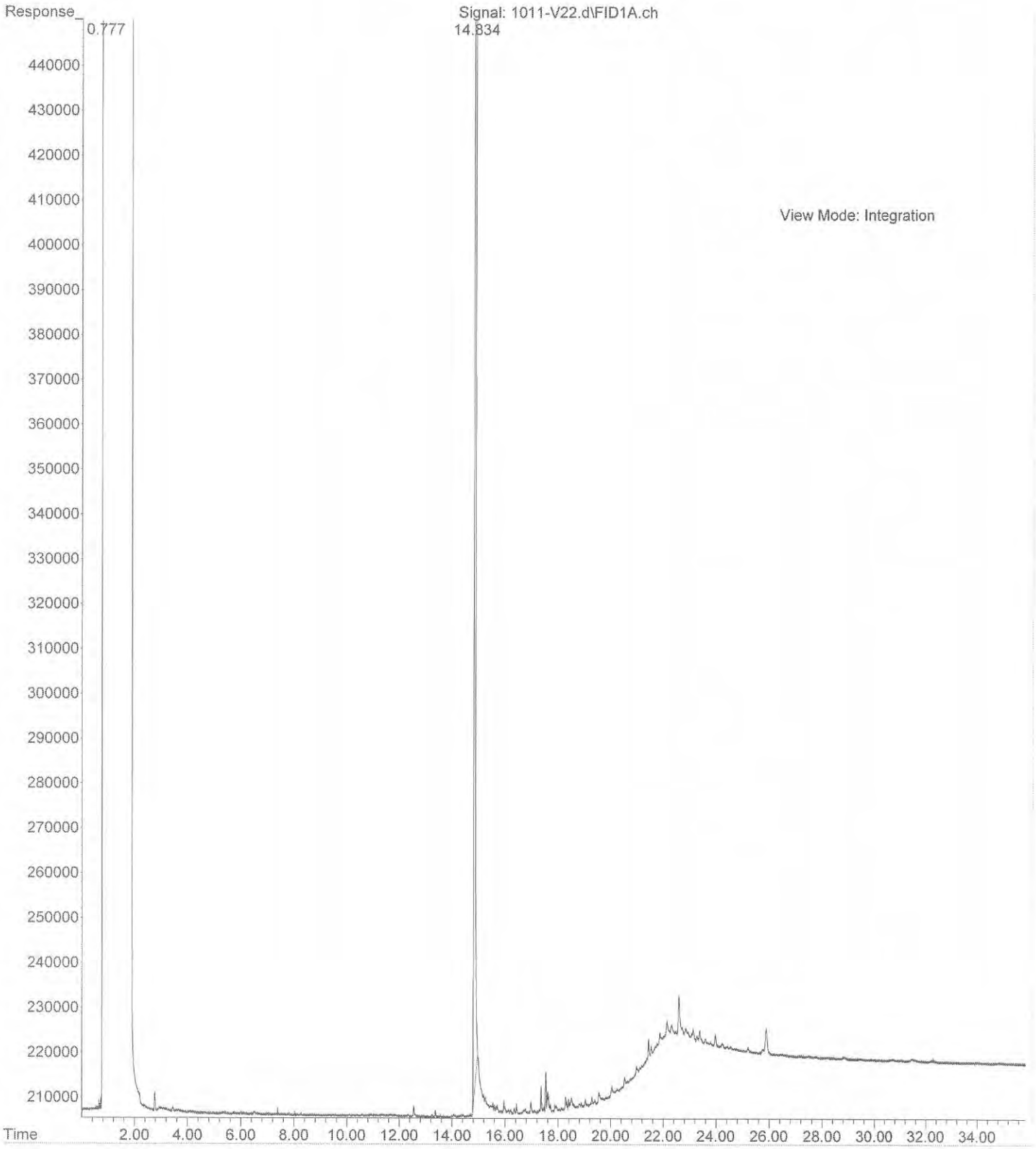
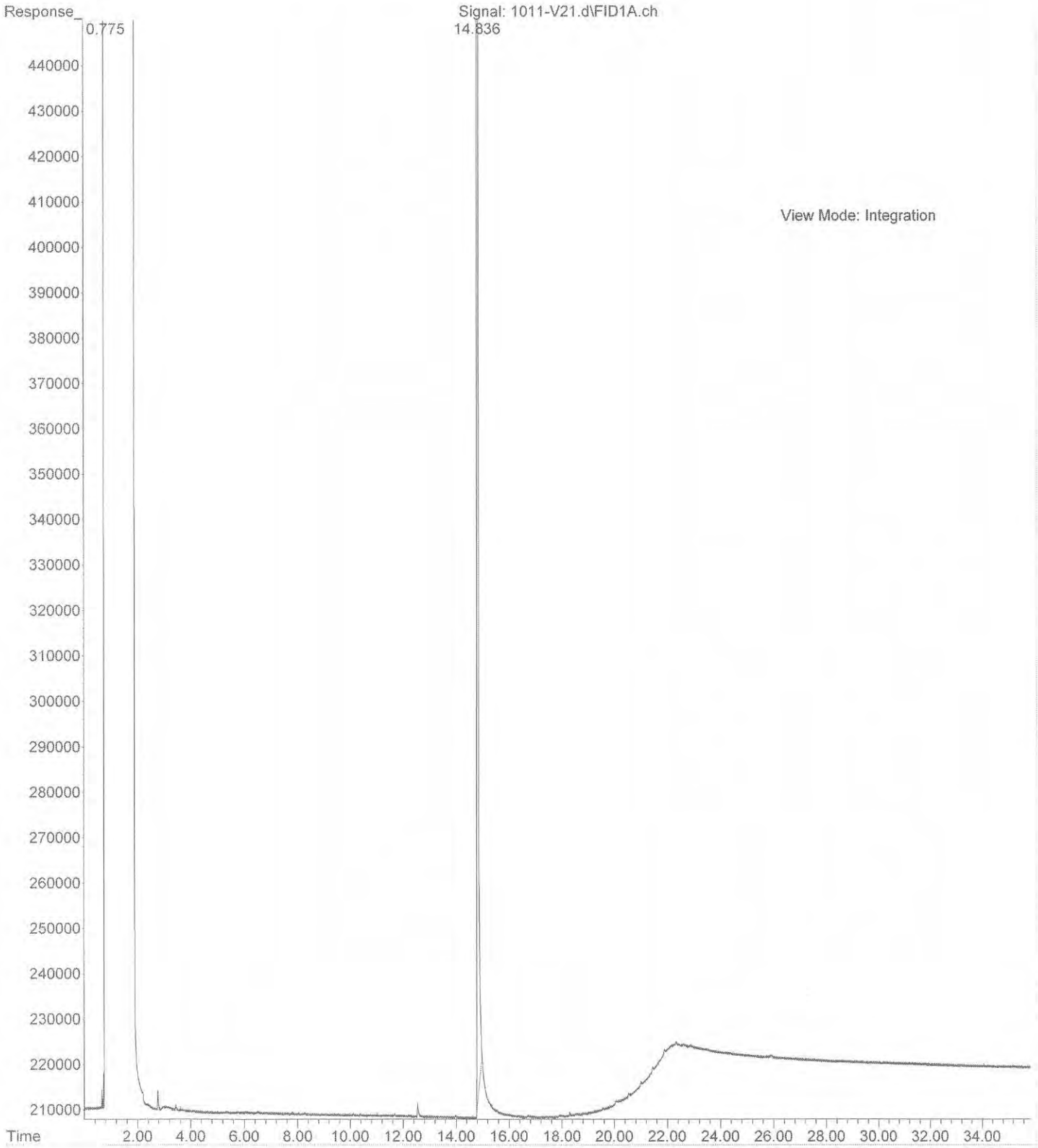


File :C:\msdchem\2\data\V171011\1011-V21.d
Operator :
Acquired : 11 Oct 2017 21:51 using AcqMethod V171004F.M
Instrument : Vigo
Sample Name: 10-102-06 HC
Misc Info :
Vial Number: 21



OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

November 9, 2017

Jacob Letts
GeoEngineers, Inc.
600 Stewart, Suite 1700
Seattle, WA 98101-1233

Re: Analytical Data for Project 0231-090-01
Laboratory Reference No. 1710-102B

Dear Jacob:

Enclosed are the analytical results and associated quality control data for samples submitted on October 9, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: November 9, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102B
Project: 0231-090-01

Case Narrative

Samples were collected on October 9, 2017 and received by the laboratory on October 9, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

TCLP Organochlorine Pesticides EPA 1311/8081B Analysis

The percent recovery value (%R) for Endrin Aldehyde was below the quality control limits of 50-100% in the Spike Blank and Spike Blank Duplicate. Due to the fact the sample was non-detect for this analyte and all other QC was within quality control limits, no further action was performed.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: November 9, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102B
Project: 0231-090-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS-1	10-102-03	Soil	10-9-17	10-9-17	
SS-2	10-102-04	Soil	10-9-17	10-9-17	

Date of Report: November 9, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102B
Project: 0231-090-01

TCLP ORGANOCHLORINE PESTICIDES EPA 1311/8081B

Matrix: TCLP Extract
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-1**					
Laboratory ID:	10-102-03					
alpha-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
gamma-BHC	**ND**	0.10	EPA 8081B	11-7-17	11-7-17	
beta-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
delta-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Heptachlor	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Aldrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Heptachlor Epoxide	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
gamma-Chlordane	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
alpha-Chlordane	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDE	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endosulfan I	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Dieldrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDD	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endosulfan II	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDT	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin Aldehyde	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Methoxychlor	**ND**	0.10	EPA 8081B	11-7-17	11-7-17	
Endosulfan Sulfate	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin Ketone	**ND**	0.20	EPA 8081B	11-7-17	11-7-17	
Toxaphene	**ND**	0.50	EPA 8081B	11-7-17	11-7-17	
Surrogate:	***Percent Recovery***	***Control Limits***				
TCMX	***75***	***31-116***				
DCB	***96***	***42-126***				

Date of Report: November 9, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102B
Project: 0231-090-01

TCLP ORGANOCHLORINE PESTICIDES EPA 1311/8081B

Matrix: TCLP Extract
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-2**					
Laboratory ID:	10-102-04					
alpha-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
gamma-BHC	**ND**	0.10	EPA 8081B	11-7-17	11-7-17	
beta-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
delta-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Heptachlor	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Aldrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Heptachlor Epoxide	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
gamma-Chlordane	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
alpha-Chlordane	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDE	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endosulfan I	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Dieldrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDD	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endosulfan II	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDT	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin Aldehyde	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Methoxychlor	**ND**	0.10	EPA 8081B	11-7-17	11-7-17	
Endosulfan Sulfate	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin Ketone	**ND**	0.20	EPA 8081B	11-7-17	11-7-17	
Toxaphene	**ND**	0.50	EPA 8081B	11-7-17	11-7-17	
Surrogate:	***Percent Recovery***	***Control Limits***				
TCMX	***79***	***31-116***				
DCB	***102***	***42-126***				

Date of Report: November 9, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102B
Project: 0231-090-01

TCLP ORGANOCHLORINE PESTICIDES EPA 1311/8081B METHOD BLANK QUALITY CONTROL

Matrix: TCLP Extract
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1107W1					
alpha-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
gamma-BHC	**ND**	0.10	EPA 8081B	11-7-17	11-7-17	
beta-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
delta-BHC	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Heptachlor	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Aldrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Heptachlor Epoxide	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
gamma-Chlordane	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
alpha-Chlordane	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDE	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endosulfan I	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Dieldrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDD	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endosulfan II	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
4,4'-DDT	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin Aldehyde	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Methoxychlor	**ND**	0.10	EPA 8081B	11-7-17	11-7-17	
Endosulfan Sulfate	**ND**	0.050	EPA 8081B	11-7-17	11-7-17	
Endrin Ketone	**ND**	0.20	EPA 8081B	11-7-17	11-7-17	
Toxaphene	**ND**	0.50	EPA 8081B	11-7-17	11-7-17	
Surrogate:	***Percent Recovery***	***Control Limits***				
TCMX	***78***	***31-116***				
DCB	***104***	***42-126***				

Date of Report: November 9, 2017
Samples Submitted: October 9, 2017
Laboratory Reference: 1710-102B
Project: 0231-090-01

TCLP ORGANOCHLORINE PESTICIDES
EPA 1311/8081B
SB/SBD QUALITY CONTROL

Matrix: TCLP Extract
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB1107W1										
	SB	SBD	SB	SBD		SB	SBD				
alpha-BHC	**0.820**	**0.815**	1.00	1.00	N/A	**82**	**81**	50-130	1	15	
gamma-BHC	**0.831**	**0.827**	1.00	1.00	N/A	**83**	**83**	54-98	0	25	
beta-BHC	**0.928**	**0.925**	1.00	1.00	N/A	**93**	**93**	50-130	0	15	
delta-BHC	**0.727**	**0.722**	1.00	1.00	N/A	**73**	**72**	50-130	1	15	
Heptachlor	**0.902**	**0.888**	1.00	1.00	N/A	**90**	**89**	49-95	2	25	
Aldrin	**0.825**	**0.820**	1.00	1.00	N/A	**83**	**82**	36-108	1	15	
Heptachlor Epoxide	**0.852**	**0.844**	1.00	1.00	N/A	**85**	**84**	45-102	1	25	
gamma-Chlordane	**0.949**	**0.940**	1.00	1.00	N/A	**95**	**94**	50-130	1	15	
alpha-Chlordane	**0.941**	**0.927**	1.00	1.00	N/A	**94**	**93**	50-130	1	15	
4,4'-DDE	**1.02**	**1.01**	1.00	1.00	N/A	**102**	**101**	50-130	1	15	
Endosulfan I	**1.05**	**1.04**	1.00	1.00	N/A	**105**	**104**	50-130	1	15	
Dieldrin	**0.915**	**0.903**	1.00	1.00	N/A	**92**	**90**	63-100	1	15	
Endrin	**1.03**	**1.02**	1.00	1.00	N/A	**103**	**102**	59-106	1	25	
4,4'-DDD	**1.06**	**1.05**	1.00	1.00	N/A	**106**	**105**	50-130	1	15	
Endosulfan II	**0.993**	**0.984**	1.00	1.00	N/A	**99**	**98**	50-130	1	15	
4,4'-DDT	**1.01**	**0.993**	1.00	1.00	N/A	**101**	**99**	56-107	2	15	
Endrin Aldehyde	**0.152**	**0.159**	1.00	1.00	N/A	**15**	**16**	50-130	5	15	I,I
Methoxychlor	**0.985**	**0.963**	1.00	1.00	N/A	**98**	**96**	45-126	2	25	
Endosulfan Sulfate	**0.918**	**0.909**	1.00	1.00	N/A	**92**	**91**	50-130	1	15	
Endrin Ketone	**0.899**	**0.890**	1.00	1.00	N/A	**90**	**89**	50-130	1	15	
Surrogate:											
TCMX						***80***	***80***	***31-116***			
DCB						***107***	***105***	***42-126***			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert Miyahira / Matt Blakeslee

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-102

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A		TCLP Pesticides			
1	B-11-5.0	10/09/17	0815	Soil	5	X							X				X DB		X								
2	B-11-10.0		0825		5	X							X				X		X								
3	SS-1		0940		6	X							X			X	X	X	X					O			
4	SS-2		0950		6	X			⊗				X			X	X	X	X					O			
5	B-12-5.0		1100		5	X							X						X								
6	B-12-15.0	↓	1115	↓	5	X							X NO						X NO								

	Signature	Company	Date	Time
Relinquished		GeoEngineers, Inc.	10/09/17	1340
Received			10/9/17	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Contact Jacob Letts to confirm requested analyses
⊗ Added 10/16/17. DB (STA)
O Added 10/26/17. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Volume 2 – Contract Documents for Totem Lake Connector PAGE F64

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 20, 2017

Jacob Letts
GeoEngineers, Inc.
600 Stewart, Suite 1700
Seattle, WA 98101-1233

Re: Analytical Data for Project 0231-090-01
Laboratory Reference No. 1710-119

Dear Jacob:

Enclosed are the analytical results and associated quality control data for samples submitted on October 10, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

Case Narrative

Samples were collected on October 10, 2017 and received by the laboratory on October 10, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Total Metals EPA 6010C/7471B Analysis

The duplicate RPD for Chromium is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
B-10-5.0	10-119-01	Soil	10-10-17	10-10-17	
B-10-20.0	10-119-02	Soil	10-10-17	10-10-17	
B-10	10-119-03	Water	10-10-17	10-10-17	
BH-2	10-119-04	Water	10-10-17	10-10-17	
BH-4	10-119-05	Water	10-10-17	10-10-17	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-10-5.0**					
Laboratory ID:	10-119-01					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	58	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*88*	*50-150*				
Client ID:	**B-10-20.0**					
Laboratory ID:	10-119-02					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	65	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*78*	*50-150*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-10**					
Laboratory ID:	10-119-03					
Gasoline Range Organics	**ND**	0.11	NWTPH-HCID	10-12-17	10-13-17	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	10-12-17	10-13-17	
Lube Oil Range Organics	**ND**	0.42	NWTPH-HCID	10-12-17	10-13-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*78*	*50-150*				
Client ID:	**BH-2**					
Laboratory ID:	10-119-04					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	10-12-17	10-13-17	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	10-12-17	10-13-17	
Lube Oil Range Organics	**ND**	0.41	NWTPH-HCID	10-12-17	10-13-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*80*	*50-150*				
Client ID:	**BH-4**					
Laboratory ID:	10-119-05					
Gasoline Range Organics	**ND**	0.12	NWTPH-HCID	10-12-17	10-13-17	
Diesel Range Organics	**ND**	0.29	NWTPH-HCID	10-12-17	10-13-17	
Lube Oil Range Organics	**ND**	0.47	NWTPH-HCID	10-12-17	10-13-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**BH-2**					
Laboratory ID:	10-119-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chloromethane	ND	1.0	EPA 8260C	10-18-17	10-18-17	
Vinyl Chloride	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromomethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chloroethane	ND	1.0	EPA 8260C	10-18-17	10-18-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Acetone	ND	5.0	EPA 8260C	10-18-17	10-18-17	
Iodomethane	ND	1.7	EPA 8260C	10-18-17	10-18-17	
Carbon Disulfide	ND	0.26	EPA 8260C	10-18-17	10-18-17	
Methylene Chloride	ND	1.0	EPA 8260C	10-18-17	10-18-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Vinyl Acetate	ND	1.0	EPA 8260C	10-18-17	10-18-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Butanone	ND	5.0	EPA 8260C	10-18-17	10-18-17	
Bromochloromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chloroform	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Benzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Trichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Dibromomethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromodichloromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Chloroethyl Vinyl Ether	ND	22	EPA 8260C	10-18-17	10-18-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-18-17	10-18-17	
Toluene	ND	1.0	EPA 8260C	10-18-17	10-18-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-18-17	10-18-17	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

VOLATILES EPA 8260C
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**BH-2**					
Laboratory ID:	10-119-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Tetrachloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Hexanone	ND	2.0	EPA 8260C	10-18-17	10-18-17	
Dibromochloromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Ethylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
m,p-Xylene	ND	0.40	EPA 8260C	10-18-17	10-18-17	
o-Xylene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Styrene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromoform	ND	1.0	EPA 8260C	10-18-17	10-18-17	
Isopropylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
n-Propylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
n-Butylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	10-18-17	10-18-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Naphthalene	ND	1.3	EPA 8260C	10-18-17	10-18-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*89*	*75-127*				
Toluene-d8	*93*	*80-127*				
4-Bromofluorobenzene	*94*	*78-125*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-10-5.0**					
Laboratory ID:	10-119-01					
n-Nitrosodimethylamine	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Pyridine	**ND**	0.39	EPA 8270D	10-13-17	10-17-17	
Phenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Aniline	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
bis(2-Chloroethyl)ether	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2-Chlorophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
1,3-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
1,4-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Benzyl alcohol	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
1,2-Dichlorobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2-Methylphenol (o-Cresol)	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
bis(2-Chloroisopropyl)ether	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
n-Nitroso-di-n-propylamine	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Hexachloroethane	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Nitrobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Isophorone	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2-Nitrophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,4-Dimethylphenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
bis(2-Chloroethoxy)methane	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,4-Dichlorophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
1,2,4-Trichlorobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Naphthalene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
4-Chloroaniline	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
Hexachlorobutadiene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
4-Chloro-3-methylphenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2-Methylnaphthalene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
1-Methylnaphthalene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Hexachlorocyclopentadiene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,4,6-Trichlorophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,3-Dichloroaniline	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,4,5-Trichlorophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2-Chloronaphthalene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2-Nitroaniline	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
1,4-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Dimethylphthalate	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
1,3-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,6-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
1,2-Dinitrobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Acenaphthylene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
3-Nitroaniline	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-10-5.0**					
Laboratory ID:	10-119-01					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
Acenaphthene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
4-Nitrophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,4-Dinitrotoluene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Dibenzofuran	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Diethylphthalate	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
4-Chlorophenyl-phenylether	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
4-Nitroaniline	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Fluorene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
n-Nitrosodiphenylamine	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
1,2-Diphenylhydrazine	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
4-Bromophenyl-phenylether	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Hexachlorobenzene	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Pentachlorophenol	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
Phenanthrene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Anthracene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Carbazole	**ND**	0.039	EPA 8270D	10-13-17	10-17-17	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
Fluoranthene	**0.011**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Benzidine	**ND**	0.39	EPA 8270D	10-13-17	10-17-17	
Pyrene	**0.010**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Butylbenzylphthalate	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
bis-2-Ethylhexyladipate	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
Benzo[a]anthracene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Chrysene	**0.0078**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
Di-n-octylphthalate	**ND**	0.19	EPA 8270D	10-13-17	10-17-17	
Benzo[b]fluoranthene	**0.013**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Benzo[a]pyrene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Indeno[1,2,3-cd]pyrene	**0.0086**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Benzo[g,h,i]perylene	**0.0096**	0.0077	EPA 8270D/SIM	10-13-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*54*	*18 - 113*				
Phenol-d6	*61*	*19 - 119*				
Nitrobenzene-d5	*60*	*19 - 119*				
2-Fluorobiphenyl	*68*	*33 - 109*				
2,4,6-Tribromophenol	*68*	*19 - 121*				
Terphenyl-d14	*71*	*30 - 116*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-119-01					
Client ID:	**B-10-5.0**					
Arsenic	**ND**	12	6010C	10-12-17	10-12-17	
Barium	**100**	2.9	6010C	10-12-17	10-12-17	
Cadmium	**ND**	0.58	6010C	10-12-17	10-12-17	
Chromium	**21**	0.58	6010C	10-12-17	10-12-17	
Lead	**7.1**	5.8	6010C	10-12-17	10-12-17	
Mercury	**ND**	0.29	7471B	10-16-17	10-16-17	
Selenium	**ND**	12	6010C	10-12-17	10-12-17	
Silver	**ND**	1.2	6010C	10-12-17	10-12-17	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

NWTPH-HCID
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1012W1					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	10-12-17	10-13-17	
Diesel Range Organics	**ND**	0.25	NWTPH-HCID	10-12-17	10-13-17	
Lube Oil Range Organics	**ND**	0.40	NWTPH-HCID	10-12-17	10-13-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1018W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chloromethane	ND	1.0	EPA 8260C	10-18-17	10-18-17	
Vinyl Chloride	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromomethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chloroethane	ND	1.0	EPA 8260C	10-18-17	10-18-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Acetone	ND	5.0	EPA 8260C	10-18-17	10-18-17	
Iodomethane	ND	1.7	EPA 8260C	10-18-17	10-18-17	
Carbon Disulfide	ND	0.26	EPA 8260C	10-18-17	10-18-17	
Methylene Chloride	ND	1.0	EPA 8260C	10-18-17	10-18-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Vinyl Acetate	ND	1.0	EPA 8260C	10-18-17	10-18-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Butanone	ND	5.0	EPA 8260C	10-18-17	10-18-17	
Bromochloromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chloroform	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Benzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Trichloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Dibromomethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromodichloromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Chloroethyl Vinyl Ether	ND	22	EPA 8260C	10-18-17	10-18-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-18-17	10-18-17	
Toluene	ND	1.0	EPA 8260C	10-18-17	10-18-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-18-17	10-18-17	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

