Limited Phase II Environmental Site Assessment
Mercer Corridor West Expansion
615 Dexter Avenue North
Seattle, Washington

June 8, 2017

SHANNON & WILSON, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

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21-1-21417-207

EXECUTIVE SUMMARY

Shannon & Wilson, Inc. has completed a Phase II Environmental Site Assessment (ESA) for the property located at 615 Dexter Avenue North in Seattle, Washington (the Site). The objective of this Phase II ESA was to evaluate subsurface soil and groundwater beneath the property to be sold by the Seattle Department of Transportation (SDOT) as part of the Mercer Corridor West improvements project.

Prior to this study, a Phase I ESA was completed for the property. Several recognized environmental conditions (RECs) were identified, which include:

- The parcel adjacent to the northeast has been occupied by American Linen and Maryatt Electric Laundry, as well as a small gas station. This site has a history of tetrachloroethylene (PCE), trichloroethylene (TCE), and petroleum contamination.
- The 1917 Sanborn fire map shows Mutual Laundry 200 feet south of the property.
- The 1950 Sanborn fire map shows a 2,000-gallon solvent storage tank in the alley south of the subject property.
- The 1950 Sanborn fire map shows a plastic mixing room in the subject property building while occupied by Colotyle Corporation.
- The 1950 Sanborn fire map shows an oil burner sales and facilities business on the adjacent west parcel.
- A 1997 document from the Seattle Fire Department shows three 1,000-gallon heating oil underground storage tanks (USTs) and one 1,000-gallon bunker oil UST existed in the alley directly south of the subject property building.
- The parcel directly adjacent to the south was once occupied by a drycleaner and a gas station.
- There is a risk of vapor intrusion on the site due to multiple nearby petroleum and solvent USTs, historical drycleaners, gas stations, and sites with confirmed contamination.
- The east half of the current building burned down in roughly 2005. This event may have resulted in polycyclic aromatic hydrocarbon (PAH) or metal contamination.
- An old boiler and coal appeared to have been used on the site for heating or manufacturing. The use of coal and a boiler close to the floor drain is a REC.
- Floor drains were seen in the building. Floor drains provide a pathway for contamination to leak onto the property through leaking or broken pipes. Onsite use of chemicals may have resulted in chemicals entering the floor drains.

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To evaluate the RECs, a direct-push probe was advanced in seven locations at the Site. Ten soil samples and three groundwater samples were collected and analyzed for potential contaminants of concern, including petroleum hydrocarbons, metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and PAHs.

In soil, one contaminant of concern was detected above a regulatory criterion. Sample 21417-GP4:15, near the historical gas station, showed gasoline-range petroleum hydrocarbons (TPH-G) concentrations of 269 milligrams per kilogram (mg/kg), which is above the Model Toxics Control Act (MTCA) Method A cleanup criteria of 100 mg/kg. Low levels of oil-range petroleum hydrocarbons were detected in the alley to the south of the building. Low levels of VOCs and PAHs were detected. Metals detected include arsenic, barium, chromium, lead, and selenium. Chromium was detected up to 39.1 mg/kg, which is below the MTCA Method A criteria of 2,000 mg/kg for Chromium III. Diesel-range hydrocarbons (TPH-D) were not detected above laboratory detection limits.

In groundwater, one contaminant of concern was detected above regulatory cleanup criteria. TPH-G was detected above cleanup criteria in sample 21417-GP4:GW at a concentration of 4,830 micrograms per liter (µg/L), which is above the MTCA Method A cleanup criteria of 1,000 µg/L. VOCs were detected below cleanup criteria in the same sample. TPH-D and TPH-O was not detected above laboratory detection limits. Total metals detected below cleanup criteria include antimony, arsenic, chromium, copper, lead, nickel, and zinc. Dissolved metals detected below cleanup criteria include antimony and nickel.

Based on limited sampling, we offer the following conclusions:

- Gasoline-range petroleum hydrocarbon concentrations above MTCA Method A cleanup criteria are present in soil in the south side of the lower parking lot. This is near the historical gas station on the adjacent south parcel, the likely source of this contamination. The extent of this contamination is unknown.
- Heavy oil-range petroleum concentrations below MTCA Method A cleanup levels are present in soil in the alley. This is likely due to heating oil USTs which were noted in this alley. The contamination may extend underneath the Site at higher concentrations.
- VOCs related to TPH-G contamination are present below cleanup criteria in soil and groundwater in the exploration closest to the historical gas station. VOCs related to dry cleaner contamination was not observed in soil or groundwater on the site. The extent of VOC contamination is unknown, and may exist elsewhere on the site.
- SVOCs related to previous plastic manufacturing in the building were not detected with limited sampling.

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- PAHs were detected in soil below MTCA Method A cleanup criteria in the lower parking lot near the historical gas station. PAH contamination related to the previous fire at the Site does not appear to be present, or may be limited in extent.
- Drains at the site do not appear to have been used for disposal purposes. Probe locations 21417-GP5 and 21417-GP6 are near drains on the site and did not reveal contaminants of concern above cleanup criteria.
- Metals were not detected above MTCA Method A cleanup criteria. Metals concentrations may exceed cleanup criteria elsewhere on the site.
- Given the Site's history, additional areas of contamination may exist that were not discovered during this limited, screening-level investigation.
- Petroleum and/or VOC concentrations below cleanup criteria in soil and groundwater can still cause odors and staining, which may limit disposal or reuse possibilities.

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LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT
615 DEXTER AVENUE NORTH
SEATTLE, WASHINGTON

1.0 INTRODUCTION

1.1 Authorization

Shannon & Wilson, Inc. (Shannon & Wilson) has completed a Limited Phase II Environmental Site Assessment (ESA) to support the Seattle Department of Transportation (SDOT) in the sale of the property located at 615 Dexter Avenue North in Seattle, Washington (the Site) (Figure 1). The Site is currently occupied by Copiers Northwest. This work was performed in accordance with our subcontract agreement/amendment 8. An email notice to proceed was received from John McMillan of KPFF Consulting Engineers (Client) on February 23, 2017. The subconsultant agreement/ amendment followed on March 23, 2017.

1.2 Objective

The objective of this Phase II ESA was to evaluate subsurface soil and groundwater beneath the property to be sold by SDOT as part of the Mercer Corridor West Capital Improvements project. Our scope of services included the following tasks:

- Soil and groundwater sampling and analysis.
- Preparation of this report.

The scope of services focused on identifying and evaluating environmental concerns with significant potential to contaminate the property. The field sampling was a screening level effort intended to identify potential widespread contamination rather than define the lateral or vertical extent of soil and/or groundwater contamination.

2.0 BACKGROUND

2.1 Site Location

The street address for the site is 615 Dexter Avenue North. The site elevation ranges from approximately 72 feet on the west to 58 feet on the east. The site encompasses approximately 0.56-acre parcel and is in a commercial area. A Vicinity Map showing the site and surrounding area is included as Figure 1. Figure 2 is an aerial view of the Site depicting adjoining parcels and select historical features. The site is bound by Aurora Avenue to the west, Roy Street to the

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north, Dexter Avenue North to the east, and an alley to the south. The parcel number is 2249000120.

2.2 Additional Studies

2.2.1 Phase I Environmental Site Assessment (ESA)

Shannon & Wilson completed a Phase I ESA of the Site (Shannon & Wilson, 2017). This research found that the Site was previously occupied by multiple dwellings and businesses. The study also revealed several recognized environmental conditions (RECs). Many are shown in Figure 2:

- The parcel adjacent to the northeast has been occupied by American Linen and Maryatt Electric Laundry, as well as a small gas station. This site has a history of tetrachloroethylene (PCE), trichloroethylene (TCE), and petroleum contamination.
- The 1917 Sanborn fire map shows Mutual Laundry 200 feet south of the property.
- The 1950 Sanborn fire map shows a 2,000-gallon solvent storage tank in the alley south of the subject property.
- The 1950 Sanborn fire map shows a plastic mixing room in the subject property building while occupied by Colotyle Corporation.
- The 1950 Sanborn fire map shows an oil burner sales and facilities business on the adjacent west parcel.
- A 1997 document from the Seattle Fire Department shows three 1,000-gallon heating oil underground storage tanks (USTs) and one 1,000-gallon bunker oil UST existed in the alley directly south of the subject property building.
- The parcel directly adjacent to the south was once occupied by a drycleaner and a gas station.
- There is a risk of vapor intrusion on the site due to multiple nearby petroleum and solvent USTs, historical drycleaners, gas stations, and sites with confirmed contamination.
- The east half of the current building burned down in roughly 2005. This event may have resulted in polycyclic aromatic hydrocarbon (PAH) or metal contamination.
- An old boiler and coal appeared to have been used on the site for heating or manufacturing. The use of coal and a boiler close to the floor drain is a REC.
- Floor drains were seen in the building. Floor drains provide a pathway for contamination to leak onto the property through leaking or broken pipes. Onsite use of chemicals may have resulted in chemicals entering the floor drains.

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3.0 GEOLOGIC AND HYDROGEOLOGIC SETTING

This section describes the general geologic setting of the site vicinity and discusses the subsurface conditions beneath the subject property and surrounding area as they relate to the potential for contamination to migrate through the soils and groundwater.

3.1 Geologic Setting

In a 2016 report on the adjacent northeast parcel, Sound Earth Strategies (SES) describes geological and hydrogeological settings encountered. Soil consists of artificial fill, post-Vashon lacustrine deposits, Vashon glacial till or Vashon age ice-contact deposits, and advance sand deposits and glacial till or drift of either Vashon age or pre-Fraser age (SES, 2016).

Based on push-probe borings completed during the Phase II investigation, soils at the subject property consist of coarse to medium grained sandy fill ranging in depth of approximately 0 to 5 below ground surface (bgs), underlain by silty sand with gravel to 30 feet bgs, getting finer with depth. The fill in the alleyway was observed to have debris including concrete cobbles and bricks present. Logs of explorations can be seen in Appendix A.

3.2 Hydrogeology

Groundwater was observed to be about 23 feet bgs on the north side of the building, 15.5 feet bgs in the north side of the lower parking lot, and perched groundwater was observed in the south side of the lower parking lot between 11.5 and 14 feet bgs during the drilling of the April 2017 environmental explorations. Finding perched groundwater indicates the site contains an aquitard and may indicate all groundwater encountered was perched. Groundwater was not observed at other explorations ranging in depth from 15 to 20 feet bgs.

Groundwater is generally controlled primarily by the distribution of fine- and coarse-grained deposits and local topography. Based on previous studies, general site topography, and surface water flow patterns, the inferred groundwater gradient beneath the parcel is to the east-northeast, toward Lake Union (SES, 2016).

4.0 FIELD EXPLORATIONS

4.1 Locations

On April 21 and May 19, 2017, Shannon & Wilson observed completion of seven direct-push borings on the Site (Figure 2). The exploration locations were selected to evaluate the potential for contamination resulting from RECs identified in the Phase I ESA. The purpose/REC for each

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exploration, sampling depths, and selected analytical testing for each sample is provided in Table 1.

Prior to sampling, APS Locates, under subcontract to Shannon & Wilson, completed private utility locating services in the vicinity of the proposed explorations.

A street use permit and traffic control plan were required for explorations in the alleyway which is SDOT right-of-way. Shannon & Wilson submitted a permit application and traffic control plan to the SDOT permit office on April 21, 2017 and received approval from SDOT permitting office on May 15, 2017.

ESN Northwest (ESN), under subcontract to Shannon & Wilson, used a limited-access direct-push hydraulic probe rig to complete the explorations. ESN used an air-knife and in the three explorations in the alleyway to a depth of roughly 7 feet to evaluate for the presence of utilities or USTs. Additionally, ESN cored through concrete at the other four locations. Each probe was advanced until groundwater was reached or the rig encountered refusal, ranging in depth from 15 to 30 feet bgs. Groundwater was observed in three explorations; refusal was encountered in four explorations. Exploration logs, which indicate depths to water (where encountered), can be found in Appendix A.

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4.2 Soil and Groundwater Sampling

Ten soil samples and three groundwater samples were collected and analyzed for potential contaminants of concern, including petroleum hydrocarbons, metals, VOCs, and PAHs. Soil samples were taken at depths where field indication of contamination was observed. If contamination was not observed, soil samples were taken from either the soil-water interface, within fill, or at a change in stratigraphy.

Groundwater samples were collected from temporary 1-inch-diameter polyvinyl chloride wells installed, where encountered. The temporary wells were removed following sampling and each probe hole was backfilled in accordance with applicable regulations.

In several cases, refusal was met before groundwater was encountered. Groundwater was encountered on the northern border of the building and in the lower parking lot.

Soil sampling locations and soil results above cleanup criteria can be seen in Figure 3. Groundwater sampling locations and groundwater results above cleanup criteria can be seen in Figure 4.

4.3 Analytical Methods

Samples were submitted to Fremont Analytical, in Seattle, Washington, for chemical analysis. Selected soil samples were analyzed by one or more of the following methods:

- Gasoline-range (Gx) petroleum hydrocarbons using Method Northwest Total Petroleum Hydrocarbon (NWTPH)-Gx.
- Diesel-range (Dx) and oil-range petroleum hydrocarbons using Method NWTPH-Dx.
- Resource Conservation and Recovery Act 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by U.S. Environmental Protection Agency (EPA) Method 6020/7471.
- Lead by EPA Method 6020.
- PAHs by EPA Method 8270/SIM.
- VOCs by EPA Method 8260C.
- SVOCs by EPA Method 8270.

Groundwater samples were analyzed by the following methods:

- Gx petroleum hydrocarbons using Method NWTPH-Gx.
- Dx and oil-range petroleum hydrocarbons using Method NWTPH-Dx.
- Total and dissolved metals by EPA Method 200.8/245.1.
- VOCs by EPA Method 8260C.

4.4 Analytical Results

Tables 2 and 3 provide summaries of detected soil and groundwater analytical results, respectively, and include MTCA Method A criteria and B criteria (Ecology, 2013 and 2015). The analytical laboratory reports are presented in Appendix B. Exceedances of soil and groundwater criteria are presented in Figures 3 and 4, respectively.

4.4.1 Soil Results

The soil analytical results are presented in Table 2 and the parameters detected are summarized below. Where no criterion is established under MTCA Method A for a parameter, MTCA Method B values are used:

- Gasoline-range petroleum hydrocarbons were detected above the MTCA Method A cleanup criteria of 100 milligrams per kilogram (mg/kg) in sample 21417-GP4:15 at a concentration of 269 mg/kg. TPH-G was detected below cleanup criteria in sample 21417-GP4:12 at a concentration of 14.6 mg/kg.

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- Diesel-range petroleum hydrocarbons were not detected in the nine soil samples analyzed.
- Heavy oil-range petroleum hydrocarbons were detected below cleanup criteria in sample 21417-GP7:2 at a concentration of 99.2 mg/kg.
- VOCs were detected below cleanup criteria in samples 21417-GP4:12 and 21417-GP4:15. VOCs were not detected in the other seven samples analyzed.
- SVOCs were not detected in the one soil sample analyzed.
- RCRA 8 Metals were detected below cleanup criteria in sample 21417-GP2:18 and 21417-GP5:1. Lead was detected below cleanup criteria in sample 21417-GP4:15.
- PAHs were detected below cleanup criteria in sample 21417-GP4:15. PAHs were not detected in the other three samples analyzed.

4.4.2 Groundwater Results

The groundwater analytical results are presented in Table 3 and the parameters detected are summarized below:

- Gasoline-range petroleum hydrocarbons were detected above the MTCA Method A cleanup criteria of 1,000 micrograms per liter (µg/L) in sample 21417-GP4:GW at a concentration of 4,830 µg/L. This is an estimated concentration due to the sample being above the linear detection range of the lab instrument used. TPH-G was not detected in the other two samples analyzed.
- Diesel- and oil-range petroleum hydrocarbons were not detected in the two samples analyzed. Sample 21417-GP4:GW could not be sampled due to an insufficient water volume being available from the perched groundwater encountered.
- VOCs were detected below cleanup criteria in sample 21417-GP4:GW. VOCs were not detected in the other two samples analyzed.
- Total metals including antimony, arsenic, chromium, copper, lead, nickel and zinc were detected below cleanup criteria in sample 21417-GP3:GW, the one sample analyzed.
- Dissolved metals including antimony and nickel were detected below cleanup criteria in sample 21417-GP3:GW, the one sample analyzed.

4.5 Investigation-Derived Waste (IDW)

IDW generated during sampling included soil cuttings, decontamination fluids, purge water, used personal protection equipment (PPE), and disposable sampling equipment. Soil cuttings, decontamination fluids, and purge water were contained in three labeled Washington State Department of Transportation-approved drums that were temporarily stored in the lower and

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upper parking lots. PPE and disposable sampling equipment were placed in a plastic bag and disposed as solid waste.

5.0 CONCLUSIONS

Based on the limited data collected for this Phase II ESA, we can offer the following conclusions for the 615 Dexter Avenue North property:

- Gasoline-range petroleum hydrocarbon concentrations above MTCA Method A cleanup criteria are present in soil in the south side of the lower parking lot. This is near the historical gas station on the adjacent south parcel, the likely source of this contamination. The extent of this contamination is unknown.
- Heavy oil-range petroleum concentrations below MTCA Method A cleanup levels are present in soil in the alley. This is likely due to heating oil USTs which were noted in this alley. The contamination may extend underneath the Site at higher concentrations.
- VOCs related to TPH-G contamination are present below cleanup criteria in soil and groundwater in the exploration closest to the historical gas station. VOCs related to dry cleaner contamination was not observed in soil or groundwater on the site. The extent of VOC contamination is unknown, and may exist elsewhere on the site.
- SVOCs related to previous plastic manufacturing in the building were not detected with limited sampling.
- PAHs were detected in soil below MTCA Method A cleanup criteria in the lower parking lot near the historical gas station. PAH contamination related to the previous fire at the Site does not appear to be present, or may be limited in extent.
- Drains at the site do not appear to have been used for disposal purposes. Probe locations 21417-GP5 and 21417-GP6 are near drains on the site and did not reveal contaminants of concern above cleanup criteria.
- Metals were not detected above MTCA Method A cleanup criteria. Metals concentrations may exceed cleanup criteria elsewhere on the site.
- Given the Site's history, additional areas of contamination may exist that were not discovered during this limited, screening-level investigation.
- Petroleum and/or VOC concentrations below cleanup criteria in soil and groundwater can still cause odors and staining, which may limit disposal or reuse possibilities.

6.0 LIMITATIONS

Within the limitations of scope, schedule, and budget, Shannon & Wilson has prepared this report in a professional manner, using the level of skill and care normally exercised for similar

projects under similar conditions by reputable and competent environmental consultants currently practicing in this area.

The scope of services was intended to address only those environmental concerns with significant potential to result in contamination of the subject property. The sampling effort was considered limited in extent and served as a screening effort only. It was not intended to define the lateral or vertical extent of soil and/or groundwater contamination.

The data presented in this report are based on limited research and sampling at the site and should be considered representative at the time of our observations. Other areas of contamination that were not obvious or not accessible due to site use or underground utilities during our site work could be present at the site. Shannon & Wilson is not responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. We also note that the facts and conditions referenced in this report may change over time, and that the conclusions and recommendations set forth here are applicable to the facts and conditions as described only at the time of this report. Shannon & Wilson believes that the conclusions stated here are factual, but no guarantee is made or implied.

This report was prepared for the exclusive use of KPFF and their representatives, and in no way guarantees that any agency or its staff will reach the same conclusions as Shannon & Wilson. To help you and others in understanding the limitations of our report, Shannon & Wilson has prepared Appendix C, "Important Information About Your Environmental Site Assessment/Evaluation Report."

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7.0 REFERENCES

Shannon & Wilson, Inc, 2017, Draft Phase I Environmental Site Assessment, Mercer Corridor Project West, 615 Dexter Avenue North, Seattle, Washington: Report prepared by Shannon & Wilson, Inc., Seattle, Wash., for KPFF Consulting Engineers, Seattle, Wash., job no. 21-1-21417-206, April 7.

Sound Earth Strategies, Inc. (SES), 2016, Interim action work plan, 700 Dexter property, 700 Dexter Avenue North, Seattle, Washington [Draft]: Report prepared by Sound Earth Strategies, Seattle, Wash., 0797-001-02, for Frontier Environmental Management LLC, Denver, Colo., March 8.

Washington State Department of Ecology (Ecology), 2013, Model Toxics Control Act Regulation and Statute: MTCA Cleanup Regulation, Chapter 173-340 WAC; Model Toxics Control Act, Chapter 70.105D RCW; Uniform Environmental Covenants Act, Chapter 64.70 RCW (rev.): Olympia, Wash., Washington Dept. of Ecology, Publication no. 94.06, 324 p., available: https://fortress.wa.gov/ecy/publications/SummaryPages/9406.html .

Washington State Department of Ecology (Ecology), 2015, Cleanup levels and risk calculation, (CLARC): Olympia, Wash., Washington State Department of Ecology, available: http://fortress.wa.gov/ecy/clarc/CLARCHome.aspx, accessed December 2016.