VOLATILES EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1018W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Tetrachloroethene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Hexanone	ND	2.0	EPA 8260C	10-18-17	10-18-17	
Dibromochloromethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Chlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Ethylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
m,p-Xylene	ND	0.40	EPA 8260C	10-18-17	10-18-17	
o-Xylene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Styrene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromoform	ND	1.0	EPA 8260C	10-18-17	10-18-17	
Isopropylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Bromobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-18-17	10-18-17	
n-Propylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
n-Butylbenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	10-18-17	10-18-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Naphthalene	ND	1.3	EPA 8260C	10-18-17	10-18-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-18-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*91*	*75-127*				
Toluene-d8	*96*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

VOLATILES EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1018W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.48**	**9.34**	10.0	10.0	95	93	63-126	1	21	
Benzene	**10.4**	**10.5**	10.0	10.0	104	105	78-122	1	19	
Trichloroethene	**9.34**	**9.21**	10.0	10.0	93	92	63-120	1	20	
Toluene	**10.0**	**10.0**	10.0	10.0	100	100	79-124	0	19	
Chlorobenzene	**10.0**	**10.0**	10.0	10.0	100	100	78-120	0	19	
Surrogate:										
Dibromofluoromethane					*88*	*89*	*75-127*			
Toluene-d8					*95*	*94*	*80-127*			
4-Bromofluorobenzene					*95*	*97*	*78-125*			

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1013S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Pyridine	**ND**	0.33	EPA 8270D	10-13-17	10-16-17	
Phenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Aniline	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Isophorone	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1013S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Carbazole	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzidine	**ND**	0.33	EPA 8270D	10-13-17	10-16-17	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*63*	*18 - 113*				
Phenol-d6	*65*	*19 - 119*				
Nitrobenzene-d5	*66*	*19 - 119*				
2-Fluorobiphenyl	*72*	*33 - 109*				
2,4,6-Tribromophenol	*80*	*19 - 121*				
Terphenyl-d14	*81*	*30 - 116*				

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1013S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.956**	**1.07**	1.33	1.33	72	80	39 - 109	11	36	
2-Chlorophenol	**0.979**	**1.11**	1.33	1.33	74	83	42 - 105	13	35	
1,4-Dichlorobenzene	**0.462**	**0.547**	0.667	0.667	69	82	31 - 103	17	37	
n-Nitroso-di-n-propylamine	**0.476**	**0.533**	0.667	0.667	71	80	36 - 104	11	34	
1,2,4-Trichlorobenzene	**0.479**	**0.540**	0.667	0.667	72	81	32 - 104	12	38	
4-Chloro-3-methylphenol	**1.10**	**1.16**	1.33	1.33	83	87	48 - 107	5	31	
Acenaphthene	**0.545**	**0.561**	0.667	0.667	82	84	38 - 102	3	33	
4-Nitrophenol	**1.11**	**1.10**	1.33	1.33	83	83	27 - 121	1	35	
2,4-Dinitrotoluene	**0.527**	**0.538**	0.667	0.667	79	81	36 - 103	2	34	
Pentachlorophenol	**1.36**	**1.29**	1.33	1.33	102	97	21 - 114	5	37	
Pyrene	**0.519**	**0.545**	0.667	0.667	78	82	46 - 108	5	31	
Surrogate:										
2-Fluorophenol					*69*	*80*	*18 - 113*			
Phenol-d6					*73*	*82*	*19 - 119*			
Nitrobenzene-d5					*74*	*83*	*19 - 119*			
2-Fluorobiphenyl					*76*	*78*	*33 - 109*			
2,4,6-Tribromophenol					*83*	*77*	*19 - 121*			
Terphenyl-d14					*77*	*79*	*30 - 116*			

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

TOTAL METALS
EPA 6010C
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1012SM1

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Barium	6010C	**ND**	2.5
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Lead	6010C	**ND**	5.0
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	1.0

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
METHOD BLANK QUALITY CONTROL

Date Extracted:	10-16-17
Date Analyzed:	10-16-17
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1016S1

Analyte	Method	Result	PQL
Mercury	7471B	**ND**	0.25

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

TOTAL METALS
EPA 6010C
DUPLICATE QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-079-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**85.2**	**96.2**	12	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**42.9**	**97.5**	78	0.50	K
Lead	**8.35**	**9.30**	11	5.0	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	1.0	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-16-17
Date Analyzed: 10-16-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-119-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.25	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

TOTAL METALS
EPA 6010C
MS/MSD QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-079-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**94.2**	94	**92.9**	93	1	
Barium	100	**175**	90	**189**	104	8	
Cadmium	50.0	**44.2**	88	**43.6**	87	1	
Chromium	100	**133**	90	**137**	94	3	
Lead	250	**228**	88	**226**	87	1	
Selenium	100	**90.7**	91	**88.6**	89	2	
Silver	25.0	**21.2**	85	**20.8**	83	2	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-16-17
Date Analyzed: 10-16-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-119-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.500	**0.586**	117	**0.531**	106	10	

Date of Report: October 20, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-119
Project: 0231-090-01

% MOISTURE

Date Analyzed: 10-11-17

Client ID	Lab ID	% Moisture
B-10-5.0	10-119-01	14
B-10-20.0	10-119-02	23

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert N. Miyahira / Matt Blakesley

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-119

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (HOLD)	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					
1	B-10-5.0	10/10/17	0830	soil	5	X							X						X								X
2	B-10-20.0	↓	0845	soil	5	X																					X
3	B-10		0925	water	8	X	X																				
4	BH-2		1045	water	8	X	X			O			⊗ NO Cancel														
5	BH-4		1130	water	8	X	X																				

	Signature	Company	Date	Time
Relinquished		GeoEngineers, Inc.	10/10/17	1220
Received			10/10/17	1220
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
⊗ Added 10/11/17. DB (STA)
O Added 10/17/17. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Volume 2 – Contract Documents for Totem Lake Connector PAGE F91

```
File       :C:\msdchem\2\data\V171011\1011-V11.d
Operator   :
Acquired   : 11 Oct 2017  14:40     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-119-01 HC
Misc Info  :
Vial Number: 11
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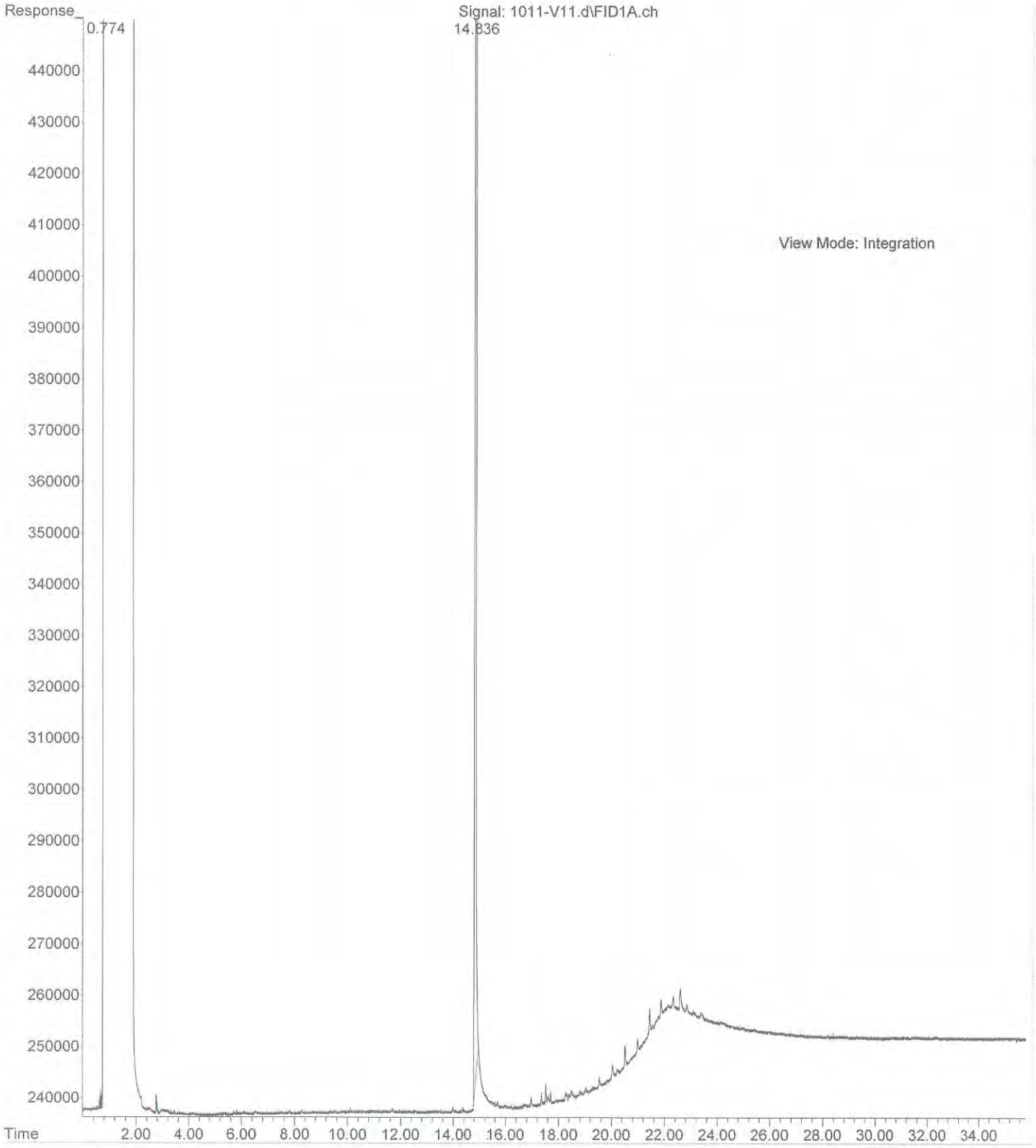

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Operator   :
Acquired   : 11 Oct 2017  21:11     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-119-02 HC
Misc Info  :
Vial Number: 20
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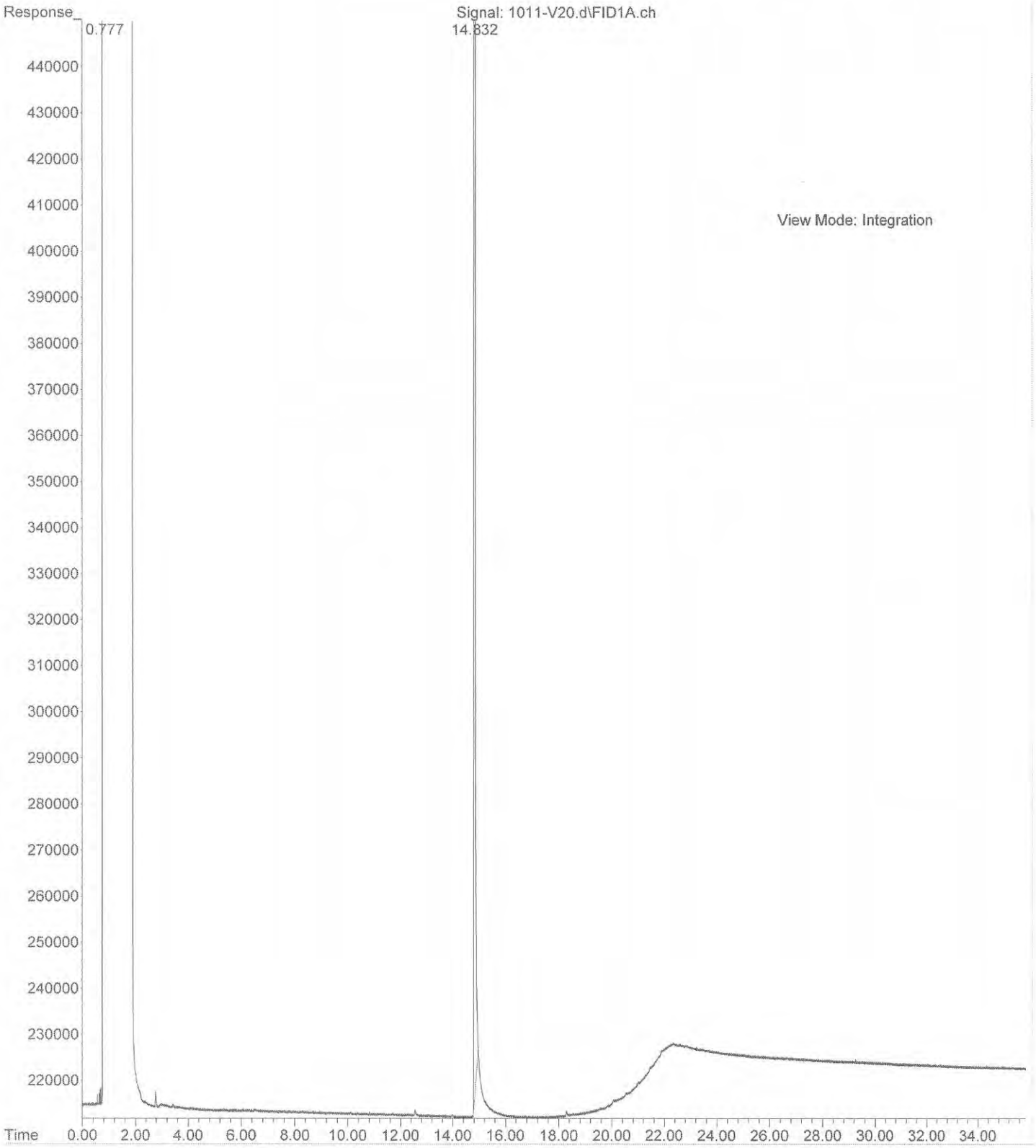
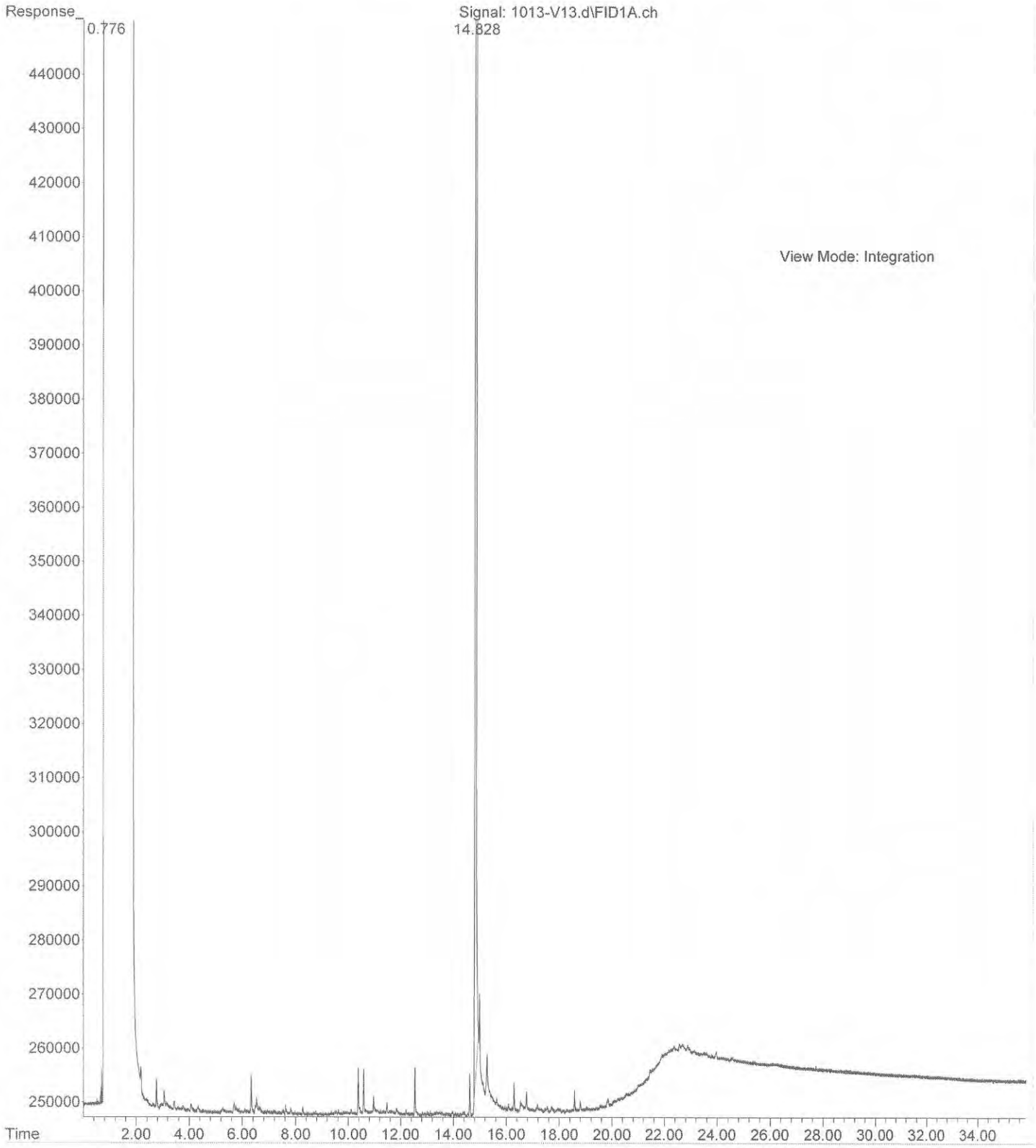


File :C:\msdchem\2\data\V171013\1013-V13.d
Operator :
Acquired : 13 Oct 2017 17:17 using AcqMethod V171004F.M
Instrument : Vigo
Sample Name: 10-119-03 HC
Misc Info :
Vial Number: 13



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File       :C:\msdchem\2\data\V171013\1013-V14.d
Operator   :
Acquired   : 13 Oct 2017  17:57     using AcqMethod V171004F.M
Instrument :   Vigo
Sample Name: 10-119-04 HC
Misc Info  :
Vial Number: 14
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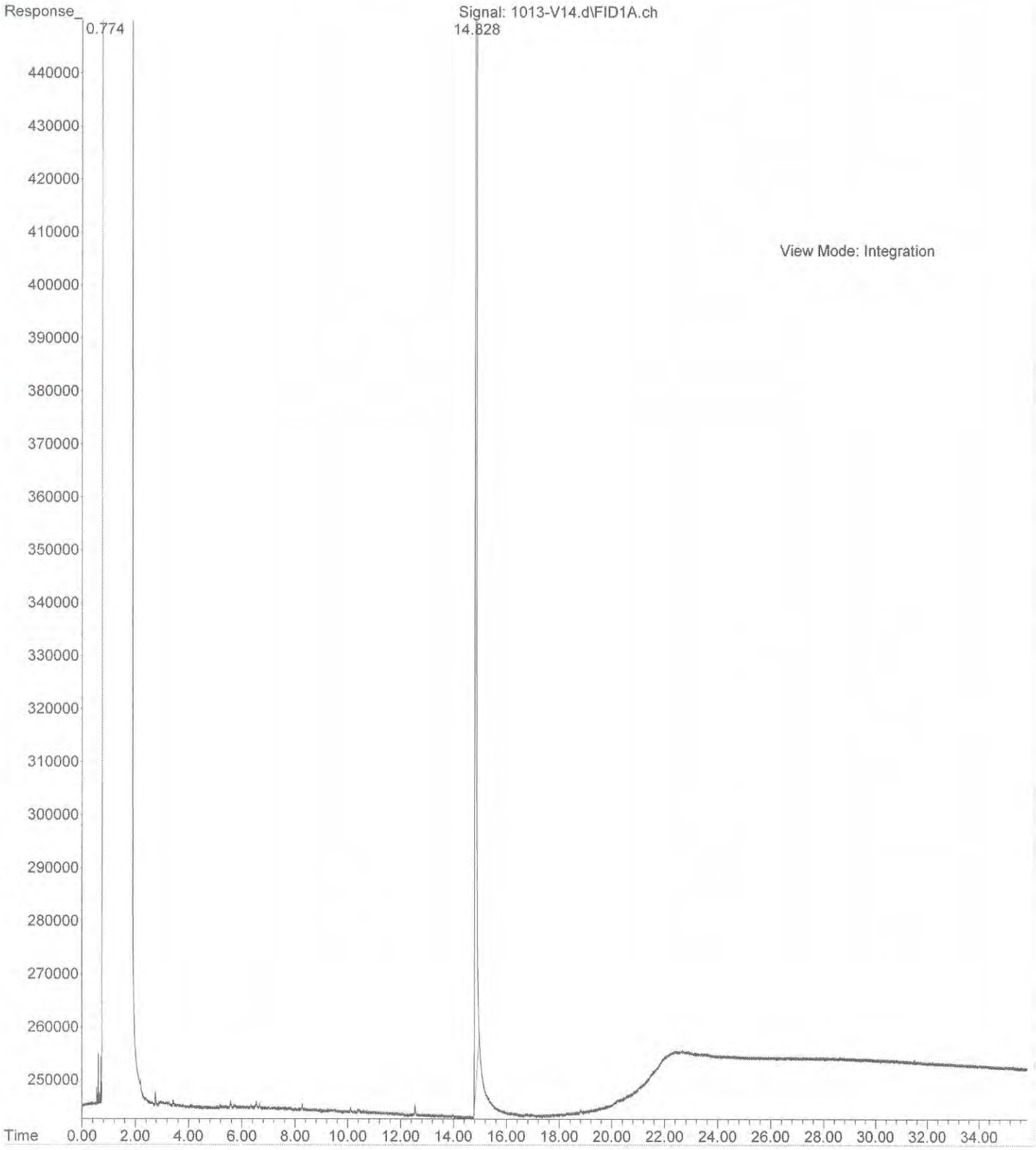
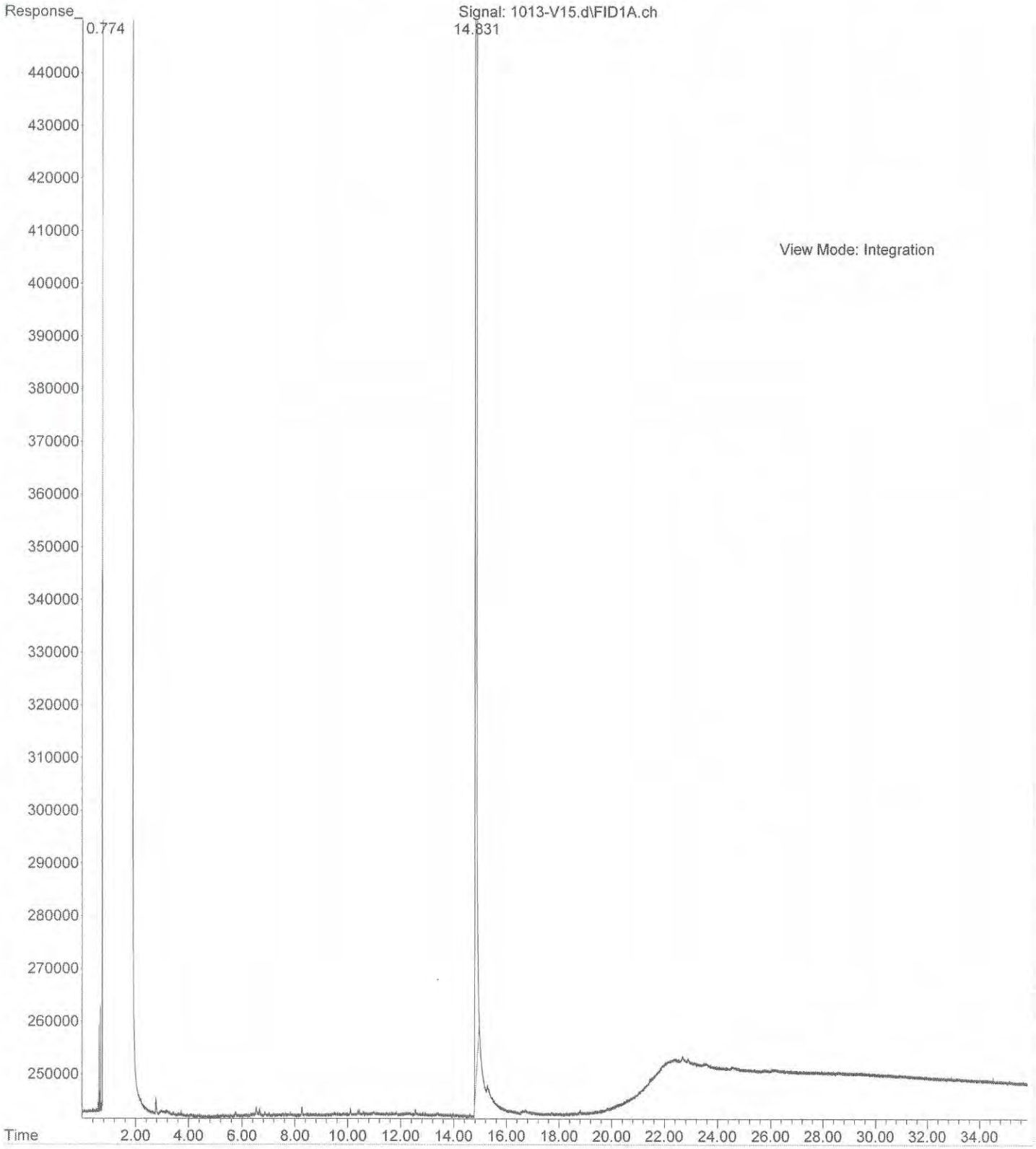


File :C:\msdchem\2\data\V171013\1013-V15.d
Operator :
Acquired : 13 Oct 2017 18:37 using AcqMethod V171004F.M
Instrument : Vigo
Sample Name: 10-119-05 HC
Misc Info :
Vial Number: 15



OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 18, 2017

Jacob Letts
GeoEngineers, Inc.
600 Stewart, Suite 1700
Seattle, WA 98101-1233

Re: Analytical Data for Project 0231-090-01
Laboratory Reference No. 1710-125

Dear Jacob:

Enclosed are the analytical results and associated quality control data for samples submitted on October 10, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

Case Narrative

Samples were collected on October 10, 2017 and received by the laboratory on October 10, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Total Metals EPA 6010C/7471B Analysis

The duplicate RPD for Chromium is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
B-9-05	10-125-01	Soil	10-10-17	10-10-17	
B-9-15	10-125-02	Soil	10-10-17	10-10-17	

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-9-05**					
Laboratory ID:	10-125-01					
Gasoline Range Organics	**ND**	21	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	53	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**B-9-15**					
Laboratory ID:	10-125-02					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	65	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*73*	*50-150*				

Date of Report: October 18, 2017
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SEMIVOLATILES EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-9-05**					
Laboratory ID:	10-125-01					
n-Nitrosodimethylamine	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Pyridine	**ND**	0.36	EPA 8270D	10-13-17	10-17-17	
Phenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Aniline	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
bis(2-Chloroethyl)ether	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2-Chlorophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
1,3-Dichlorobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
1,4-Dichlorobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Benzyl alcohol	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
1,2-Dichlorobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2-Methylphenol (o-Cresol)	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
bis(2-Chloroisopropyl)ether	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
n-Nitroso-di-n-propylamine	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Hexachloroethane	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Nitrobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Isophorone	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2-Nitrophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,4-Dimethylphenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
bis(2-Chloroethoxy)methane	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,4-Dichlorophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
1,2,4-Trichlorobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Naphthalene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
4-Chloroaniline	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
Hexachlorobutadiene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
4-Chloro-3-methylphenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2-Methylnaphthalene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
1-Methylnaphthalene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Hexachlorocyclopentadiene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,4,6-Trichlorophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,3-Dichloroaniline	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,4,5-Trichlorophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2-Chloronaphthalene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2-Nitroaniline	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
1,4-Dinitrobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Dimethylphthalate	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
1,3-Dinitrobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,6-Dinitrotoluene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
1,2-Dinitrobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Acenaphthylene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
3-Nitroaniline	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-9-05**					
Laboratory ID:	10-125-01					
2,4-Dinitrophenol	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
Acenaphthene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
4-Nitrophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,4-Dinitrotoluene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Dibenzofuran	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Diethylphthalate	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
4-Chlorophenyl-phenylether	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
4-Nitroaniline	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Fluorene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
4,6-Dinitro-2-methylphenol	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
n-Nitrosodiphenylamine	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
1,2-Diphenylhydrazine	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
4-Bromophenyl-phenylether	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Hexachlorobenzene	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Pentachlorophenol	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
Phenanthrene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Anthracene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Carbazole	**ND**	0.036	EPA 8270D	10-13-17	10-17-17	
Di-n-butylphthalate	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
Fluoranthene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Benzidine	**ND**	0.36	EPA 8270D	10-13-17	10-17-17	
Pyrene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Butylbenzylphthalate	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
bis-2-Ethylhexyladipate	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
3,3'-Dichlorobenzidine	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
Benzo[a]anthracene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Chrysene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
Di-n-octylphthalate	**ND**	0.18	EPA 8270D	10-13-17	10-17-17	
Benzo[b]fluoranthene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Benzo(j,k)fluoranthene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Benzo[a]pyrene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Dibenz[a,h]anthracene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Benzo[g,h,i]perylene	**ND**	0.0071	EPA 8270D/SIM	10-13-17	10-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*52*	*18 - 113*				
Phenol-d6	*55*	*19 - 119*				
Nitrobenzene-d5	*57*	*19 - 119*				
2-Fluorobiphenyl	*57*	*33 - 109*				
2,4,6-Tribromophenol	*64*	*19 - 121*				
Terphenyl-d14	*68*	*30 - 116*				

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-125-01					
Client ID:	**B-9-05**					
Arsenic	**ND**	11	6010C	10-12-17	10-12-17	
Barium	**70**	2.7	6010C	10-12-17	10-12-17	
Cadmium	**ND**	0.53	6010C	10-12-17	10-12-17	
Chromium	**32**	0.53	6010C	10-12-17	10-12-17	
Lead	**ND**	5.3	6010C	10-12-17	10-12-17	
Mercury	**ND**	0.27	7471B	10-16-17	10-16-17	
Selenium	**ND**	11	6010C	10-12-17	10-12-17	
Silver	**ND**	1.1	6010C	10-12-17	10-12-17	

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NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-11-17	10-11-17	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-11-17	10-11-17	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-11-17	10-11-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				

Date of Report: October 18, 2017
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SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1013S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Pyridine	**ND**	0.33	EPA 8270D	10-13-17	10-16-17	
Phenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Aniline	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Isophorone	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	

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SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1013S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Carbazole	**ND**	0.033	EPA 8270D	10-13-17	10-16-17	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzidine	**ND**	0.33	EPA 8270D	10-13-17	10-16-17	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	10-13-17	10-16-17	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-13-17	10-13-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*63*	*18 - 113*				
Phenol-d6	*65*	*19 - 119*				
Nitrobenzene-d5	*66*	*19 - 119*				
2-Fluorobiphenyl	*72*	*33 - 109*				
2,4,6-Tribromophenol	*80*	*19 - 121*				
Terphenyl-d14	*81*	*30 - 116*				

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1013S1									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.956**	**1.07**	1.33	1.33	72	80	39 - 109	11	36	
2-Chlorophenol	**0.979**	**1.11**	1.33	1.33	74	83	42 - 105	13	35	
1,4-Dichlorobenzene	**0.462**	**0.547**	0.667	0.667	69	82	31 - 103	17	37	
n-Nitroso-di-n-propylamine	**0.476**	**0.533**	0.667	0.667	71	80	36 - 104	11	34	
1,2,4-Trichlorobenzene	**0.479**	**0.540**	0.667	0.667	72	81	32 - 104	12	38	
4-Chloro-3-methylphenol	**1.10**	**1.16**	1.33	1.33	83	87	48 - 107	5	31	
Acenaphthene	**0.545**	**0.561**	0.667	0.667	82	84	38 - 102	3	33	
4-Nitrophenol	**1.11**	**1.10**	1.33	1.33	83	83	27 - 121	1	35	
2,4-Dinitrotoluene	**0.527**	**0.538**	0.667	0.667	79	81	36 - 103	2	34	
Pentachlorophenol	**1.36**	**1.29**	1.33	1.33	102	97	21 - 114	5	37	
Pyrene	**0.519**	**0.545**	0.667	0.667	78	82	46 - 108	5	31	
Surrogate:										
2-Fluorophenol					*69*	*80*	*18 - 113*			
Phenol-d6					*73*	*82*	*19 - 119*			
Nitrobenzene-d5					*74*	*83*	*19 - 119*			
2-Fluorobiphenyl					*76*	*78*	*33 - 109*			
2,4,6-Tribromophenol					*83*	*77*	*19 - 121*			
Terphenyl-d14					*77*	*79*	*30 - 116*			

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

TOTAL METALS
EPA 6010C
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1012SM1

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Barium	6010C	**ND**	2.5
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Lead	6010C	**ND**	5.0
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	1.0

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
METHOD BLANK QUALITY CONTROL

Date Extracted:	10-16-17
Date Analyzed:	10-16-17
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1016S1

Analyte	Method	Result	PQL
Mercury	7471B	**ND**	0.25

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

TOTAL METALS
EPA 6010C
DUPLICATE QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-079-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**85.2**	**96.2**	12	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**42.9**	**97.5**	78	0.50	K
Lead	**8.35**	**9.30**	11	5.0	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	1.0	

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-16-17
Date Analyzed: 10-16-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-119-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.25	

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

TOTAL METALS
EPA 6010C
MS/MSD QUALITY CONTROL

Date Extracted: 10-12-17
Date Analyzed: 10-12-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-079-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**94.2**	94	**92.9**	93	1	
Barium	100	**175**	90	**189**	104	8	
Cadmium	50.0	**44.2**	88	**43.6**	87	1	
Chromium	100	**133**	90	**137**	94	3	
Lead	250	**228**	88	**226**	87	1	
Selenium	100	**90.7**	91	**88.6**	89	2	
Silver	25.0	**21.2**	85	**20.8**	83	2	

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-16-17
Date Analyzed: 10-16-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-119-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.500	**0.586**	117	**0.531**	106	10	

Date of Report: October 18, 2017
Samples Submitted: October 10, 2017
Laboratory Reference: 1710-125
Project: 0231-090-01

% MOISTURE

Date Analyzed: 10-11-17

Client ID	Lab ID	% Moisture
B-9-05	10-125-01	6
B-9-15	10-125-02	23

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 10-125

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Matt Blakeslee

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A
1	~~B-~~ B-9-05	10/10/17	1110	soil	5	X							X						X			
2	B-9-15	10/10/17	1130	soil	5	X							~~X~~ NO						~~X~~ NO			

	Signature	Company	Date	Time
Relinquished	Matt Blakeslee	GeoEngineers, Inc.	10/10/17	1508
Received		COC	10/10/17	1508
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 24, 2017

Jacob Letts
GeoEngineers, Inc.
600 Stewart, Suite 1700
Seattle, WA 98101-1233

Re: Analytical Data for Project 0231-090-01
Laboratory Reference No. 1710-203

Dear Jacob:

Enclosed are the analytical results and associated quality control data for samples submitted on October 16, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

Case Narrative

Samples were collected on October 16, 2017 and received by the laboratory on October 16, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
B-14-10	10-203-01	Soil	10-16-17	10-16-17	
B-14-05	10-203-02	Soil	10-16-17	10-16-17	
B-13-05	10-203-03	Soil	10-16-17	10-16-17	
B-13-10	10-203-04	Soil	10-16-17	10-16-17	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14-10**					
Laboratory ID:	10-203-01					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	10-18-17	10-18-17	
Diesel Range Organics	**ND**	60	NWTPH-HCID	10-18-17	10-18-17	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	10-18-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**B-14-05**					
Laboratory ID:	10-203-02					
Gasoline Range Organics	**ND**	21	NWTPH-HCID	10-18-17	10-18-17	
Diesel Range Organics	**ND**	52	NWTPH-HCID	10-18-17	10-18-17	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-18-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				
Client ID:	**B-13-05**					
Laboratory ID:	10-203-03					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	10-18-17	10-18-17	
Diesel Range Organics	**ND**	54	NWTPH-HCID	10-18-17	10-18-17	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	10-18-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*115*	*50-150*				
Client ID:	**B-13-10**					
Laboratory ID:	10-203-04					
Gasoline Range Organics	**ND**	21	NWTPH-HCID	10-18-17	10-18-17	
Diesel Range Organics	**ND**	52	NWTPH-HCID	10-18-17	10-18-17	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-18-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*121*	*50-150*				

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14-05**					
Laboratory ID:	10-203-02					
n-Nitrosodimethylamine	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Pyridine	**ND**	0.35	EPA 8270D	10-17-17	10-18-17	
Phenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Aniline	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
bis(2-Chloroethyl)ether	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2-Chlorophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
1,3-Dichlorobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
1,4-Dichlorobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
1,2-Dichlorobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2-Methylphenol (o-Cresol)	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
bis(2-Chloroisopropyl)ether	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
n-Nitroso-di-n-propylamine	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Hexachloroethane	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Nitrobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Isophorone	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2-Nitrophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,4-Dimethylphenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
bis(2-Chloroethoxy)methane	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,4-Dichlorophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
1,2,4-Trichlorobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Naphthalene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
Hexachlorobutadiene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
4-Chloro-3-methylphenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2-Methylnaphthalene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
1-Methylnaphthalene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Hexachlorocyclopentadiene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,4,6-Trichlorophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,3-Dichloroaniline	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,4,5-Trichlorophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2-Chloronaphthalene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2-Nitroaniline	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
1,4-Dinitrobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Dimethylphthalate	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
1,3-Dinitrobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,6-Dinitrotoluene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
1,2-Dinitrobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Acenaphthylene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
3-Nitroaniline	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14-05**					
Laboratory ID:	10-203-02					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
Acenaphthene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
4-Nitrophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,4-Dinitrotoluene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Dibenzofuran	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
4-Chlorophenyl-phenylether	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
4-Nitroaniline	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Fluorene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
n-Nitrosodiphenylamine	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
1,2-Diphenylhydrazine	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
4-Bromophenyl-phenylether	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Hexachlorobenzene	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
Phenanthrene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Anthracene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Carbazole	**ND**	0.035	EPA 8270D	10-17-17	10-18-17	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
Fluoranthene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Benzidine	**ND**	0.35	EPA 8270D	10-17-17	10-18-17	
Pyrene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
Benzo[a]anthracene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Chrysene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-18-17	
Benzo[b]fluoranthene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Benzo(j,k)fluoranthene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Benzo[a]pyrene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Dibenz[a,h]anthracene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Benzo[g,h,i]perylene	**ND**	0.0069	EPA 8270D/SIM	10-17-17	10-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*55*	*18 - 113*				
Phenol-d6	*56*	*19 - 119*				
Nitrobenzene-d5	*56*	*19 - 119*				
2-Fluorobiphenyl	*57*	*33 - 109*				
2,4,6-Tribromophenol	*59*	*19 - 121*				
Terphenyl-d14	*58*	*30 - 116*				

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
page 1 of 2

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13-05**					
Laboratory ID:	10-203-03					
n-Nitrosodimethylamine	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Pyridine	**ND**	0.36	EPA 8270D	10-17-17	10-18-17	
Phenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Aniline	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
bis(2-Chloroethyl)ether	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2-Chlorophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
1,3-Dichlorobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
1,4-Dichlorobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Benzyl alcohol	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
1,2-Dichlorobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2-Methylphenol (o-Cresol)	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
bis(2-Chloroisopropyl)ether	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
n-Nitroso-di-n-propylamine	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Hexachloroethane	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Nitrobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Isophorone	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2-Nitrophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,4-Dimethylphenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
bis(2-Chloroethoxy)methane	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,4-Dichlorophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
1,2,4-Trichlorobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Naphthalene	**0.0074**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
4-Chloroaniline	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
Hexachlorobutadiene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
4-Chloro-3-methylphenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2-Methylnaphthalene	**0.011**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
1-Methylnaphthalene	**0.0095**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Hexachlorocyclopentadiene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,4,6-Trichlorophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,3-Dichloroaniline	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,4,5-Trichlorophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2-Chloronaphthalene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2-Nitroaniline	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
1,4-Dinitrobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Dimethylphthalate	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
1,3-Dinitrobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,6-Dinitrotoluene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
1,2-Dinitrobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Acenaphthylene	**ND**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
3-Nitroaniline	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13-05**					
Laboratory ID:	10-203-03					
2,4-Dinitrophenol	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
Acenaphthene	**ND**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
4-Nitrophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,4-Dinitrotoluene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Dibenzofuran	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Diethylphthalate	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
4-Chlorophenyl-phenylether	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
4-Nitroaniline	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Fluorene	**ND**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
4,6-Dinitro-2-methylphenol	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
n-Nitrosodiphenylamine	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
1,2-Diphenylhydrazine	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
4-Bromophenyl-phenylether	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Hexachlorobenzene	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Pentachlorophenol	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
Phenanthrene	**0.013**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Anthracene	**ND**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Carbazole	**ND**	0.036	EPA 8270D	10-17-17	10-18-17	
Di-n-butylphthalate	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
Fluoranthene	**0.017**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Benzidine	**ND**	0.36	EPA 8270D	10-17-17	10-18-17	
Pyrene	**0.016**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Butylbenzylphthalate	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
bis-2-Ethylhexyladipate	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
3,3'-Dichlorobenzidine	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
Benzo[a]anthracene	**0.0078**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Chrysene	**0.012**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
Di-n-octylphthalate	**ND**	0.18	EPA 8270D	10-17-17	10-18-17	
Benzo[b]fluoranthene	**0.017**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Benzo(j,k)fluoranthene	**ND**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Benzo[a]pyrene	**0.0098**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Indeno[1,2,3-cd]pyrene	**0.010**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Dibenz[a,h]anthracene	**ND**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Benzo[g,h,i]perylene	**0.011**	0.0072	EPA 8270D/SIM	10-17-17	10-23-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*51*	*18 - 113*				
Phenol-d6	*53*	*19 - 119*				
Nitrobenzene-d5	*56*	*19 - 119*				
2-Fluorobiphenyl	*56*	*33 - 109*				
2,4,6-Tribromophenol	*56*	*19 - 121*				
Terphenyl-d14	*57*	*30 - 116*				

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	10-203-02					
Client ID:	**B-14-05**					
Arsenic	**ND**	10	6010C	10-17-17	10-19-17	
Barium	**59**	2.6	6010C	10-17-17	10-19-17	
Cadmium	**ND**	0.52	6010C	10-17-17	10-19-17	
Chromium	**20**	0.52	6010C	10-17-17	10-19-17	
Lead	**ND**	5.2	6010C	10-17-17	10-19-17	
Mercury	**ND**	0.26	7471B	10-19-17	10-19-17	
Selenium	**ND**	10	6010C	10-17-17	10-19-17	
Silver	**ND**	1.0	6010C	10-17-17	10-19-17	
Lab ID:	10-203-03					
Client ID:	**B-13-05**					
Arsenic	**ND**	11	6010C	10-17-17	10-19-17	
Barium	**95**	2.7	6010C	10-17-17	10-19-17	
Cadmium	**ND**	0.54	6010C	10-17-17	10-19-17	
Chromium	**30**	0.54	6010C	10-17-17	10-19-17	
Lead	**28**	5.4	6010C	10-17-17	10-19-17	
Mercury	**ND**	0.27	7471B	10-19-17	10-19-17	
Selenium	**ND**	11	6010C	10-17-17	10-19-17	
Silver	**ND**	1.1	6010C	10-17-17	10-19-17	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018S1					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	10-18-17	10-18-17	
Diesel Range Organics	**ND**	50	NWTPH-HCID	10-18-17	10-18-17	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	10-18-17	10-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1017S2					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Pyridine	**ND**	0.33	EPA 8270D	10-17-17	10-17-17	
Phenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Aniline	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2-Chlorophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Benzyl alcohol	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Hexachloroethane	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Nitrobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Isophorone	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2-Nitrophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
4-Chloroaniline	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2-Nitroaniline	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Dimethylphthalate	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
3-Nitroaniline	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1017S2					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
4-Nitrophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Dibenzofuran	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Diethylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
4-Nitroaniline	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Pentachlorophenol	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Carbazole	**ND**	0.033	EPA 8270D	10-17-17	10-17-17	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Benzidine	**ND**	0.33	EPA 8270D	10-17-17	10-17-17	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Butylbenzylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
bis-2-Ethylhexyladipate	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
Di-n-octylphthalate	**ND**	0.17	EPA 8270D	10-17-17	10-17-17	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	10-17-17	10-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*75*	*18 - 113*				
Phenol-d6	*76*	*19 - 119*				
Nitrobenzene-d5	*78*	*19 - 119*				
2-Fluorobiphenyl	*77*	*33 - 109*				
2,4,6-Tribromophenol	*76*	*19 - 121*				
Terphenyl-d14	*81*	*30 - 116*				

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

SEMIVOLATILES EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1017S2									
	SB	SBD	SB	SBD	SB	SBD				
Phenol	**0.746**	**0.836**	1.33	1.33	56	63	39 - 109	11	36	
2-Chlorophenol	**0.749**	**0.871**	1.33	1.33	56	65	42 - 105	15	35	
1,4-Dichlorobenzene	**0.312**	**0.410**	0.667	0.667	47	61	31 - 103	27	37	
n-Nitroso-di-n-propylamine	**0.371**	**0.422**	0.667	0.667	56	63	36 - 104	13	34	
1,2,4-Trichlorobenzene	**0.374**	**0.451**	0.667	0.667	56	68	32 - 104	19	38	
4-Chloro-3-methylphenol	**0.936**	**1.00**	1.33	1.33	70	75	48 - 107	7	31	
Acenaphthene	**0.465**	**0.504**	0.667	0.667	70	76	38 - 102	8	33	
4-Nitrophenol	**0.905**	**1.11**	1.33	1.33	68	83	27 - 121	20	35	
2,4-Dinitrotoluene	**0.402**	**0.453**	0.667	0.667	60	68	36 - 103	12	34	
Pentachlorophenol	**1.08**	**1.19**	1.33	1.33	81	89	21 - 114	10	37	
Pyrene	**0.451**	**0.487**	0.667	0.667	68	73	46 - 108	8	31	
Surrogate:										
2-Fluorophenol					*52*	*62*	*18 - 113*			
Phenol-d6					*59*	*63*	*19 - 119*			
Nitrobenzene-d5					*59*	*67*	*19 - 119*			
2-Fluorobiphenyl					*65*	*68*	*33 - 109*			
2,4,6-Tribromophenol					*69*	*68*	*19 - 121*			
Terphenyl-d14					*66*	*69*	*30 - 116*			

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

TOTAL METALS
EPA 6010C
METHOD BLANK QUALITY CONTROL

Date Extracted: 10-17-17
Date Analyzed: 10-17-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1017SM5

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Barium	6010C	**ND**	2.5
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Lead	6010C	**ND**	5.0
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	1.0

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
METHOD BLANK QUALITY CONTROL

Date Extracted:	10-19-17
Date Analyzed:	10-19-17
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB1019S1

Analyte	Method	Result	PQL
Mercury	7471B	**ND**	0.25

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

TOTAL METALS
EPA 6010C
DUPLICATE QUALITY CONTROL

Date Extracted: 10-17-17
Date Analyzed: 10-17-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-201-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**14.6**	**16.0**	9	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**9.35**	**9.20**	2	0.50	
Lead	**ND**	**ND**	NA	5.0	
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	1.0	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 10-19-17
Date Analyzed: 10-19-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-188-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.25	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

TOTAL METALS
EPA 6010C
MS/MSD QUALITY CONTROL

Date Extracted: 10-17-17
Date Analyzed: 10-17-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-201-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**97.2**	97	**99.8**	100	3	
Barium	100	**121**	107	**118**	104	2	
Cadmium	50.0	**44.6**	89	**45.5**	91	2	
Chromium	100	**103**	93	**103**	93	0	
Lead	250	**235**	94	**237**	95	1	
Selenium	100	**99.4**	99	**98.7**	99	1	
Silver	25.0	**22.0**	88	**22.3**	89	1	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

TOTAL MERCURY
EPA 7471B
MS/MSD QUALITY CONTROL

Date Extracted: 10-19-17
Date Analyzed: 10-19-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 10-188-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.500	**0.515**	103	**0.517**	103	0	

Date of Report: October 24, 2017
Samples Submitted: October 16, 2017
Laboratory Reference: 1710-203
Project: 0231-090-01

% MOISTURE

Date Analyzed: 10-17-17

Client ID	Lab ID	% Moisture
B-14-10	10-203-01	17
B-14-05	10-203-02	4
B-13-05	10-203-03	8
B-13-10	10-203-04	4

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 1

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Matt Blakeslee

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 10-203

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					
2	B-14-10	10/16/17	0825	soil	5	X						X	X	NO					X	NO							X
1	B-14-05	10/16/17	0810	soil	5	X							X						X								
3	B-13-05	10/16/17	1210	soil	5	X							X						X								
4	B-13-10	10/16/17	1220	soil	5	X						X	X	NO					X	NO							X

	Signature	Company	Date	Time
Relinquished	Matt Blakeslee	GeoEngineers, Inc	10/16/17	2:45P
Received		OSE	10/16/17	2:45P
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 2, 2018

Jacob Letts
GeoEngineers, Inc.
600 Stewart, Suite 1700
Seattle, WA 98101-1233

Re: Analytical Data for Project 0231-090-01
Laboratory Reference No. 1802-216

Dear Jacob:

Enclosed are the analytical results and associated quality control data for samples submitted on February 21, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

Case Narrative

Samples were collected on February 21, 2018 and received by the laboratory on February 21, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Organochlorine Pesticides by EPA 8081B Analysis

Negative effects of the matrix from the samples SS-6,-8,-15,-16,-17,-19-,-20,-21, and -22 on the instrument caused values for Heptachlor, 4,4'-DDT, Endrin Aldehyde, and Methoxychlor in the continuing calibration verification standards (CCVs) to be low. Therefore, values can be greater than reported. The degradation of the CCV standards was reproducible after re-injecting the sample extracts, therefore the CCV degradation problem was attributed to the matrix of these samples. No further action was performed.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS-3	02-216-01	Soil	2-21-18	2-21-18	
SS-4	02-216-02	Soil	2-21-18	2-21-18	
SS-5	02-216-03	Soil	2-21-18	2-21-18	
SS-6	02-216-04	Soil	2-21-18	2-21-18	
SS-7	02-216-05	Soil	2-21-18	2-21-18	
SS-8	02-216-06	Soil	2-21-18	2-21-18	
SS-9	02-216-07	Soil	2-21-18	2-21-18	
SS-10	02-216-08	Soil	2-21-18	2-21-18	
SS-11	02-216-09	Soil	2-21-18	2-21-18	
SS-12	02-216-10	Soil	2-21-18	2-21-18	
SS-13	02-216-11	Soil	2-21-18	2-21-18	
SS-14	02-216-12	Soil	2-21-18	2-21-18	
SS-15	02-216-13	Soil	2-21-18	2-21-18	
SS-16	02-216-14	Soil	2-21-18	2-21-18	
SS-17	02-216-15	Soil	2-21-18	2-21-18	
SS-18	02-216-16	Soil	2-21-18	2-21-18	
SS-19	02-216-17	Soil	2-21-18	2-21-18	
SS-20	02-216-18	Soil	2-21-18	2-21-18	
SS-21	02-216-19	Soil	2-21-18	2-21-18	
SS-22	02-216-20	Soil	2-21-18	2-21-18	
SS-23	02-216-21	Soil	2-21-18	2-21-18	

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-3**					
Laboratory ID:	02-216-01					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	73	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	150	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**SS-4**					
Laboratory ID:	02-216-02					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	57	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**SS-5**					
Laboratory ID:	02-216-03					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	55	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**SS-6**					
Laboratory ID:	02-216-04					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	60	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**SS-7**					
Laboratory ID:	02-216-05					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	54	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-8**					
Laboratory ID:	02-216-06					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	72	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil	**Detected**	150	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**SS-9**					
Laboratory ID:	02-216-07					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	65	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**SS-10**					
Laboratory ID:	02-216-08					
Gasoline Range Organics	**ND**	21	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	53	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**SS-11**					
Laboratory ID:	02-216-09					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	59	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**SS-12**					
Laboratory ID:	02-216-10					
Gasoline Range Organics	**ND**	21	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	54	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-13**					
Laboratory ID:	02-216-11					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	58	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**SS-14**					
Laboratory ID:	02-216-12					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	60	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**SS-15**					
Laboratory ID:	02-216-13					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	72	NWTPH-HCID	2-22-18	2-22-18	U1
Lube Oil	**Detected**	140	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**SS-16**					
Laboratory ID:	02-216-14					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	70	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**SS-17**					
Laboratory ID:	02-216-15					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	60	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil	**Detected**	120	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-18**					
Laboratory ID:	02-216-16					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	69	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**SS-19**					
Laboratory ID:	02-216-17					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	71	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**SS-20**					
Laboratory ID:	02-216-18					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	57	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil	**Detected**	110	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**SS-21**					
Laboratory ID:	02-216-19					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	70	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**SS-22**					
Laboratory ID:	02-216-20					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-23**					
Laboratory ID:	02-216-21					
Gasoline Range Organics	**ND**	21	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	53	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-8**					
Laboratory ID:	02-216-06					
Diesel Range Organics	**ND**	36	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil	**79**	72	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*71*	*50-150*				
Client ID:	**SS-15**					
Laboratory ID:	02-216-13					
Diesel Range Organics	**ND**	170	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil	**670**	340	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**SS-17**					
Laboratory ID:	02-216-15					
Diesel Range Organics	**ND**	150	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil	**530**	300	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**SS-20**					
Laboratory ID:	02-216-18					
Diesel Range Organics	**ND**	30	NWTPH-Dx	2-28-18	2-28-18	U1
Lube Oil	**160**	57	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-3**					
Laboratory ID:	02-216-01					
alpha-BHC	**ND**	7.3	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	7.3	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	7.3	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	7.3	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**220**	7.3	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	7.3	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	7.3	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	15	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**43**	15	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	7.3	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	15	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	15	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	15	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	73	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*45*	*41-106*				
DCB	*74*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-4**					
Laboratory ID:	02-216-02					
alpha-BHC	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
gamma-BHC	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
beta-BHC	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
delta-BHC	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
Heptachlor	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
Aldrin	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
gamma-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-27-18	
alpha-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-27-18	
4,4'-DDE	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endosulfan I	**ND**	5.7	EPA 8081B	2-23-18	2-27-18	
Dieldrin	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endrin	**ND**	11	EPA 8081B	2-23-18	2-27-18	
4,4'-DDD	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endosulfan II	**ND**	11	EPA 8081B	2-23-18	2-27-18	
4,4'-DDT	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endrin Aldehyde	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Methoxychlor	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endosulfan Sulfate	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endrin Ketone	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Toxaphene	**ND**	57	EPA 8081B	2-23-18	2-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*57*	*41-106*				
DCB	*66*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-5**					
Laboratory ID:	02-216-03					
alpha-BHC	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
gamma-BHC	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
beta-BHC	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
delta-BHC	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
Heptachlor	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
Aldrin	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
Heptachlor Epoxide	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
gamma-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-27-18	
alpha-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-27-18	
4,4'-DDE	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endosulfan I	**ND**	5.5	EPA 8081B	2-23-18	2-27-18	
Dieldrin	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endrin	**ND**	11	EPA 8081B	2-23-18	2-27-18	
4,4'-DDD	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endosulfan II	**ND**	11	EPA 8081B	2-23-18	2-27-18	
4,4'-DDT	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endrin Aldehyde	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Methoxychlor	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endosulfan Sulfate	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Endrin Ketone	**ND**	11	EPA 8081B	2-23-18	2-27-18	
Toxaphene	**ND**	55	EPA 8081B	2-23-18	2-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*52*	*41-106*				
DCB	*57*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-6**					
Laboratory ID:	02-216-04					
alpha-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**320**	60	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	12	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**29**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**15**	12	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	60	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*63*	*41-106*				
DCB	*74*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-7**					
Laboratory ID:	02-216-05					
alpha-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	54	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*68*	*41-106*				
DCB	*78*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-8**					
Laboratory ID:	02-216-06					
alpha-BHC	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	7.2	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	72	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*64*	*41-106*				
DCB	*52*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-9**					
Laboratory ID:	02-216-07					
alpha-BHC	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	13	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	13	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	6.5	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	13	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	13	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	13	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	65	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*65*	*41-106*				
DCB	*73*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-10**					
Laboratory ID:	02-216-08					
alpha-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	53	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*73*	*41-106*				
DCB	*84*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-11**					
Laboratory ID:	02-216-09					
alpha-BHC	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
gamma-BHC	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
beta-BHC	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
delta-BHC	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
Heptachlor	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
Aldrin	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
Heptachlor Epoxide	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
gamma-Chlordane	**ND**	12	EPA 8081B	2-23-18	2-27-18	
alpha-Chlordane	**ND**	12	EPA 8081B	2-23-18	2-27-18	
4,4'-DDE	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Endosulfan I	**ND**	5.9	EPA 8081B	2-23-18	2-27-18	
Dieldrin	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Endrin	**ND**	12	EPA 8081B	2-23-18	2-27-18	
4,4'-DDD	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Endosulfan II	**ND**	12	EPA 8081B	2-23-18	2-27-18	
4,4'-DDT	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Endrin Aldehyde	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Methoxychlor	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Endosulfan Sulfate	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Endrin Ketone	**ND**	12	EPA 8081B	2-23-18	2-27-18	
Toxaphene	**ND**	59	EPA 8081B	2-23-18	2-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*68*	*41-106*				
DCB	*78*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-12**					
Laboratory ID:	02-216-10					
alpha-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	5.4	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	54	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*65*	*41-106*				
DCB	*77*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-13**					
Laboratory ID:	02-216-11					
alpha-BHC	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
gamma-BHC	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
beta-BHC	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
delta-BHC	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
Heptachlor	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
Aldrin	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
Heptachlor Epoxide	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
gamma-Chlordane	**ND**	12	EPA 8081B	2-23-18	2-28-18	
alpha-Chlordane	**ND**	12	EPA 8081B	2-23-18	2-28-18	
4,4'-DDE	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Endosulfan I	**ND**	5.8	EPA 8081B	2-23-18	2-28-18	
Dieldrin	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Endrin	**ND**	12	EPA 8081B	2-23-18	2-28-18	
4,4'-DDD	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Endosulfan II	**ND**	12	EPA 8081B	2-23-18	2-28-18	
4,4'-DDT	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Endrin Aldehyde	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Methoxychlor	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Endosulfan Sulfate	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Endrin Ketone	**ND**	12	EPA 8081B	2-23-18	2-28-18	
Toxaphene	**ND**	58	EPA 8081B	2-23-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*63*	*41-106*				
DCB	*62*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-14**					
Laboratory ID:	02-216-12					
alpha-BHC	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	12	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	12	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	6.0	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	12	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	12	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	12	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	60	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*62*	*41-106*				
DCB	*74*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-15**					
Laboratory ID:	02-216-13					
alpha-BHC	**ND**	6.9	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	6.9	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	6.9	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	6.9	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**23**	6.9	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	6.9	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	6.9	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	6.9	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	69	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*59*	*41-106*				
DCB	*65*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-16**					
Laboratory ID:	02-216-14					
alpha-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	70	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*69*	*41-106*				
DCB	*59*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-17**					
Laboratory ID:	02-216-15					
alpha-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	12	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	6.0	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	60	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*63*	*41-106*				
DCB	*52*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-18**					
Laboratory ID:	02-216-16					
alpha-BHC	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
gamma-BHC	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
beta-BHC	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
delta-BHC	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
Heptachlor	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
Aldrin	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
Heptachlor Epoxide	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
gamma-Chlordane	**ND**	14	EPA 8081B	2-23-18	2-27-18	
alpha-Chlordane	**ND**	14	EPA 8081B	2-23-18	2-27-18	
4,4'-DDE	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Endosulfan I	**ND**	6.9	EPA 8081B	2-23-18	2-27-18	
Dieldrin	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Endrin	**ND**	14	EPA 8081B	2-23-18	2-27-18	
4,4'-DDD	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Endosulfan II	**ND**	14	EPA 8081B	2-23-18	2-27-18	
4,4'-DDT	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Endrin Aldehyde	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Methoxychlor	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Endosulfan Sulfate	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Endrin Ketone	**ND**	14	EPA 8081B	2-23-18	2-27-18	
Toxaphene	**ND**	69	EPA 8081B	2-23-18	2-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*65*	*41-106*				
DCB	*67*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-19**					
Laboratory ID:	02-216-17					
alpha-BHC	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	7.1	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	71	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*55*	*41-106*				
DCB	*46*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-20**					
Laboratory ID:	02-216-18					
alpha-BHC	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	11	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**ND**	11	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	5.7	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	11	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	11	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	11	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	57	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*67*	*41-106*				
DCB	*56*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-21**					
Laboratory ID:	02-216-19					
alpha-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**210**	7.0	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	14	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**42**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	7.0	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	14	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**29**	14	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	14	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	70	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*50*	*41-106*				
DCB	*67*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-22**					
Laboratory ID:	02-216-20					
alpha-BHC	**ND**	6.1	EPA 8081B	2-23-18	3-1-18	
gamma-BHC	**ND**	6.1	EPA 8081B	2-23-18	3-1-18	
beta-BHC	**ND**	6.1	EPA 8081B	2-23-18	3-1-18	
delta-BHC	**ND**	6.1	EPA 8081B	2-23-18	3-1-18	
Heptachlor	**13**	6.1	EPA 8081B	2-23-18	3-1-18	
Aldrin	**ND**	6.1	EPA 8081B	2-23-18	3-1-18	
Heptachlor Epoxide	**ND**	6.1	EPA 8081B	2-23-18	3-1-18	
gamma-Chlordane	**ND**	12	EPA 8081B	2-23-18	3-1-18	
alpha-Chlordane	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDE	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan I	**ND**	6.1	EPA 8081B	2-23-18	3-1-18	
Dieldrin	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDD	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan II	**ND**	12	EPA 8081B	2-23-18	3-1-18	
4,4'-DDT	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin Aldehyde	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Methoxychlor	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endosulfan Sulfate	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Endrin Ketone	**ND**	12	EPA 8081B	2-23-18	3-1-18	
Toxaphene	**ND**	61	EPA 8081B	2-23-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*75*	*41-106*				
DCB	*59*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-23**					
Laboratory ID:	02-216-21					
alpha-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	5.3	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	11	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	11	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	53	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*70*	*41-106*				
DCB	*80*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0222S1					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Laboratory ID:	MB0222S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	2-22-18	2-22-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	2-22-18	2-22-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	2-22-18	2-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0228S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-216-15										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil	**436**	**436**	NA	NA		NA		NA	0	NA	
Surrogate:											
o-Terphenyl						*102*	*92*	*50-150*			

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0223S1					
alpha-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	10	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	10	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	10	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	10	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	50	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*68*	*41-106*				
DCB	*85*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0223S2					
alpha-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
gamma-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
beta-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
delta-BHC	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Heptachlor	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Aldrin	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Heptachlor Epoxide	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
gamma-Chlordane	**ND**	10	EPA 8081B	2-23-18	2-26-18	
alpha-Chlordane	**ND**	10	EPA 8081B	2-23-18	2-26-18	
4,4'-DDE	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endosulfan I	**ND**	5.0	EPA 8081B	2-23-18	2-26-18	
Dieldrin	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endrin	**ND**	10	EPA 8081B	2-23-18	2-26-18	
4,4'-DDD	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endosulfan II	**ND**	10	EPA 8081B	2-23-18	2-26-18	
4,4'-DDT	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endrin Aldehyde	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Methoxychlor	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endosulfan Sulfate	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Endrin Ketone	**ND**	10	EPA 8081B	2-23-18	2-26-18	
Toxaphene	**ND**	50	EPA 8081B	2-23-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*80*	*41-106*				
DCB	*94*	*40-123*				

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B SB/SBD QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0223S1										
	SB	SBD	SB	SBD		SB	SBD				
alpha-BHC	**80.7**	**80.2**	100	100	N/A	**81**	**80**	50-130	1	20	
gamma-BHC	**80.5**	**80.0**	100	100	N/A	**80**	**80**	49-118	1	15	
beta-BHC	**79.4**	**77.8**	100	100	N/A	**79**	**78**	50-130	2	20	
delta-BHC	**89.4**	**88.6**	100	100	N/A	**89**	**89**	50-130	1	20	
Heptachlor	**93.0**	**93.5**	100	100	N/A	**93**	**93**	45-121	1	15	
Aldrin	**82.3**	**81.9**	100	100	N/A	**82**	**82**	55-123	0	15	
Heptachlor Epoxide	**75.8**	**75.3**	100	100	N/A	**76**	**75**	50-130	1	20	
gamma-Chlordane	**80.2**	**79.3**	100	100	N/A	**80**	**79**	50-130	1	20	
alpha-Chlordane	**78.9**	**78.1**	100	100	N/A	**79**	**78**	50-130	1	20	
4,4'-DDE	**90.8**	**90.4**	100	100	N/A	**91**	**90**	50-130	0	20	
Endosulfan I	**81.7**	**80.8**	100	100	N/A	**82**	**81**	50-130	1	20	
Dieldrin	**82.9**	**82.0**	100	100	N/A	**83**	**82**	51-119	1	15	
Endrin	**78.7**	**77.9**	100	100	N/A	**79**	**78**	53-131	1	15	
4,4'-DDD	**90.1**	**89.0**	100	100	N/A	**90**	**89**	50-130	1	20	
Endosulfan II	**80.4**	**79.3**	100	100	N/A	**80**	**79**	50-130	1	20	
4,4'-DDT	**91.4**	**89.4**	100	100	N/A	**91**	**89**	48-120	2	15	
Endrin Aldehyde	**93.3**	**89.3**	100	100	N/A	**93**	**89**	50-130	4	20	
Methoxychlor	**81.9**	**80.2**	100	100	N/A	**82**	**80**	50-130	2	20	
Endosulfan Sulfate	**79.0**	**78.5**	100	100	N/A	**79**	**78**	50-130	1	20	
Endrin Ketone	**76.6**	**75.5**	100	100	N/A	**77**	**76**	50-130	1	20	
Surrogate:											
TCMX						*66*	*66*	*41-106*			
DCB						*84*	*86*	*40-123*			

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

ORGANOCHLORINE PESTICIDES EPA 8081B SB/SBD QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0223S2										
	SB	SBD	SB	SBD		SB	SBD				
alpha-BHC	**83.0**	**86.1**	100	100	N/A	**83**	**86**	50-130	4	20	
gamma-BHC	**82.0**	**85.3**	100	100	N/A	**82**	**85**	49-118	4	15	
beta-BHC	**79.0**	**81.9**	100	100	N/A	**79**	**82**	50-130	4	20	
delta-BHC	**89.8**	**93.4**	100	100	N/A	**90**	**93**	50-130	4	20	
Heptachlor	**97.9**	**102**	100	100	N/A	**98**	**102**	45-121	4	15	
Aldrin	**83.0**	**86.3**	100	100	N/A	**83**	**86**	55-123	4	15	
Heptachlor Epoxide	**75.3**	**78.0**	100	100	N/A	**75**	**78**	50-130	4	20	
gamma-Chlordane	**79.5**	**82.6**	100	100	N/A	**80**	**83**	50-130	4	20	
alpha-Chlordane	**77.9**	**81.2**	100	100	N/A	**78**	**81**	50-130	4	20	
4,4'-DDE	**90.6**	**94.1**	100	100	N/A	**91**	**94**	50-130	4	20	
Endosulfan I	**81.1**	**84.4**	100	100	N/A	**81**	**84**	50-130	4	20	
Dieldrin	**82.5**	**85.6**	100	100	N/A	**83**	**86**	51-119	4	15	
Endrin	**79.1**	**81.7**	100	100	N/A	**79**	**82**	53-131	3	15	
4,4'-DDD	**91.4**	**94.7**	100	100	N/A	**91**	**95**	50-130	4	20	
Endosulfan II	**79.4**	**82.1**	100	100	N/A	**79**	**82**	50-130	3	20	
4,4'-DDT	**84.5**	**87.9**	100	100	N/A	**85**	**88**	48-120	4	15	
Endrin Aldehyde	**85.3**	**89.4**	100	100	N/A	**85**	**89**	50-130	5	20	
Methoxychlor	**77.0**	**74.7**	100	100	N/A	**77**	**75**	50-130	3	20	
Endosulfan Sulfate	**79.1**	**81.6**	100	100	N/A	**79**	**82**	50-130	3	20	
Endrin Ketone	**75.9**	**78.4**	100	100	N/A	**76**	**78**	50-130	3	20	
Surrogate:											
TCMX						*67*	*72*	*41-106*			
DCB						*81*	*86*	*40-123*			

Date of Report: March 2, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216
Project: 0231-090-01

% MOISTURE

Date Analyzed: 2-22-18

Client ID	Lab ID	% Moisture
SS-3	02-216-01	32
SS-4	02-216-02	12
SS-5	02-216-03	8
SS-6	02-216-04	16
SS-7	02-216-05	7
SS-8	02-216-06	31
SS-9	02-216-07	23
SS-10	02-216-08	6
SS-11	02-216-09	15
SS-12	02-216-10	7
SS-13	02-216-11	14
SS-14	02-216-12	17
SS-15	02-216-13	27
SS-16	02-216-14	29
SS-17	02-216-15	17
SS-18	02-216-16	28
SS-19	02-216-17	29
SS-20	02-216-18	12
SS-21	02-216-19	29
SS-22	02-216-20	18
SS-23	02-216-21	5

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert N. Miyahira

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-216

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					
1	SS-3	2/21/18	1300	Soil	2	X										X											
2	SS-4		1325		2	X										X											
3	SS-5		1310		2	X										X											
4	SS-6		1335		2	X										X											
5	SS-7		1105		2	X										X											
6	SS-8		1125		2	X			(X)							X											
7	SS-9		1135		2	X										X											
8	SS-10		1150		2	X										X											
9	SS-11		1200		2	X										X											
10	SS-12	↓	1210	↓	2	X										X											

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers, Inc.	02/21/18	1450
Received	PMcKalson	OSE	2/21/18	2:50p
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
(X) Added 2/26/18. D3 (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert N. Miyahira

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 02-216

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					
11	SS-13	2/21/18	1220	soil	2	X										X											
12	SS-14		1230		2	X										X											
13	SS-15		1345		2	X			X							X											
14	SS-16		1400		2	X										X											
15	SS-17		1415		2	X			X							X											
16	SS-18		0915		2	X										X											
17	SS-19		0935		2	X										X											
18	SS-20		0955		2	X			X							X											
19	SS-21		1005		2	X										X											
20	SS-22		1025		2	X										X											

	Signature	Company	Date	Time
Relinquished	Robert Miyahira	GeoEngineers, Inc.	02/21/18	1450
Received	P McKalson	OSE	2.21.18	2:50p
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Volume 2 – Contract Documents for Totem Lake Connector PAGE F178

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert N. Miyahira

Turnaround Request (in working days)

(Check One)

- ☐ Same Day ☐ 1 Day
- ☐ 2 Days ☐ 3 Days
- ☒ Standard (7 Days) (TPH analysis 5 Days)
- ☐ _____ (other)

Laboratory Number: 02-216

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					
21	SS-23	2/21/18	1040	soil	2	X										X											X

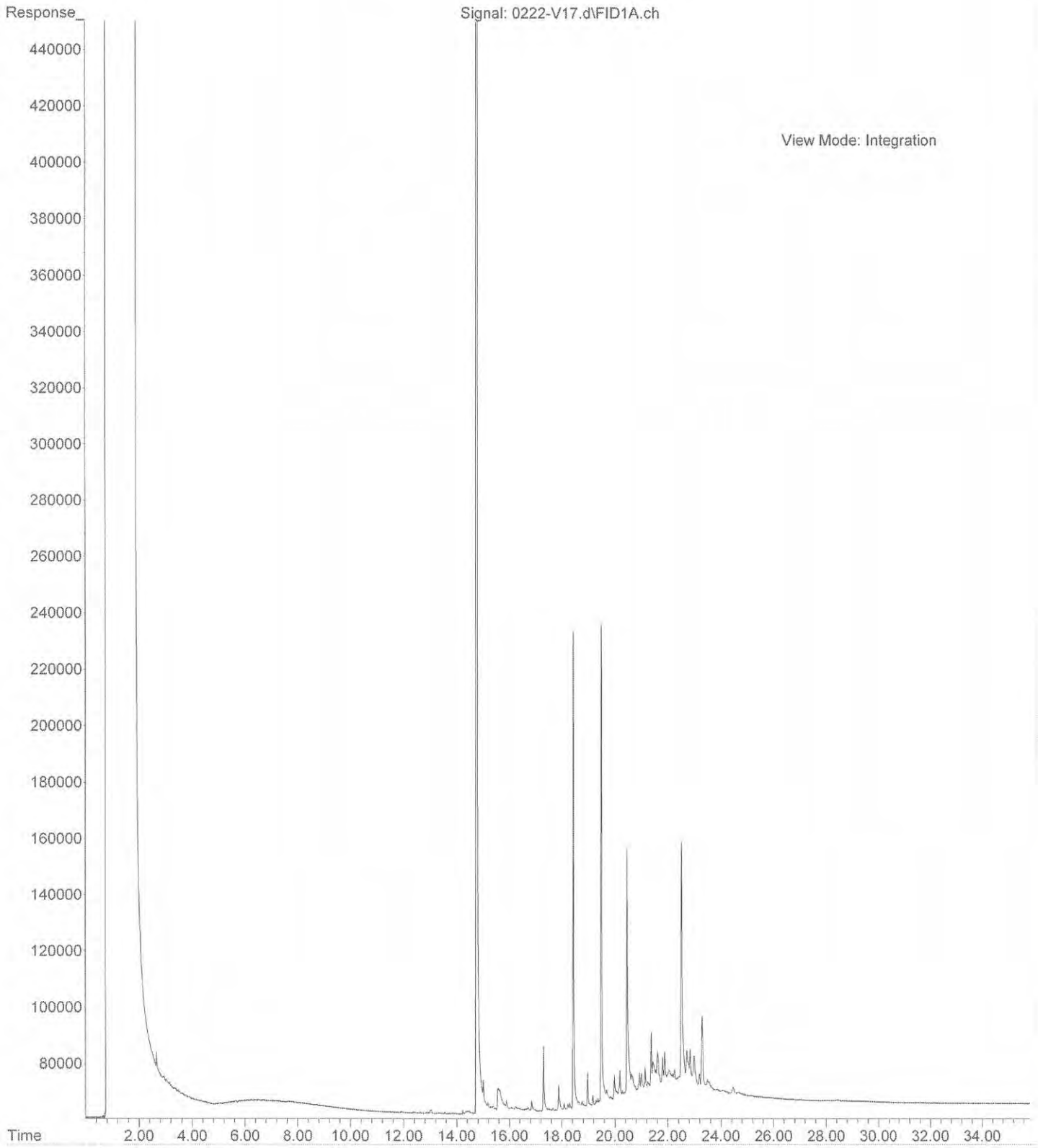
	Signature	Company	Date	Time
Relinquished	Robert Miyahira	GeoEngineers, Inc	02/21/18	1450
Received	[signature]	OSE	2.21.18	2:50 P
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

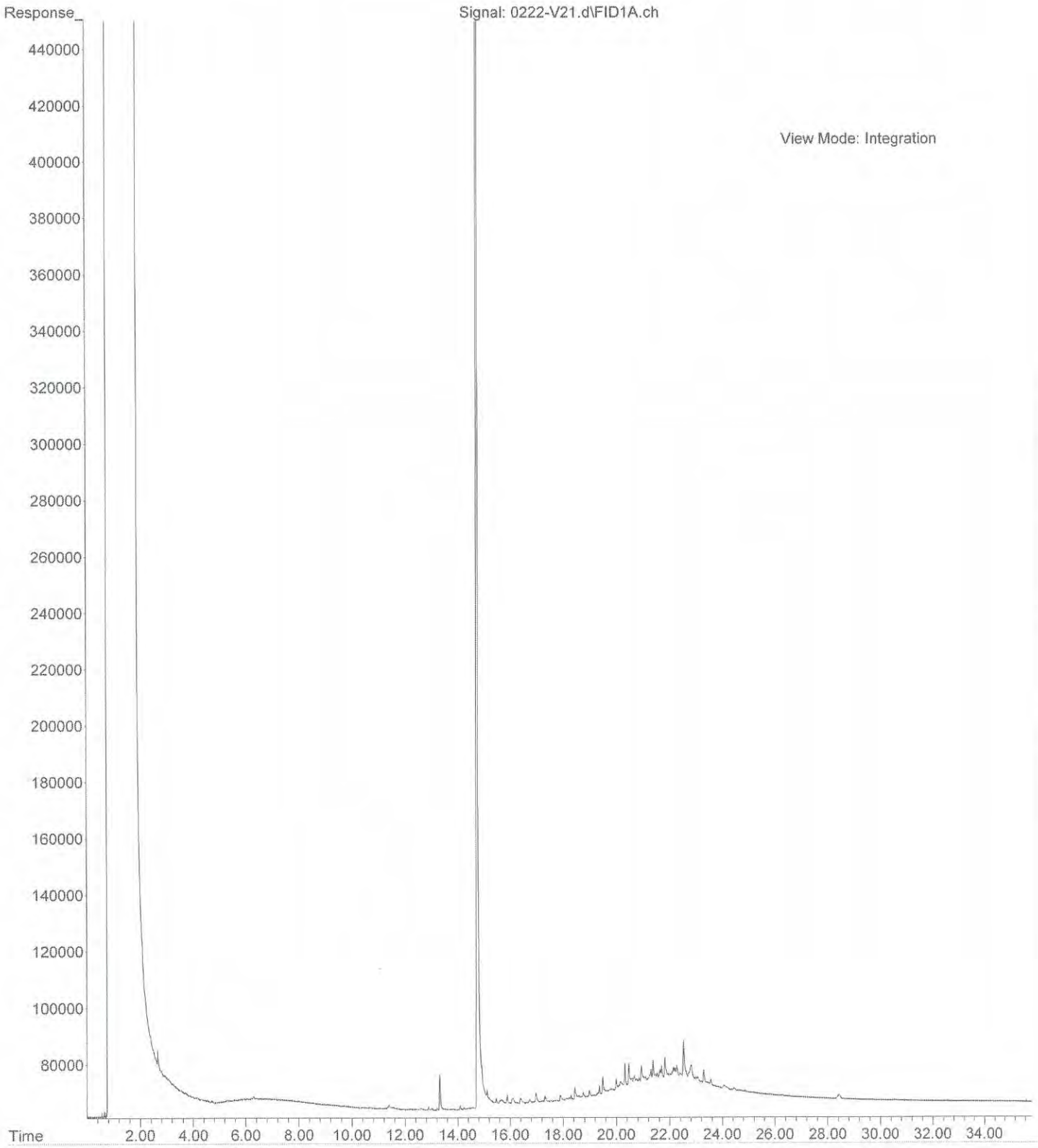
Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

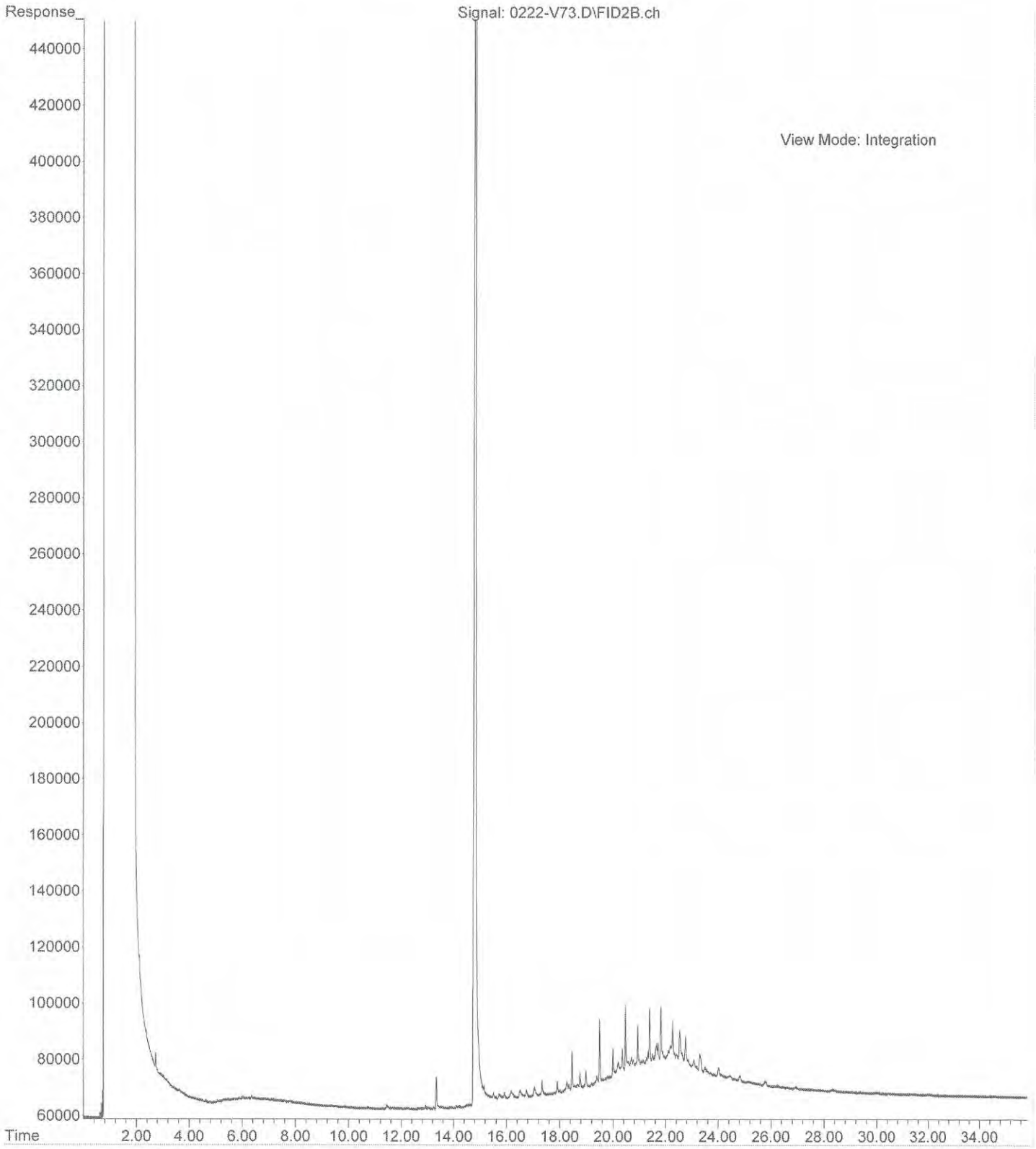
File :X:\DIESELS\VIGO\DATA\V180222\0222-V17.d
Operator : JT
Acquired : 22 Feb 2018 18:25 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-01
Misc Info :
Vial Number: 17



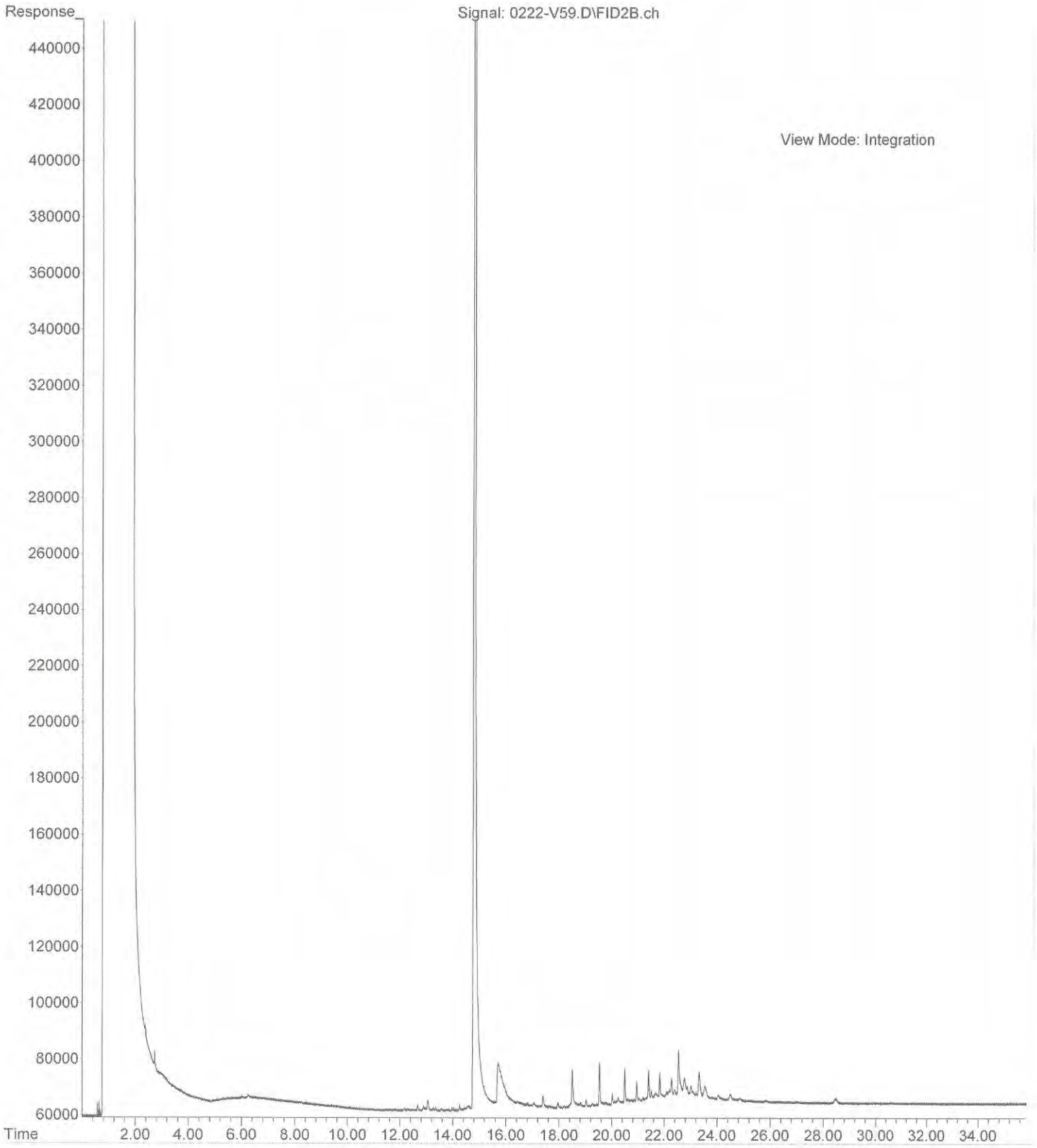
File :X:\DIESELS\VIGO\DATA\V180222\0222-V21.d
Operator : JT
Acquired : 22 Feb 2018 21:04 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-02
Misc Info :
Vial Number: 21



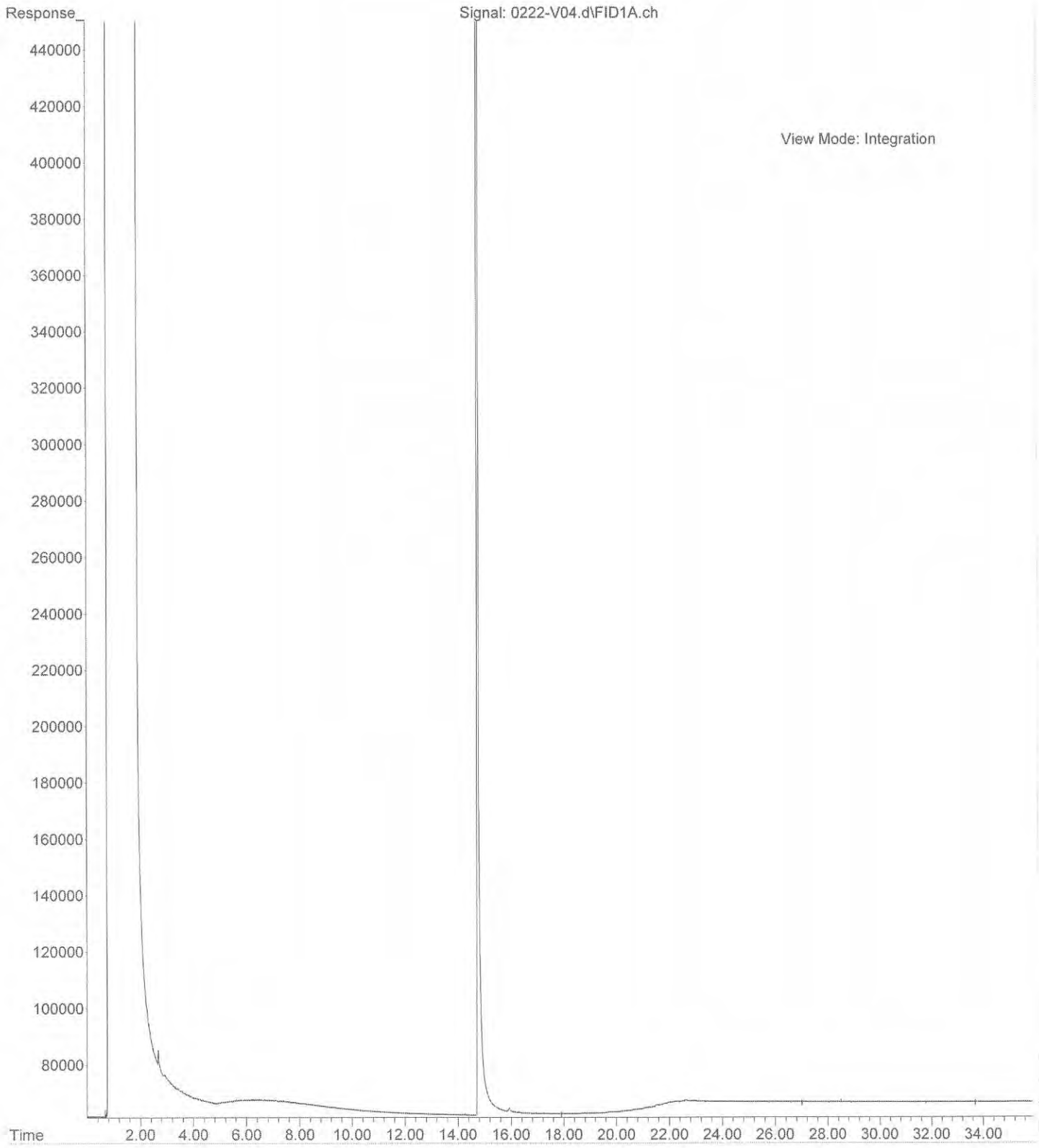
File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V73.D
Operator : JT
Acquired : 22 Feb 2018 22:23 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-03
Misc Info :
Vial Number: 73



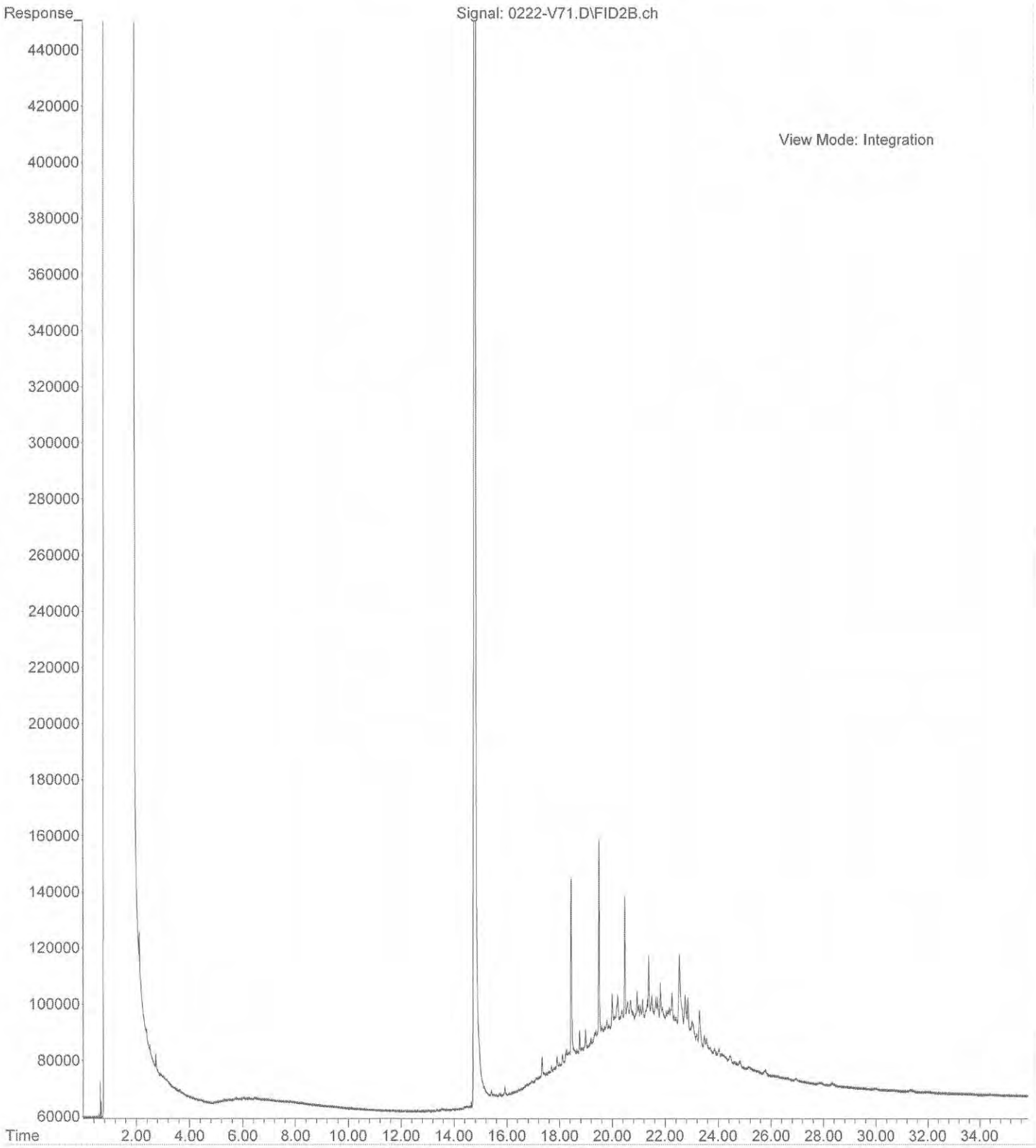
File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V59.D
Operator : JT
Acquired : 22 Feb 2018 13:06 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-04
Misc Info :
Vial Number: 59



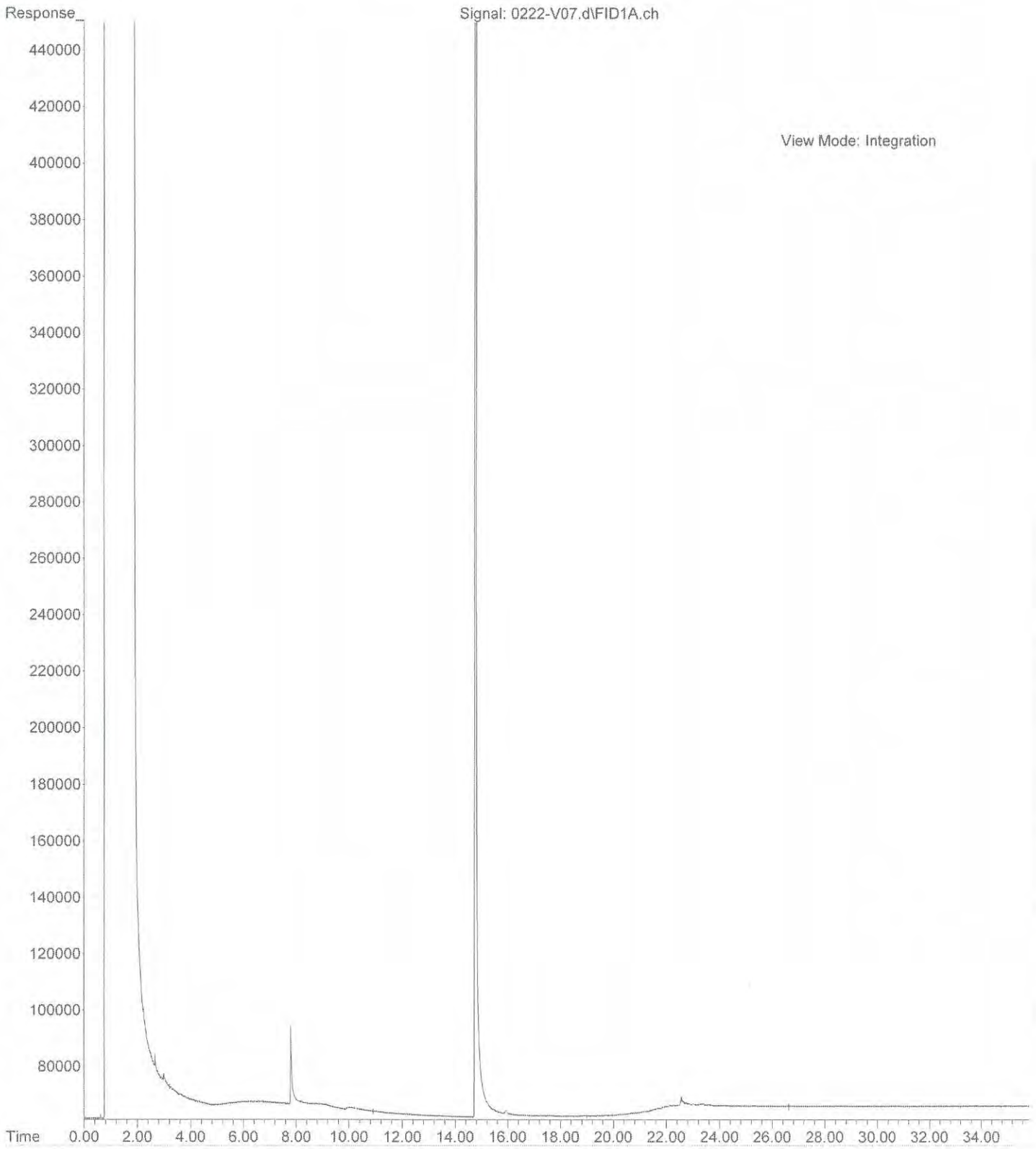
File :X:\DIESELS\VIGO\DATA\V180222\0222-V04.d
Operator : JT
Acquired : 22 Feb 2018 9:47 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-05
Misc Info :
Vial Number: 4



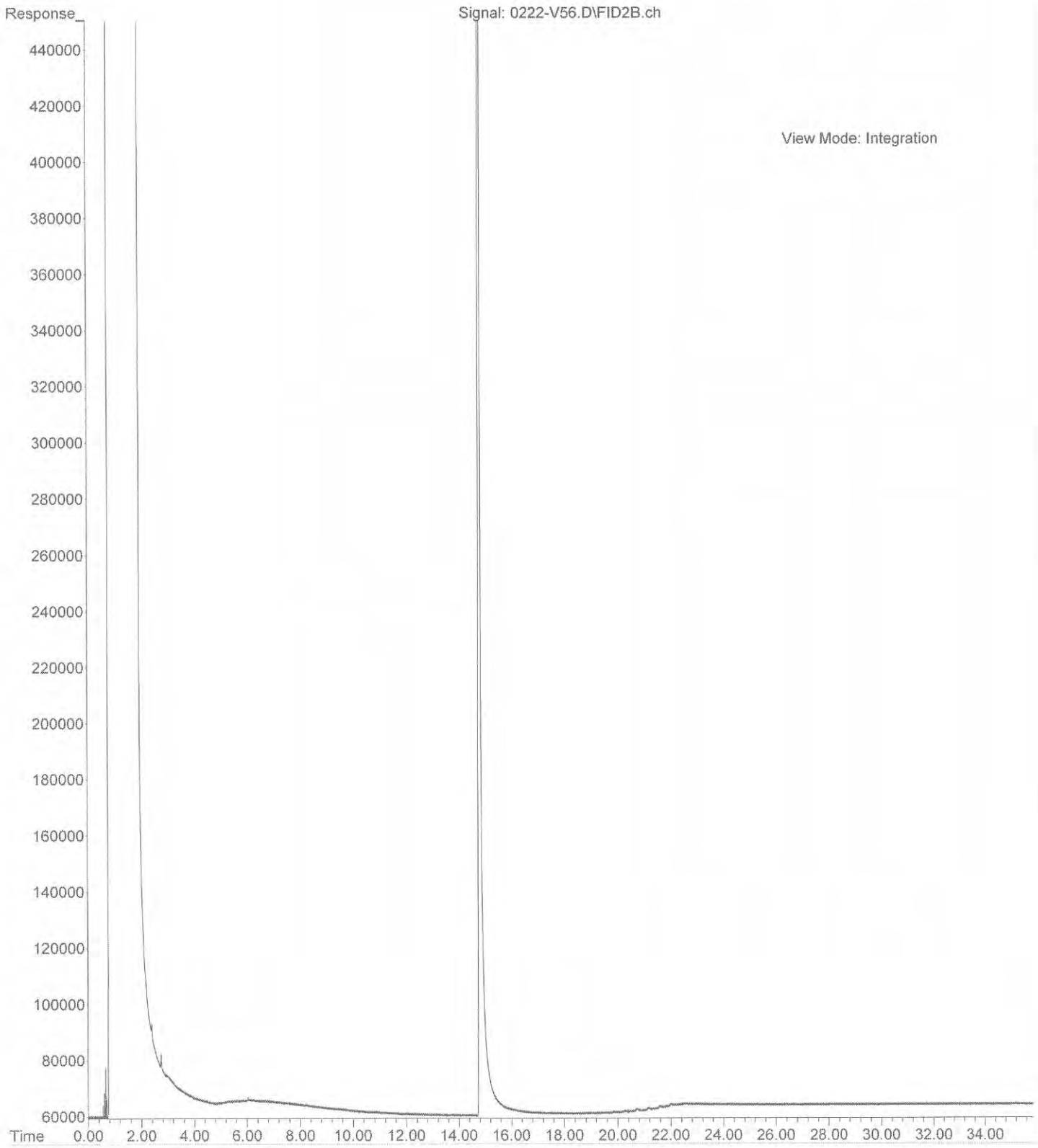
File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V71.D
Operator : JT
Acquired : 22 Feb 2018 21:04 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-06
Misc Info :
Vial Number: 71



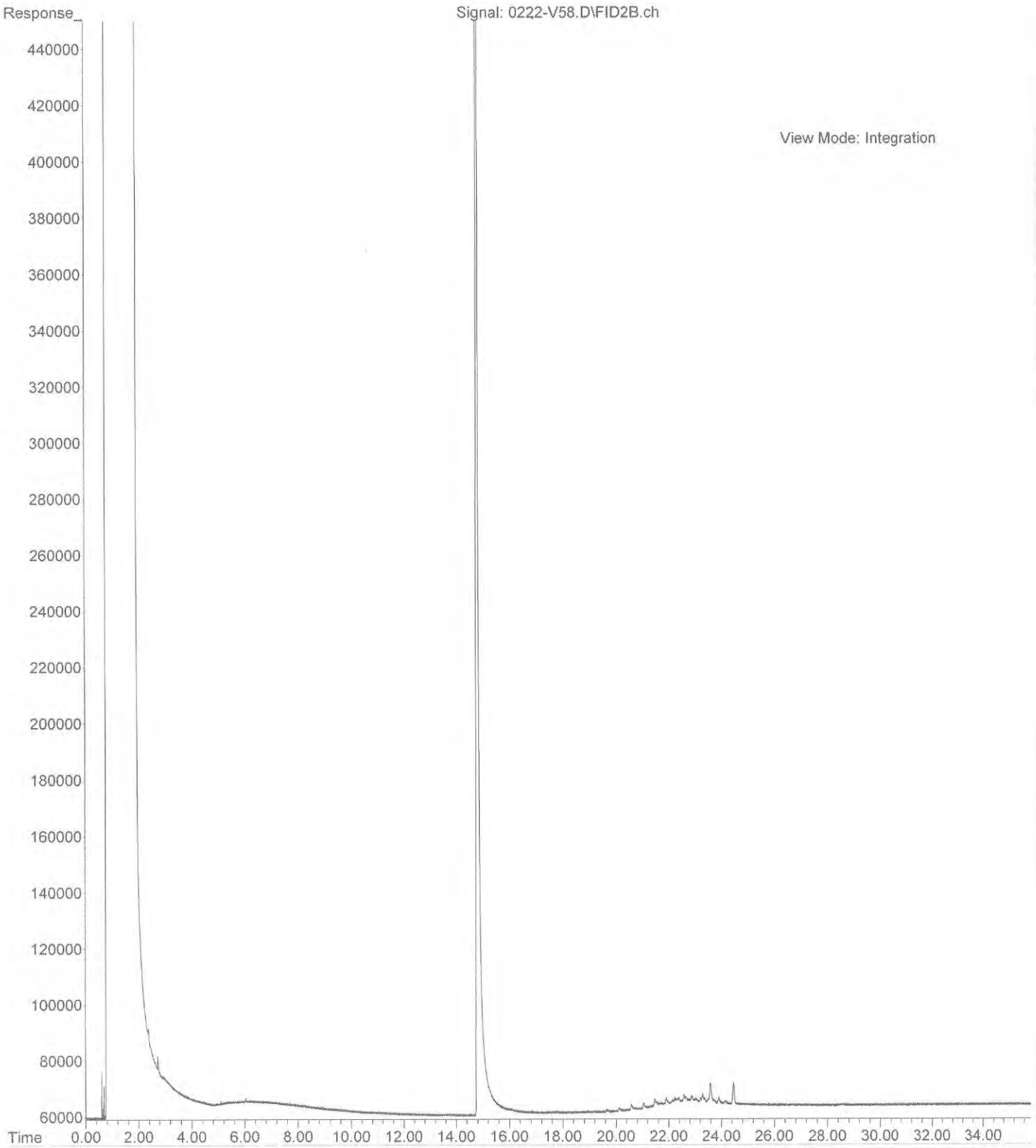
File :X:\DIESELS\VIGO\DATA\V180222\0222-V07.d
Operator : JT
Acquired : 22 Feb 2018 11:47 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-07
Misc Info :
Vial Number: 7



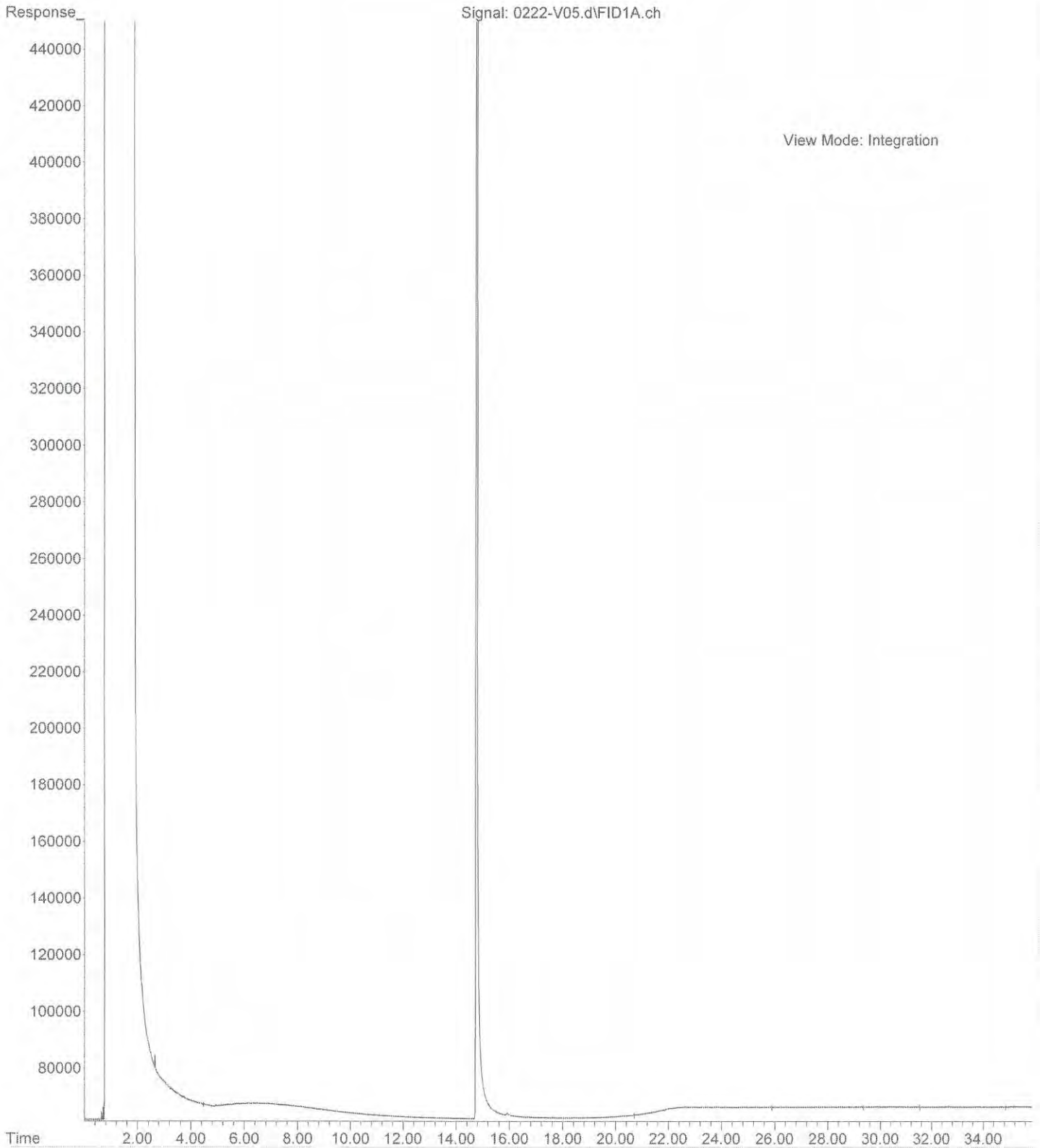
File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V56.D
Operator : JT
Acquired : 22 Feb 2018 11:07 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-08
Misc Info :
Vial Number: 56



File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V58.D
Operator : JT
Acquired : 22 Feb 2018 12:26 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-09
Misc Info :
Vial Number: 58



File :X:\DIESELS\VIGO\DATA\V180222\0222-V05.d
Operator : JT
Acquired : 22 Feb 2018 10:27 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-10
Misc Info :
Vial Number: 5



File :X:\DIESELS\VIGO\DATA\V180222\0222-V19.d
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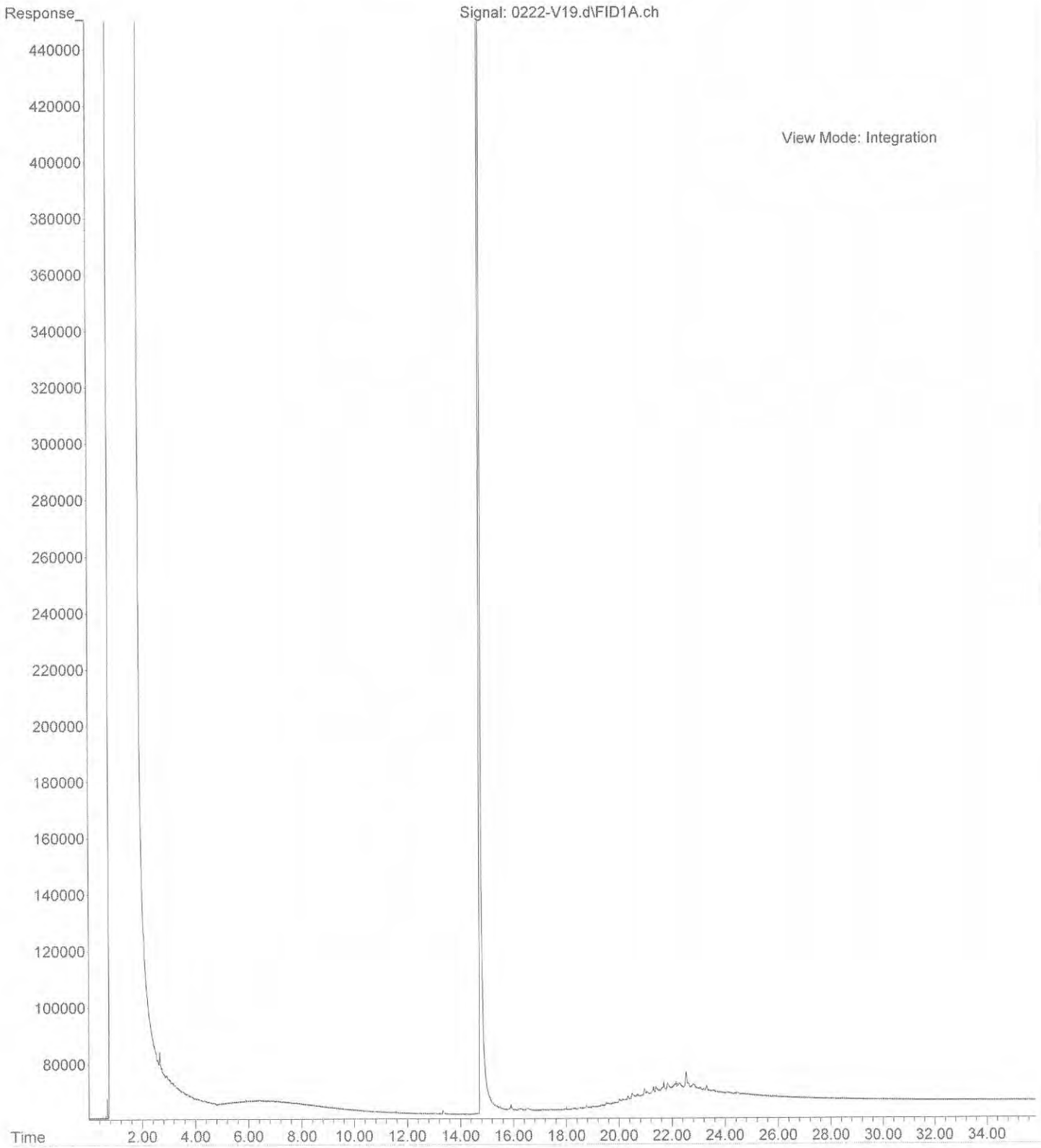
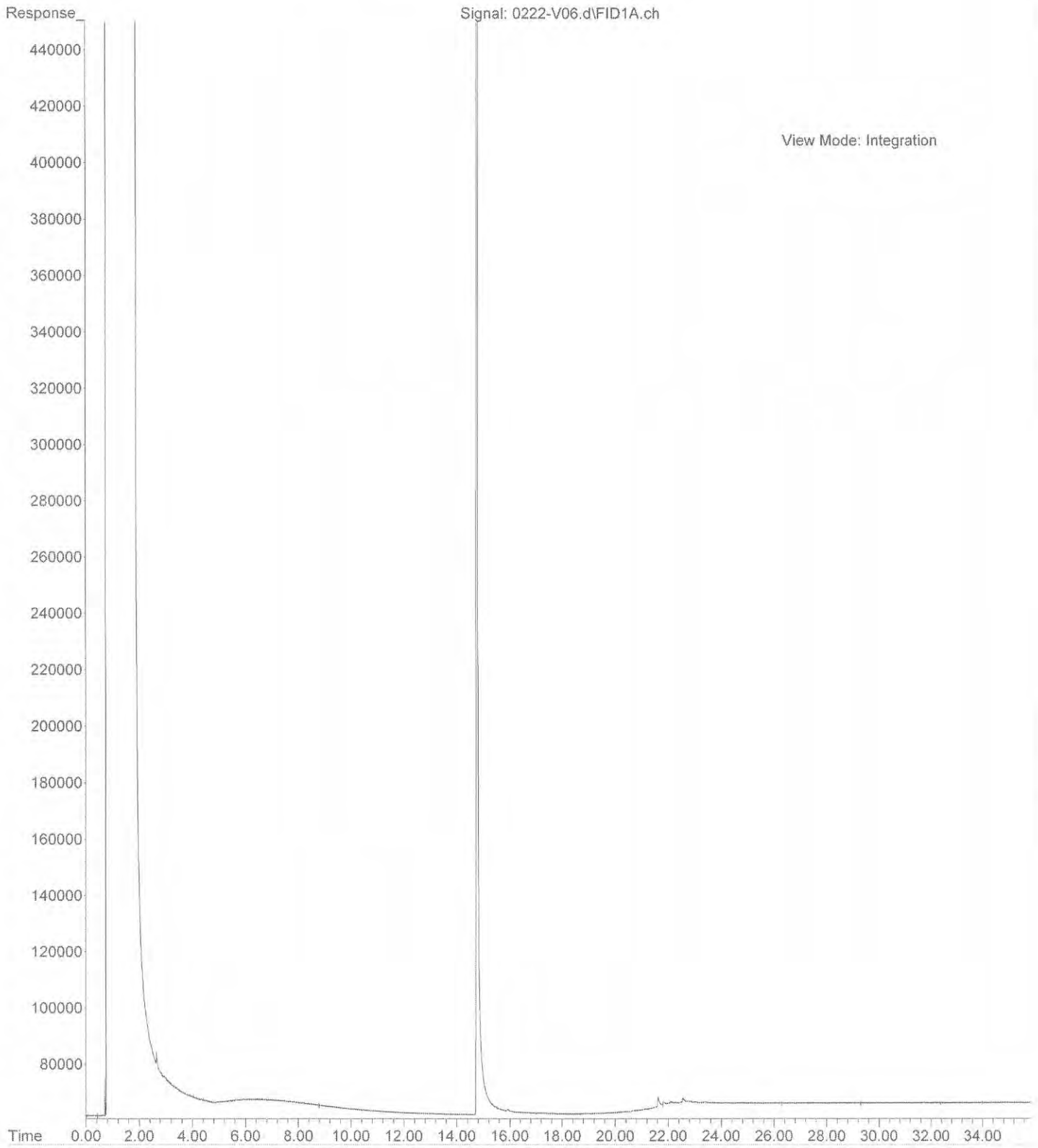
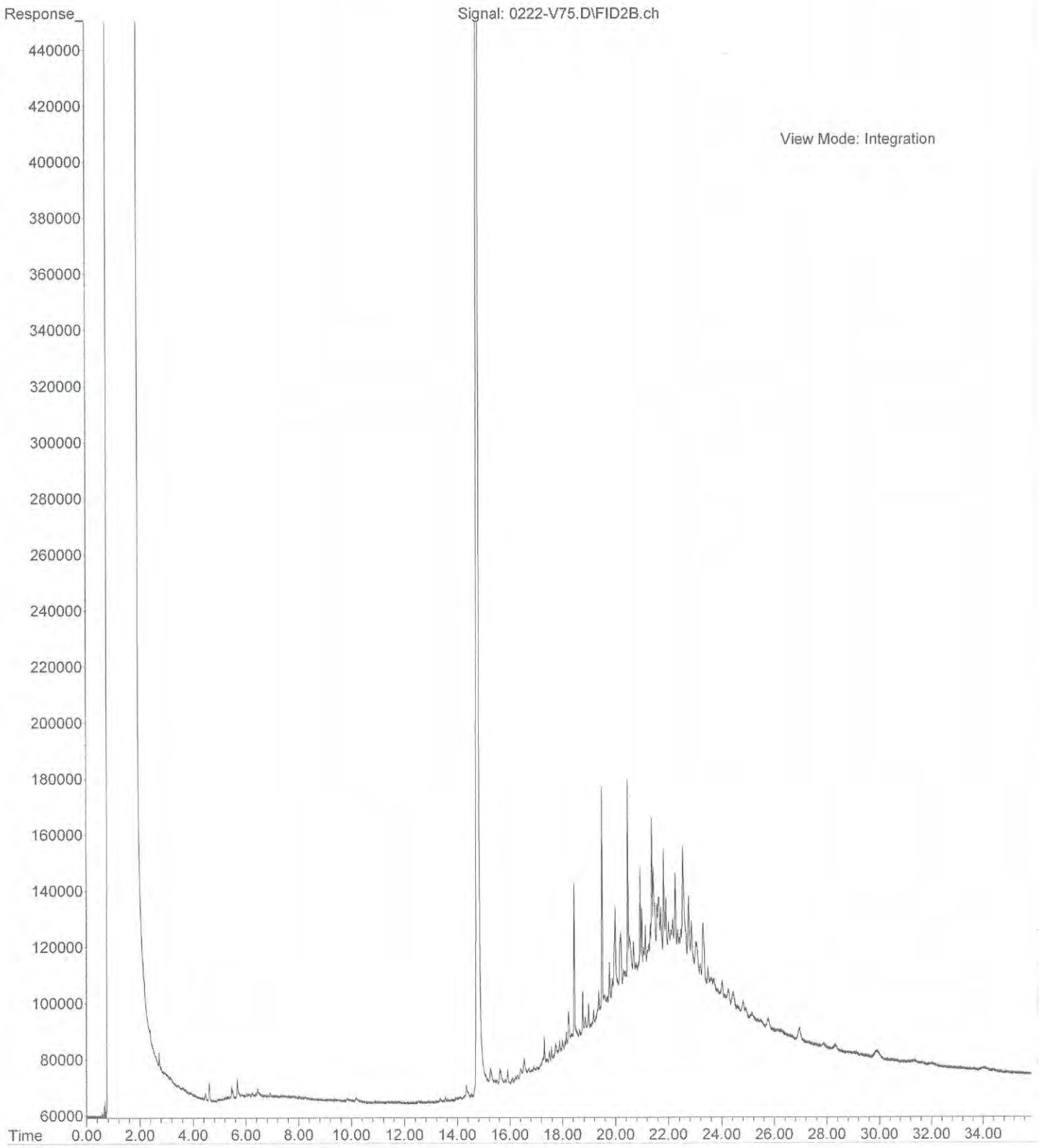
Acquired : 22 Feb 2018 19:45 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-11
Misc Info :
Vial Number: 19



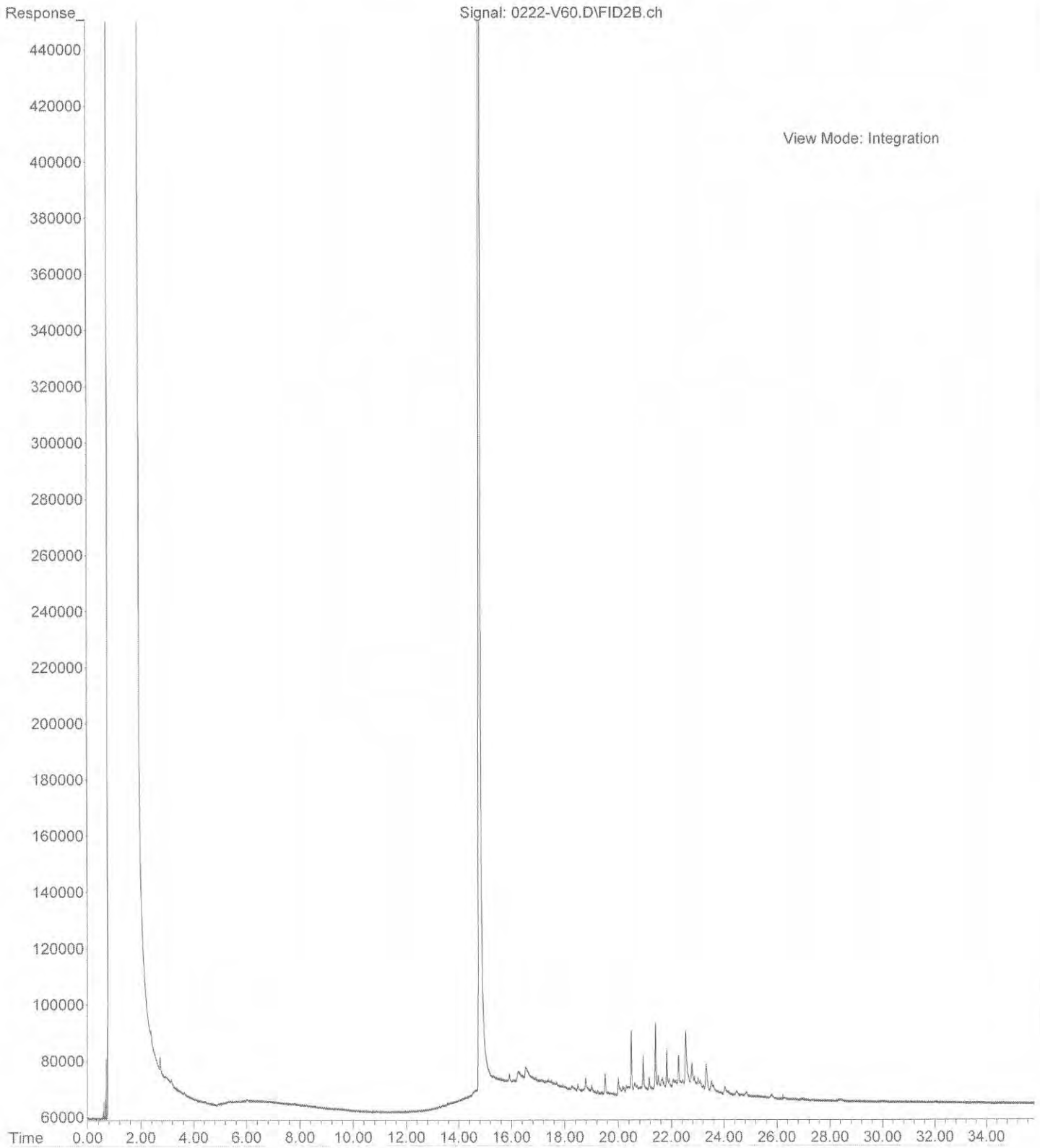
File :X:\DIESELS\VIGO\DATA\V180222\0222-V06.d
Operator : JT
Acquired : 22 Feb 2018 11:07 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-12
Misc Info :
Vial Number: 6



File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V75.D
Operator : JT
Acquired : 22 Feb 2018 23:43 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-13
Misc Info :
Vial Number: 75



File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V60.D
Operator : JT
Acquired : 22 Feb 2018 13:46 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-14
Misc Info :
Vial Number: 60



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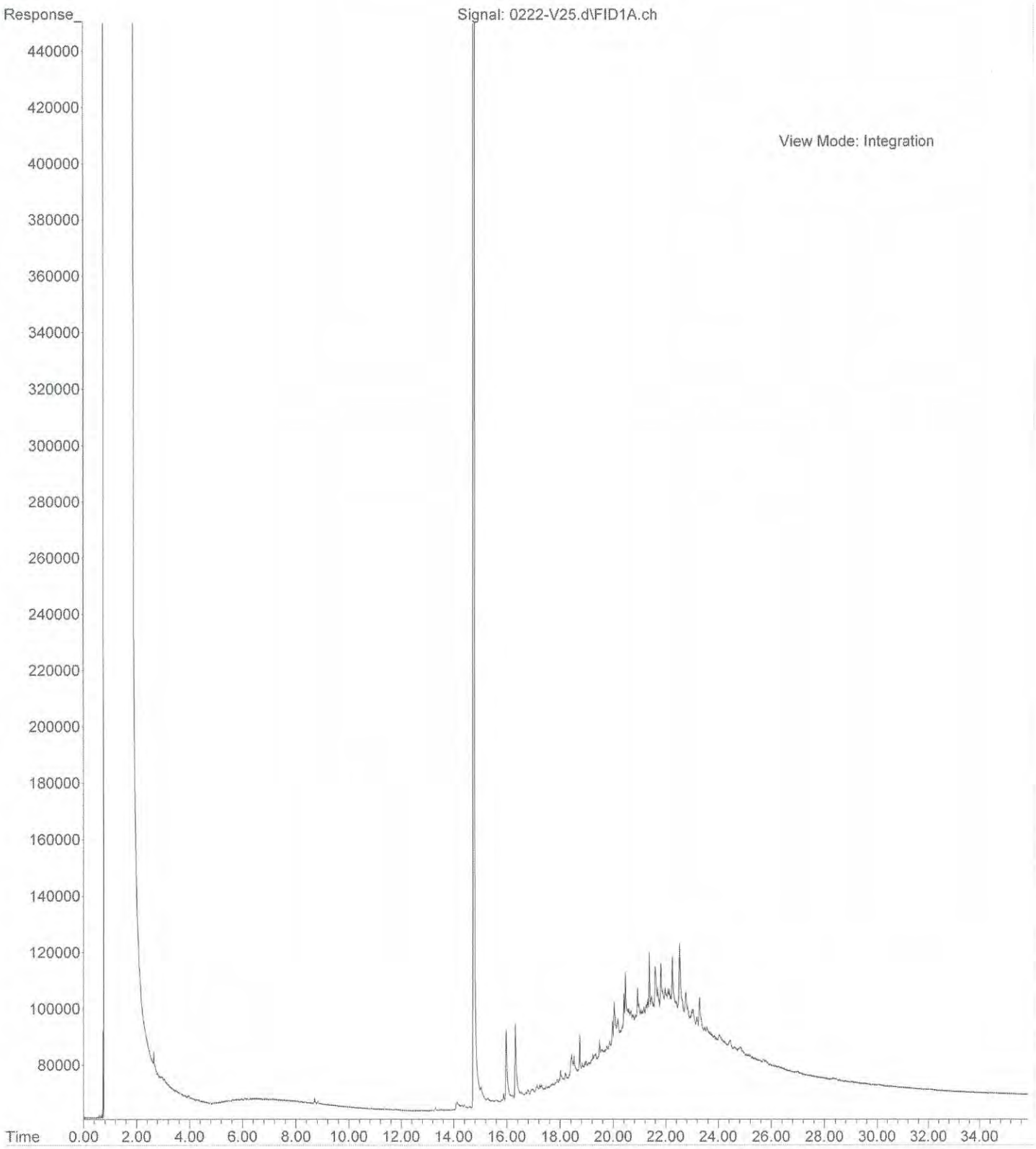
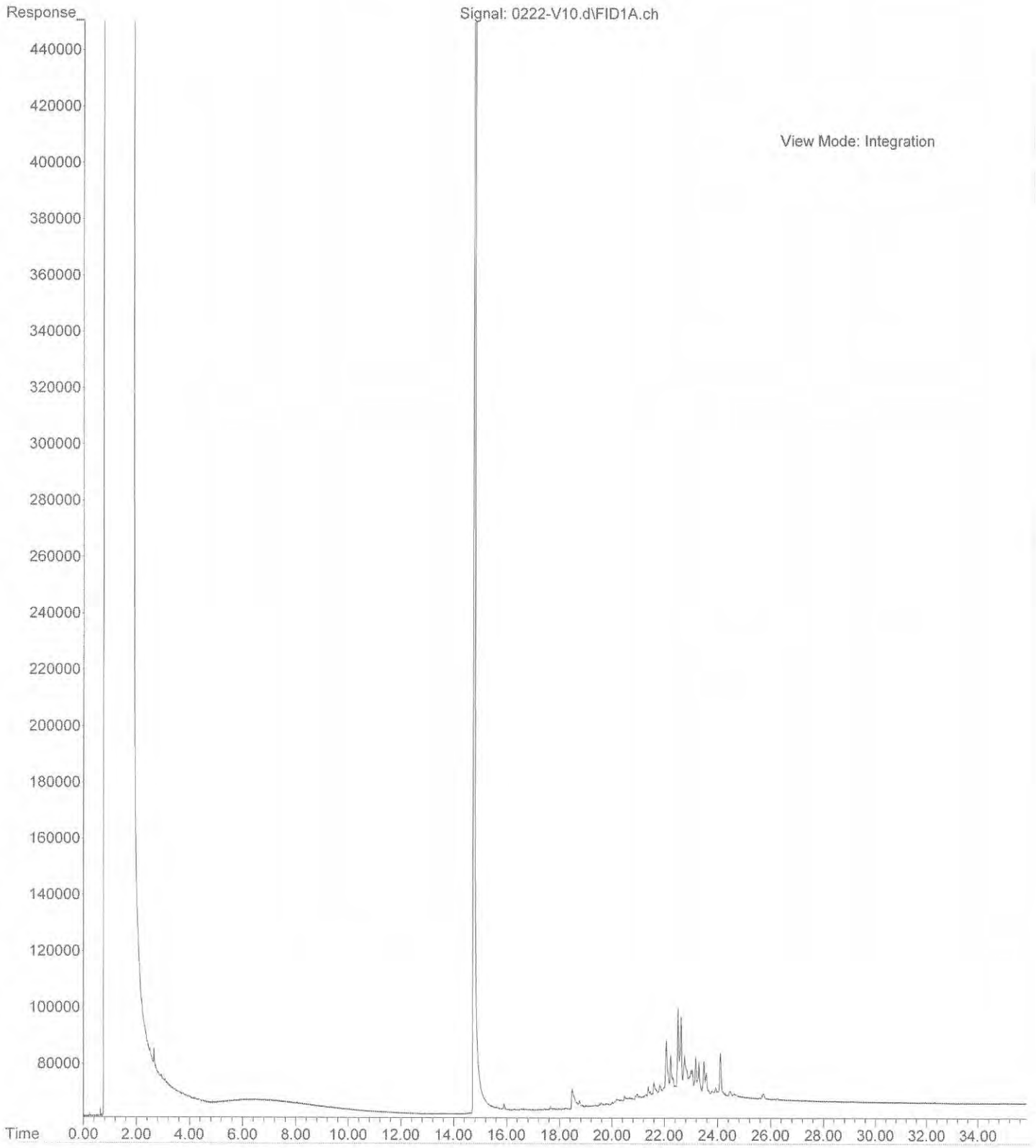
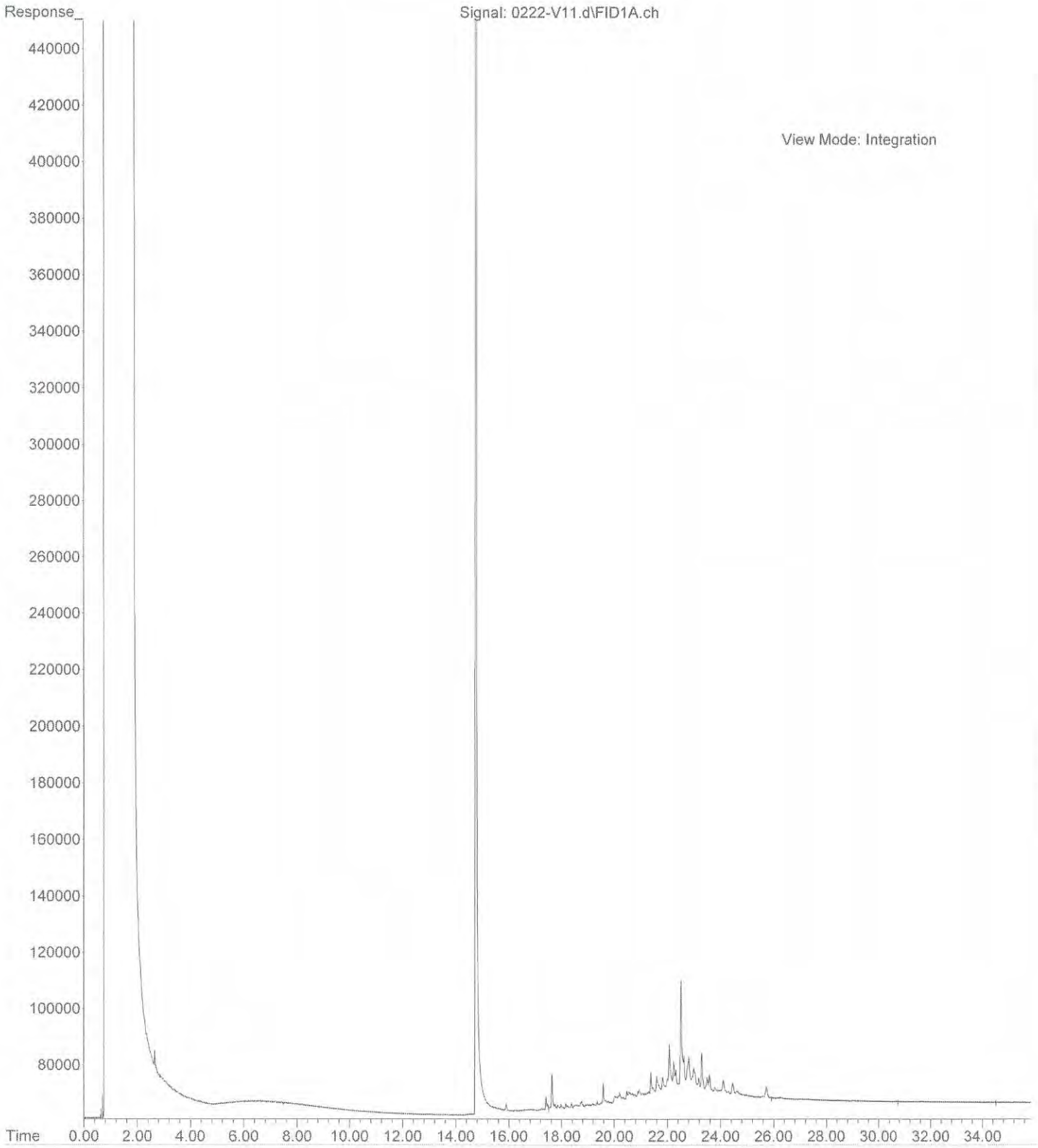
File        :X:\DIESELS\VIGO\DATA\V180222\0222-V25.d
Operator    : JT
Acquired    : 22 Feb 2018  23:43     using AcqMethod V171020F.M
Instrument :   Vigo
Sample Name: 02-216-15
Misc Info   :
Vial Number: 25
```