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TABLE 1
SAMPLING SUMMARY

Exploration Designation	Location	REC/Reason Explored	Exploration Depth	Sample Designation	Sample Depth	Selected Analysis					
						Metals (Analysis)	Gx	Dx	SVOCs	VOCs	PAHs
21417-GP1	North, central corner of building	Suspected UST, former oil-burner repair adjacent to the west	30 feet	21417-GP:25	25 feet		X	X		X	
				21417-GP1:GW	Screened 20-25 feet bgs		X	X		X	
21417-GP2	East exterior wall, center of building	Previous manufacturing in building	19 feet	21417-GP2:18	18 feet	RCRA 8	X	X	X		
21417-GP3	North end of lower parking lot	Near American Linen, a known dry cleaner GW plume	20 feet	21417-GP3:15.5	15.5 feet					X	X
				21417-GP3:GW	Screened 10-20 feet bgs	Total and Dissolved Priority Pollutant	X	X		X	
21417-GP4	South end of lower parking lot	Near former gas station and drycleaner	15 feet	21417-GP4:12	12 feet		X	X		X	X
				21417-GP4:15	15 feet	Lead	X	X		X	X
				21417-GP4:GW	screened 10-15 feet bgs		X			X	
21417-GP5	Eastern end of alley near drain	Near drain, downgradient of suspected USTs in alley	16 feet	21417-GP5:1	1 foot	RCRA 8	X	X		X	X
				21417-GP5:14	14 feet		X	X		X	
21417-GP6	Alley near SE corner of building	Near drain, near suspected USTs in alley	20 feet	21417-GP6:18	18 feet		X	X		X	
21417-GP7	Alley near center of building	Near suspected USTs in alley	15 feet	21417-GP7:2	2 feet		X	X		X	
				21417-GP7:13	13 feet		X	X		X	

TABLE 1
SAMPLING SUMMARY

Notes:
Dx = Northwest Total Petroleum Hydrocarbons as Diesel Extended (NWTPH-Dx)
Gx = Northwest Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)
GW = groundwater
PAHs = polycyclic aromatic hydrocarbons
RCRA = Resource Conservation and Recovery Act 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)
VOCs = volatile organic compounds
SVOCs = semi volatile organic compounds
bgs = below ground surface
Cu = copper
Ni = nickel
Zn = zinc

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS

Parameter	Method	MTCA Method A Soil Cleanup Levels (mg/kg)	MTCA Method B Soil Cleanup Levels (mg/kg)		21417-GP1:25	21417-GP2:18	21417-GP3:15.5	21417-GP4:12	21417-GP4:15	21417-GP5:1	21417-GP5:14	21417-GP6:18	21417-GP7:2	21417-GP7:13
		Unrestricted	Non-cancer	Protective of GW (vadose)	25 feet	18 feet	15.5 feet	12 feet	15 feet	1 foot	14 feet	18 feet	2 feet	13 feet
Petroleum Hydrocarbons														
Gasoline-Range	NWTPH-Gx	100/30*	NE	NE	< 4.58	< 3.80	--	**14.6**	**269**	< 4.32	< 3.71	< 3.98	< 4.74	< 4.03
Diesel-Range	NWTPH-Dx	2,000	NE	NE	< 21.8	< 18.8	--	< 21.2	< 20.9	< 20.9	< 20.4	< 19.0	< 22.0	< 19.9
Heavy Oil-Range		2,000	NE	NE	< 54.5	< 47.0	--	< 53.0	< 52.2	< 52.4	< 50.9	< 47.5	**99.2**	< 49.7
Detected Volatile Organic Compounds (VOCs)														
Ethylbenzene	EPA 8260C	6.00	8,000	6.05	< 0.0275	--	< 0.0243	**0.0414**	**0.456**	< 0.0259	< 0.0223	< 0.0239	< 0.0284	< 0.0242
m,p-Xylene		NE	16,000	13.1	< 0.0183	--	< 0.0162	**0.0607**	**0.381**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
o-Xylene		NE	16,000	14.4	< 0.0183	--	< 0.0162	< 0.0199	**0.170**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
Isopropylbenzene		NE	8,000	NE	< 0.0733	--	< 0.0648	< 0.0797	**0.242**	< 0.0691	< 0.0594	< 0.0637	< 0.0758	< 0.0645
1,3,5-Trimethylbenzene		NE	800	NE	< 0.0183	--	< 0.0162	< 0.0199	**0.741**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
2-Chlorotoluene		NE	1,600	NE	< 0.0183	--	< 0.0162	< 0.0199	**0.171**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
Tert-butylbenzene		NE	8,000	NE	< 0.0183	--	< 0.0162	< 0.0199	**0.0237**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
sec-Butylbenzene		NE	8,000	NE	< 0.0183	--	< 0.0162	< 0.0199	**0.250**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
4-Isopropyltoluene		NE	NE	NE	< 0.0183	--	< 0.0162	< 0.0199	**0.406**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
n-Butylbenzene		NE	4,000	NE	< 0.0183	--	< 0.0162	< 0.0199	**0.483**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
n-Propylbenzene		NE	8,000	NE	< 0.0183	--	< 0.0162	**0.0368**	**0.416**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
1,2,4-Trimethylbenzene		NE	NE	NE	< 0.0183	--	< 0.0162	**0.146**	**1.61**	< 0.0173	< 0.0148	< 0.0159	< 0.0189	< 0.0161
Naphthalene		5.00	1,600	4.45	< 0.0275	--	< 0.0243	**0.106**	**0.894**	< 0.0259	< 0.0223	< 0.0239	< 0.0284	< 0.0242
Other Analyzed VOCs		NE	NE	NE	ND	--	ND	ND	ND	ND	ND	ND	ND	ND
Metals														
Arsenic	EPA 6010C/ 7471B	20	24	2.92	--	**1.99**	--	--	--	**4.6**	--	--	--	--
Barium		NE	16,000	1,650	--	**23.6**	--	--	-	**81.8**	--	--	--	--
Cadmium		2	80	0.69	--	< 0.173	--	--	--	< 0.178	--	--	--	--
Chromium**	EPA 6010C/ 7471B	19 / 2,000	120,000	480,000	--	**21.3**	--	--	--	**39.1**	--	--	--	--
Lead	EPA 6010C/ 7471B	250	NE	3,000	--	**1.08**	--	--	**1.49**	**20.7**	--	--	--	--
Mercury	EPA 6010C/ 7471B	2	NE	2.09	--	< 0.271	--	--	--	--	--	--	--	--
Selenium		NE	400	5	--	**0.691**	--	--	--	**1.38**	--	--	--	--
Silver		NE	400	13.6	--	< 0.0865	--	--	--	< 0.0897	--	--	--	--
Semi-Volatile Organic Compounds (SVOCs)														
Analyzed SVOCs	EPA 8270	NE	NE	NE	--	ND	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS

Parameter	Method	MTCA Method A Soil Cleanup Levels (mg/kg)	MTCA Method B Soil Cleanup Levels (mg/kg)		21417-GP1:25	21417-GP2:18	21417-GP3:15.5	21417-GP4:12	21417-GP4:15	21417-GP5:1	21417-GP5:14	21417-GP6:18	21417-GP7:2	21417-GP7:13
		Unrestricted	Non-cancer	Protective of GW (vadose)	25 feet	18 feet	15.5 feet	12 feet	15 feet	1 foot	14 feet	18 feet	2 feet	13 feet
Detected Polynuclear Aromatic Hydrocarbons (PAHs)														
Naphthalene	EPA 8270D/SIM	5	1,600	4.45	--	--	< 0.0434	< 0.0434	**0.414**	< 0.0420	--	--	--	--
2-Methylnaphthalene		NE	320	NE	--	--	< 0.0434	< 0.0434	**0.279**	< 0.0420	--	--	--	--
1-Methylnaphthalene		NE	5,600	NE	--	--	< 0.0434	< 0.0434	**0.112**	< 0.0420	--	--	--	--
Acenapthylene		NE	NE	NE	--	--	< 0.0434	< 0.0434	< 0.0391	< 0.0420	--	--	--	--
Acenaphthene		NE	4,800	97.9	--	--	< 0.0434	< 0.0434	< 0.0391	< 0.0420	--	--	--	--
Fluorene		NE	3,200	101	--	--	< 0.0434	< 0.0434	< 0.0391	< 0.0420	--	--	--	--
Phenanthrene	EPA 8270D/SIM	NE	NE	NE	--	--	< 0.0434	< 0.0434	< 0.0391	< 0.0420	--	--	--	--
Anthracene		NE	24,000	2,275	--	--	< 0.0434	< 0.0434	< 0.0391	< 0.0420	--	--	--	--
Fluoranthene		NE	3,200	631	--	--	< 0.0434	< 0.0434	< 0.0391	< 0.0420	--	--	--	--
Pyrene		NE	2,400	655	--	--	< 0.0434	< 0.0434	< 0.0391	< 0.0420	--	--	--	--
Other PAHs		NE	NE	NE	--	--	ND	ND	ND	ND	--	--	--	--
cPAH TEF		0.1	NE	NE	--	--	0.01	0.01	0.01	0.01	--	--	--	--

Notes:

* Cleanup criteria is 100 milligrams per kilogram (mg/kg) when no benzene is present. Cleanup criteria is 30 mg/kg when benzene is present.

** Screening criteria is 19 mg/kg for chromium (VI) and 2,000 mg/kg for chromium (III).

Bold indicates parameter detected above method detection limits.

Shaded cell indicates parameter detected above one or more screening criterion.

-- = not analyzed

< = parameter not detected above the method detection limit shown

cPAH = carcinogenic polynuclear aromatic hydrocarbons

EPA = U.S. Environmental Protection Agency

GW = groundwater

MTCA = Model Toxics Control Act

NA = not applicable

ND = no detection above any reporting limit

NE = no criterion established

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons as Diesel-Extended

NWTPH-Gx = Northwest Total Petroleum Hydrocarbons as Gasoline

TEF = toxicity equivalency factor

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Parameter	Method	MTCA Method A Cleanup Levels (µg/L)	MTCA Method B Cleanup Levels (µg/L)	21417-GP1:GW	21417-GP3:GW	21417-GP4:GW
Petroleum Hydrocarbons						
Gasoline-Range	NWTPH-Gx	1,000/800*	NE	< 50.0	< 50.0	**4,830**
Diesel-range	NWTPH-Dx	500	NE	< 50.0	< 49.8	--
Heavy Oil-range			NE	< 100	< 99.6	--
Detected Volatile Organic Compounds (VOCs)						
Toluene	EPA 8260C	1,000	640	< 1.00	< 1.00	**1.15**
Ethylbenzene		700	800	< 1.00	< 1.00	**94.3**
m,p-Xylene		NE	1,600	< 1.00	< 1.00	**124**
o-Xylene		NE	1,600	< 1.00	< 1.00	**6.77**
Isopropylbenzene		NE	800	< 1.00	< 1.00	**29.2**
n-Propylbenzene		NE	800	< 1.00	< 1.00	**33.0**
1,3,5-Trimethylbenzene		NE	80	< 1.00	< 1.00	**60.0**
2-Chlorotoluene		NE	160	< 1.00	< 1.00	**13.7**
sec-Butylbenzene		NE	800	< 1.00	< 1.00	**10.6**
4-Isopropyltoluene		NE	NE	< 1.00	< 1.00	**17.2**
n-Butylbenzene		NE	400	< 1.00	< 1.00	**15.0**
1,2,4-Trimethylbenzene		NE	NE	< 1.00	< 1.00	**198**
Naphthalene		160	160	< 1.00	< 1.00	**96.1**
Other Analyzed Volatiles		NE	NE	ND	ND	ND
Metals - Total						
Antimony	EPA 200.8/ 7470A	NE	6.4	--	**0.252**	--
Arsenic		5	4.8		**1.25**	
Beryllium		NE	32.0		< 0.200	
Cadmium		5	8		< 0.200	
Chromium		50	24,000		**24.0**	
Copper		NE	640		**9.86**	

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Parameter	Method	MTCA Method A Cleanup Levels (µg/L)	MTCA Method B Cleanup Levels (µg/L)	21417-GP1:GW	21417-GP3:GW	21417-GP4:GW
Metals - Total						
Lead	EPA 200.8/ 7470A	15	NE	--	**1.15**	--
Mercury		2	NE		< 0.100	
Nickel		NE	320		**19.3**	
Selenium		NE	80		< 1.00	
Silver		NE	80		< 0.200	
Thallium		NE	1.60		< 0.200	
Zinc		NE	4,800		**13.5**	
Metals - Dissolved						
Antimony		NE	6.4	--	**0.700**	--
Arsenic	EPA 200.8/ 7470A	5	4.8		< 1.00	
Beryllium		NE	32.0		< 0.200	
Cadmium		5	8		< 0.200	
Chromium		50	24,000		< 0.500	
Copper		NE	640		< 0.500	
Lead		15	NE		< 0.500	
Mercury		2	NE		< 0.100	
Nickel		NE	320		**4.41**	
Selenium		NE	80		< 1.00	
Silver		NE	80		< 0.200	
Thallium		NE	1.6		< 0.200	
Zinc		NE	4,800		< 1.50	

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Notes:

* Cleanup criteria is 1,000 ug/L when no benzene is present. Cleanup criteria is 800 ug/L when benzene is present.

Bold indicates parameter detected above method detection limits.

Shaded cell indicates parameter detected above one or more screening criterion.

< = parameter not detected above the method detection limit shown

EPA = U.S. Environmental Protection Agency

MTCA = Model Toxics Control Act

ND = no detection above any reporting limit

NE = no criterion established

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons as Diesel-Extended

NWTPH-Gx = Northwest Total Petroleum Hydrocarbons as Gasoline

µg/L = micrograms per liter

0 500 1000

Approximate Scale in Feet

NOTE

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Mercer Corridor Project
Phase II ESA
615 Dexter Ave N
Seattle, Washington

PHASE II VICINITY MAP

June 2017 21-1-21417-207

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FIG. 1

DRAFT

Filename: J:\21\21417\207\21-1-21417-207 Vicinity Map 615 Dexter.dwg Date: 06-02-2017 Login: jrs

LEGEND

21417-GP7 ● Boring Designation and Approximate Location

0 50 100

Approximate Scale in Feet

Notes

1. Locations and site features are approximate.
2. USTs may have previosly been removed.

NOTE

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SITE AND EXPLORATION PLAN

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FIG. 2

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Filename: J:\21\21417\207\21-1-21417-207 Site Plan 615 Dexter.dwg Layout: Fig 2 Date: 06-06-2017 Login: jrs

LEGEND

21417-GP7 ● Boring Designation and Approximate Location

21417-GP4 ■ Gasoline-Range Hydrocarbons Above MTCA Method A

0 50 100

Approximate Scale in Feet

Notes
1. Locations and site features are approximate.
2. USTs may have previosly been removed.

NOTE

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Mercer Corridor Project
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Seattle, Washington

SOIL RESULTS ABOVE MTCA

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FIG. 3

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Filename: J:\21\21417\207\21-1-21417-207 Site Plan 615 Dexter.dwg Layout: Fig 3 Date: 06-06-2017 Login: jrs

LEGEND

21417-GP7 ● Boring Designation and Approximate Location Where Groundwater was Encountered

21417-GP4 ■ Gasoline-Range Hydrocarbons Above MTCA Method A

0 50 100

Approximate Scale in Feet

NOTE

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Notes

1. Locations and site features are approximate.
2. USTs may have previosly been removed.

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615 Dexter Ave N
Seattle, Washington

GROUNDWATER RESULTS ABOVE MTCA

June 2017 21-1-21417-207

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FIG. 4

DRAFT

Filename: J:\21\1\21417\207\21-1-21417-207 Site Plan 615 Dexter.dwg Layout: Fig 4 Date: 06-06-2017 Login: jrs

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APPENDIX A

FIELD METHODS AND EXPLORATION LOGS

APPENDIX A

FIELD METHODS AND EXPLORATION LOGS

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A-7 Log of Geoprobe 21417-GP6
A-8 Log of Geoprobe 21417-GP7

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APPENDIX A

FIELD METHODS AND EXPLORATION LOGS

A.1 INTRODUCTION

The project consisted of performing subsurface environmental sampling to support the sale of a Seattle Department of Transportation (SDOT) owned property. The property is located at 615 Dexter Avenue North and is on tax parcel 2249000120. The investigation and analysis are intended to assess quality of soil and groundwater that is present in the subsurface.

Standard investigation methods, including sample collection, field screening, documentation procedures, and selected analyses, are described briefly in the following subsections. Sample collection and documentation were completed in accordance with Shannon & Wilson, Inc.'s (Shannon & Wilson's) standard operating procedures.

A.2 PRE-SAMPLING ACTIVITIES

Shannon & Wilson coordinated with the Seattle Department of Finance and Administrative Services Property Manager, and Copiers Northwest, the current tenant , to gain access to the site. A representative of Shannon & Wilson notified the Underground Utilities Location Center (1-800-424-5555) at least 48 hours before the start of subsurface work at the site. Applied Professional Services surveyed the area within 30 feet of each exploration for utilities.

A.3 SAMPLE COLLECTION

During the field investigation, soil and groundwater samples were collected to evaluate the potential for site contamination. The various methods of collecting samples are presented below. Sample handling procedures are summarized in Section A.4. The samples were submitted to Fremont Analytical of Seattle, Washington, laboratory for analysis by the methods discussed in Section A.6. Decontamination procedures are presented in Section A.7.

A.3.1 Hydraulic Probe Rig Drilling

A direct push hydraulic probe rig was used to collect subsurface soil and groundwater samples. The probe was advanced to a depth where groundwater was met or the probe rig met refusal. One or two soil samples and one groundwater sample, where groundwater was encountered, was collected from each exploration. Logs for the explorations are included as Figures A-2 through A-8.

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A.3.2 Temporary Well Installation

Temporary wells were installed to collect groundwater samples. The temporary wells were set just off the bottom of the hole and screened to the observed groundwater. The temporary wells were constructed of 1-inch-diameter, Schedule 40 polyvinyl chloride pipe; no sand pack was placed around the pipe. After the temporary wells were installed, they were purged for approximately one minute prior to groundwater sampling.

A.3.3 Soil Sampling

Soil was visually described using Shannon & Wilson's soil classification procedure, which is a modified version of the Unified Soil Classification System. The soil classification procedure can be seen in Figure A-1. The soil descriptions were recorded on the field logs. When a soil sample was selected for chemical analysis, the soil sample was placed into laboratory-supplied glassware using disposable, stainless steel spoons, or disposable plastic syringes. If refusal was observed, probe holes were then backfilled with bentonite chips and patched with a cold asphalt patch or concrete where applicable.

A.3.4 Groundwater Sampling

Where encountered, a groundwater sample was collected using a peristaltic pump to extract water from the temporary well. After the samples were collected, the temporary wells were removed and probe holes were backfilled with bentonite chips and patched with a cold asphalt patch or concrete where applicable.

A.4 SAMPLE HANDLING

Environmental samples were collected using disposable sampling equipment. New nitrile gloves were worn by the sample handler during collection of each sample. Non-disposable sampling equipment was decontaminated between sample locations to reduce potential for cross contamination. Field notes documented site conditions and sample collection activities.

Samples collected for laboratory analysis were placed into pre-cleaned laboratory-provided glassware and containerized sequentially, with the most volatile target analyte collected first. The preferred collection order for some of the more common analytes is: (a) volatile organics and petroleum, (b) semi-volatile organics, and (c) metals. The sample container labels were completed using indelible ink. The samples were sealed in plastic bags and then placed into a cooler and maintained at 4 degrees Celsius (°C) ($\pm$ 2°C) with "blue ice."

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Sample information was recorded on chain-of-custody forms, and these forms accompanied the samples to the laboratory. Samples were maintained under chain of custody until delivered to Fremont Analytical.

A.5 FIELD SCREENING METHODS

Field screening of soil samples helped evaluate the potential presence of contamination. Typically, at a nonhazardous waste site, the most likely locations to encounter contamination are in fill, at the water table interface; in the water table smear (fluctuation) zone; at fill/native soil contacts; and at pronounced changes in permeability. However, the location of contamination, if any, is site-dependent.

Field screening methods typically consisted of:

- Photoionization detector (PID) measurements.
- Visual observations.
- Olfactory observations.

The three methods were used for the site. New nitrile gloves were worn by the field personnel during the screening.

A.5.1 Photoionization Detector (PID) Measurements

PID measurements were collected on soil samples to screen for volatile organic vapors such as gasoline and solvents. Typically, decaying organics can elevate PID measurements and diesel and oil can rarely be detected with the PID. PID measurements were obtained by passing the instrument directly over the soil.

A.5.2 Visual Observation

Visual observations of soil samples and cuttings were recorded in the boring log or in the field logbook. Indications of contamination include:

- Black tarry substances.
- Oily or shiny soil.
- Metallic flakes.
- Free product petroleum or organic hydrocarbons.
- Gray, pink, red, or black discolorations.

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A.5.3 Odors

Unusual odors were recorded when noted during drilling or sampling. Soil was not intentionally smelled for contamination. Soil was not tasted for classification purposes.

A.5.4 Field-screening Documentation

During screening, the following items were recorded:

- Type of measurement/observation.
- Depth.
- Time of measurement or observation.
- Possible source.
- Description of odor (petroleum, decaying organics, creosote, cedar, etc.)

A.6 ANALYTICAL METHODS

Soil samples were analyzed for one or more of the following methods:

- Gasoline-range petroleum hydrocarbons using Method Northwest Total Petroleum Hydrocarbon (NWTPH) gasoline-range extended (Gx).
- Diesel- and oil-range petroleum hydrocarbons using Method NWTPH diesel-range extended (Dx).
- Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Method 6010B/7471B.
- Volatile organic compounds (VOCs) by EPA Method 8260C.
- PAHs by EPA Method 8270/SIM.

Groundwater samples were analyzed by one or more of the following methods:

- Gasoline-range petroleum hydrocarbons using Method NWTPH-Gx.
- Diesel- and oil-range petroleum hydrocarbons using Method NWTPH-Dx.
- Total and dissolved Priority Pollutant metals by EPA Method 200.8/245.1.
- VOCs by EPA Method 8260C.

A.7 DECONTAMINATION METHODS

The primary objective of the decontamination process is to reduce the potential for the accidental introduction of contaminants to non-contaminated areas or samples. This section describes the methods associated with decontamination of field equipment.

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A.7.1 Direct Push Probe

Equipment used during soil activities was steam cleaned prior to use. Following decontamination, caution was taken to keep the equipment off the ground by placing the equipment on clean, plastic sheeting or equivalent.

A.7.2 Sampling Equipment

Groundwater and soil sampling equipment was cleaned prior to and at the completion of each probe location. Wherever possible, sampling equipment was dedicated to a single location to reduce potential cross contamination. Other non-dedicated sampling equipment used during the field activities was decontaminated as follows:

- Remove gross contamination and particulate matter.
- Wash thoroughly with Alconox®, or similar non-phosphate detergent plus tap water or designated decontamination water supply source.
- Rinse equipment thoroughly with distilled or deionized water.

A.8 INVESTIGATION-DERIVED WASTE (IDW)

IDW is waste generated during sampling activities. IDW that was generated during these explorations were placed into steel drums and temporarily stored on site pending receipt of analytical results and disposal facility acceptance.

Miscellaneous IDW consisted of used personal protective equipment (PPE), disposable sampling equipment (spoons, tubing, etc.), and other wastes that originated from site activities. This IDW was placed in doubled, heavy-duty plastic bags. The waste PPE and disposable sampling equipment was disposed of in a dumpster at the Shannon & Wilson office.

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Shannon & Wilson, Inc. (S&W), uses a soil identification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following pages. Soil descriptions are based on visual-manual procedures (ASTM D2488) and laboratory testing procedures (ASTM D2487), if performed.

S&W INORGANIC SOIL CONSTITUENT DEFINITIONS

CONSTITUENT[2]	FINE-GRAINED SOILS (50% or more fines)[1]	COARSE-GRAINED SOILS (less than 50% fines)[1]
Major	***Silt, Lean Clay, Elastic Silt,*** or ***Fat Clay***[3]	***Sand*** or ***Gravel***[4]
Modifying (Secondary) Precedes major constituent	30% or more coarse-grained: ***Sandy*** or ***Gravelly***[4]	More than 12% fine-grained: ***Silty*** or ***Clayey***[3]
Minor Follows major constituent	15% to 30% coarse-grained: ***with Sand*** or ***with Gravel***[4]	5% to 12% fine-grained: ***with Silt*** or ***with Clay***[3]
	30% or more total coarse-grained *and* lesser coarse-grained constituent is 15% or more: ***with Sand*** or ***with Gravel***[5]	15% or more of a second coarse-grained constituent: ***with Sand*** or ***with Gravel***[5]

[1]All percentages are by weight of total specimen passing a 3-inch sieve.
[2]The order of terms is: *Modifying Major with Minor*.
[3]Determined based on behavior.
[4]Determined based on which constituent comprises a larger percentage.
[5]Whichever is the lesser constituent.

MOISTURE CONTENT TERMS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

STANDARD PENETRATION TEST (SPT) SPECIFICATIONS

Hammer:	140 pounds with a 30-inch free fall. Rope on 6- to 10-inch-diam. cathead 2-1/4 rope turns, > 100 rpm NOTE: If automatic hammers are used, blow counts shown on boring logs should be adjusted to account for efficiency of hammer.
Sampler:	10 to 30 inches long Shoe I.D. = 1.375 inches Barrel I.D. = 1.5 inches Barrel O.D. = 2 inches
N-Value:	Sum blow counts for second and third 6-inch increments. Refusal: 50 blows for 6 inches or less; 10 blows for 0 inches.

NOTE: Penetration resistances (N-values) shown on boring logs are as recorded in the field and have not been corrected for hammer efficiency, overburden, or other factors.

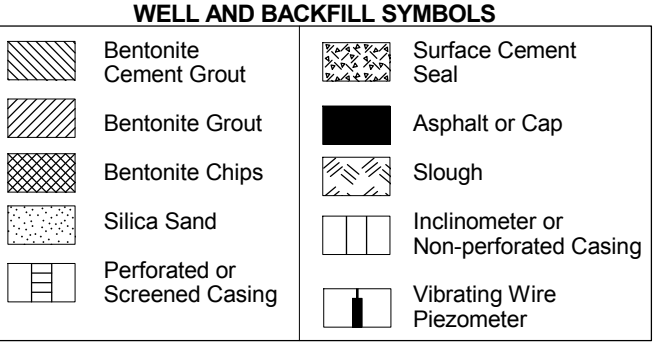
PARTICLE SIZE DEFINITIONS

DESCRIPTION	SIEVE NUMBER AND/OR APPROXIMATE SIZE
FINES	< #200 (0.075 mm = 0.003 in.)
SAND	
Fine	#200 to #40 (0.075 to 0.4 mm; 0.003 to 0.02 in.)
Medium	#40 to #10 (0.4 to 2 mm; 0.02 to 0.08 in.)
Coarse	#10 to #4 (2 to 4.75 mm; 0.08 to 0.187 in.)
GRAVEL	
Fine	#4 to 3/4 in. (4.75 to 19 mm; 0.187 to 0.75 in.)
Coarse	3/4 to 3 in. (19 to 76 mm)
COBBLES	3 to 12 in. (76 to 305 mm)
BOULDERS	> 12 in. (305 mm)

RELATIVE DENSITY / CONSISTENCY

COHESIONLESS SOILS		COHESIVE SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
< 4	Very loose	< 2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
> 50	Very dense	15 - 30	Very stiff
		> 30	Hard

WELL AND BACKFILL SYMBOLS



PERCENTAGES TERMS [1, 2]

Trace	< 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

[1]Gravel, sand, and fines estimated by mass. Other constituents, such as organics, cobbles, and boulders, estimated by volume.

[2]Reprinted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

Mercer Corridor Project
615 Dexter Ave N Phase II ESA
Seattle, Washington

SOIL DESCRIPTION AND LOG KEY

June 2017 21-1-21417-207

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-1
Sheet 1 of 3

SOIL_CLASS_KEY_PG1 21-16700-201.GPJ SHAN_WIL.GDT 5/23/17

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
(Modified From USACE Tech Memo 3-357, ASTM D2487, and ASTM D2488)

MAJOR DIVISIONS			GROUP/GRAPHIC SYMBOL		TYPICAL IDENTIFICATIONS
COARSE-GRAINED SOILS *(more than 50% retained on No. 200 sieve)*	Gravels *(more than 50% of coarse fraction retained on No. 4 sieve)*	Gravel *(less than 5% fines)*	GW		Well-Graded Gravel; Well-Graded Gravel with Sand
			GP		Poorly Graded Gravel; Poorly Graded Gravel with Sand
		Silty or Clayey Gravel *(more than 12% fines)*	GM		Silty Gravel; Silty Gravel with Sand
			GC		Clayey Gravel; Clayey Gravel with Sand
	Sands *(50% or more of coarse fraction passes the No. 4 sieve)*	Sand *(less than 5% fines)*	SW		Well-Graded Sand; Well-Graded Sand with Gravel
			SP		Poorly Graded Sand; Poorly Graded Sand with Gravel
		Silty or Clayey Sand *(more than 12% fines)*	SM		Silty Sand; Silty Sand with Gravel
			SC		Clayey Sand; Clayey Sand with Gravel
FINE-GRAINED SOILS *(50% or more passes the No. 200 sieve)*	Silts and Clays *(liquid limit less than 50)*	Inorganic	ML		Silt; Silt with Sand or Gravel; Sandy or Gravelly Silt
			CL		Lean Clay; Lean Clay with Sand or Gravel; Sandy or Gravelly Lean Clay
		Organic	OL		Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
	Silts and Clays *(liquid limit 50 or more)*	Inorganic	MH		Elastic Silt; Elastic Silt with Sand or Gravel; Sandy or Gravelly Elastic Silt
			CH		Fat Clay; Fat Clay with Sand or Gravel; Sandy or Gravelly Fat Clay
		Organic	OH		Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay
HIGHLY-ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		PT		Peat or other highly organic soils (see ASTM D4427)

NOTE: No. 4 size = 4.75 mm = 0.187 in.; No. 200 size = 0.075 mm = 0.003 in.

NOTES

1. Dual symbols *(symbols separated by a hyphen, i.e., SP-SM, Sand with Silt)* are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart. Graphics shown on the logs for these soil types are a combination of the two graphic symbols (e.g., SP and SM).

2. Borderline symbols *(symbols separated by a slash, i.e., CL/ML, Lean Clay to Silt; SP-SM/SM, Sand with Silt to Silty Sand)* indicate that the soil properties are close to the defining boundary between two groups.

Mercer Corridor Project
615 Dexter Ave N Phase II ESA
Seattle, Washington

SOIL DESCRIPTION AND LOG KEY

June 2017 21-1-21417-207

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-1
Sheet 2 of 3

SOIL_CLASS_KEY_PG2 21-16700-201.GPJ SHAN_WIL.GDT 5/23/17

GRADATION TERMS

Poorly Graded	Narrow range of grain sizes present or, within the range of grain sizes present, one or more sizes are missing (Gap Graded). Meets criteria in ASTM D2487, if tested.
Well-Graded	Full range and even distribution of grain sizes present. Meets criteria in ASTM D2487, if tested.

CEMENTATION TERMS[1]

Weak	Crumbles or breaks with handling or slight finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

PLASTICITY[2]

DESCRIPTION	VISUAL-MANUAL CRITERIA	APPROX. PLASITICITY INDEX RANGE
Nonplastic	A 1/8-in. thread cannot be rolled at any water content.	< 4
Low	A thread can barely be rolled and a lump cannot be formed when drier than the plastic limit.	4 to 10
Medium	A thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. A lump crumbles when drier than the plastic limit.	10 to 20
High	It takes considerable time rolling and kneading to reach the plastic limit. A thread can be rerolled several times after reaching the plastic limit. A lump can be formed without crumbling when drier than the plastic limit.	> 20

ADDITIONAL TERMS

Mottled	Irregular patches of different colors.
Bioturbated	Soil disturbance or mixing by plants or animals.
Diamict	Nonsorted sediment; sand and gravel in silt and/or clay matrix.
Cuttings	Material brought to surface by drilling.
Slough	Material that caved from sides of borehole.
Sheared	Disturbed texture, mix of strengths.

PARTICLE ANGULARITY AND SHAPE TERMS[1]

Angular	Sharp edges and unpolished planar surfaces.
Subangular	Similar to angular, but with rounded edges.
Subrounded	Nearly planar sides with well-rounded edges.
Rounded	Smoothly curved sides with no edges.
Flat	Width/thickness ratio > 3.
Elongated	Length/width ratio > 3.

ACRONYMS AND ABBREVIATIONS

ATD	At Time of Drilling
Diam.	Diameter
Elev.	Elevation
ft.	Feet
FeO	Iron Oxide
gal.	Gallons
Horiz.	Horizontal
HSA	Hollow Stem Auger
I.D.	Inside Diameter
in.	Inches
lbs.	Pounds
MgO	Magnesium Oxide
mm	Millimeter
MnO	Manganese Oxide
NA	Not Applicable or Not Available
NP	Nonplastic
O.D.	Outside Diameter
OW	Observation Well
pcf	Pounds per Cubic Foot
PID	Photo-Ionization Detector
PMT	Pressuremeter Test
ppm	Parts per Million
psi	Pounds per Square Inch
PVC	Polyvinyl Chloride
rpm	Rotations per Minute
SPT	Standard Penetration Test
USCS	Unified Soil Classification System
q_u	Unconfined Compressive Strength
VWP	Vibrating Wire Piezometer
Vert.	Vertical
WOH	Weight of Hammer
WOR	Weight of Rods
Wt.	Weight

STRUCTURE TERMS[1]

Interbedded	Alternating layers of varying material or color with layers at least 1/4-inch thick; singular: bed.
Laminated	Alternating layers of varying material or color with layers less than 1/4-inch thick; singular: lamination.
Fissured	Breaks along definite planes or fractures with little resistance.
Slickensided	Fracture planes appear polished or glossy; sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps that resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay.
Homogeneous	Same color and appearance throughout.

[1]Reprinted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

[2]Adapted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

Mercer Corridor Project
615 Dexter Ave N Phase II ESA
Seattle, Washington

SOIL DESCRIPTION AND LOG KEY

June 2017 21-1-21417-207

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-1
Sheet 3 of 3

SOIL_CLASS_KEY_PG3 21-16700-201.GPJ SHAN_WIL.GDT 5/23/17

LOG OF GEOPROBE

Date Started 4/21/17	Location North, Central Corner of Building	Ground Elevation: Approx. NA feet	
Date Completed 4/21/17		Typical Run Length 5 feet	
Total Depth (ft) 30.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	1	Concrete.						
		Olive *Sand (SM)*; subrounded; no odor.	0.8					
		Gray-brown, *Silty Sand (SM)* with little gravels; little iron staining at 6 feet.	2.0		0			
5	2				0			5
					0			
10	3							10
					0			
		Gray-brown *Sand (SM)*.	13.0					
		Light gray *Clay (CL)*; dry.	14.0					
15	4	Gray-brown, *Silty Sand (SM)* with little gravels.	15.0		0.1			15

DRAFT

CONTINUED NEXT PAGE

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

- 3 — 2" Plastic Tube - No Soil Recovery
- 2" Plastic Tube with Soil Recovery
- *Run No.*
- ▽ Ground Water Level ATD

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP1

June 2017 21-1-21417-207

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-2
Sheet 1 of 2

REV 1

GEOPROBE WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started: 4/21/17	Location: North, Central Corner of Building	Ground Elevation: Approx. NA feet
Date Completed: 4/21/17		Typical Run Length: 5 feet
Total Depth (ft): 30.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
	5							
		Gray-brown *Sand (SM)*.	22.0		0			
		Gray-brown, *Silty Sand (SM)*; moist at 24 feet, wet at 25.5 feet.	24.0			During Drilling ▽		
25	6						21417-GP1:25	25
					0		21417-GP1:GW	
30		BOTTOM OF GEOPROBE COMPLETED 4/21/2017	30.0					30
35								35

DRAFT

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
Run No.
▽ Ground Water Level ATD

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP1

June 2017 — 21-1-21417-207

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-2
Sheet 2 of 2

REV 1

GEOPROBE_WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started: 4/21/17	Location: Center of E Side of Building	Ground Elevation: Approx. NA feet
Date Completed: 4/21/17		Typical Run Length: 5 feet
Total Depth (ft): 19.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	1	Concrete.						
		Gray-brown *Sand (SM)* with trace gravel.	0.8					
		Light gray and brown, *Silty Sand (SM)* with few gravels.	2.0		0.1	None Observed During Drilling		
5	2	Gray-brown *Sand (SM)* with trace gravels.	5.0					5
		Light gray and brown, *Silty Sand (SM)* with few gravels.	7.0		0			
10	3	Light gray and brown, *Silty Sand (SM)* with few gravels; moist at 13 feet.	10.0		0.1			10
15	4	Light gray and brown *Sand (SM)*; moist; subrounded.	17.0		0.1			15
		Silty Sand (SM).	18.0				21417-GP2:18	
		BOTTOM OF GEOPROBE COMPLETED 4/21/2017	19.0					

DRAFT

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — Run No.
2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP2

June 2017 | 21-1-21417-207

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-3

REV 1

GEOPROBE WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started: 4/21/17	Location: Lower Parking Lot, N Side	Ground Elevation: Approx. NA feet	
Date Completed: 4/21/17		Typical Run Length: 5 feet	
Total Depth (ft): 20.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
	1	Concrete.						
		Light gray-brown, *Silty Sand (SM)* with few gravels getting harder with depth; moist at 14 feet.	0.8		0			
5	2				0			5
10	3				0.1			10
15	4				0	During Drilling ▽	21417-GP3:15.5	15
							21417-GP3:GW	
20		BOTTOM OF GEOPROBE COMPLETED 4/21/2017	20.0					20

DRAFT

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

- 3 — 2" Plastic Tube - No Soil Recovery
- 2" Plastic Tube with Soil Recovery
- *Run No.*
- ▽ Ground Water Level ATD

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP3

June 2017 21-1-21417-207

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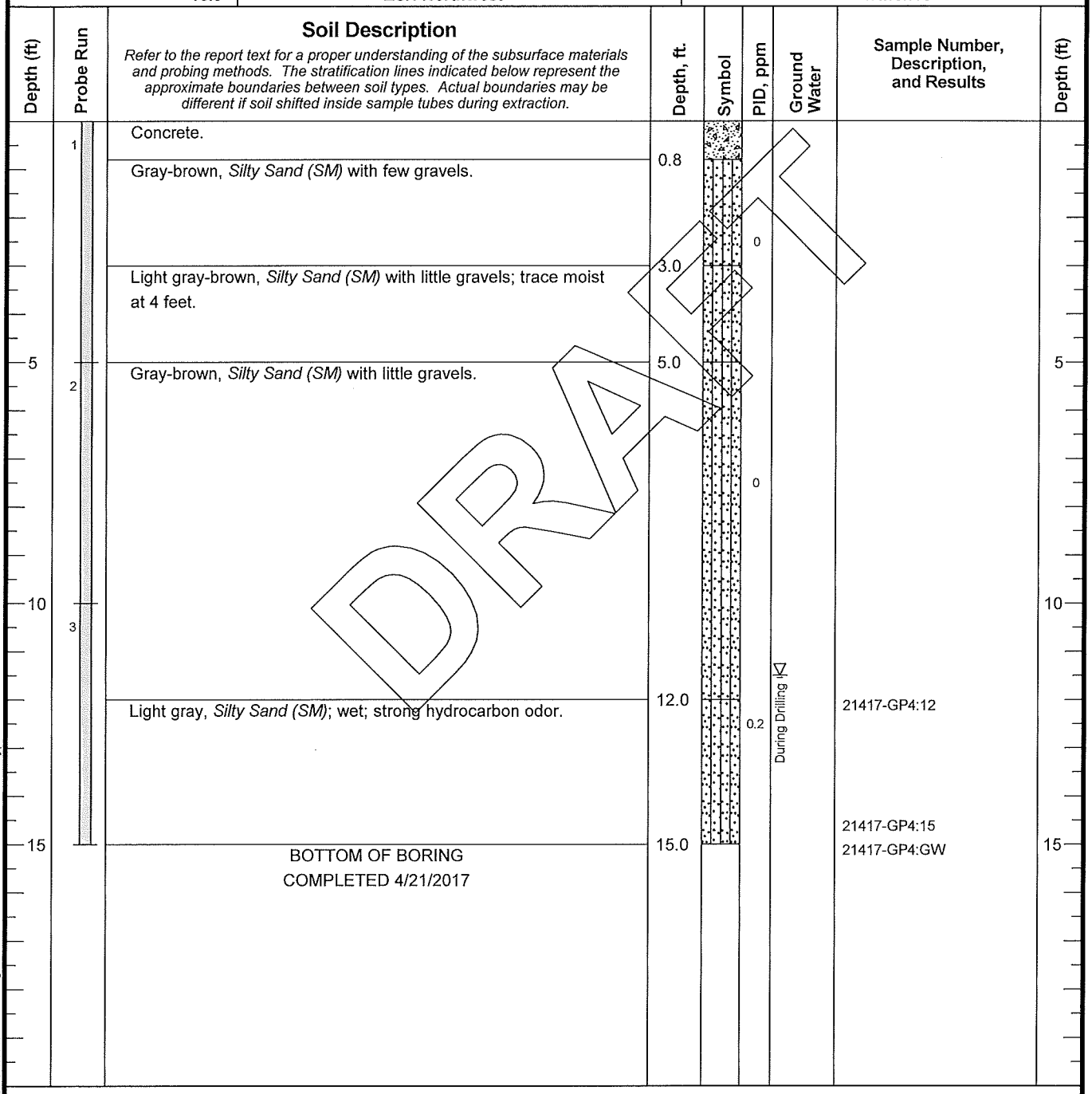
FIG. A-4

REV 1

GEOPROBE WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started: 4/21/17	Location: Lower Parking Lot, S	Ground Elevation:	Approx. NA feet
Date Completed: 4/21/17		Typical Run Length	5 feet
Total Depth (ft): 15.0	Drilling Company: ESN Northwest	Hole Diameter:	2 inches



NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

- 3 — 2" Plastic Tube - No Soil Recovery
- 2" Plastic Tube with Soil Recovery
- Run No.
- Ground Water Level ATD

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP4

June 2017 — 21-1-21417-207

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FIG. A-5

REV 1

GEOPROBE WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started: 5/19/17	Location: Eastern End of Alley Near Drain	Ground Elevation: Approx. NA feet
Date Completed: 5/19/17		Typical Run Length: 5 feet
Total Depth (ft): 16.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		Air-knife through 0.8 foot of concrete and olive-brown, coarse Sand (SM). (Fill)					21417-GP5:1	
5						None Observed During Drilling		5
	1	Olive, *Silty Sand (SM)* with little gravels, getting harder with depth; moist seam at 14 feet.	6.0		0			
10	2				0		212417-GP5:14	10
15		BOTTOM OF GEOPROBE COMPLETED 5/19/2017	16.0					15

DRAFT

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
Run No.

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP5

June 2017 — 21-1-21417-207

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FIG. A-6

REV 1

GEOPROBE_WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started: 5/19/17	Location: Alley Near SE Corner of Building	Ground Elevation: Approx. NA feet	
Date Completed: 5/19/17		Typical Run Length: 5 feet	
Total Depth (ft): 20.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
		Refer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.						
		Air-knife through 0.8 foot of Concrete and Fill.						
5	1	Olive, *Silty Sand (SM)* with few gravels; moist at 8 feet.	7.0		0	None Observed During Drilling		5
10	2	Olive, *Silty Sand (SM)* with few gravels; coarser than above.	10.0		0			10
15	3	Olive, *Silty Sand (SM)* with few gravels; slightly moist at 18 feet.	15.0		0		21417-GP6:18	15
20		BOTTOM OF GEOPROBE COMPLETED 5/19/2017	20.0					20

DRAFT

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
Run No.

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP6

June 2017 21-1-21417-207

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-7

REV 1

GEOPROBE WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started: 5/19/17	Location: Alley Near Center of Building	Ground Elevation: Approx. NA feet
Date Completed: 5/19/17		Typical Run Length: 5 feet
Total Depth (ft): 15.0	Drilling Company: ESN Northwest	Hole Diameter: 2 inches

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
		Air-knife through 0.8 foot of Concrete and Fill, one brick was seen in Fill, multiple cobbles.						
							21417-GP7:2	
5						None Observed During Drilling		5
	1	Olive, *Silty Sand (SM)* with little gravels; moist at 9 feet.	7.0		0			
10	2	Olive, fine, *Silty Sand (SM)* with few gravels.	10.0					10
		Coarse *Sand (SP)* lense with slightly brown/black shiny stain.	12.0		0			
		Fine, *Silty Sand (SM)*.	13.0				21417-GP7:13	
15		BOTTOM OF GEOPROBE COMPLETED 5/19/2017	15.0					15

DRAFT

NOTES

1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.
2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.
3. Refer to KEY for definitions and explanation of symbols.
4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.

LEGEND

3 — 2" Plastic Tube - No Soil Recovery
2" Plastic Tube with Soil Recovery
Run No.

Mercer Corridor Project
615 Dexter Avenue N Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-GP7

June 2017 — 21-1-21417-207

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FIG. A-8

REV 1

GEOPROBE_WELL 21-21417-207.GPJ 21-20447.GPJ 6/7/17 Log: BON Rev: BON Typ: LKN

Draft

APPENDIX B

ANALYTICAL LABORATORY REPORTS

3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Blaine Nesbit
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: 615 Dexter Ave N Phase II
Work Order Number: 1704275

June 02, 2017

Attention Blaine Nesbit:

Fremont Analytical, Inc. received 9 sample(s) on 4/21/2017 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Mercury by EPA Method 245.1
Dissolved Metals by EPA Method 200.8
Gasoline by NWTPH-Gx
Mercury by EPA Method 245.1
Mercury by EPA Method 7471
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)
Semi-Volatile Organic Compounds by EPA Method 8270
Total Metals by EPA Method 200.8
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
Laboratory Director

Date: *06/02/2017*

CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II
Work Order: 1704275

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1704275-001	21417-GP1:25	04/21/2017 12:40 PM	04/21/2017 4:24 PM
1704275-002	21417-GP2:18	04/21/2017 1:55 PM	04/21/2017 4:24 PM
1704275-003	21417-GP3:15.5	04/21/2017 8:20 AM	04/21/2017 4:24 PM
1704275-004	21417-GP4:12	04/21/2017 10:15 AM	04/21/2017 4:24 PM
1704275-005	21417-GP4:15	04/21/2017 10:25 AM	04/21/2017 4:24 PM
1704275-006	21417-GP1:GW	04/21/2017 12:30 PM	04/21/2017 4:24 PM
1704275-007	21417-GP3:GW	04/21/2017 9:10 AM	04/21/2017 4:24 PM
1704275-008	21417-GP4:GW	04/21/2017 10:40 AM	04/21/2017 4:24 PM
1704275-009	Trip Blank	04/20/2017 9:21 AM	04/21/2017 4:24 PM

Case Narrative

WO#: **1704275**
Date: **6/2/2017**

CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Client: Shannon & Wilson
Collection Date: 4/21/2017 12:40:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-001
Matrix: Soil
Client Sample ID: **21417-GP1:25**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 16866		Analyst: SB
Diesel (Fuel Oil)	ND	21.8		mg/Kg-dry	1	4/25/2017 10:04:03 PM
Heavy Oil	ND	54.5		mg/Kg-dry	1	4/25/2017 10:04:03 PM
Surr: 2-Fluorobiphenyl	132	50-150		%Rec	1	4/25/2017 10:04:03 PM
Surr: o-Terphenyl	139	50-150		%Rec	1	4/25/2017 10:04:03 PM
Gasoline by NWTPH-Gx				Batch ID: 16859		Analyst: NG
Gasoline	ND	4.58		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Surr: Toluene-d8	102	65-135		%Rec	1	4/25/2017 8:15:56 PM
Surr: 4-Bromofluorobenzene	97.8	65-135		%Rec	1	4/25/2017 8:15:56 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0550		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Chloromethane	ND	0.0550		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Vinyl chloride	ND	0.00183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Bromomethane	ND	0.0824		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Trichlorofluoromethane (CFC-11)	ND	0.0458		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Chloroethane	ND	0.0550		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,1-Dichloroethene	ND	0.0458		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Methylene chloride	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
trans-1,2-Dichloroethene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Methyl tert-butyl ether (MTBE)	ND	0.0458		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,1-Dichloroethane	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
2,2-Dichloropropane	ND	0.0458	Q	mg/Kg-dry	1	4/25/2017 8:15:56 PM
cis-1,2-Dichloroethene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Chloroform	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,1,1-Trichloroethane (TCA)	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,1-Dichloropropene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Carbon tetrachloride	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2-Dichloroethane (EDC)	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Benzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Trichloroethene (TCE)	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2-Dichloropropane	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Bromodichloromethane	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Dibromomethane	ND	0.0366		mg/Kg-dry	1	4/25/2017 8:15:56 PM
cis-1,3-Dichloropropene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Toluene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
trans-1,3-Dichloropropylene	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 12:40:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-001
Matrix: Soil
Client Sample ID: **21417-GP1:25**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16859 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1,2-Trichloroethane	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,3-Dichloropropane	ND	0.0458		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Tetrachloroethene (PCE)	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Dibromochloromethane	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2-Dibromoethane (EDB)	ND	0.00458		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Chlorobenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,1,1,2-Tetrachloroethane	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Ethylbenzene	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM
m,p-Xylene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
o-Xylene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Styrene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Isopropylbenzene	ND	0.0733		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Bromoform	ND	0.0183	Q	mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,1,2,2-Tetrachloroethane	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
n-Propylbenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Bromobenzene	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,3,5-Trimethylbenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
2-Chlorotoluene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
4-Chlorotoluene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
tert-Butylbenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2,3-Trichloropropane	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2,4-Trichlorobenzene	ND	0.0458		mg/Kg-dry	1	4/25/2017 8:15:56 PM
sec-Butylbenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
4-Isopropyltoluene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,3-Dichlorobenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,4-Dichlorobenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
n-Butylbenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2-Dichlorobenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2-Dibromo-3-chloropropane	ND	0.458		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2,4-Trimethylbenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Hexachlorobutadiene	ND	0.0916		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Naphthalene	ND	0.0275		mg/Kg-dry	1	4/25/2017 8:15:56 PM
1,2,3-Trichlorobenzene	ND	0.0183		mg/Kg-dry	1	4/25/2017 8:15:56 PM
Surr: Dibromofluoromethane	87.8	56.5-129		%Rec	1	4/25/2017 8:15:56 PM
Surr: Toluene-d8	97.7	64.5-151		%Rec	1	4/25/2017 8:15:56 PM
Surr: 1-Bromo-4-fluorobenzene	95.4	63.1-141		%Rec	1	4/25/2017 8:15:56 PM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Analytical Report

Work Order: **1704275**
Date Reported: **6/2/2017**

Client: Shannon & Wilson
Collection Date: 4/21/2017 12:40:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-001
Matrix: Soil
Client Sample ID: **21417-GP1:25**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R35703		Analyst: BB
Percent Moisture	10.6	0.500		wt%	1	4/24/2017 11:52:44 AM

Client: Shannon & Wilson
Collection Date: 4/21/2017 1:55:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-002
Matrix: Soil
Client Sample ID: **21417-GP2:18**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 16866		Analyst: SB
Diesel (Fuel Oil)	ND	18.8		mg/Kg-dry	1	4/25/2017 10:35:26 PM
Heavy Oil	ND	47.0		mg/Kg-dry	1	4/25/2017 10:35:26 PM
Surr: 2-Fluorobiphenyl	148	50-150		%Rec	1	4/25/2017 10:35:26 PM
Surr: o-Terphenyl	152	50-150	S	%Rec	1	4/25/2017 10:35:26 PM

NOTES:
S - Outlying surrogate recovery(ies) observed (high bias). Sample is non-detect; no further action required.