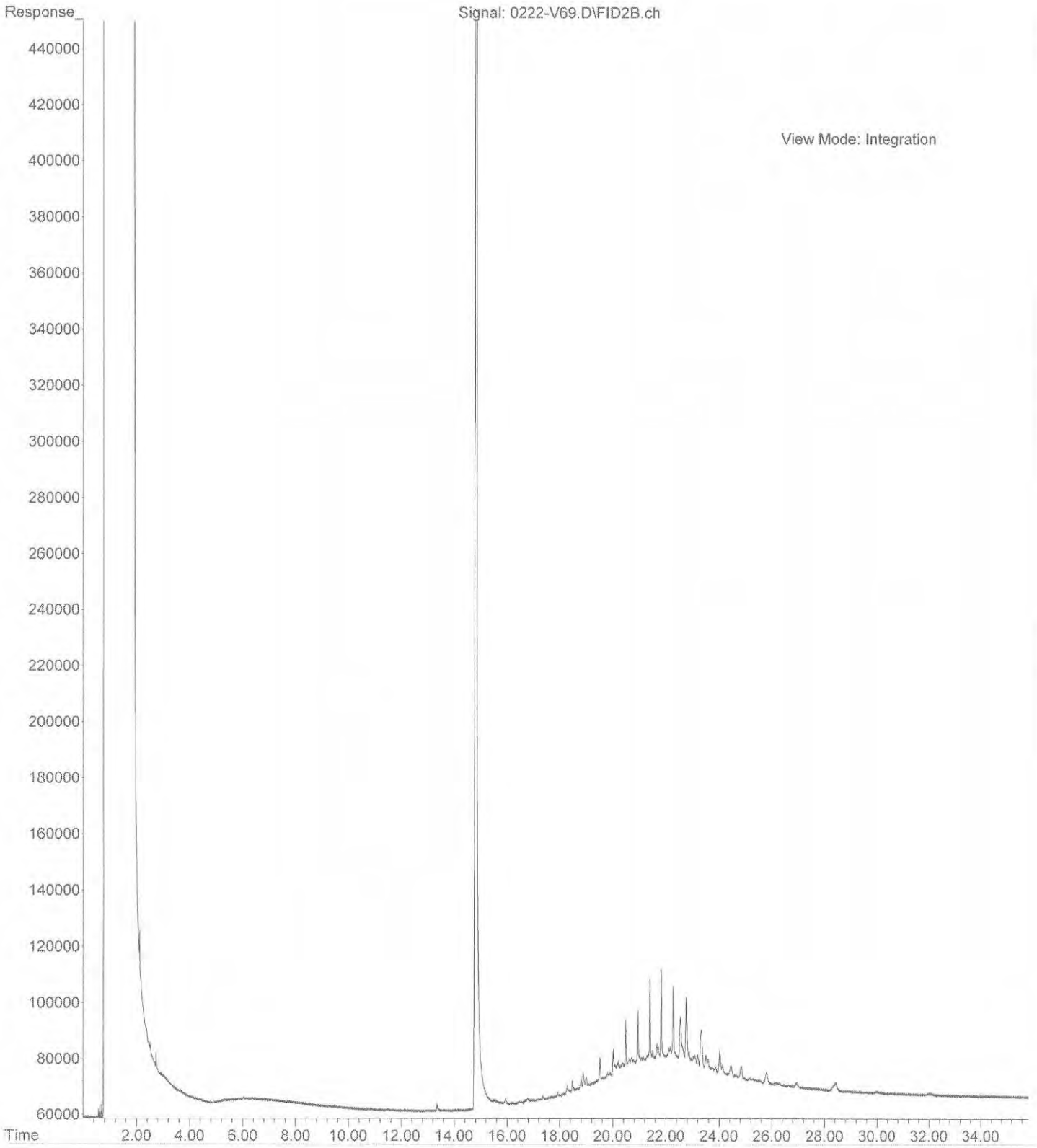
File :X:\DIESELS\VIGO\DATA\V180222\0222-V10.d
Operator : JT
Acquired : 22 Feb 2018 13:46 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-16
Misc Info :
Vial Number: 10