Semi-Volatile Organic Compounds by EPA Method 8270				Batch ID: 16888		Analyst: BT
Phenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Bis(2-chloroethyl) ether	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2-Chlorophenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
1,3-Dichlorobenzene	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
1,4-Dichlorobenzene	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
1,2-Dichlorobenzene	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Benzyl alcohol	ND	94.3	Q	µg/Kg-dry	1	4/26/2017 8:52:28 PM
2-Methylphenol (o-cresol)	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Hexachloroethane	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
N-Nitrosodi-n-propylamine	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Nitrobenzene	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Isophorone	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
3&4-Methylphenol (m, p-cresol)	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2-Nitrophenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2,4-Dimethylphenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Bis(2-chloroethoxy)methane	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2,4-Dichlorophenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
1,2,4-Trichlorobenzene	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Naphthalene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
4-Chloroaniline	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Hexachlorobutadiene	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
4-Chloro-3-methylphenol	ND	189		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2-Methylnaphthalene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
1-Methylnaphthalene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Hexachlorocyclopentadiene	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2,4,6-Trichlorophenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2,4,5-Trichlorophenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2-Chloronaphthalene	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2-Nitroaniline	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Acenaphthene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 1:55:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-002
Matrix: Soil
Client Sample ID: **21417-GP2:18**

Semi-Volatile Organic Compounds by EPA Method 8270

Batch ID: 16888 Analyst: BT

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dimethylphthalate	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2,6-Dinitrotoluene	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Acenaphthylene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2,4-Dinitrophenol	ND	189		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Dibenzofuran	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
2,4-Dinitrotoluene	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
4-Nitrophenol	ND	471		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Fluorene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
4-Chlorophenyl phenyl ether	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Diethylphthalate	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
4,6-Dinitro-2-methylphenol	ND	189		µg/Kg-dry	1	4/26/2017 8:52:28 PM
4-Bromophenyl phenyl ether	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Hexachlorobenzene	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Pentachlorophenol	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Phenanthrene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Anthracene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Carbazole	ND	70.7		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Di-n-butylphthalate	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Fluoranthene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Pyrene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Butyl Benzylphthalate	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
bis(2-Ethylhexyl)adipate	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Benz (a) anthracene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Chrysene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
bis (2-Ethylhexyl) phthalate	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Di-n-octyl phthalate	ND	94.3		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Benzo (b) fluoranthene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Benzo (k) fluoranthene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Benzo (a) pyrene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Indeno (1,2,3-cd) pyrene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Dibenz (a,h) anthracene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Benzo (g,h,I) perylene	ND	47.1		µg/Kg-dry	1	4/26/2017 8:52:28 PM
Surr: 2,4,6-Tribromophenol	57.4	11.1-127		%Rec	1	4/26/2017 8:52:28 PM
Surr: 2-Fluorobiphenyl	45.8	15-123		%Rec	1	4/26/2017 8:52:28 PM
Surr: Nitrobenzene-d5	41.7	10-133		%Rec	1	4/26/2017 8:52:28 PM
Surr: Phenol-d6	64.5	11.6-133		%Rec	1	4/26/2017 8:52:28 PM
Surr: p-Terphenyl	83.9	26.7-159		%Rec	1	4/26/2017 8:52:28 PM

Analytical Report

Work Order: **1704275**
Date Reported: **6/2/2017**

Client: Shannon & Wilson
Collection Date: 4/21/2017 1:55:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-002
Matrix: Soil
Client Sample ID: **21417-GP2:18**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Semi-Volatile Organic Compounds by EPA Method 8270				Batch ID: 16888		Analyst: BT
NOTES: Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).						
Gasoline by NWTPH-Gx				Batch ID: 16859		Analyst: NG
Gasoline	ND	3.80		mg/Kg-dry	1	4/25/2017 8:44:53 PM
Surr: Toluene-d8	103	65-135		%Rec	1	4/25/2017 8:44:53 PM
Surr: 4-Bromofluorobenzene	97.5	65-135		%Rec	1	4/25/2017 8:44:53 PM
Mercury by EPA Method 7471				Batch ID: 16881		Analyst: WF
Mercury	ND	0.271		mg/Kg-dry	1	4/26/2017 4:28:47 PM
Total Metals by EPA Method 6020				Batch ID: 16855		Analyst: TN
Arsenic	1.99	0.0865		mg/Kg-dry	1	4/26/2017 11:48:02 AM
Barium	23.6	0.433		mg/Kg-dry	1	4/26/2017 11:48:02 AM
Cadmium	ND	0.173		mg/Kg-dry	1	4/26/2017 11:48:02 AM
Chromium	21.3	0.0865		mg/Kg-dry	1	4/26/2017 11:48:02 AM
Lead	1.08	0.173		mg/Kg-dry	1	4/25/2017 4:44:44 PM
Selenium	0.691	0.433		mg/Kg-dry	1	4/26/2017 11:48:02 AM
Silver	ND	0.0865		mg/Kg-dry	1	4/26/2017 11:48:02 AM
Sample Moisture (Percent Moisture)				Batch ID: R35703		Analyst: BB
Percent Moisture	9.71	0.500		wt%	1	4/24/2017 11:52:44 AM

Client: Shannon & Wilson
Collection Date: 4/21/2017 8:20:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-003
Matrix: Soil
Client Sample ID: **21417-GP3:15.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 16867		Analyst: BT
Naphthalene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
2-Methylnaphthalene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
1-Methylnaphthalene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Acenaphthylene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Acenaphthene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Fluorene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Phenanthrene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Anthracene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Fluoranthene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Pyrene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Benz(a)anthracene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Chrysene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Benzo(b)fluoranthene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Benzo(k)fluoranthene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Benzo(a)pyrene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Indeno(1,2,3-cd)pyrene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Dibenz(a,h)anthracene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Benzo(g,h,i)perylene	ND	43.0		µg/Kg-dry	1	4/25/2017 9:42:51 PM
Surr: 2-Fluorobiphenyl	64.3	24.5-139		%Rec	1	4/25/2017 9:42:51 PM
Surr: Terphenyl-d14 (surr)	74.6	44.3-176		%Rec	1	4/25/2017 9:42:51 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0486		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Chloromethane	ND	0.0486		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Vinyl chloride	ND	0.00162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Bromomethane	ND	0.0729		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Trichlorofluoromethane (CFC-11)	ND	0.0405		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Chloroethane	ND	0.0486		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,1-Dichloroethene	ND	0.0405		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Methylene chloride	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
trans-1,2-Dichloroethene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Methyl tert-butyl ether (MTBE)	ND	0.0405		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,1-Dichloroethane	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
2,2-Dichloropropane	ND	0.0405	Q	mg/Kg-dry	1	4/25/2017 9:13:49 PM
cis-1,2-Dichloroethene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Chloroform	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,1,1-Trichloroethane (TCA)	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,1-Dichloropropene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 8:20:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-003
Matrix: Soil
Client Sample ID: **21417-GP3:15.5**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16859 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Carbon tetrachloride	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2-Dichloroethane (EDC)	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Benzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Trichloroethene (TCE)	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2-Dichloropropane	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Bromodichloromethane	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Dibromomethane	ND	0.0324		mg/Kg-dry	1	4/25/2017 9:13:49 PM
cis-1,3-Dichloropropene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Toluene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
trans-1,3-Dichloropropylene	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,1,2-Trichloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,3-Dichloropropane	ND	0.0405		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Tetrachloroethene (PCE)	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Dibromochloromethane	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2-Dibromoethane (EDB)	ND	0.00405		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Chlorobenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,1,1,2-Tetrachloroethane	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Ethylbenzene	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
m,p-Xylene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
o-Xylene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Styrene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Isopropylbenzene	ND	0.0648		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Bromoform	ND	0.0162	Q	mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,1,2,2-Tetrachloroethane	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
n-Propylbenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Bromobenzene	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,3,5-Trimethylbenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
2-Chlorotoluene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
4-Chlorotoluene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
tert-Butylbenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2,3-Trichloropropane	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2,4-Trichlorobenzene	ND	0.0405		mg/Kg-dry	1	4/25/2017 9:13:49 PM
sec-Butylbenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
4-Isopropyltoluene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,3-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,4-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
n-Butylbenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2-Dibromo-3-chloropropane	ND	0.405		mg/Kg-dry	1	4/25/2017 9:13:49 PM

Analytical Report

Work Order: **1704275**
Date Reported: **6/2/2017**

Client: Shannon & Wilson
Collection Date: 4/21/2017 8:20:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-003
Matrix: Soil
Client Sample ID: **21417-GP3:15.5**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
1,2,4-Trimethylbenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Hexachlorobutadiene	ND	0.0810		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Naphthalene	ND	0.0243		mg/Kg-dry	1	4/25/2017 9:13:49 PM
1,2,3-Trichlorobenzene	ND	0.0162		mg/Kg-dry	1	4/25/2017 9:13:49 PM
Surr: Dibromofluoromethane	87.7	56.5-129		%Rec	1	4/25/2017 9:13:49 PM
Surr: Toluene-d8	98.1	64.5-151		%Rec	1	4/25/2017 9:13:49 PM
Surr: 1-Bromo-4-fluorobenzene	93.8	63.1-141		%Rec	1	4/25/2017 9:13:49 PM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R35703		Analyst: BB
Percent Moisture	7.86	0.500		wt%	1	4/24/2017 11:52:44 AM

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:15:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-004
Matrix: Soil
Client Sample ID: **21417-GP4:12**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 16866		Analyst: SB
Diesel (Fuel Oil)	ND	21.2		mg/Kg-dry	1	4/25/2017 11:06:58 PM
Heavy Oil	ND	53.0		mg/Kg-dry	1	4/25/2017 11:06:58 PM
Surr: 2-Fluorobiphenyl	142	50-150		%Rec	1	4/25/2017 11:06:58 PM
Surr: o-Terphenyl	147	50-150		%Rec	1	4/25/2017 11:06:58 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 16867		Analyst: BT
Naphthalene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
2-Methylnaphthalene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
1-Methylnaphthalene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Acenaphthylene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Acenaphthene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Fluorene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Phenanthrene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Anthracene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Fluoranthene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Pyrene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Benz(a)anthracene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Chrysene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Benzo(b)fluoranthene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Benzo(k)fluoranthene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Benzo(a)pyrene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Indeno(1,2,3-cd)pyrene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Dibenz(a,h)anthracene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Benzo(g,h,i)perylene	ND	43.4		µg/Kg-dry	1	4/25/2017 10:04:02 PM
Surr: 2-Fluorobiphenyl	56.7	24.5-139		%Rec	1	4/25/2017 10:04:02 PM
Surr: Terphenyl-d14 (surr)	82.6	44.3-176		%Rec	1	4/25/2017 10:04:02 PM
Gasoline by NWTPH-Gx				Batch ID: 16859		Analyst: NG
Gasoline	14.6	4.98		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Surr: Toluene-d8	100	65-135		%Rec	1	4/25/2017 9:42:09 PM
Surr: 4-Bromofluorobenzene	101	65-135		%Rec	1	4/25/2017 9:42:09 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0598		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Chloromethane	ND	0.0598		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Vinyl chloride	ND	0.00199		mg/Kg-dry	1	4/25/2017 9:42:09 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:15:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-004
Matrix: Soil
Client Sample ID: **21417-GP4:12**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
Bromomethane	ND	0.0897		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Trichlorofluoromethane (CFC-11)	ND	0.0498		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Chloroethane	ND	0.0598		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,1-Dichloroethene	ND	0.0498		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Methylene chloride	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
trans-1,2-Dichloroethene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Methyl tert-butyl ether (MTBE)	ND	0.0498		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,1-Dichloroethane	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
2,2-Dichloropropane	ND	0.0498	Q	mg/Kg-dry	1	4/25/2017 9:42:09 PM
cis-1,2-Dichloroethene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Chloroform	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,1,1-Trichloroethane (TCA)	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,1-Dichloropropene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Carbon tetrachloride	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2-Dichloroethane (EDC)	ND	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Benzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Trichloroethene (TCE)	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2-Dichloropropane	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Bromodichloromethane	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Dibromomethane	ND	0.0399		mg/Kg-dry	1	4/25/2017 9:42:09 PM
cis-1,3-Dichloropropene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Toluene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
trans-1,3-Dichloropropylene	ND	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,1,2-Trichloroethane	ND	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,3-Dichloropropane	ND	0.0498		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Tetrachloroethene (PCE)	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Dibromochloromethane	ND	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2-Dibromoethane (EDB)	ND	0.00498		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Chlorobenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,1,1,2-Tetrachloroethane	ND	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Ethylbenzene	0.0414	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM
m,p-Xylene	0.0607	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
o-Xylene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Styrene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Isopropylbenzene	ND	0.0797		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Bromoform	ND	0.0199	Q	mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,1,2,2-Tetrachloroethane	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
n-Propylbenzene	0.0368	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Bromobenzene	ND	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:15:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-004
Matrix: Soil
Client Sample ID: **21417-GP4:12**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
1,3,5-Trimethylbenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
2-Chlorotoluene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
4-Chlorotoluene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
tert-Butylbenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2,3-Trichloropropane	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2,4-Trichlorobenzene	ND	0.0498		mg/Kg-dry	1	4/25/2017 9:42:09 PM
sec-Butylbenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
4-Isopropyltoluene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,3-Dichlorobenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,4-Dichlorobenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
n-Butylbenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2-Dichlorobenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2-Dibromo-3-chloropropane	ND	0.498		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2,4-Trimethylbenzene	0.146	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Hexachlorobutadiene	ND	0.0996		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Naphthalene	0.106	0.0299		mg/Kg-dry	1	4/25/2017 9:42:09 PM
1,2,3-Trichlorobenzene	ND	0.0199		mg/Kg-dry	1	4/25/2017 9:42:09 PM
Surr: Dibromofluoromethane	85.6	56.5-129		%Rec	1	4/25/2017 9:42:09 PM
Surr: Toluene-d8	98.9	64.5-151		%Rec	1	4/25/2017 9:42:09 PM
Surr: 1-Bromo-4-fluorobenzene	98.4	63.1-141		%Rec	1	4/25/2017 9:42:09 PM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample Moisture (Percent Moisture)				Batch ID: R35703		Analyst: BB
Percent Moisture	12.8	0.500		wt%	1	4/24/2017 11:52:44 AM

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:25:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-005
Matrix: Soil
Client Sample ID: **21417-GP4:15**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 16866		Analyst: SB
Diesel (Fuel Oil)	ND	20.9		mg/Kg-dry	1	4/25/2017 11:38:20 PM
Heavy Oil	ND	52.2		mg/Kg-dry	1	4/25/2017 11:38:20 PM
Surr: 2-Fluorobiphenyl	139	50-150		%Rec	1	4/25/2017 11:38:20 PM
Surr: o-Terphenyl	148	50-150		%Rec	1	4/25/2017 11:38:20 PM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 16867		Analyst: BT
Naphthalene	414	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
2-Methylnaphthalene	279	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
1-Methylnaphthalene	112	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Acenaphthylene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Acenaphthene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Fluorene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Phenanthrene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Anthracene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Fluoranthene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Pyrene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Benz(a)anthracene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Chrysene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Benzo(b)fluoranthene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Benzo(k)fluoranthene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Benzo(a)pyrene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Indeno(1,2,3-cd)pyrene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Dibenz(a,h)anthracene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Benzo(g,h,i)perylene	ND	39.1		µg/Kg-dry	1	4/25/2017 10:25:37 PM
Surr: 2-Fluorobiphenyl	71.7	24.5-139		%Rec	1	4/25/2017 10:25:37 PM
Surr: Terphenyl-d14 (surr)	73.4	44.3-176		%Rec	1	4/25/2017 10:25:37 PM
Gasoline by NWTPH-Gx				Batch ID: 16859		Analyst: NG
Gasoline	269	47.2	D	mg/Kg-dry	10	4/26/2017 2:12:45 PM
Surr: Toluene-d8	102	65-135		%Rec	1	4/25/2017 10:11:07 PM
Surr: 4-Bromofluorobenzene	115	65-135		%Rec	1	4/25/2017 10:11:07 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0566		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Chloromethane	ND	0.0566		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Vinyl chloride	ND	0.00189		mg/Kg-dry	1	4/25/2017 10:11:07 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:25:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-005
Matrix: Soil
Client Sample ID: **21417-GP4:15**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
Bromomethane	ND	0.0849		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Trichlorofluoromethane (CFC-11)	ND	0.0472		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Chloroethane	ND	0.0566		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,1-Dichloroethene	ND	0.0472		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Methylene chloride	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
trans-1,2-Dichloroethene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Methyl tert-butyl ether (MTBE)	ND	0.0472		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,1-Dichloroethane	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
2,2-Dichloropropane	ND	0.0472	Q	mg/Kg-dry	1	4/25/2017 10:11:07 PM
cis-1,2-Dichloroethene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Chloroform	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,1,1-Trichloroethane (TCA)	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,1-Dichloropropene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Carbon tetrachloride	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2-Dichloroethane (EDC)	ND	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Benzene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Trichloroethene (TCE)	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2-Dichloropropane	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Bromodichloromethane	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Dibromomethane	ND	0.0377		mg/Kg-dry	1	4/25/2017 10:11:07 PM
cis-1,3-Dichloropropene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Toluene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
trans-1,3-Dichloropropylene	ND	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,1,2-Trichloroethane	ND	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,3-Dichloropropane	ND	0.0472		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Tetrachloroethene (PCE)	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Dibromochloromethane	ND	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2-Dibromoethane (EDB)	ND	0.00472		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Chlorobenzene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,1,1,2-Tetrachloroethane	ND	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Ethylbenzene	0.456	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM
m,p-Xylene	0.381	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
o-Xylene	0.170	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Styrene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Isopropylbenzene	0.242	0.0755		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Bromoform	ND	0.0189	Q	mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,1,2,2-Tetrachloroethane	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
n-Propylbenzene	0.416	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Bromobenzene	ND	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM

Analytical Report

Work Order: **1704275**
Date Reported: **6/2/2017**

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:25:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-005
Matrix: Soil
Client Sample ID: **21417-GP4:15**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16859		Analyst: NG
1,3,5-Trimethylbenzene	0.741	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
2-Chlorotoluene	0.171	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
4-Chlorotoluene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
tert-Butylbenzene	0.0237	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2,3-Trichloropropane	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2,4-Trichlorobenzene	ND	0.0472		mg/Kg-dry	1	4/25/2017 10:11:07 PM
sec-Butylbenzene	0.250	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
4-Isopropyltoluene	0.406	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,3-Dichlorobenzene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,4-Dichlorobenzene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
n-Butylbenzene	0.483	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2-Dichlorobenzene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2-Dibromo-3-chloropropane	ND	0.472		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2,4-Trimethylbenzene	1.61	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Hexachlorobutadiene	ND	0.0944		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Naphthalene	0.894	0.0283		mg/Kg-dry	1	4/25/2017 10:11:07 PM
1,2,3-Trichlorobenzene	ND	0.0189		mg/Kg-dry	1	4/25/2017 10:11:07 PM
Surr: Dibromofluoromethane	87.1	56.5-129		%Rec	1	4/25/2017 10:11:07 PM
Surr: Toluene-d8	111	64.5-151		%Rec	1	4/25/2017 10:11:07 PM
Surr: 1-Bromo-4-fluorobenzene	108	63.1-141		%Rec	1	4/25/2017 10:11:07 PM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Total Metals by EPA Method 6020				Batch ID: 17190		Analyst: TN
Lead	1.49	0.164		mg/Kg-dry	1	5/30/2017 3:21:41 PM
Sample Moisture (Percent Moisture)				Batch ID: R35703		Analyst: BB
Percent Moisture	5.57	0.500		wt%	1	4/24/2017 11:52:44 AM

Client: Shannon & Wilson
Collection Date: 4/21/2017 12:30:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-006
Matrix: Groundwater
Client Sample ID: **21417-GP1:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 16871		Analyst: SB
Diesel (Fuel Oil)	ND	50.0		µg/L	1	4/26/2017 3:50:57 PM
Heavy Oil	ND	100		µg/L	1	4/26/2017 3:50:57 PM
Surr: 2-Fluorobiphenyl	82.5	50-150		%Rec	1	4/26/2017 3:50:57 PM
Surr: o-Terphenyl	80.1	50-150		%Rec	1	4/26/2017 3:50:57 PM
Gasoline by NWTPH-Gx				Batch ID: 16857		Analyst: NG
Gasoline	ND	50.0		µg/L	1	4/24/2017 4:13:37 PM
Surr: Toluene-d8	99.4	65-135		%Rec	1	4/24/2017 4:13:37 PM
Surr: 4-Bromofluorobenzene	97.8	65-135		%Rec	1	4/24/2017 4:13:37 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16857		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Chloromethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Vinyl chloride	ND	0.200		µg/L	1	4/24/2017 4:13:37 PM
Bromomethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Chloroethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Methylene chloride	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	4/24/2017 4:13:37 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Chloroform	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Benzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/24/2017 4:13:37 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Dibromomethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Toluene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 12:30:00 PM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-006
Matrix: Groundwater
Client Sample ID: **21417-GP1:GW**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16857 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	4/24/2017 4:13:37 PM
Chlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Ethylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
m,p-Xylene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
o-Xylene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Styrene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Isopropylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Bromoform	ND	1.00	Q	µg/L	1	4/24/2017 4:13:37 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Bromobenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/24/2017 4:13:37 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/24/2017 4:13:37 PM
Naphthalene	ND	1.00		µg/L	1	4/24/2017 4:13:37 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/24/2017 4:13:37 PM
Surr: Dibromofluoromethane	96.6	45.4-152		%Rec	1	4/24/2017 4:13:37 PM
Surr: Toluene-d8	98.7	40.1-139		%Rec	1	4/24/2017 4:13:37 PM
Surr: 1-Bromo-4-fluorobenzene	95.3	64.2-128		%Rec	1	4/24/2017 4:13:37 PM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Client: Shannon & Wilson
Collection Date: 4/21/2017 9:10:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-007
Matrix: Groundwater
Client Sample ID: **21417-GP3:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 16871		Analyst: SB
Diesel (Fuel Oil)	ND	49.8		µg/L	1	4/26/2017 6:27:51 PM
Heavy Oil	ND	99.6		µg/L	1	4/26/2017 6:27:51 PM
Surr: 2-Fluorobiphenyl	77.0	50-150		%Rec	1	4/26/2017 6:27:51 PM
Surr: o-Terphenyl	75.5	50-150		%Rec	1	4/26/2017 6:27:51 PM
Gasoline by NWTPH-Gx				Batch ID: 16857		Analyst: NG
Gasoline	ND	50.0		µg/L	1	4/24/2017 4:42:53 PM
Surr: Toluene-d8	100	65-135		%Rec	1	4/24/2017 4:42:53 PM
Surr: 4-Bromofluorobenzene	99.8	65-135		%Rec	1	4/24/2017 4:42:53 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16857		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Chloromethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Vinyl chloride	ND	0.200		µg/L	1	4/24/2017 4:42:53 PM
Bromomethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Chloroethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Methylene chloride	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	4/24/2017 4:42:53 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Chloroform	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Benzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/24/2017 4:42:53 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Dibromomethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Toluene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 9:10:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-007
Matrix: Groundwater
Client Sample ID: **21417-GP3:GW**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 16857 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	4/24/2017 4:42:53 PM
Chlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Ethylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
m,p-Xylene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
o-Xylene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Styrene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Isopropylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Bromoform	ND	1.00	Q	µg/L	1	4/24/2017 4:42:53 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
n-Propylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Bromobenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
2-Chlorotoluene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/24/2017 4:42:53 PM
sec-Butylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
n-Butylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/24/2017 4:42:53 PM
Naphthalene	ND	1.00		µg/L	1	4/24/2017 4:42:53 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/24/2017 4:42:53 PM
Surr: Dibromofluoromethane	97.2	45.4-152		%Rec	1	4/24/2017 4:42:53 PM
Surr: Toluene-d8	98.7	40.1-139		%Rec	1	4/24/2017 4:42:53 PM
Surr: 1-Bromo-4-fluorobenzene	96.2	64.2-128		%Rec	1	4/24/2017 4:42:53 PM