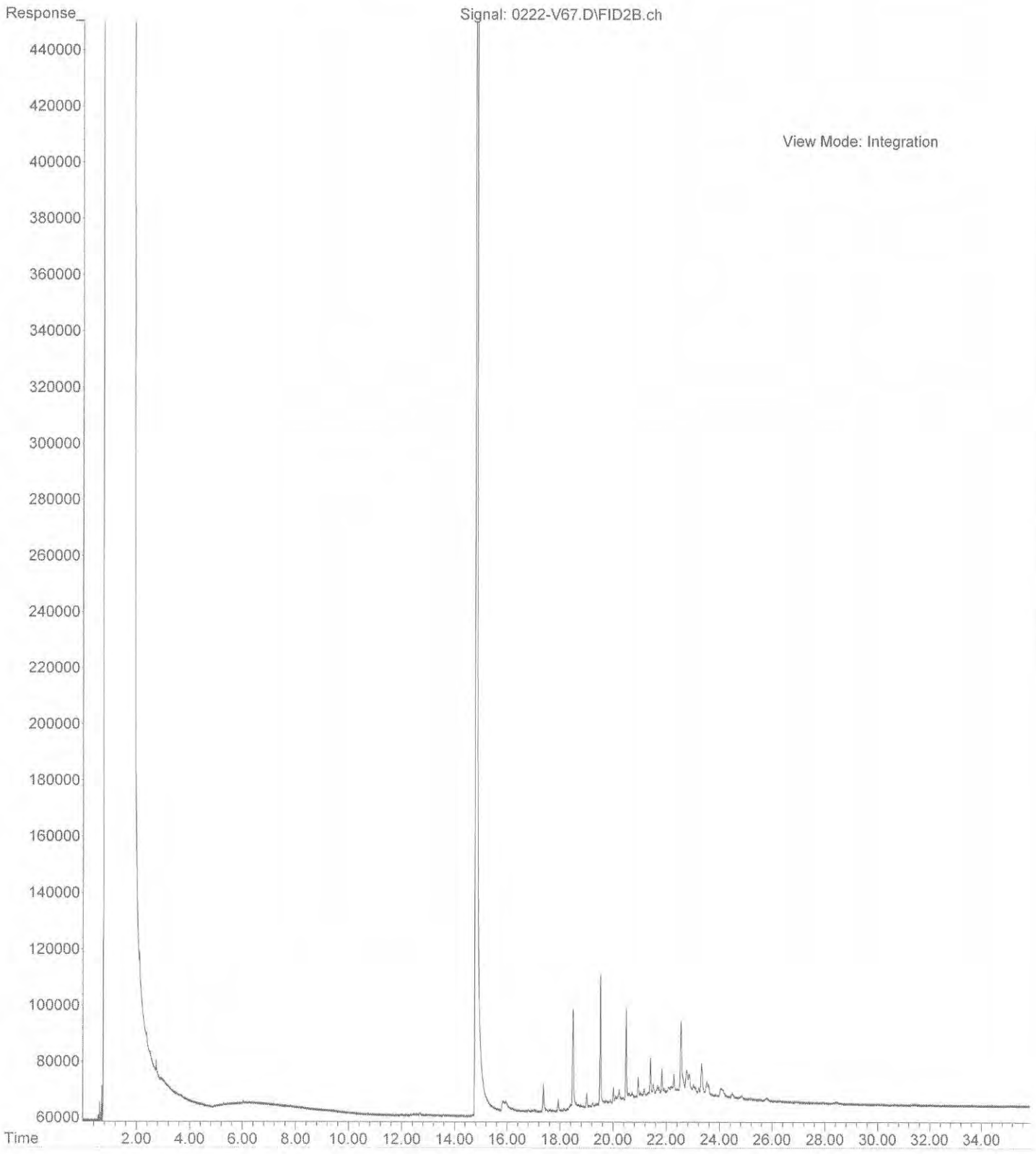
File :X:\DIESELS\VIGO\DATA\V180222\0222-V11.d
Operator : JT
Acquired : 22 Feb 2018 14:26 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-17
Misc Info :
Vial Number: 11



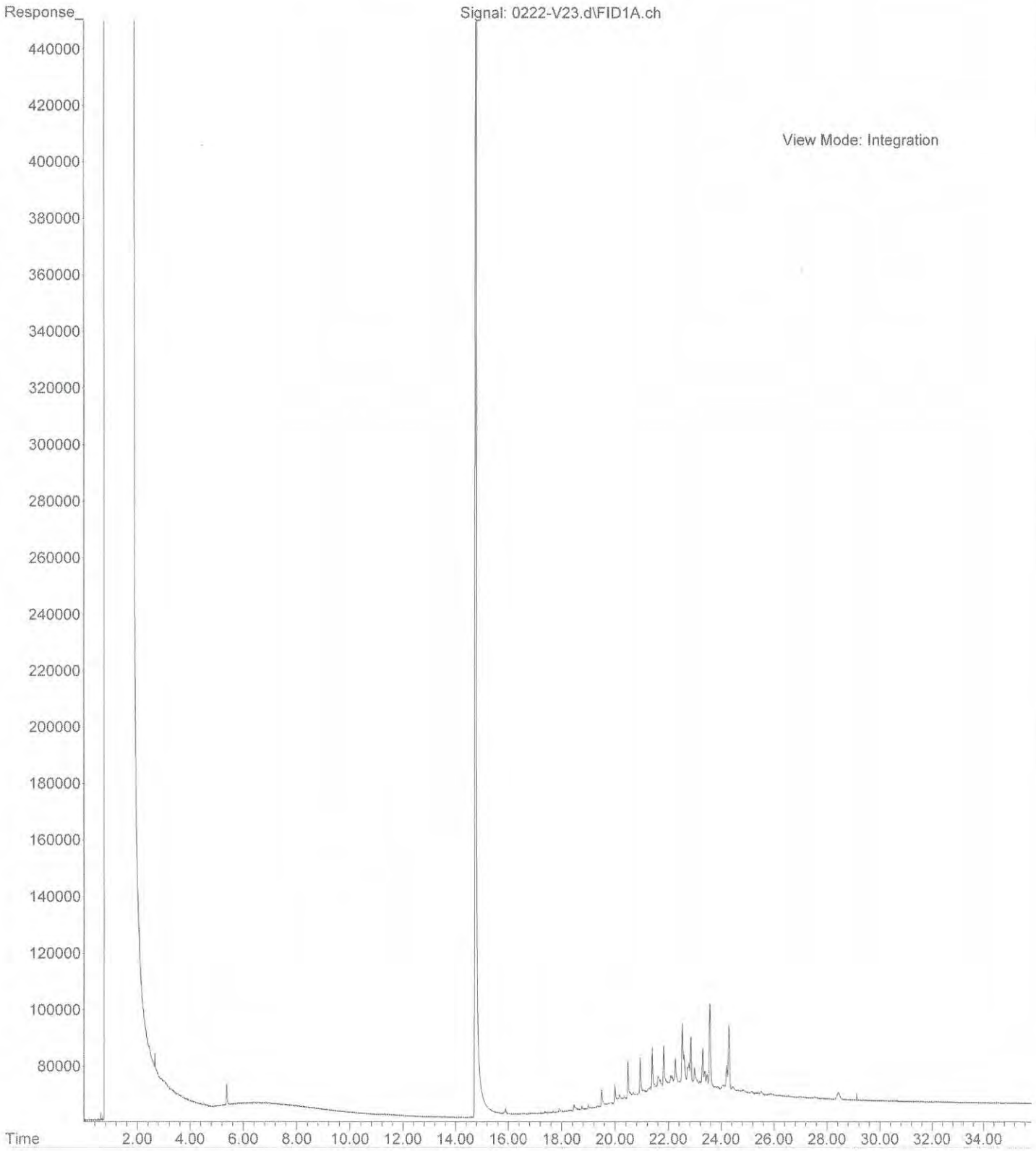
File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V69.D
Operator : JT
Acquired : 22 Feb 2018 19:45 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-18
Misc Info :
Vial Number: 69