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Analytical Report

Work Order: **1704275**
Date Reported: **6/2/2017**

Client: Shannon & Wilson
Collection Date: 4/21/2017 9:10:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-007
Matrix: Groundwater
Client Sample ID: **21417-GP3:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 245.1				Batch ID: 16858		Analyst: WF
Mercury	ND	0.100		µg/L	1	4/24/2017 3:54:55 PM
Dissolved Mercury by EPA Method 245.1				Batch ID: 16910		Analyst: WF
Mercury	ND	0.100		µg/L	1	4/28/2017 3:27:43 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 16876		Analyst: TN
Antimony	0.700	0.200		µg/L	1	4/26/2017 1:32:44 PM
Arsenic	ND	1.00		µg/L	1	4/26/2017 1:32:44 PM
Beryllium	ND	0.200		µg/L	1	4/26/2017 1:32:44 PM
Cadmium	ND	0.200		µg/L	1	4/26/2017 1:32:44 PM
Chromium	ND	0.500		µg/L	1	4/26/2017 1:32:44 PM
Copper	ND	0.500		µg/L	1	4/26/2017 1:32:44 PM
Lead	ND	0.500		µg/L	1	4/26/2017 1:32:44 PM
Nickel	4.41	0.500		µg/L	1	4/26/2017 1:32:44 PM
Selenium	ND	1.00		µg/L	1	4/26/2017 1:32:44 PM
Silver	ND	0.200		µg/L	1	4/26/2017 1:32:44 PM
Thallium	ND	0.200		µg/L	1	4/26/2017 1:32:44 PM
Zinc	ND	1.50		µg/L	1	4/26/2017 1:32:44 PM
Total Metals by EPA Method 200.8				Batch ID: 16877		Analyst: TN
Antimony	0.252	0.200		µg/L	1	4/26/2017 2:45:14 PM
Arsenic	1.25	1.00		µg/L	1	4/26/2017 2:45:14 PM
Beryllium	ND	0.200		µg/L	1	4/26/2017 2:45:14 PM
Cadmium	ND	0.200		µg/L	1	4/26/2017 2:45:14 PM
Chromium	24.0	0.500		µg/L	1	4/26/2017 2:45:14 PM
Copper	9.86	0.500		µg/L	1	4/26/2017 2:45:14 PM
Lead	1.15	0.500		µg/L	1	4/26/2017 2:45:14 PM
Nickel	19.3	0.500		µg/L	1	4/26/2017 2:45:14 PM
Selenium	ND	1.00		µg/L	1	4/26/2017 2:45:14 PM
Silver	ND	0.200		µg/L	1	4/26/2017 2:45:14 PM
Thallium	ND	0.200		µg/L	1	4/26/2017 2:45:14 PM
Zinc	13.5	1.50		µg/L	1	4/26/2017 2:45:14 PM

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:40:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-008
Matrix: Groundwater
Client Sample ID: **21417-GP4:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Gasoline by NWTPH-Gx				Batch ID: 16857		Analyst: NG
Gasoline	4,830	50.0	E	µg/L	1	4/24/2017 5:12:06 PM
Surr: Toluene-d8	101	65-135		%Rec	1	4/24/2017 5:12:06 PM
Surr: 4-Bromofluorobenzene	113	65-135		%Rec	1	4/24/2017 5:12:06 PM

NOTES:
E - Estimated value. The amount exceeds the linear working range of the instrument.
Insufficient sample volume received to analyze at a dilution.

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16857		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Chloromethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Vinyl chloride	ND	0.200		µg/L	1	4/24/2017 5:12:06 PM
Bromomethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Chloroethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Methylene chloride	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
2,2-Dichloropropane	ND	2.00	Q	µg/L	1	4/24/2017 5:12:06 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Chloroform	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Carbon tetrachloride	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Benzene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	4/24/2017 5:12:06 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Bromodichloromethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Dibromomethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Toluene	1.15	1.00		µg/L	1	4/24/2017 5:12:06 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Dibromochloromethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM

Analytical Report

Work Order: **1704275**
Date Reported: **6/2/2017**

Client: Shannon & Wilson
Collection Date: 4/21/2017 10:40:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1704275-008
Matrix: Groundwater
Client Sample ID: **21417-GP4:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 16857		Analyst: NG
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	4/24/2017 5:12:06 PM
Chlorobenzene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Ethylbenzene	94.3	1.00	E	µg/L	1	4/24/2017 5:12:06 PM
m,p-Xylene	124	1.00	E	µg/L	1	4/24/2017 5:12:06 PM
o-Xylene	6.77	1.00		µg/L	1	4/24/2017 5:12:06 PM
Styrene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
Isopropylbenzene	29.2	1.00		µg/L	1	4/24/2017 5:12:06 PM
Bromoform	ND	1.00	Q	µg/L	1	4/24/2017 5:12:06 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
n-Propylbenzene	33.0	1.00		µg/L	1	4/24/2017 5:12:06 PM
Bromobenzene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,3,5-Trimethylbenzene	60.0	1.00	E	µg/L	1	4/24/2017 5:12:06 PM
2-Chlorotoluene	13.7	1.00		µg/L	1	4/24/2017 5:12:06 PM
4-Chlorotoluene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
tert-Butylbenzene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	4/24/2017 5:12:06 PM
sec-Butylbenzene	10.6	1.00		µg/L	1	4/24/2017 5:12:06 PM
4-Isopropyltoluene	17.2	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
n-Butylbenzene	15.0	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	4/24/2017 5:12:06 PM
1,2,4-Trimethylbenzene	198	1.00	E	µg/L	1	4/24/2017 5:12:06 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	4/24/2017 5:12:06 PM
Naphthalene	96.1	1.00	E	µg/L	1	4/24/2017 5:12:06 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	4/24/2017 5:12:06 PM
Surr: Dibromofluoromethane	98.4	45.4-152		%Rec	1	4/24/2017 5:12:06 PM
Surr: Toluene-d8	111	40.1-139		%Rec	1	4/24/2017 5:12:06 PM
Surr: 1-Bromo-4-fluorobenzene	111	64.2-128		%Rec	1	4/24/2017 5:12:06 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

E - Estimated value. The amount exceeds the linear working range of the instrument.

Insufficient sample volume received to analyze at dilution.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **MB-16865FB** SampType: **MBLK** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **MBLKW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684859**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.200									
Arsenic	ND	1.00									
Beryllium	ND	0.200									
Cadmium	ND	0.200									
Chromium	ND	0.500									
Copper	ND	0.500									
Lead	ND	0.500									
Nickel	ND	0.500									
Selenium	ND	1.00									
Silver	ND	0.200									
Thallium	ND	0.200									
Zinc	ND	1.50									

NOTES:
Filter Blank

Sample ID **MB-16876** SampType: **MBLK** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **MBLKW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684860**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.200									
Arsenic	ND	1.00									
Beryllium	ND	0.200									
Cadmium	ND	0.200									
Chromium	ND	0.500									
Copper	ND	0.500									
Lead	ND	0.500									
Nickel	ND	0.500									
Selenium	ND	1.00									
Silver	ND	0.200									
Thallium	ND	0.200									
Zinc	ND	1.50									

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **MB-16876** SampType: **MBLK** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **MBLKW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684860**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID **LCS-16876** SampType: **LCS** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **LCSW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684861**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	5.16	0.200	5.000	0	103	85	115				
Arsenic	100	1.00	100.0	0	100	85	115				
Beryllium	5.14	0.200	5.000	0	103	85	115				
Cadmium	4.89	0.200	5.000	0	97.8	85	115				
Chromium	98.3	0.500	100.0	0	98.3	85	115				
Copper	101	0.500	100.0	0	101	85	115				
Lead	47.6	0.500	50.00	0	95.3	85	115				
Nickel	101	0.500	100.0	0	101	85	115				
Selenium	9.46	1.00	10.00	0	94.6	85	115				
Silver	4.84	0.200	5.000	0	96.8	85	115				
Thallium	2.47	0.200	2.500	0	98.7	85	115				
Zinc	101	1.50	100.0	0	101	85	115				

Sample ID **1704275-007DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **21417-GP3:GW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684863**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.545	0.200						0.7005	25.0	30	
Arsenic	ND	1.00						0		30	
Beryllium	ND	0.200						0		30	
Cadmium	ND	0.200						0		30	
Chromium	ND	0.500						0		30	
Copper	ND	0.500						0		30	
Lead	ND	0.500						0		30	
Nickel	4.26	0.500						4.410	3.58	30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **1704275-007DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **21417-GP3:GW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684863**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	1.00						0		30	
Silver	ND	0.200						0		30	
Thallium	ND	0.200						0		30	
Zinc	ND	1.50						0		30	

Sample ID **1704275-007DMS** SampType: **MS** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **21417-GP3:GW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684867**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	26.5	0.200	25.00	0.7005	103	70	130				
Arsenic	514	1.00	500.0	0	103	70	130				
Beryllium	24.4	0.200	25.00	0	97.6	70	130				
Cadmium	24.2	0.200	25.00	0.07550	96.6	70	130				
Chromium	487	0.500	500.0	0.09700	97.4	70	130				
Copper	487	0.500	500.0	0.2950	97.4	70	130				
Lead	234	0.500	250.0	0	93.5	70	130				
Nickel	496	0.500	500.0	4.410	98.3	70	130				
Selenium	49.0	1.00	50.00	0.1355	97.7	70	130				
Silver	23.1	0.200	25.00	0	92.5	70	130				
Thallium	12.1	0.200	12.50	0.006000	96.5	70	130				
Zinc	523	1.50	500.0	0	105	70	130				

Sample ID **1704275-007DMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **21417-GP3:GW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684868**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	27.1	0.200	25.00	0.7005	106	70	130	26.46	2.31	30	
Arsenic	527	1.00	500.0	0	105	70	130	513.6	2.61	30	
Beryllium	25.2	0.200	25.00	0	101	70	130	24.40	3.20	30	
Cadmium	26.0	0.200	25.00	0.07550	104	70	130	24.24	6.85	30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **1704275-007DMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35753**
Client ID: **21417-GP3:GW** Batch ID: **16876** Analysis Date: **4/26/2017** SeqNo: **684868**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	492	0.500	500.0	0.09700	98.5	70	130	487.0	1.11	30	
Copper	503	0.500	500.0	0.2950	100	70	130	487.4	3.05	30	
Lead	238	0.500	250.0	0	95.1	70	130	233.7	1.70	30	
Nickel	510	0.500	500.0	4.410	101	70	130	495.7	2.85	30	
Selenium	56.3	1.00	50.00	0.1355	112	70	130	48.99	13.8	30	
Silver	24.6	0.200	25.00	0	98.5	70	130	23.11	6.29	30	
Thallium	12.3	0.200	12.50	0.006000	98.0	70	130	12.07	1.56	30	
Zinc	555	1.50	500.0	0	111	70	130	523.2	5.81	30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID **MB-16877** SampType: **MBLK** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35754**
Client ID: **MBLKW** Batch ID: **16877** Analysis Date: **4/26/2017** SeqNo: **684890**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.200									
Arsenic	ND	1.00									
Beryllium	ND	0.200									
Cadmium	ND	0.200									
Chromium	ND	0.500									
Copper	ND	0.500									
Lead	ND	0.500									
Nickel	ND	0.500									
Selenium	ND	1.00									
Silver	ND	0.200									
Thallium	ND	0.200									
Zinc	ND	1.50									

Sample ID **LCS-16877** SampType: **LCS** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35754**
Client ID: **LCSW** Batch ID: **16877** Analysis Date: **4/26/2017** SeqNo: **684891**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	5.43	0.200	5.000	0	109	85	115				
Arsenic	105	1.00	100.0	0	105	85	115				
Beryllium	5.06	0.200	5.000	0	101	85	115				
Cadmium	5.11	0.200	5.000	0	102	85	115				
Chromium	99.4	0.500	100.0	0	99.4	85	115				
Copper	104	0.500	100.0	0	104	85	115				
Lead	49.7	0.500	50.00	0	99.3	85	115				
Nickel	104	0.500	100.0	0	104	85	115				
Selenium	10.1	1.00	10.00	0	101	85	115				
Silver	4.78	0.200	5.000	0	95.6	85	115				
Thallium	2.54	0.200	2.500	0	102	85	115				
Zinc	108	1.50	100.0	0	108	85	115				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID **1704279-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35754**
Client ID: **BATCH** Batch ID: **16877** Analysis Date: **4/26/2017** SeqNo: **684893**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.536	0.200						0.6910	25.2	30	
Arsenic	ND	1.00						0		30	
Beryllium	ND	0.200						0		30	
Cadmium	0.798	0.200						0.7885	1.13	30	
Chromium	2.00	0.500						4.291	72.7	30	R
Copper	42.5	0.500						43.65	2.60	30	
Lead	72.5	0.500						72.31	0.270	30	
Nickel	50.0	0.500						50.38	0.842	30	
Selenium	ND	1.00						0		30	
Silver	ND	0.200						0		30	
Thallium	ND	0.200						0		30	
Zinc	3,090	1.50						3,146	1.66	30	

NOTES:
R - High RPD observed. The method is in control as indicated by the LCS.

Sample ID **1704279-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35754**
Client ID: **BATCH** Batch ID: **16877** Analysis Date: **4/26/2017** SeqNo: **684894**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	28.4	0.200	25.00	0.6910	111	70	130				
Arsenic	524	1.00	500.0	0.3175	105	70	130				
Beryllium	25.0	0.200	25.00	0.005500	100	70	130				
Cadmium	27.2	0.200	25.00	0.7885	106	70	130				
Chromium	502	0.500	500.0	4.291	99.5	70	130				
Copper	548	0.500	500.0	43.65	101	70	130				
Lead	312	0.500	250.0	72.31	95.8	70	130				
Nickel	562	0.500	500.0	50.38	102	70	130				
Selenium	48.6	1.00	50.00	0.6505	95.9	70	130				
Silver	17.7	0.200	25.00	0	70.6	70	130				
Thallium	12.5	0.200	12.50	0.01550	99.5	70	130				
Zinc	3,610	1.50	500.0	3,146	93.3	70	130				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID **1704279-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35754**
Client ID: **BATCH** Batch ID: **16877** Analysis Date: **4/26/2017** SeqNo: **684894**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID **1704279-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/26/2017** RunNo: **35754**
Client ID: **BATCH** Batch ID: **16877** Analysis Date: **4/26/2017** SeqNo: **684897**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	28.4	0.200	25.00	0.6910	111	70	130	28.42	0.0281	30	
Arsenic	518	1.00	500.0	0.3175	104	70	130	524.3	1.20	30	
Beryllium	26.6	0.200	25.00	0.005500	106	70	130	25.00	6.16	30	
Cadmium	27.7	0.200	25.00	0.7885	108	70	130	27.20	1.90	30	
Chromium	509	0.500	500.0	4.291	101	70	130	501.9	1.46	30	
Copper	565	0.500	500.0	43.65	104	70	130	547.9	3.03	30	
Lead	317	0.500	250.0	72.31	97.7	70	130	311.7	1.53	30	
Nickel	562	0.500	500.0	50.38	102	70	130	562.2	0.0587	30	
Selenium	49.6	1.00	50.00	0.6505	98.0	70	130	48.58	2.15	30	
Silver	16.9	0.200	25.00	0	67.6	70	130	17.66	4.37	30	S
Thallium	12.4	0.200	12.50	0.01550	99.4	70	130	12.46	0.104	30	
Zinc	3,960	1.50	500.0	3,146	162	70	130	3,613	9.06	30	S

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Mercury by EPA Method 245.1

Sample ID	**MB-16858**	SampType:	**MBLK**	Units:	**µg/L**	Prep Date:	**4/24/2017**	RunNo:	**35707**
Client ID:	**MBLKW**	Batch ID:	**16858**			Analysis Date:	**4/24/2017**	SeqNo:	**683910**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.100									

Sample ID	**LCS-16858**	SampType:	**LCS**	Units:	**µg/L**	Prep Date:	**4/24/2017**	RunNo:	**35707**
Client ID:	**LCSW**	Batch ID:	**16858**			Analysis Date:	**4/24/2017**	SeqNo:	**683911**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.32	0.100	2.500	0	92.8	85	115				

Sample ID	**1704232-001BDUP**	SampType:	**DUP**	Units:	**µg/L**	Prep Date:	**4/24/2017**	RunNo:	**35707**
Client ID:	**BATCH**	Batch ID:	**16858**			Analysis Date:	**4/24/2017**	SeqNo:	**683913**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.100						0		20	

Sample ID	**1704232-001BMS**	SampType:	**MS**	Units:	**µg/L**	Prep Date:	**4/24/2017**	RunNo:	**35707**
Client ID:	**BATCH**	Batch ID:	**16858**			Analysis Date:	**4/24/2017**	SeqNo:	**683914**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	3.42	0.100	2.500	0.02000	136	70	130				S

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Sample ID	**1704232-001BMSD**	SampType:	**MSD**	Units:	**µg/L**	Prep Date:	**4/24/2017**	RunNo:	**35707**
Client ID:	**BATCH**	Batch ID:	**16858**			Analysis Date:	**4/24/2017**	SeqNo:	**683915**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.69	0.100	2.500	0.02000	107	70	130	3.420	23.9	20	R

NOTES:
R - High RPD observed, spike recoveries are within range.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Dissolved Mercury by EPA Method 245.1

Sample ID	**MB-16910**	SampType:	**MBLK**			Units:	**µg/L**	Prep Date:	**4/28/2017**	RunNo:	**35811**	
Client ID:	**MBLKW**	Batch ID:	**16910**					Analysis Date:	**4/28/2017**	SeqNo:	**686075**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND	0.100									

Sample ID	**LCS-16910**	SampType:	**LCS**			Units:	**µg/L**	Prep Date:	**4/28/2017**	RunNo:	**35811**	
Client ID:	**LCSW**	Batch ID:	**16910**					Analysis Date:	**4/28/2017**	SeqNo:	**686076**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		2.28	0.100	2.500	0	91.2	85	115				

Sample ID	**1704275-007DDUP**	SampType:	**DUP**			Units:	**µg/L**	Prep Date:	**4/28/2017**	RunNo:	**35811**	
Client ID:	**21417-GP3:GW**	Batch ID:	**16910**					Analysis Date:	**4/28/2017**	SeqNo:	**686078**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND	0.100						0		20	

Sample ID	**1704275-007DMS**	SampType:	**MS**			Units:	**µg/L**	Prep Date:	**4/28/2017**	RunNo:	**35811**	
Client ID:	**21417-GP3:GW**	Batch ID:	**16910**					Analysis Date:	**4/28/2017**	SeqNo:	**686079**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		2.48	0.100	2.500	0	99.2	70	130				

Sample ID	**1704275-007DMSD**	SampType:	**MSD**			Units:	**µg/L**	Prep Date:	**4/28/2017**	RunNo:	**35811**	
Client ID:	**21417-GP3:GW**	Batch ID:	**16910**					Analysis Date:	**4/28/2017**	SeqNo:	**686080**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		2.49	0.100	2.500	0	99.6	70	130	2.480	0.402	20	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Dissolved Mercury by EPA Method 245.1

Sample ID	**MB-16865FB**	SampType:	**MBLK**		Units:	**µg/L**	Prep Date:	**4/28/2017**		RunNo:	**35811**
Client ID:	**MBLKW**	Batch ID:	**16910**				Analysis Date:	**4/28/2017**		SeqNo:	**686081**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.100									

NOTES:
Filter Blank

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID	**MB-16855**	SampType:	**MBLK**	Units:	**mg/Kg**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**MBLKS**	Batch ID:	**16855**			Analysis Date:	**4/25/2017**	SeqNo:	**684412**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.156									

Sample ID	**LCS-16855**	SampType:	**LCS**	Units:	**mg/Kg**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**LCSS**	Batch ID:	**16855**			Analysis Date:	**4/25/2017**	SeqNo:	**684413**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	19.6	0.157	19.69	0	99.3	80	120				

Sample ID	**1704272-001ADUP**	SampType:	**DUP**	Units:	**mg/Kg-dry**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**BATCH**	Batch ID:	**16855**			Analysis Date:	**4/25/2017**	SeqNo:	**684415**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	4.75	0.171						3.541	29.1	20	R

NOTES:
R - High RPD observed. The method is in control as indicated by the LCS.