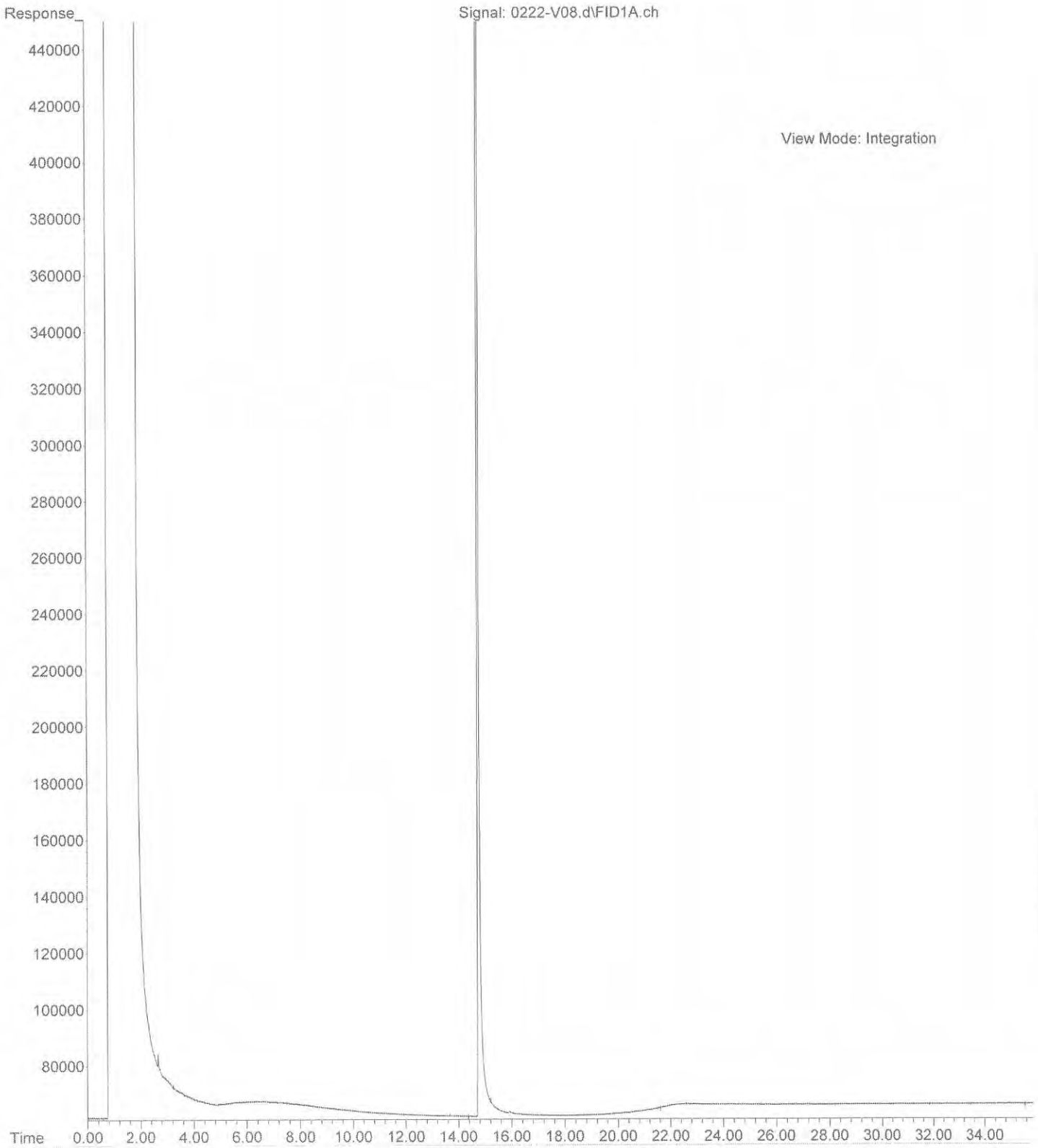
File :X:\DIESELS\VIGO\DATA\V180222.SEC\0222-V67.D
Operator : JT
Acquired : 22 Feb 2018 18:25 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-19
Misc Info :
Vial Number: 67



File :X:\DIESELS\VIGO\DATA\V180222\0222-V23.d
Operator : JT
Acquired : 22 Feb 2018 22:23 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-20
Misc Info :
Vial Number: 23



File :X:\DIESELS\VIGO\DATA\V180222\0222-V08.d
Operator : JT
Acquired : 22 Feb 2018 12:26 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-216-21
Misc Info :
Vial Number: 8



OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 13, 2018

Jacob Letts
GeoEngineers, Inc.
600 Stewart, Suite 1700
Seattle, WA 98101-1233

Re: Analytical Data for Project 0231-090-01
Laboratory Reference No. 1802-216B

Dear Jacob:

Enclosed are the analytical results and associated quality control data for samples submitted on February 21, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 13, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216B
Project: 0231-090-01

Case Narrative

Samples were collected on February 21, 2018 and received by the laboratory on February 21, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 13, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216B
Project: 0231-090-01

ANALYTICAL REPORT FOR SAMPLES

Client ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
SS-3	02-216-01	Soil	2-21-18	2-21-18	
SS-6	02-216-04	Soil	2-21-18	2-21-18	
SS-21	02-216-19	Soil	2-21-18	2-21-18	

Date of Report: March 13, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216B
Project: 0231-090-01

TCLP ORGANOCHLORINE PESTICIDES EPA 1311/8081B

Matrix: TCLP Extract
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SS-3**					
Laboratory ID:	02-216-01					
gamma-BHC	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor Epoxide	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
gamma-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
alpha-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Endrin	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Methoxychlor	**ND**	0.10	EPA 8081B	3-8-18	3-8-18	
Toxaphene	**ND**	0.50	EPA 8081B	3-8-18	3-8-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
TCMX	***72***	***31-116***				
DCB	***79***	***42-126***				
Client ID:	**SS-6**					
Laboratory ID:	02-216-04					
gamma-BHC	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor	**0.083**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor Epoxide	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
gamma-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
alpha-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Endrin	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Methoxychlor	**ND**	0.10	EPA 8081B	3-8-18	3-8-18	
Toxaphene	**ND**	0.50	EPA 8081B	3-8-18	3-8-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
TCMX	***77***	***31-116***				
DCB	***79***	***42-126***				
Client ID:	**SS-21**					
Laboratory ID:	02-216-19					
gamma-BHC	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor Epoxide	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
gamma-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
alpha-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Endrin	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Methoxychlor	**ND**	0.10	EPA 8081B	3-8-18	3-8-18	
Toxaphene	**ND**	0.50	EPA 8081B	3-8-18	3-8-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
TCMX	***79***	***31-116***				
DCB	***77***	***42-126***				

Date of Report: March 13, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216B
Project: 0231-090-01

TCLP ORGANOCHLORINE PESTICIDES EPA 1311/8081B METHOD BLANK QUALITY CONTROL

Matrix: TCLP Extract
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0308W1					
gamma-BHC	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Heptachlor Epoxide	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
gamma-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
alpha-Chlordane	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Endrin	**ND**	0.050	EPA 8081B	3-8-18	3-8-18	
Methoxychlor	**ND**	0.10	EPA 8081B	3-8-18	3-8-18	
Toxaphene	**ND**	0.50	EPA 8081B	3-8-18	3-8-18	
Surrogate:	***Percent Recovery***	***Control Limits***				
TCMX	***73***	***31-116***				
DCB	***81***	***42-126***				

Date of Report: March 13, 2018
Samples Submitted: February 21, 2018
Laboratory Reference: 1802-216B
Project: 0231-090-01

TCLP ORGANOCHLORINE PESTICIDES EPA 1311/8081B SB/SBD QUALITY CONTROL

Matrix: TCLP Extract
Units: ug/L (ppb)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0308W1										
	SB	SBD	SB	SBD		SB	SBD				
gamma-BHC	**0.749**	**0.790**	1.00	1.00	N/A	**75**	**79**	39-115	5	25	
Heptachlor	**0.866**	**0.897**	1.00	1.00	N/A	**87**	**90**	45-103	4	25	
Heptachlor Epoxide	**0.906**	**0.946**	1.00	1.00	N/A	**91**	**95**	39-112	4	25	
gamma-Chlordane	**0.744**	**0.788**	1.00	1.00	N/A	**74**	**79**	50-130	6	25	
alpha-Chlordane	**0.694**	**0.737**	1.00	1.00	N/A	**69**	**74**	50-130	6	25	
Endrin	**0.937**	**0.996**	1.00	1.00	N/A	**94**	**100**	49-122	6	25	
Methoxychlor	**1.08**	**1.03**	1.00	1.00	N/A	**108**	**103**	43-137	5	25	
Surrogate:											
TCMX						***81***	***85***	***31-116***			
DCB						***82***	***83***	***42-126***			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

Page 1 of 3

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert N. Miyahira

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-216

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A		TCLP PESTICIDES			
1	SS-3	2/21/18	1300	Soil	2	X										X								O			
2	SS-4		1325		2	X										X											
3	SS-5		1310		2	X										X											
4	SS-6		1335		2	X										X								O			
5	SS-7		1105		2	X										X											
6	SS-8		1125		2	X			(X)							X											
7	SS-9		1135		2	X										X											
8	SS-10		1150		2	X										X											
9	SS-11		1200		2	X										X											
10	SS-12	↓	1210	↓	2	X										X											

	Signature	Company	Date	Time
Relinquished	[signature]	GeoEngineers, Inc.	02/21/18	1450
Received	PMcKalson	OSE	2/21/18	2:50p
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
(X) Added 2/26/18. DB (STA)
O Added 3/6/18. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
Sampled by: Robert N. Miyahira

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-216

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A		TCLP PESTICIDES			
11	SS-13	2/21/18	1220	soil	2	X										X								X			
12	SS-14		1230		2	X										X											
13	SS-15		1345		2	X			X							X											
14	SS-16		1400		2	X										X											
15	SS-17		1415		2	X			X							X											
16	SS-18		0915		2	X										X											
17	SS-19		0935		2	X										X											
18	SS-20		0955		2	X			X							X											
19	SS-21		1005		2	X										X								0			
20	SS-22		1025		2	X										X											

	Signature	Company	Date	Time
Relinquished	Robert Miyahira	GeoEngineers, Inc.	02/21/18	1450
Received	P McKalson	OSE	2.21.18	2:50p
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Volume 2 – Contract Documents for Totem Lake Connector PAGE F209

Chain of Custody

Page 3 of 3

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoEngineers, Inc.
Project Number: 0231-090-01
Project Name: Totem Lake Connector
Project Manager: Jacob Letts
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Turnaround Request (in working days)

(Check One)

☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-216

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	
21	SS-23	2/21/18	1040	soil	2	X										X							X

	Signature	Company	Date	Time
Relinquished	Robert Miyahira	GeoEngineers, Inc	02/21/18	1450
Received	[signature]	OSE	2.21.18	2:50 P
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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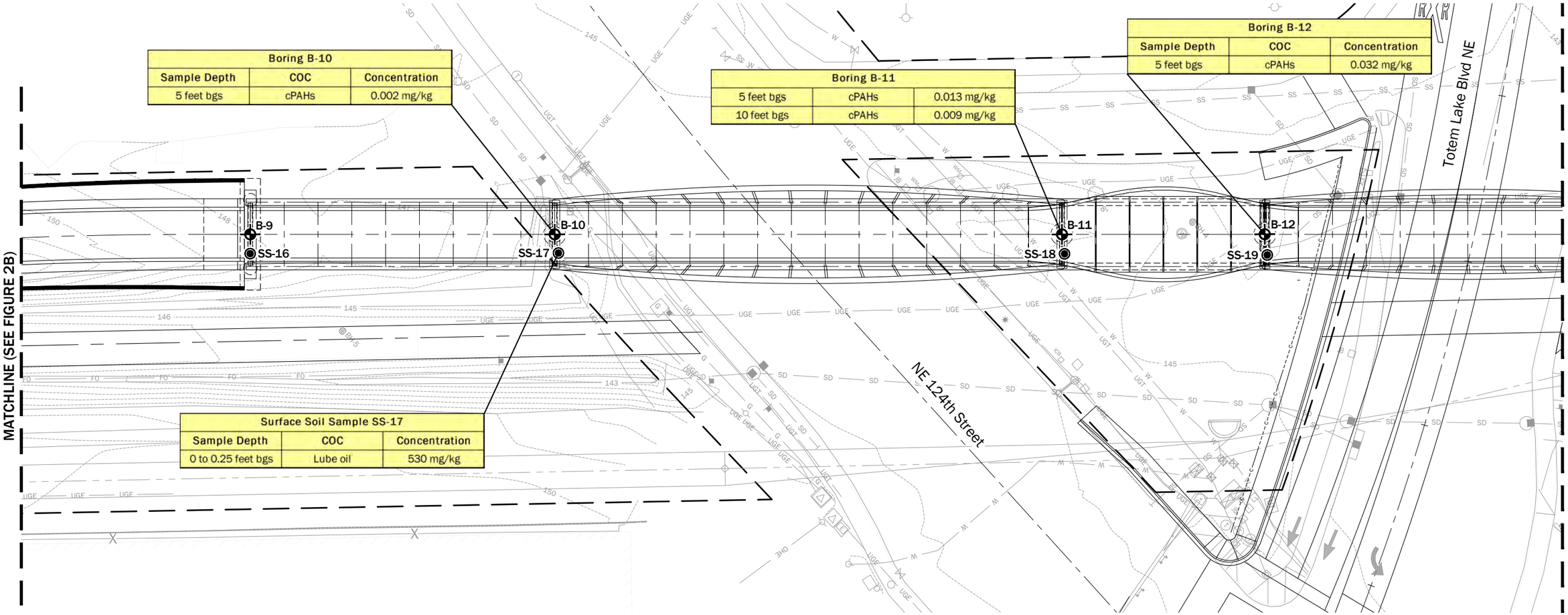


Abbreviations

MTCA = Model Toxics Control Act
bgs = below ground surface
cPAHS = carcinogenic polycyclic aromatic hydrocarbons
COC = chemical of concern
mg/kg = milligram per kilogram
µg/L – micrograms per Liter
TTEC = Total Toxic Equivalent Concentration
ULU = Unrestricted Land Use
ND = Not Detected

Soil Results

Chemical analytical data are shown if detected for diesel- and lube-oil range petroleum hydrocarbons, cPAHs, heptachlor, alpha-chlorodane, and endosulfan sulfate. Other analytes not shown were either not detected or detected at concentrations less than the relevant MTCA Screening levels.

Environmental Explorations

SS-16 Surface Soil Sample

B-9 Soil Boring

MTCA Cleanup Levels

Diesel = 2,000 mg/kg (Method A ULU)
Lube Oil = 2,000 mg/kg (Method A ULU)
cPAHs = 0.1 TTEC (Method A ULU)
Heptachlor = 0.22 mg/kg (Method B)
alpha-Chlordane = 2.86 mg/kg (Method B)
Endosulfan Sulfate = 480 mg/kg (Method B)

Data Source: Background from COWI North America, Inc. dated 11/07/17.

Vertical Datum: NAVD 88.

Projection: NAD83 (HARN) Washington State Planes, North Zone, US Foot.

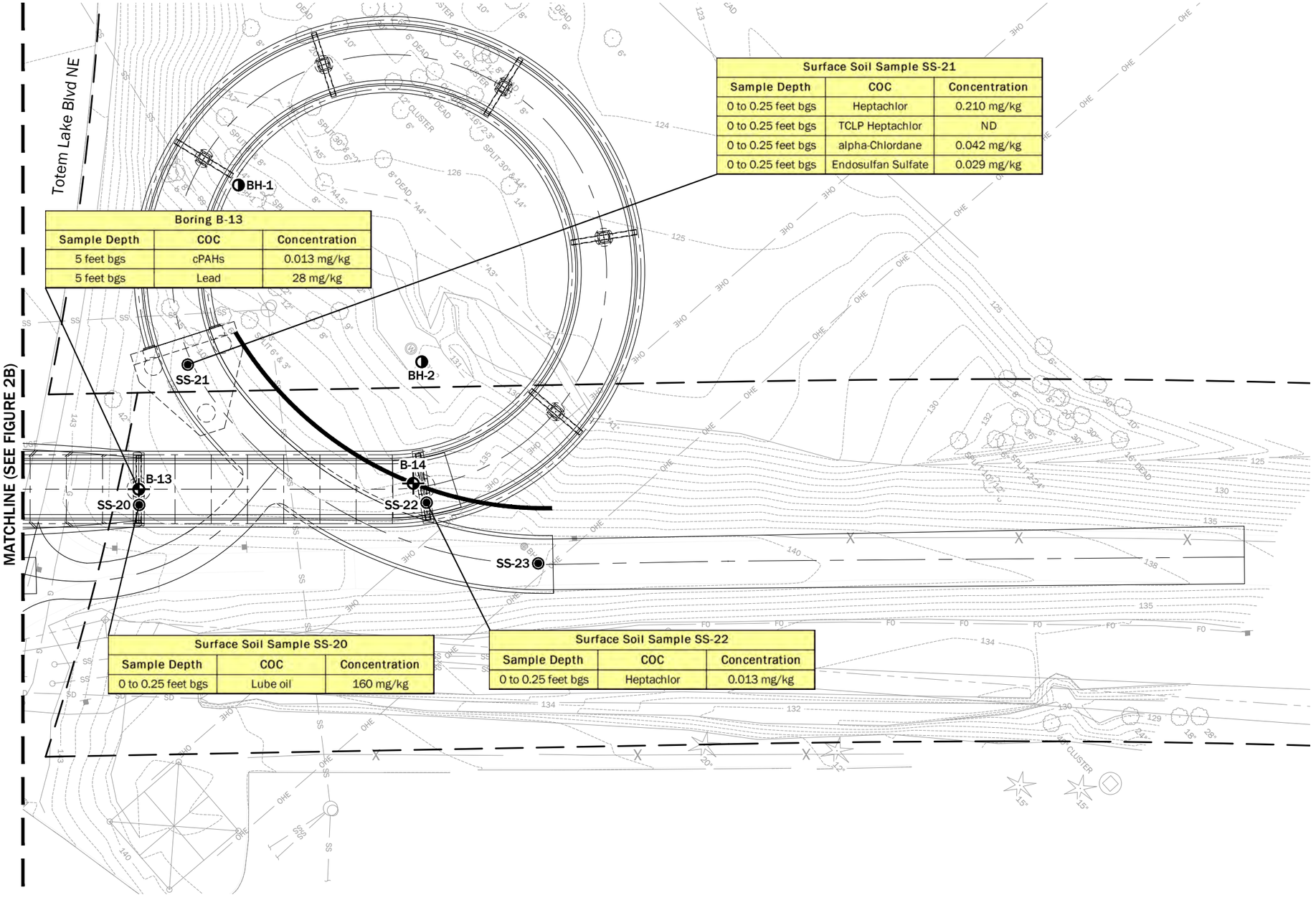
Site Plan and Environmental Soil Sample Results

Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure 2B

P:\0\0231090\CAD\02\Supplemental Haz Mat\023109002_T0200_F02A_F02B_F02C_Site Plans.dwg TAB:F02B Date Exported: 01/21/20 - 9:22 by syi



Soil Results

Chemical analytical data are shown if detected for diesel- and lube-oil range petroleum hydrocarbons, cPAHs, heptachlor, alpha-chlorodane, and endosulfan sulfate. Other analytes not shown were either not detected or detected at concentrations less than the relevant MTCA Screening levels.

Environmental Explorations

- SS-20 — Surface Soil Sample
- B-13 — Soil Boring
- BH-1 — Monitoring Well

MTCA Cleanup Levels

Diesel = 2,000 mg/kg (Method A ULU)
Lube Oil = 2,000 mg/kg (Method A ULU)
cPAHs = 0.1 TTEC (Method A ULU)
Heptachlor = 0.22 mg/kg (Method B)
alpha-Chlordane = 2.86 mg/kg (Method B)
Endosulfan Sulfate = 480 mg/kg (Method B)

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ULU = Unrestricted Land Use
ND = Not Detected

Data Source: Background from COWI North America, Inc. dated 11/07/17.

Vertical Datum: NAVD 88.

Projection: NAD83 (HARN) Washington State Planes, North Zone, US Foot.

30 0 30
Feet

Site Plan and Environmental Soil Sample Results

Totem Lake Connector
Kirkland, Washington

GeoEngineers

Figure 2C

P:\O\0231090\CAD\02\Supplemental Haz Mat\023109002_T0200_F02A_F02B_F02C_Site Plans.dwg TAB:F02C Date Exported: 01/21/20 - 9:23 by syi