Sample ID	**1704272-001AMS**	SampType:	**MS**	Units:	**mg/Kg-dry**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**BATCH**	Batch ID:	**16855**			Analysis Date:	**4/25/2017**	SeqNo:	**684417**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	23.5	0.171	21.33	3.541	93.5	75	125				

Sample ID	**1704272-001AMSD**	SampType:	**MSD**	Units:	**mg/Kg-dry**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**BATCH**	Batch ID:	**16855**			Analysis Date:	**4/25/2017**	SeqNo:	**684420**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	23.0	0.171	21.33	3.541	91.1	75	125	23.49	2.20	20	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID	**MB-16855**	SampType:	**MBLK**	Units:	**mg/Kg**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**MBLKS**	Batch ID:	**16855**			Analysis Date:	**4/26/2017**	SeqNo:	**684629**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0781									
Barium	ND	0.391									
Cadmium	ND	0.156									
Chromium	ND	0.0781									
Selenium	ND	0.391									
Silver	ND	0.0781									

Sample ID	**1704272-001ADUP**	SampType:	**DUP**	Units:	**mg/Kg-dry**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**BATCH**	Batch ID:	**16855**			Analysis Date:	**4/26/2017**	SeqNo:	**684632**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.90	0.0853						5.344	9.98	20	
Barium	76.5	0.427						69.06	10.3	20	
Cadmium	ND	0.171						0		20	
Chromium	56.7	0.0853						51.41	9.70	20	
Selenium	1.61	0.427						1.430	12.0	20	
Silver	ND	0.0853						0		20	

Sample ID	**LCS-16855**	SampType:	**LCS**	Units:	**mg/Kg**	Prep Date:	**4/24/2017**	RunNo:	**35734**
Client ID:	**LCSS**	Batch ID:	**16855**			Analysis Date:	**4/26/2017**	SeqNo:	**684634**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	42.9	0.0787	39.37	0	109	80	120				
Barium	42.7	0.394	39.37	0	108	80	120				
Cadmium	2.05	0.157	1.969	0	104	80	120				
Chromium	41.8	0.0787	39.37	0	106	80	120				
Selenium	3.83	0.394	3.937	0	97.3	80	120				
Silver	1.61	0.0787	1.969	0	81.9	80	120				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1704272-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35734**
Client ID: **BATCH** Batch ID: **16855** Analysis Date: **4/26/2017** SeqNo: **684637**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.6	0.0853	42.66	5.344	109	75	125				
Barium	137	0.427	42.66	69.06	160	75	125				S
Cadmium	2.66	0.171	2.133	0.1509	117	75	125				
Chromium	104	0.0853	42.66	51.41	123	75	125				
Selenium	5.55	0.427	4.266	1.430	96.6	75	125				
Silver	1.52	0.0853	2.133	0.06549	68.0	75	125				S

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID **1704272-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35734**
Client ID: **BATCH** Batch ID: **16855** Analysis Date: **4/26/2017** SeqNo: **684638**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.9	0.0853	42.66	5.344	107	75	125	51.65	1.40	20	
Barium	132	0.427	42.66	69.06	148	75	125	137.4	3.92	20	S
Cadmium	2.64	0.171	2.133	0.1509	117	75	125	2.656	0.454	20	
Chromium	101	0.0853	42.66	51.41	116	75	125	103.9	2.92	20	
Selenium	5.45	0.427	4.266	1.430	94.1	75	125	5.551	1.91	20	
Silver	1.53	0.0853	2.133	0.06549	68.7	75	125	1.516	1.01	20	S

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID **1704272-001APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35734**
Client ID: **BATCH** Batch ID: **16855** Analysis Date: **4/26/2017** SeqNo: **684639**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	142	0.427	42.7	69.1	172	80	120				S
Silver	1.57	0.0853	2.13	0.0655	70.7	80	120				S

NOTES:
S - Spike recovery indicates a possible matrix effect. The method is in control as indicated by the Laboratory Control Sample (LCS).

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID	**MB-17190**	SampType:	**MBLK**	Units:	**mg/Kg**	Prep Date:	**5/30/2017**	RunNo:	**36467**
Client ID:	**MBLKS**	Batch ID:	**17190**			Analysis Date:	**5/30/2017**	SeqNo:	**699569**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.150									

Sample ID	**LCS-17190**	SampType:	**LCS**	Units:	**mg/Kg**	Prep Date:	**5/30/2017**	RunNo:	**36467**
Client ID:	**LCSS**	Batch ID:	**17190**			Analysis Date:	**5/30/2017**	SeqNo:	**699570**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	20.2	0.153	19.08	0	106	80	120				

Sample ID	**1704275-005ADUP**	SampType:	**DUP**	Units:	**mg/Kg-dry**	Prep Date:	**5/30/2017**	RunNo:	**36467**
Client ID:	**21417-GP4:15**	Batch ID:	**17190**			Analysis Date:	**5/30/2017**	SeqNo:	**699572**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	1.40	0.164						1.490	5.98	20	

Sample ID	**1704275-005AMS**	SampType:	**MS**	Units:	**mg/Kg-dry**	Prep Date:	**5/30/2017**	RunNo:	**36467**
Client ID:	**21417-GP4:15**	Batch ID:	**17190**			Analysis Date:	**5/30/2017**	SeqNo:	**699574**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	19.7	0.164	20.52	1.490	88.5	75	125				

Sample ID	**1704275-005AMSD**	SampType:	**MSD**	Units:	**mg/Kg-dry**	Prep Date:	**5/30/2017**	RunNo:	**36467**
Client ID:	**21417-GP4:15**	Batch ID:	**17190**			Analysis Date:	**5/30/2017**	SeqNo:	**699575**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	19.8	0.164	20.52	1.490	89.1	75	125	19.66	0.599	20	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID	MB-16881	SampType:	MBLK			Units:	mg/Kg	Prep Date:	4/26/2017		RunNo:	35746	
Client ID:	MBLKS	Batch ID:	16881					Analysis Date:	4/26/2017		SeqNo:	685419	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.0100										

Sample ID	LCS-16881	SampType:	LCS			Units:	mg/Kg	Prep Date:	4/26/2017		RunNo:	35746	
Client ID:	LCSS	Batch ID:	16881					Analysis Date:	4/26/2017		SeqNo:	685420	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.501	0.250	0.5000	0	100	80	120					

Sample ID	1704275-002ADUP	SampType:	DUP			Units:	mg/Kg-dry	Prep Date:	4/26/2017		RunNo:	35746	
Client ID:	21417-GP2:18	Batch ID:	16881					Analysis Date:	4/26/2017		SeqNo:	685422	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.266						0		20		

Sample ID	1704275-002AMS	SampType:	MS			Units:	mg/Kg-dry	Prep Date:	4/26/2017		RunNo:	35746	
Client ID:	21417-GP2:18	Batch ID:	16881					Analysis Date:	4/26/2017		SeqNo:	685423	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.512	0.261	0.5224	0.007166	96.6	70	130					

Sample ID	1704275-002AMSD	SampType:	MSD			Units:	mg/Kg-dry	Prep Date:	4/26/2017		RunNo:	35746	
Client ID:	21417-GP2:18	Batch ID:	16881					Analysis Date:	4/26/2017		SeqNo:	685424	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.526	0.271	0.5429	0.007166	95.5	70	130	0.5120	2.61	20		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID **MB-16866**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **4/25/2017**	RunNo: **35747**
Client ID: **MBLKS**	Batch ID: **16866**		Analysis Date: **4/25/2017**	SeqNo: **684740**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	24.1		20.00		120	50	150				
Surr: o-Terphenyl	27.5		20.00		137	50	150				

Sample ID **LCS-16866**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **4/25/2017**	RunNo: **35747**
Client ID: **LCSS**	Batch ID: **16866**		Analysis Date: **4/25/2017**	SeqNo: **684739**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	509	20.0	500.0	0	102	65	135				
Surr: 2-Fluorobiphenyl	33.7		20.00		168	50	150				S
Surr: o-Terphenyl	35.5		20.00		178	50	150				S

NOTES:
S - Outlying surrogate recovery(ies) observed.

Sample ID **1704251-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **4/25/2017**	RunNo: **35747**
Client ID: **BATCH**	Batch ID: **16866**		Analysis Date: **4/25/2017**	SeqNo: **684709**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	22.1						0		30	
Heavy Oil	ND	55.3						0		30	
Heavy Oil Range Organics (C24-37)	117	55.3						191.8	48.5	30	R
Surr: 2-Fluorobiphenyl	27.9		22.12		126	50	150		0		
Surr: o-Terphenyl	29.0		22.12		131	50	150		0		

NOTES:
R - High RPD due to suspected sample inhomogeneity. The method is in control as indicated by the Laboratory Control Sample (LCS).
Heavy Oil Range Organics - Indicates the presence of unresolved compounds in the Lube+ Oil ranges.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID **1704251-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35747**
Client ID: **BATCH** Batch ID: **16866** Analysis Date: **4/25/2017** SeqNo: **684710**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	488	20.7	517.0	0	94.3	65	135				
Surr: 2-Fluorobiphenyl	32.3		20.68		156	50	150				S
Surr: o-Terphenyl	34.5		20.68		167	50	150				S

NOTES:
S - Outlying surrogate recovery(ies) observed.

Sample ID **1704251-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35747**
Client ID: **BATCH** Batch ID: **16866** Analysis Date: **4/25/2017** SeqNo: **684711**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	554	21.5	537.0	0	103	65	135	487.6	12.7	30	
Surr: 2-Fluorobiphenyl	32.8		21.48		153	50	150		0		S
Surr: o-Terphenyl	35.0		21.48		163	50	150		0		S

NOTES:
S - Outlying surrogate recovery(ies) observed.

Sample ID **1704275-005ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35747**
Client ID: **21417-GP4:15** Batch ID: **16866** Analysis Date: **4/26/2017** SeqNo: **684721**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.9						0		30	
Heavy Oil	ND	52.2						0		30	
Surr: 2-Fluorobiphenyl	29.2		20.87		140	50	150		0		
Surr: o-Terphenyl	29.3		20.87		140	50	150		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID **MB-16871**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **4/25/2017**	RunNo: **35752**
Client ID: **MBLKW**	Batch ID: **16871**		Analysis Date: **4/26/2017**	SeqNo: **684841**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.8									
Heavy Oil	ND	99.5									
Surr: 2-Fluorobiphenyl	68.4		79.62		85.9	50	150				
Surr: o-Terphenyl	76.0		79.62		95.4	50	150				

Sample ID **LCS-16871**	SampType: **LCS**	Units: **µg/L**	Prep Date: **4/25/2017**	RunNo: **35752**
Client ID: **LCSW**	Batch ID: **16871**		Analysis Date: **4/26/2017**	SeqNo: **684840**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	731	49.8	996.0	0	73.4	65	135				
Surr: 2-Fluorobiphenyl	66.0		79.68		82.8	50	150				
Surr: o-Terphenyl	73.8		79.68		92.6	50	150				

Sample ID **1704275-006BMS**	SampType: **MS**	Units: **µg/L**	Prep Date: **4/25/2017**	RunNo: **35752**
Client ID: **21417-GP1:GW**	Batch ID: **16871**		Analysis Date: **4/26/2017**	SeqNo: **685390**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	374	49.9	997.6	6.929	36.8	65	135				S
Surr: 2-Fluorobiphenyl	66.7		79.81		83.6	50	150				
Surr: o-Terphenyl	44.1		79.81		55.2	50	150				

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID **1704275-006BMSD**	SampType: **MSD**	Units: **µg/L**	Prep Date: **4/25/2017**	RunNo: **35752**
Client ID: **21417-GP1:GW**	Batch ID: **16871**		Analysis Date: **4/26/2017**	SeqNo: **685391**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	367	49.9	997.6	6.929	36.1	65	135	373.6	1.68	30	S
Surr: 2-Fluorobiphenyl	59.3		79.81		74.3	50	150		0		
Surr: o-Terphenyl	43.5		79.81		54.6	50	150		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID **1704275-006BMSD**	SampType: **MSD**			Units: **µg/L**		Prep Date: **4/25/2017**		RunNo: **35752**			
Client ID: **21417-GP1:GW**	Batch ID: **16871**					Analysis Date: **4/26/2017**		SeqNo: **685391**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **MB-16867**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **4/25/2017**	RunNo: **35788**
Client ID: **MBLKS**	Batch ID: **16867**		Analysis Date: **4/25/2017**	SeqNo: **685567**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	40.0									
2-Methylnaphthalene	ND	40.0									
1-Methylnaphthalene	ND	40.0									
Acenaphthylene	ND	40.0									
Acenaphthene	ND	40.0									
Fluorene	ND	40.0									
Phenanthrene	ND	40.0									
Anthracene	ND	40.0									
Fluoranthene	ND	40.0									
Pyrene	ND	40.0									
Benz(a)anthracene	ND	40.0									
Chrysene	ND	40.0									
Benzo(b)fluoranthene	ND	40.0									
Benzo(k)fluoranthene	ND	40.0									
Benzo(a)pyrene	ND	40.0									
Indeno(1,2,3-cd)pyrene	ND	40.0									
Dibenz(a,h)anthracene	ND	40.0									
Benzo(g,h,i)perylene	ND	40.0									
Surr: 2-Fluorobiphenyl	443		500.0		88.6	24.5	139				
Surr: Terphenyl-d14 (surr)	503		500.0		101	44.3	176				

Sample ID **LCS-16867**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **4/25/2017**	RunNo: **35788**
Client ID: **LCSS**	Batch ID: **16867**		Analysis Date: **4/25/2017**	SeqNo: **685568**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	764	40.0	1,000	0	76.4	46.4	125				
2-Methylnaphthalene	821	40.0	1,000	0	82.1	45.1	135				
1-Methylnaphthalene	784	40.0	1,000	0	78.4	46.2	133				
Acenaphthylene	800	40.0	1,000	0	80.0	32.8	136				
Acenaphthene	793	40.0	1,000	0	79.3	38.7	129				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **LCS-16867** SampType: **LCS** Units: **µg/Kg** Prep Date: **4/25/2017** RunNo: **35788**
Client ID: **LCSS** Batch ID: **16867** Analysis Date: **4/25/2017** SeqNo: **685568**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	791	40.0	1,000	0	79.1	41.4	144				
Phenanthrene	817	40.0	1,000	0	81.7	43.9	133				
Anthracene	812	40.0	1,000	0	81.2	44.2	136				
Fluoranthene	815	40.0	1,000	0	81.5	45.9	137				
Pyrene	810	40.0	1,000	0	81.0	46.2	137				
Benz(a)anthracene	835	40.0	1,000	0	83.5	41.9	136				
Chrysene	762	40.0	1,000	0	76.2	46.9	138				
Benzo(b)fluoranthene	858	40.0	1,000	0	85.8	41	155				
Benzo(k)fluoranthene	739	40.0	1,000	0	73.9	41.8	153				
Benzo(a)pyrene	811	40.0	1,000	0	81.1	34.3	157				
Indeno(1,2,3-cd)pyrene	791	40.0	1,000	0	79.1	31.3	159				
Dibenz(a,h)anthracene	816	40.0	1,000	0	81.6	28	158				
Benzo(g,h,i)perylene	802	40.0	1,000	0	80.2	32.4	144				
Surr: 2-Fluorobiphenyl	428		500.0		85.6	24.5	139				
Surr: Terphenyl-d14 (surr)	471		500.0		94.2	44.3	176				

Sample ID **1704251-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35788**
Client ID: **BATCH** Batch ID: **16867** Analysis Date: **4/25/2017** SeqNo: **685572**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	41.9						0		30	
2-Methylnaphthalene	ND	41.9						0		30	
1-Methylnaphthalene	ND	41.9						0		30	
Acenaphthylene	59.0	41.9						45.35	26.1	30	
Acenaphthene	53.1	41.9						87.84	49.4	30	
Fluorene	45.1	41.9						55.25	20.2	30	
Phenanthrene	722	41.9						927.5	24.9	30	
Anthracene	163	41.9						204.0	22.4	30	
Fluoranthene	1,120	41.9						1,157	3.40	30	
Pyrene	1,350	41.9						1,324	1.85	30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1704251-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35788**
Client ID: **BATCH** Batch ID: **16867** Analysis Date: **4/25/2017** SeqNo: **685572**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	563	41.9						609.4	7.93	30	
Chrysene	546	41.9						515.9	5.58	30	
Benzo(b)fluoranthene	714	41.9						725.0	1.58	30	
Benzo(k)fluoranthene	204	41.9						224.4	9.53	30	
Benzo(a)pyrene	620	41.9						616.4	0.606	30	
Indeno(1,2,3-cd)pyrene	351	41.9						338.0	3.85	30	
Dibenz(a,h)anthracene	73.1	41.9						59.93	19.8	30	
Benzo(g,h,i)perylene	483	41.9						455.5	5.85	30	
Surr: 2-Fluorobiphenyl	356		523.8		68.0	24.5	139		0		
Surr: Terphenyl-d14 (surr)	354		523.8		67.7	44.3	176		0		

Sample ID **1704251-001AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35788**
Client ID: **BATCH** Batch ID: **16867** Analysis Date: **4/25/2017** SeqNo: **685573**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	763	43.1	1,077	19.63	69.0	42.9	138				
2-Methylnaphthalene	821	43.1	1,077	27.94	73.6	42.8	151				
1-Methylnaphthalene	784	43.1	1,077	11.04	71.8	41.6	148				
Acenaphthylene	812	43.1	1,077	45.35	71.2	32.6	160				
Acenaphthene	848	43.1	1,077	87.84	70.5	46.3	142				
Fluorene	813	43.1	1,077	55.25	70.4	43.4	153				
Phenanthrene	1,680	43.1	1,077	927.5	69.5	45.5	140				
Anthracene	952	43.1	1,077	204.0	69.4	32.6	160				
Fluoranthene	1,990	43.1	1,077	1,157	77.5	44.6	161				
Pyrene	2,260	43.1	1,077	1,324	87.3	48.3	158				
Benz(a)anthracene	1,380	43.1	1,077	609.4	71.2	57.5	169				
Chrysene	1,250	43.1	1,077	515.9	68.4	45.2	146				
Benzo(b)fluoranthene	1,600	43.1	1,077	725.0	81.5	42.2	168				
Benzo(k)fluoranthene	773	43.1	1,077	224.4	50.9	34.8	147				
Benzo(a)pyrene	1,350	43.1	1,077	616.4	68.2	34.4	179				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1704251-001AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35788**
Client ID: **BATCH** Batch ID: **16867** Analysis Date: **4/25/2017** SeqNo: **685573**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	999	43.1	1,077	338.0	61.4	5	113				
Dibenz(a,h)anthracene	746	43.1	1,077	59.93	63.7	17.3	156				
Benzo(g,h,i)perylene	1,160	43.1	1,077	455.5	65.2	39.4	122				
Surr: 2-Fluorobiphenyl	431		538.6		80.1	24.5	139				
Surr: Terphenyl-d14 (surr)	411		538.6		76.3	44.3	176				

Sample ID **1704251-001AMSD** SampType: **MSD** Units: **µg/Kg-dry** Prep Date: **4/25/2017** RunNo: **35788**
Client ID: **BATCH** Batch ID: **16867** Analysis Date: **4/25/2017** SeqNo: **685574**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	678	44.2	1,104	19.63	59.7	42.9	138	762.6	11.7	30	
2-Methylnaphthalene	735	44.2	1,104	27.94	64.1	42.8	151	821.1	11.0	30	
1-Methylnaphthalene	684	44.2	1,104	11.04	61.0	41.6	148	784.0	13.6	30	
Acenaphthylene	728	44.2	1,104	45.35	61.9	32.6	160	811.9	10.9	30	
Acenaphthene	734	44.2	1,104	87.84	58.5	46.3	142	847.6	14.4	30	
Fluorene	728	44.2	1,104	55.25	60.9	43.4	153	813.2	11.1	30	
Phenanthrene	1,230	44.2	1,104	927.5	27.4	45.5	140	1,676	30.7	30	RS
Anthracene	792	44.2	1,104	204.0	53.3	32.6	160	951.8	18.3	30	
Fluoranthene	1,420	44.2	1,104	1,157	24.0	44.6	161	1,992	33.4	30	RS
Pyrene	1,570	44.2	1,104	1,324	22.5	48.3	158	2,264	36.1	30	RS
Benz(a)anthracene	1,090	44.2	1,104	609.4	43.8	57.5	169	1,376	22.9	30	S
Chrysene	977	44.2	1,104	515.9	41.8	45.2	146	1,252	24.7	30	S
Benzo(b)fluoranthene	1,230	44.2	1,104	725.0	45.6	42.2	168	1,603	26.5	30	
Benzo(k)fluoranthene	703	44.2	1,104	224.4	43.4	34.8	147	773.1	9.49	30	
Benzo(a)pyrene	1,070	44.2	1,104	616.4	41.3	34.4	179	1,351	23.0	30	
Indeno(1,2,3-cd)pyrene	794	44.2	1,104	338.0	41.3	5	113	999.3	22.9	30	
Dibenz(a,h)anthracene	637	44.2	1,104	59.93	52.2	17.3	156	746.3	15.9	30	
Benzo(g,h,i)perylene	875	44.2	1,104	455.5	38.0	39.4	122	1,157	27.8	30	S
Surr: 2-Fluorobiphenyl	359		552.0		65.1	24.5	139		0		
Surr: Terphenyl-d14 (surr)	322		552.0		58.2	44.3	176		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID	**1704251-001AMSD**	SampType:	**MSD**		Units:	**µg/Kg-dry**	Prep Date:	**4/25/2017**		RunNo:	**35788**
Client ID:	**BATCH**	Batch ID:	**16867**				Analysis Date:	**4/25/2017**		SeqNo:	**685574**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.
R - High RPD observed. The method is in control as indicated by the LCS.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **MB-16888** SampType: **MBLK** Units: **µg/Kg** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **MBLKS** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687903**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	100									
Bis(2-chloroethyl) ether	ND	100									
2-Chlorophenol	ND	100									
1,3-Dichlorobenzene	ND	75.0									
1,4-Dichlorobenzene	ND	75.0									
1,2-Dichlorobenzene	ND	75.0									
Benzyl alcohol	ND	100									Q
2-Methylphenol (o-cresol)	ND	100									
Hexachloroethane	ND	100									
N-Nitrosodi-n-propylamine	ND	100									
Nitrobenzene	ND	100									
Isophorone	ND	100									
3&4-Methylphenol (m, p-cresol)	ND	100									
2-Nitrophenol	ND	100									
2,4-Dimethylphenol	ND	100									
Bis(2-chloroethoxy)methane	ND	75.0									
2,4-Dichlorophenol	ND	100									
1,2,4-Trichlorobenzene	ND	75.0									
Naphthalene	ND	50.0									
4-Chloroaniline	ND	75.0									
Hexachlorobutadiene	ND	75.0									
4-Chloro-3-methylphenol	ND	200									
2-Methylnaphthalene	ND	50.0									
1-Methylnaphthalene	ND	50.0									
Hexachlorocyclopentadiene	ND	100									
2,4,6-Trichlorophenol	ND	100									
2,4,5-Trichlorophenol	ND	100									
2-Chloronaphthalene	ND	75.0									
2-Nitroaniline	ND	100									
Acenaphthene	ND	50.0									
Dimethylphthalate	ND	100									

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **MB-16888** SampType: **MBLK** Units: **µg/Kg** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **MBLKS** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687903**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	ND	100									
Acenaphthylene	ND	50.0									
2,4-Dinitrophenol	ND	200									
Dibenzofuran	ND	75.0									
2,4-Dinitrotoluene	ND	100									
4-Nitrophenol	ND	500									
Fluorene	ND	50.0									
4-Chlorophenyl phenyl ether	ND	75.0									
Diethylphthalate	ND	100									
4,6-Dinitro-2-methylphenol	ND	200									
4-Bromophenyl phenyl ether	ND	75.0									
Hexachlorobenzene	ND	75.0									
Pentachlorophenol	ND	100									
Phenanthrene	ND	50.0									
Anthracene	ND	50.0									
Carbazole	ND	75.0									
Di-n-butylphthalate	ND	100									
Fluoranthene	ND	50.0									
Pyrene	ND	50.0									
Butyl Benzylphthalate	ND	100									
bis(2-Ethylhexyl)adipate	ND	100									
Benz (a) anthracene	ND	50.0									
Chrysene	ND	50.0									
bis (2-Ethylhexyl) phthalate	ND	100									
Di-n-octyl phthalate	ND	100									
Benzo (b) fluoranthene	ND	50.0									
Benzo (k) fluoranthene	ND	50.0									
Benzo (a) pyrene	ND	50.0									
Indeno (1,2,3-cd) pyrene	ND	50.0									
Dibenz (a,h) anthracene	ND	50.0									
Benzo (g,h,I) perylene	ND	50.0									

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **MB-16888** SampType: **MBLK** Units: **µg/Kg** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **MBLKS** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687903**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2,4,6-Tribromophenol	298		1,000		29.8	11.1	127				
Surr: 2-Fluorobiphenyl	343		500.0		68.7	15	123				
Surr: Nitrobenzene-d5	250		500.0		50.0	10	133				
Surr: Phenol-d6	696		1,000		69.6	11.6	133				
Surr: p-Terphenyl	432		500.0		86.5	26.7	159				

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **LCS-16888** SampType: **LCS** Units: **µg/Kg** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **LCSS** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	849	100	1,000	0	84.9	41.8	138				
Bis(2-chloroethyl) ether	827	100	1,000	0	82.7	49.8	141				
2-Chlorophenol	836	100	1,000	0	83.6	49.3	132				
1,3-Dichlorobenzene	795	75.0	1,000	0	79.5	42.6	139				
1,4-Dichlorobenzene	852	75.0	1,000	0	85.2	44.7	135				
1,2-Dichlorobenzene	830	75.0	1,000	0	83.0	45	138				
Benzyl alcohol	665	100	1,000	0	66.5	42.4	131				
2-Methylphenol (o-cresol)	858	100	1,000	0	85.8	47.2	134				
Hexachloroethane	825	100	1,000	0	82.5	25.4	144				
N-Nitrosodi-n-propylamine	823	100	1,000	0	82.3	39.8	135				
Nitrobenzene	835	100	1,000	0	83.5	50.3	136				
Isophorone	833	100	1,000	0	83.3	62.7	131				
3&4-Methylphenol (m, p-cresol)	413	100	500.0	0	82.6	57.4	131				
2-Nitrophenol	809	100	1,000	0	80.9	44.2	129				
2,4-Dimethylphenol	892	100	1,000	0	89.2	57.8	121				
Bis(2-chloroethoxy)methane	823	75.0	1,000	0	82.3	55.1	136				
2,4-Dichlorophenol	1,000	100	1,000	0	100	57.1	128				
1,2,4-Trichlorobenzene	847	75.0	1,000	0	84.7	36.2	140				
Naphthalene	829	50.0	1,000	0	82.9	52.9	131				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **LCS-16888** SampType: **LCS** Units: **µg/Kg** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **LCSS** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chloroaniline	816	75.0	1,000	0	81.6	10.4	130				
Hexachlorobutadiene	864	75.0	1,000	0	86.4	55.9	131				
4-Chloro-3-methylphenol	892	200	1,000	0	89.2	49.4	138				
2-Methylnaphthalene	850	50.0	1,000	0	85.0	56.3	132				
1-Methylnaphthalene	831	50.0	1,000	0	83.1	56.4	132				
Hexachlorocyclopentadiene	818	100	1,000	0	81.8	21	130				
2,4,6-Trichlorophenol	729	100	1,000	0	72.9	36.4	132				
2,4,5-Trichlorophenol	829	100	1,000	0	82.9	34.6	133				
2-Chloronaphthalene	846	75.0	1,000	0	84.6	33	120				
2-Nitroaniline	805	100	1,000	0	80.5	43.9	135				
Acenaphthene	828	50.0	1,000	0	82.8	49.2	127				
Dimethylphthalate	929	100	1,000	0	92.9	43.9	126				
2,6-Dinitrotoluene	824	100	1,000	0	82.4	54.6	127				
Acenaphthylene	835	50.0	1,000	0	83.5	53.7	137				
2,4-Dinitrophenol	386	200	2,000	0	19.3	7.9	119				
Dibenzofuran	820	75.0	1,000	0	82.0	38.2	125				
2,4-Dinitrotoluene	830	100	1,000	0	83.0	21.9	136				
4-Nitrophenol	796	500	1,000	0	79.6	25.4	138				
Fluorene	816	50.0	1,000	0	81.6	64.8	126				
4-Chlorophenyl phenyl ether	840	75.0	1,000	0	84.0	66.6	124				
Diethylphthalate	880	100	1,000	0	88.0	42.9	132				
4,6-Dinitro-2-methylphenol	425	200	1,000	0	42.5	12.9	110				
4-Bromophenyl phenyl ether	815	75.0	1,000	0	81.5	61.8	128				
Hexachlorobenzene	829	75.0	1,000	0	82.9	56.7	131				
Pentachlorophenol	390	100	1,000	0	39.0	10	123				
Phenanthrene	830	50.0	1,000	0	83.0	61.2	130				
Anthracene	810	50.0	1,000	0	81.0	59.2	135				
Carbazole	831	75.0	1,000	0	83.1	37	148				
Di-n-butylphthalate	837	100	1,000	0	83.7	46.6	145				
Fluoranthene	823	50.0	1,000	0	82.3	66	129				
Pyrene	856	50.0	1,000	0	85.6	45.4	140				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **LCS-16888** SampType: **LCS** Units: **µg/Kg** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **LCSS** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687904**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Butyl Benzylphthalate	848	100	1,000	0	84.8	31.1	157				
bis(2-Ethylhexyl)adipate	740	100	1,000	0	74.0	28.7	160				
Benz (a) anthracene	859	50.0	1,000	0	85.9	44	150				
Chrysene	829	50.0	1,000	0	82.9	65.8	128				
bis (2-Ethylhexyl) phthalate	856	100	1,000	0	85.6	36.3	149				
Di-n-octyl phthalate	851	100	1,000	0	85.1	31.5	152				
Benzo (b) fluoranthene	846	50.0	1,000	0	84.6	45.6	146				
Benzo (k) fluoranthene	838	50.0	1,000	0	83.8	45.5	138				
Benzo (a) pyrene	843	50.0	1,000	0	84.3	35.6	148				
Indeno (1,2,3-cd) pyrene	870	50.0	1,000	0	87.0	44.2	146				
Dibenz (a,h) anthracene	855	50.0	1,000	0	85.5	37.5	152				
Benzo (g,h,I) perylene	836	50.0	1,000	0	83.6	24.1	156				
Surr: 2,4,6-Tribromophenol	763		1,000		76.3	11.1	127				
Surr: 2-Fluorobiphenyl	426		500.0		85.1	15	123				
Surr: Nitrobenzene-d5	335		500.0		67.0	10	133				
Surr: Phenol-d6	702		1,000		70.2	11.6	133				
Surr: p-Terphenyl	470		500.0		94.0	26.7	159				

Sample ID **1704275-002ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687907**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	ND	108						0		50	
Bis(2-chloroethyl) ether	ND	108						0		50	
2-Chlorophenol	ND	108						0		50	
1,3-Dichlorobenzene	ND	80.6						0		50	
1,4-Dichlorobenzene	ND	80.6						0		50	
1,2-Dichlorobenzene	ND	80.6						0		50	
Benzyl alcohol	ND	108						0		50	Q
2-Methylphenol (o-cresol)	ND	108						0		50	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **1704275-002ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687907**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloroethane	ND	108						0		50	
N-Nitrosodi-n-propylamine	ND	108						0		50	
Nitrobenzene	ND	108						0		50	
Isophorone	ND	108						0		50	
3&4-Methylphenol (m, p-cresol)	ND	108						0		50	
2-Nitrophenol	ND	108						0		50	
2,4-Dimethylphenol	ND	108						0		50	
Bis(2-chloroethoxy)methane	ND	80.6						0		50	
2,4-Dichlorophenol	ND	108						0		50	
1,2,4-Trichlorobenzene	ND	80.6						0		50	
Naphthalene	ND	53.8						0		50	
4-Chloroaniline	ND	80.6						0		50	
Hexachlorobutadiene	ND	80.6						0		50	
4-Chloro-3-methylphenol	ND	215						0		50	
2-Methylnaphthalene	ND	53.8						0		50	
1-Methylnaphthalene	ND	53.8						0		50	
Hexachlorocyclopentadiene	ND	108						0		50	
2,4,6-Trichlorophenol	ND	108						0		50	
2,4,5-Trichlorophenol	ND	108						0		50	
2-Chloronaphthalene	ND	80.6						0		50	
2-Nitroaniline	ND	108						0		50	
Acenaphthene	ND	53.8						0		50	
Dimethylphthalate	ND	108						0		50	
2,6-Dinitrotoluene	ND	108						0		50	
Acenaphthylene	ND	53.8						0		50	
2,4-Dinitrophenol	ND	215						0		50	
Dibenzofuran	ND	80.6						0		50	
2,4-Dinitrotoluene	ND	108						0		50	
4-Nitrophenol	ND	538						0		50	
Fluorene	ND	53.8						0		50	
4-Chlorophenyl phenyl ether	ND	80.6						0		50	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **1704275-002ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687907**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diethylphthalate	ND	108						0		50	
4,6-Dinitro-2-methylphenol	ND	215						0		50	
4-Bromophenyl phenyl ether	ND	80.6						0		50	
Hexachlorobenzene	ND	80.6						0		50	
Pentachlorophenol	ND	108						0		50	
Phenanthrene	ND	53.8						0		50	
Anthracene	ND	53.8						0		50	
Carbazole	ND	80.6						0		50	
Di-n-butylphthalate	ND	108						0		50	
Fluoranthene	ND	53.8						0		50	
Pyrene	ND	53.8						0		50	
Butyl Benzylphthalate	ND	108						0		50	
bis(2-Ethylhexyl)adipate	ND	108						0		50	
Benz (a) anthracene	ND	53.8						0		50	
Chrysene	ND	53.8						0		50	
bis (2-Ethylhexyl) phthalate	ND	108						0		50	
Di-n-octyl phthalate	ND	108						0		50	
Benzo (b) fluoranthene	ND	53.8						0		50	
Benzo (k) fluoranthene	ND	53.8						0		50	
Benzo (a) pyrene	ND	53.8						0		50	
Indeno (1,2,3-cd) pyrene	ND	53.8						0		50	
Dibenz (a,h) anthracene	ND	53.8						0		50	
Benzo (g,h,I) perylene	ND	53.8						0		50	
Surr: 2,4,6-Tribromophenol	644		1,075		59.9	11.1	127		0		
Surr: 2-Fluorobiphenyl	271		537.6		50.5	15	123		0		
Surr: Nitrobenzene-d5	203		537.6		37.7	10	133		0		
Surr: Phenol-d6	697		1,075		64.8	11.6	133		0		
Surr: p-Terphenyl	450		537.6		83.6	26.7	159		0		

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **1704275-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687908**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	751	99.9	998.6	0	75.2	29.2	146				
Bis(2-chloroethyl) ether	765	99.9	998.6	0	76.6	34.4	135				
2-Chlorophenol	764	99.9	998.6	0	76.5	44	134				
1,3-Dichlorobenzene	702	74.9	998.6	0	70.3	21.1	133				
1,4-Dichlorobenzene	731	74.9	998.6	0	73.2	20.9	131				
1,2-Dichlorobenzene	744	74.9	998.6	0	74.5	35	131				
Benzyl alcohol	419	99.9	998.6	0	42.0	30.8	159				
2-Methylphenol (o-cresol)	753	99.9	998.6	0	75.4	39.9	125				
Hexachloroethane	708	99.9	998.6	0	70.9	15.4	139				
N-Nitrosodi-n-propylamine	757	99.9	998.6	0	75.8	26.4	151				
Nitrobenzene	729	99.9	998.6	0	73.0	61.4	130				
Isophorone	771	99.9	998.6	4.122	76.8	61.8	132				
3&4-Methylphenol (m, p-cresol)	361	99.9	499.3	0	72.3	37.6	125				
2-Nitrophenol	740	99.9	998.6	0	74.1	33.5	132				
2,4-Dimethylphenol	821	99.9	998.6	0	82.3	46	158				
Bis(2-chloroethoxy)methane	753	74.9	998.6	0	75.4	46.8	121				
2,4-Dichlorophenol	851	99.9	998.6	0	85.2	33.9	133				
1,2,4-Trichlorobenzene	743	74.9	998.6	0	74.4	29.2	140				
Naphthalene	710	49.9	998.6	0	71.1	44.4	136				
4-Chloroaniline	666	74.9	998.6	0	66.7	27	126				
Hexachlorobutadiene	731	74.9	998.6	0	73.2	38.2	138				
4-Chloro-3-methylphenol	745	200	998.6	0	74.6	36.8	159				
2-Methylnaphthalene	738	49.9	998.6	0	73.9	51.7	138				
1-Methylnaphthalene	738	49.9	998.6	0	73.9	51.8	131				
Hexachlorocyclopentadiene	709	99.9	998.6	0	71.0	10	133				
2,4,6-Trichlorophenol	670	99.9	998.6	0	67.1	34.6	129				
2,4,5-Trichlorophenol	742	99.9	998.6	0	74.3	54.7	127				
2-Chloronaphthalene	723	74.9	998.6	0	72.4	42.1	124				
2-Nitroaniline	718	99.9	998.6	0	71.9	39.3	145				
Acenaphthene	749	49.9	998.6	0	75.0	49.6	129				
Dimethylphthalate	833	99.9	998.6	86.12	74.8	32.9	137				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **1704275-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687908**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,6-Dinitrotoluene	760	99.9	998.6	0	76.1	30.3	136				
Acenaphthylene	742	49.9	998.6	0	74.3	39.9	129				
2,4-Dinitrophenol	1,130	200	1,997	0	56.5	10	149				
Dibenzofuran	720	74.9	998.6	0	72.1	41.2	128				
2,4-Dinitrotoluene	748	99.9	998.6	0	74.9	30.9	139				
4-Nitrophenol	670	499	998.6	0	67.1	15.6	160				
Fluorene	729	49.9	998.6	0	73.0	37.7	133				
4-Chlorophenyl phenyl ether	711	74.9	998.6	0	71.2	70.9	128				
Diethylphthalate	803	99.9	998.6	63.79	74.0	36.7	130				
4,6-Dinitro-2-methylphenol	635	200	998.6	0	63.5	21.9	143				
4-Bromophenyl phenyl ether	731	74.9	998.6	0	73.2	69.6	136				
Hexachlorobenzene	736	74.9	998.6	0	73.7	34.3	131				
Pentachlorophenol	605	99.9	998.6	0	60.6	28.2	156				
Phenanthrene	744	49.9	998.6	0	74.5	32.2	139				
Anthracene	735	49.9	998.6	0	73.6	43.9	128				
Carbazole	744	74.9	998.6	0	74.5	64.1	152				
Di-n-butylphthalate	764	99.9	998.6	16.48	74.9	35.1	142				
Fluoranthene	762	49.9	998.6	0	76.3	33.8	141				
Pyrene	773	49.9	998.6	0	77.4	31.4	151				
Butyl Benzylphthalate	669	99.9	998.6	0	67.0	30.4	138				
bis(2-Ethylhexyl)adipate	600	99.9	998.6	0	60.1	32	136				
Benz (a) anthracene	792	49.9	998.6	3.521	78.9	36	138				
Chrysene	768	49.9	998.6	0	76.9	41.6	125				
bis (2-Ethylhexyl) phthalate	667	99.9	998.6	0	66.7	40.8	170				
Di-n-octyl phthalate	660	99.9	998.6	0	66.1	34.6	142				
Benzo (b) fluoranthene	831	49.9	998.6	0	83.3	52.1	136				
Benzo (k) fluoranthene	741	49.9	998.6	0	74.2	45	140				
Benzo (a) pyrene	734	49.9	998.6	0	73.5	50.5	137				
Indeno (1,2,3-cd) pyrene	822	49.9	998.6	8.597	81.5	38.1	155				
Dibenz (a,h) anthracene	831	49.9	998.6	10.86	82.1	40.7	152				
Benzo (g,h,I) perylene	797	49.9	998.6	7.364	79.1	34	157				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **1704275-002AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687908**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2,4,6-Tribromophenol	759		998.6		76.0	11.1	127				
Surr: 2-Fluorobiphenyl	337		499.3		67.4	15	123				
Surr: Nitrobenzene-d5	289		499.3		57.8	10	133				
Surr: Phenol-d6	670		998.6		67.1	11.6	133				
Surr: p-Terphenyl	418		499.3		83.8	26.7	159				

Sample ID **1704275-002AMSD** SampType: **MSD** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687909**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenol	897	108	1,078	0	83.2	29.2	146	750.8	17.7	50	
Bis(2-chloroethyl) ether	880	108	1,078	0	81.6	34.4	135	764.8	14.0	50	
2-Chlorophenol	895	108	1,078	0	83.0	44	134	764.2	15.8	50	
1,3-Dichlorobenzene	853	80.9	1,078	0	79.1	21.1	133	701.7	19.4	50	
1,4-Dichlorobenzene	881	80.9	1,078	0	81.7	20.9	131	730.9	18.6	50	
1,2-Dichlorobenzene	902	80.9	1,078	0	83.7	35	131	744.1	19.2	50	
Benzyl alcohol	478	108	1,078	0	44.3	30.8	159	419.2	13.1	50	
2-Methylphenol (o-cresol)	964	108	1,078	0	89.4	39.9	125	752.7	24.6	50	
Hexachloroethane	854	108	1,078	0	79.2	15.4	139	708.3	18.6	50	
N-Nitrosodi-n-propylamine	908	108	1,078	0	84.2	26.4	151	757.1	18.1	50	
Nitrobenzene	888	108	1,078	0	82.4	61.4	130	728.8	19.7	50	
Isophorone	921	108	1,078	4.122	85.0	61.8	132	770.9	17.7	50	
3&4-Methylphenol (m, p-cresol)	442	108	539.2	0	82.0	37.6	125	361.1	20.2	50	
2-Nitrophenol	926	108	1,078	0	85.8	33.5	132	739.8	22.3	50	
2,4-Dimethylphenol	951	108	1,078	0	88.2	46	158	821.4	14.6	50	
Bis(2-chloroethoxy)methane	916	80.9	1,078	0	85.0	46.8	121	753.4	19.5	50	
2,4-Dichlorophenol	1,100	108	1,078	0	102	33.9	133	850.8	25.8	50	
1,2,4-Trichlorobenzene	876	80.9	1,078	0	81.2	29.2	140	743.1	16.4	50	
Naphthalene	894	53.9	1,078	0	82.9	44.4	136	709.7	22.9	50	
4-Chloroaniline	767	80.9	1,078	0	71.1	27	126	665.8	14.1	50	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **1704275-002AMSD** SampType: **MSD** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687909**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	905	80.9	1,078	0	83.9	38.2	138	731.2	21.3	50	
4-Chloro-3-methylphenol	976	216	1,078	0	90.5	36.8	159	745.2	26.8	50	R
2-Methylnaphthalene	913	53.9	1,078	0	84.7	51.7	138	738.3	21.2	50	
1-Methylnaphthalene	912	53.9	1,078	0	84.5	51.8	131	738.4	21.0	50	
Hexachlorocyclopentadiene	887	108	1,078	0	82.2	10	133	709.0	22.3	50	
2,4,6-Trichlorophenol	919	108	1,078	0	85.2	34.6	129	670.0	31.3	50	
2,4,5-Trichlorophenol	900	108	1,078	0	83.5	54.7	127	742.2	19.2	50	
2-Chloronaphthalene	884	80.9	1,078	0	82.0	42.1	124	723.0	20.1	50	
2-Nitroaniline	902	108	1,078	0	83.6	39.3	145	717.8	22.7	50	
Acenaphthene	916	53.9	1,078	0	84.9	49.6	129	748.6	20.1	50	
Dimethylphthalate	1,010	108	1,078	86.12	86.0	32.9	137	833.5	19.5	50	
2,6-Dinitrotoluene	929	108	1,078	0	86.1	30.3	136	759.7	20.0	50	
Acenaphthylene	914	53.9	1,078	0	84.7	39.9	129	742.4	20.7	50	
2,4-Dinitrophenol	1,200	216	2,157	0	55.7	10	149	1,128	6.30	50	
Dibenzofuran	902	80.9	1,078	0	83.7	41.2	128	720.4	22.4	50	
2,4-Dinitrotoluene	903	108	1,078	0	83.8	30.9	139	748.0	18.8	50	
4-Nitrophenol	849	539	1,078	0	78.8	15.6	160	670.1	23.6	50	
Fluorene	904	53.9	1,078	0	83.9	37.7	133	729.1	21.5	50	
4-Chlorophenyl phenyl ether	904	80.9	1,078	0	83.8	70.9	128	711.3	23.9	50	
Diethylphthalate	961	108	1,078	63.79	83.2	36.7	130	802.7	18.0	50	
4,6-Dinitro-2-methylphenol	756	216	1,078	0	70.1	21.9	143	634.5	17.5	50	
4-Bromophenyl phenyl ether	874	80.9	1,078	0	81.1	69.6	136	730.7	17.9	50	
Hexachlorobenzene	926	80.9	1,078	0	85.8	34.3	131	736.1	22.8	50	
Pentachlorophenol	703	108	1,078	0	65.2	28.2	156	604.9	15.0	50	
Phenanthrene	879	53.9	1,078	0	81.5	32.2	139	743.9	16.6	50	
Anthracene	887	53.9	1,078	0	82.2	43.9	128	735.2	18.7	50	
Carbazole	888	80.9	1,078	0	82.3	64.1	152	744.4	17.6	50	
Di-n-butylphthalate	918	108	1,078	16.48	83.6	35.1	142	764.4	18.3	50	
Fluoranthene	917	53.9	1,078	0	85.0	33.8	141	762.4	18.4	50	
Pyrene	912	53.9	1,078	0	84.6	31.4	151	773.1	16.5	50	
Butyl Benzylphthalate	812	108	1,078	0	75.3	30.4	138	669.0	19.3	50	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Semi-Volatile Organic Compounds by EPA Method 8270

Sample ID **1704275-002AMSD** SampType: **MSD** Units: **µg/Kg-dry** Prep Date: **4/26/2017** RunNo: **35909**
Client ID: **21417-GP2:18** Batch ID: **16888** Analysis Date: **4/26/2017** SeqNo: **687909**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
bis(2-Ethylhexyl)adipate	707	108	1,078	0	65.5	32	136	599.7	16.4	50	
Benz (a) anthracene	892	53.9	1,078	3.521	82.4	36	138	791.5	12.0	50	
Chrysene	928	53.9	1,078	0	86.1	41.6	125	768.4	18.8	50	
bis (2-Ethylhexyl) phthalate	756	108	1,078	0	70.1	40.8	170	666.5	12.6	50	
Di-n-octyl phthalate	755	108	1,078	0	70.0	34.6	142	660.3	13.3	50	
Benzo (b) fluoranthene	893	53.9	1,078	0	82.8	52.1	136	831.5	7.12	50	
Benzo (k) fluoranthene	954	53.9	1,078	0	88.4	45	140	740.7	25.1	50	
Benzo (a) pyrene	905	53.9	1,078	0	83.9	50.5	137	733.8	20.9	50	
Indeno (1,2,3-cd) pyrene	921	53.9	1,078	8.597	84.6	38.1	155	822.0	11.4	50	
Dibenz (a,h) anthracene	919	53.9	1,078	10.86	84.2	40.7	152	830.7	10.1	50	
Benzo (g,h,I) perylene	894	53.9	1,078	7.364	82.2	34	157	796.9	11.5	50	
Surr: 2,4,6-Tribromophenol	920		1,078		85.4	11.1	127		0		
Surr: 2-Fluorobiphenyl	409		539.2		75.9	15	123		0		
Surr: Nitrobenzene-d5	327		539.2		60.7	10	133		0		
Surr: Phenol-d6	742		1,078		68.8	11.6	133		0		
Surr: p-Terphenyl	494		539.2		91.7	26.7	159		0		

NOTES:
R - High RPD observed, spike recoveries are within range.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **LCS-16859** SampType: **LCS** Units: **mg/Kg** Prep Date: **4/24/2017** RunNo: **35745**
Client ID: **LCSS** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	22.2	5.00	25.00	0	88.9	65	135				
Surr: Toluene-d8	1.24		1.250		99.3	65	135				
Surr: 4-Bromofluorobenzene	1.32		1.250		106	65	135				

Sample ID **MB-16859** SampType: **MBLK** Units: **mg/Kg** Prep Date: **4/24/2017** RunNo: **35745**
Client ID: **MBLKS** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684761**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	1.26		1.250		101	65	135				
Surr: 4-Bromofluorobenzene	1.25		1.250		99.9	65	135				

Sample ID **1704274-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35745**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684743**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	19.6	6.46						16.52	17.3	30	
Surr: Toluene-d8	1.62		1.614		100	65	135		0		
Surr: 4-Bromofluorobenzene	1.63		1.614		101	65	135		0		

Sample ID **1704274-004BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35745**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684746**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.73						0		30	
Surr: Toluene-d8	1.20		1.183		102	65	135		0		
Surr: 4-Bromofluorobenzene	1.15		1.183		97.4	65	135		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **1704275-002BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35745**
Client ID: **21417-GP2:18** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684752**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	15.3	3.80	19.01	0	80.6	65	135				
Surr: Toluene-d8	0.952		0.9503		100	65	135				
Surr: 4-Bromofluorobenzene	0.962		0.9503		101	65	135				

Sample ID **1704275-002BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35745**
Client ID: **21417-GP2:18** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684753**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	11.7	3.80	19.01	0	61.8	65	135	15.32	26.4	30	S
Surr: Toluene-d8	0.962		0.9503		101	65	135		0		
Surr: 4-Bromofluorobenzene	0.954		0.9503		100	65	135		0		

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID	**LCS-16857**	SampType: **LCS**		Units: **µg/L**		Prep Date: **4/24/2017**		RunNo: **35723**			
Client ID:	**LCSW**	Batch ID: **16857**				Analysis Date: **4/24/2017**		SeqNo: **684162**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	484	50.0	500.0	0	96.9	65	135				
Surr: Toluene-d8	24.7		25.00		98.6	65	135				
Surr: 4-Bromofluorobenzene	26.1		25.00		104	65	135				

Sample ID	**MB-16857**	SampType: **MBLK**		Units: **µg/L**		Prep Date: **4/24/2017**		RunNo: **35723**			
Client ID:	**MBLKW**	Batch ID: **16857**				Analysis Date: **4/24/2017**		SeqNo: **684163**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: Toluene-d8	24.6		25.00		98.5	65	135				
Surr: 4-Bromofluorobenzene	24.2		25.00		97.0	65	135				

Sample ID	**1704267-004ADUP**	SampType: **DUP**		Units: **µg/L**		Prep Date: **4/24/2017**		RunNo: **35723**			
Client ID:	**BATCH**	Batch ID: **16857**				Analysis Date: **4/24/2017**		SeqNo: **684142**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	24.8		25.00		99.1	65	135		0		
Surr: 4-Bromofluorobenzene	24.4		25.00		97.7	65	135		0		

Sample ID	**1704267-006ADUP**	SampType: **DUP**		Units: **µg/L**		Prep Date: **4/24/2017**		RunNo: **35723**			
Client ID:	**BATCH**	Batch ID: **16857**				Analysis Date: **4/24/2017**		SeqNo: **684145**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
Surr: Toluene-d8	24.8		25.00		99.2	65	135		0		
Surr: 4-Bromofluorobenzene	24.3		25.00		97.3	65	135		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **1704275-006AMS** SampType: **MS** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35723**
Client ID: **21417-GP1:GW** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684155**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	405	50.0	500.0	0	81.0	65	135				
Surr: Toluene-d8	24.9		25.00		99.5	65	135				
Surr: 4-Bromofluorobenzene	26.0		25.00		104	65	135				

Sample ID **1704275-006AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35723**
Client ID: **21417-GP1:GW** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684156**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	438	50.0	500.0	0	87.6	65	135	405.2	7.80	30	
Surr: Toluene-d8	24.9		25.00		99.4	65	135		0		
Surr: 4-Bromofluorobenzene	25.9		25.00		103	65	135		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16859** SampType: **LCS** Units: **mg/Kg** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **LCSS** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684704**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.842	0.0600	1.000	0	84.2	14.3	167				
Chloromethane	0.893	0.0600	1.000	0	89.3	46	144				
Vinyl chloride	0.922	0.00200	1.000	0	92.2	44	142				
Bromomethane	0.856	0.0900	1.000	0	85.6	40.9	157				
Trichlorofluoromethane (CFC-11)	0.921	0.0500	1.000	0	92.1	36.9	156				
Chloroethane	0.990	0.0600	1.000	0	99.0	33.4	155				
1,1-Dichloroethene	0.943	0.0500	1.000	0	94.3	49.7	142				
Methylene chloride	0.982	0.0200	1.000	0	98.2	46.3	140				
trans-1,2-Dichloroethene	0.967	0.0200	1.000	0	96.7	68	130				
Methyl tert-butyl ether (MTBE)	1.09	0.0500	1.000	0	109	66.3	145				
1,1-Dichloroethane	1.03	0.0200	1.000	0	103	61.9	137				
2,2-Dichloropropane	0.463	0.0500	1.000	0	46.3	35.5	186				
cis-1,2-Dichloroethene	1.01	0.0200	1.000	0	101	71.3	135				
Chloroform	1.01	0.0200	1.000	0	101	69	145				
1,1,1-Trichloroethane (TCA)	1.01	0.0200	1.000	0	101	69	132				
1,1-Dichloropropene	1.02	0.0200	1.000	0	102	72.7	131				
Carbon tetrachloride	0.985	0.0200	1.000	0	98.5	63.4	137				
1,2-Dichloroethane (EDC)	1.07	0.0300	1.000	0	107	61.9	136				
Benzene	1.00	0.0200	1.000	0	100	64.3	133				
Trichloroethene (TCE)	1.02	0.0200	1.000	0	102	65.5	137				
1,2-Dichloropropane	1.08	0.0200	1.000	0	108	63.2	142				
Bromodichloromethane	1.03	0.0200	1.000	0	103	73.2	131				
Dibromomethane	1.08	0.0400	1.000	0	108	70	130				
cis-1,3-Dichloropropene	1.01	0.0200	1.000	0	101	59.1	143				
Toluene	1.04	0.0200	1.000	0	104	67.3	138				
trans-1,3-Dichloropropylene	0.993	0.0300	1.000	0	99.3	49.2	149				
1,1,2-Trichloroethane	1.05	0.0300	1.000	0	105	74.5	129				
1,3-Dichloropropane	1.07	0.0500	1.000	0	107	70	130				
Tetrachloroethene (PCE)	1.03	0.0200	1.000	0	103	52.7	150				
Dibromochloromethane	1.07	0.0300	1.000	0	107	70.6	144				
1,2-Dibromoethane (EDB)	1.04	0.00500	1.000	0	104	70	130				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16859** SampType: **LCS** Units: **mg/Kg** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **LCSS** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684704**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.02	0.0200	1.000	0	102	76.1	123				
1,1,1,2-Tetrachloroethane	1.03	0.0300	1.000	0	103	65.9	141				
Ethylbenzene	1.03	0.0300	1.000	0	103	74	129				
m,p-Xylene	2.07	0.0200	2.000	0	103	70	124				
o-Xylene	1.03	0.0200	1.000	0	103	68.1	139				
Styrene	1.02	0.0200	1.000	0	102	76.8	130				
Isopropylbenzene	1.03	0.0800	1.000	0	103	70	130				
Bromoform	0.913	0.0200	1.000	0	91.3	67	154				
1,1,2,2-Tetrachloroethane	1.06	0.0200	1.000	0	106	60	130				
n-Propylbenzene	1.03	0.0200	1.000	0	103	74.8	125				
Bromobenzene	1.04	0.0300	1.000	0	104	49.2	144				
1,3,5-Trimethylbenzene	1.02	0.0200	1.000	0	102	74.6	123				
2-Chlorotoluene	1.04	0.0200	1.000	0	104	76.7	129				
4-Chlorotoluene	1.04	0.0200	1.000	0	104	77.5	125				
tert-Butylbenzene	1.03	0.0200	1.000	0	103	66.2	130				
1,2,3-Trichloropropane	1.02	0.0200	1.000	0	102	67.9	136				
1,2,4-Trichlorobenzene	1.14	0.0500	1.000	0	114	62.6	143				
sec-Butylbenzene	1.08	0.0200	1.000	0	108	75.6	133				
4-Isopropyltoluene	1.09	0.0200	1.000	0	109	76.8	131				
1,3-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.8	128				
1,4-Dichlorobenzene	1.06	0.0200	1.000	0	106	72.6	126				
n-Butylbenzene	1.10	0.0200	1.000	0	110	65.3	136				
1,2-Dichlorobenzene	1.07	0.0200	1.000	0	107	72.8	126				
1,2-Dibromo-3-chloropropane	1.06	0.500	1.000	0	106	61.2	139				
1,2,4-Trimethylbenzene	1.05	0.0200	1.000	0	105	77.5	129				
Hexachlorobutadiene	1.11	0.100	1.000	0	111	42	151				
Naphthalene	1.22	0.0300	1.000	0	122	62.3	134				
1,2,3-Trichlorobenzene	1.14	0.0200	1.000	0	114	54.8	143				
Surr: Dibromofluoromethane	1.24		1.250		99.4	56.5	129				
Surr: Toluene-d8	1.29		1.250		103	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.35		1.250		108	63.1	141				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	**LCS-16859**	SampType:	**LCS**		Units:	**mg/Kg**	Prep Date:	**4/24/2017**	RunNo:	**35744**	
Client ID:	**LCSS**	Batch ID:	**16859**				Analysis Date:	**4/25/2017**	SeqNo:	**684704**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	**MB-16859**	SampType:	**MBLK**		Units:	**mg/Kg**	Prep Date:	**4/24/2017**	RunNo:	**35744**	
Client ID:	**MBLKS**	Batch ID:	**16859**				Analysis Date:	**4/25/2017**	SeqNo:	**684705**	

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									Q
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									

Work Order: 1704275
CLIENT: Shannon & Wilson
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QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-16859** SampType: **MBLK** Units: **mg/Kg** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **MBLKS** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684705**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									

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CLIENT: Shannon & Wilson
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QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-16859** SampType: **MBLK** Units: **mg/Kg** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **MBLKS** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684705**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	1.20		1.250		96.2	56.5	129				
Surr: Toluene-d8	1.24		1.250		99.0	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.21		1.250		96.4	63.1	141				

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1704274-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684687**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0775						0		30	
Chloromethane	ND	0.0775						0		30	
Vinyl chloride	ND	0.00258						0		30	
Bromomethane	ND	0.116						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0646						0		30	
Chloroethane	ND	0.0775						0		30	
1,1-Dichloroethene	ND	0.0646						0		30	
Methylene chloride	ND	0.0258						0		30	
trans-1,2-Dichloroethene	ND	0.0258						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0646						0		30	
1,1-Dichloroethane	ND	0.0258						0		30	
2,2-Dichloropropane	ND	0.0646						0		30	Q
cis-1,2-Dichloroethene	ND	0.0258						0		30	
Chloroform	ND	0.0258						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0258						0		30	
1,1-Dichloropropene	ND	0.0258						0		30	
Carbon tetrachloride	ND	0.0258						0		30	
1,2-Dichloroethane (EDC)	ND	0.0387						0		30	

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QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684687**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0258						0		30	
Trichloroethene (TCE)	ND	0.0258						0		30	
1,2-Dichloropropane	ND	0.0258						0		30	
Bromodichloromethane	ND	0.0258						0		30	
Dibromomethane	ND	0.0516						0		30	
cis-1,3-Dichloropropene	ND	0.0258						0		30	
Toluene	ND	0.0258						0		30	
trans-1,3-Dichloropropylene	ND	0.0387						0		30	
1,1,2-Trichloroethane	ND	0.0387						0		30	
1,3-Dichloropropane	ND	0.0646						0		30	
Tetrachloroethene (PCE)	ND	0.0258						0		30	
Dibromochloromethane	ND	0.0387						0		30	
1,2-Dibromoethane (EDB)	ND	0.00646						0		30	
Chlorobenzene	ND	0.0258						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0387						0		30	
Ethylbenzene	ND	0.0387						0		30	
m,p-Xylene	0.106	0.0258						0.1014	4.62	30	
o-Xylene	ND	0.0258						0		30	
Styrene	ND	0.0258						0		30	
Isopropylbenzene	ND	0.103						0		30	
Bromoform	ND	0.0258						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0258						0		30	
n-Propylbenzene	0.0676	0.0258						0.06003	11.8	30	
Bromobenzene	ND	0.0387						0		30	
1,3,5-Trimethylbenzene	ND	0.0258						0		30	
2-Chlorotoluene	ND	0.0258						0		30	
4-Chlorotoluene	ND	0.0258						0		30	
tert-Butylbenzene	ND	0.0258						0		30	
1,2,3-Trichloropropane	ND	0.0258						0		30	
1,2,4-Trichlorobenzene	ND	0.0646						0		30	
sec-Butylbenzene	0.0684	0.0258						0.06186	10.1	30	

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684687**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Isopropyltoluene	0.0555	0.0258						0.04919	12.0	30	
1,3-Dichlorobenzene	ND	0.0258						0		30	
1,4-Dichlorobenzene	ND	0.0258						0		30	
n-Butylbenzene	0.0651	0.0258						0.05992	8.29	30	
1,2-Dichlorobenzene	ND	0.0258						0		30	
1,2-Dibromo-3-chloropropane	ND	0.646						0		30	
1,2,4-Trimethylbenzene	0.519	0.0258						0.4644	11.0	30	
Hexachlorobutadiene	ND	0.129						0		30	
Naphthalene	ND	0.0387						0		30	
1,2,3-Trichlorobenzene	ND	0.0258						0		30	
Surr: Dibromofluoromethane	1.40		1.614		87.0	56.5	129		0		
Surr: Toluene-d8	1.61		1.614		99.6	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.58		1.614		98.0	63.1	141		0		

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1704274-004BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684690**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0568						0		30	
Chloromethane	ND	0.0568						0		30	
Vinyl chloride	ND	0.00189						0		30	
Bromomethane	ND	0.0852						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0473						0		30	
Chloroethane	ND	0.0568						0		30	
1,1-Dichloroethene	ND	0.0473						0		30	
Methylene chloride	ND	0.0189						0		30	
trans-1,2-Dichloroethene	ND	0.0189						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0473						0		30	
1,1-Dichloroethane	ND	0.0189						0		30	

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CLIENT: Shannon & Wilson
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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-004BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684690**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.0473						0		30	Q
cis-1,2-Dichloroethene	ND	0.0189						0		30	
Chloroform	ND	0.0189						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0189						0		30	
1,1-Dichloropropene	ND	0.0189						0		30	
Carbon tetrachloride	ND	0.0189						0		30	
1,2-Dichloroethane (EDC)	ND	0.0284						0		30	
Benzene	ND	0.0189						0		30	
Trichloroethene (TCE)	ND	0.0189						0		30	
1,2-Dichloropropane	ND	0.0189						0		30	
Bromodichloromethane	ND	0.0189						0		30	
Dibromomethane	ND	0.0379						0		30	
cis-1,3-Dichloropropene	ND	0.0189						0		30	
Toluene	ND	0.0189						0		30	
trans-1,3-Dichloropropylene	ND	0.0284						0		30	
1,1,2-Trichloroethane	ND	0.0284						0		30	
1,3-Dichloropropane	ND	0.0473						0		30	
Tetrachloroethene (PCE)	ND	0.0189						0		30	
Dibromochloromethane	ND	0.0284						0		30	
1,2-Dibromoethane (EDB)	ND	0.00473						0		30	
Chlorobenzene	ND	0.0189						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0284						0		30	
Ethylbenzene	ND	0.0284						0		30	
m,p-Xylene	ND	0.0189						0		30	
o-Xylene	ND	0.0189						0		30	
Styrene	ND	0.0189						0		30	
Isopropylbenzene	ND	0.0757						0		30	
Bromoform	ND	0.0189						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0189						0		30	
n-Propylbenzene	ND	0.0189						0		30	
Bromobenzene	ND	0.0284						0		30	

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-004BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684690**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	0.0189						0		30	
2-Chlorotoluene	ND	0.0189						0		30	
4-Chlorotoluene	ND	0.0189						0		30	
tert-Butylbenzene	ND	0.0189						0		30	
1,2,3-Trichloropropane	ND	0.0189						0		30	
1,2,4-Trichlorobenzene	ND	0.0473						0		30	
sec-Butylbenzene	ND	0.0189						0		30	
4-Isopropyltoluene	ND	0.0189						0		30	
1,3-Dichlorobenzene	ND	0.0189						0		30	
1,4-Dichlorobenzene	ND	0.0189						0		30	
n-Butylbenzene	ND	0.0189						0		30	
1,2-Dichlorobenzene	ND	0.0189						0		30	
1,2-Dibromo-3-chloropropane	ND	0.473						0		30	
1,2,4-Trimethylbenzene	ND	0.0189						0		30	
Hexachlorobutadiene	ND	0.0947						0		30	
Naphthalene	ND	0.0284						0		30	
1,2,3-Trichlorobenzene	ND	0.0189						0		30	
Surr: Dibromofluoromethane	1.02		1.183		86.5	56.5	129		0		
Surr: Toluene-d8	1.17		1.183		98.6	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.12		1.183		94.9	63.1	141		0		

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1704274-006BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684692**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.40	0.0569	1.898	0	74.0	43.5	121				
Chloromethane	1.73	0.0569	1.898	0	91.4	45	130				
Vinyl chloride	1.68	0.00190	1.898	0	88.7	51.2	146				
Bromomethane	1.23	0.0854	1.898	0	64.8	21.3	120				

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CLIENT: Shannon & Wilson
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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-006BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684692**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	1.56	0.0475	1.898	0	82.3	35	131				
Chloroethane	1.80	0.0569	1.898	0	95.0	31.9	123				
1,1-Dichloroethene	1.82	0.0475	1.898	0	95.9	61.9	141				
Methylene chloride	2.00	0.0190	1.898	0	105	54.7	142				
trans-1,2-Dichloroethene	1.91	0.0190	1.898	0	101	52	136				
Methyl tert-butyl ether (MTBE)	2.20	0.0475	1.898	0	116	54.4	132				
1,1-Dichloroethane	1.97	0.0190	1.898	0	104	51.8	141				
2,2-Dichloropropane	0.696	0.0475	1.898	0	36.7	36	123				
cis-1,2-Dichloroethene	1.95	0.0190	1.898	0	103	58.6	136				
Chloroform	2.02	0.0190	1.898	0	107	53.2	129				
1,1,1-Trichloroethane (TCA)	1.96	0.0190	1.898	0	103	58.3	145				
1,1-Dichloropropene	2.01	0.0190	1.898	0	106	55.1	138				
Carbon tetrachloride	1.78	0.0190	1.898	0	93.8	53.3	144				
1,2-Dichloroethane (EDC)	2.08	0.0285	1.898	0	110	51.3	139				
Benzene	1.98	0.0190	1.898	0	104	63.5	133				
Trichloroethene (TCE)	1.97	0.0190	1.898	0	104	68.6	132				
1,2-Dichloropropane	2.11	0.0190	1.898	0	111	59	136				
Bromodichloromethane	1.88	0.0190	1.898	0	99.3	50.7	141				
Dibromomethane	1.98	0.0380	1.898	0	104	50.6	137				
cis-1,3-Dichloropropene	1.68	0.0190	1.898	0	88.6	50.4	138				
Toluene	2.04	0.0190	1.898	0	107	63.4	132				
trans-1,3-Dichloropropylene	1.64	0.0285	1.898	0	86.4	44.1	147				
1,1,2-Trichloroethane	2.01	0.0285	1.898	0	106	51.6	137				
1,3-Dichloropropane	2.06	0.0475	1.898	0	108	53.1	134				
Tetrachloroethene (PCE)	2.00	0.0190	1.898	0	105	35.6	158				
Dibromochloromethane	1.71	0.0285	1.898	0	89.9	55.3	140				
1,2-Dibromoethane (EDB)	2.00	0.00475	1.898	0	106	50.4	136				
Chlorobenzene	1.98	0.0190	1.898	0	104	60	133				
1,1,1,2-Tetrachloroethane	1.91	0.0285	1.898	0	101	53.1	142				
Ethylbenzene	2.03	0.0285	1.898	0	107	54.5	134				
m,p-Xylene	4.02	0.0190	3.796	0	106	53.1	132				

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CLIENT: Shannon & Wilson
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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-006BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684692**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	2.03	0.0190	1.898	0	107	53.3	139				
Styrene	1.99	0.0190	1.898	0	105	51.1	132				
Isopropylbenzene	2.06	0.0759	1.898	0	109	58.9	138				
Bromoform	1.54	0.0190	1.898	0	80.9	57.9	130				
1,1,2,2-Tetrachloroethane	1.91	0.0190	1.898	0	101	51.9	131				
n-Propylbenzene	2.06	0.0190	1.898	0	108	53.6	140				
Bromobenzene	2.00	0.0285	1.898	0	105	54.2	140				
1,3,5-Trimethylbenzene	2.05	0.0190	1.898	0	108	51.8	136				
2-Chlorotoluene	2.04	0.0190	1.898	0	108	51.6	136				
4-Chlorotoluene	2.06	0.0190	1.898	0	109	50.1	139				
tert-Butylbenzene	2.08	0.0190	1.898	0	109	50.5	135				
1,2,3-Trichloropropane	1.93	0.0190	1.898	0	102	50.5	131				
1,2,4-Trichlorobenzene	2.02	0.0475	1.898	0	107	50.8	130				
sec-Butylbenzene	1.94	0.0190	1.898	0	102	52.6	141				
4-Isopropyltoluene	1.93	0.0190	1.898	0	102	52.9	134				
1,3-Dichlorobenzene	1.89	0.0190	1.898	0	99.4	52.6	131				
1,4-Dichlorobenzene	1.89	0.0190	1.898	0	99.5	52.9	129				
n-Butylbenzene	2.02	0.0190	1.898	0	107	52.6	130				
1,2-Dichlorobenzene	1.91	0.0190	1.898	0	101	55.8	129				
1,2-Dibromo-3-chloropropane	1.74	0.475	1.898	0	91.7	40.5	131				
1,2,4-Trimethylbenzene	2.08	0.0190	1.898	0	110	50.6	137				
Hexachlorobutadiene	2.09	0.0949	1.898	0	110	40.6	158				
Naphthalene	1.91	0.0285	1.898	0	101	52.3	124				
1,2,3-Trichlorobenzene	2.02	0.0190	1.898	0	106	54.4	124				
Surr: Dibromofluoromethane	1.11		1.186		93.7	56.5	129				
Surr: Toluene-d8	1.24		1.186		104	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.29		1.186		109	63.1	141				

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CLIENT: Shannon & Wilson
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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-006BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684693**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.38	0.0569	1.898	0	72.9	43.5	121	1.404	1.45	30	
Chloromethane	1.78	0.0569	1.898	0	93.8	45	130	1.735	2.57	30	
Vinyl chloride	1.64	0.00190	1.898	0	86.2	51.2	146	1.684	2.94	30	
Bromomethane	1.25	0.0854	1.898	0	65.9	21.3	120	1.230	1.66	30	
Trichlorofluoromethane (CFC-11)	1.46	0.0475	1.898	0	76.8	35	131	1.562	6.92	30	
Chloroethane	1.67	0.0569	1.898	0	87.9	31.9	123	1.803	7.79	30	
1,1-Dichloroethene	1.77	0.0475	1.898	0	93.4	61.9	141	1.821	2.70	30	
Methylene chloride	1.95	0.0190	1.898	0	103	54.7	142	1.996	2.55	30	
trans-1,2-Dichloroethene	1.85	0.0190	1.898	0	97.4	52	136	1.908	3.16	30	
Methyl tert-butyl ether (MTBE)	2.18	0.0475	1.898	0	115	54.4	132	2.204	1.02	30	
1,1-Dichloroethane	1.91	0.0190	1.898	0	101	51.8	141	1.968	2.94	30	
2,2-Dichloropropane	0.690	0.0475	1.898	0	36.3	36	123	0.6961	0.941	30	
cis-1,2-Dichloroethene	1.89	0.0190	1.898	0	99.8	58.6	136	1.950	2.91	30	
Chloroform	1.94	0.0190	1.898	0	102	53.2	129	2.023	4.13	30	
1,1,1-Trichloroethane (TCA)	1.88	0.0190	1.898	0	98.8	58.3	145	1.959	4.39	30	
1,1-Dichloropropene	1.89	0.0190	1.898	0	99.4	55.1	138	2.011	6.41	30	
Carbon tetrachloride	1.77	0.0190	1.898	0	93.1	53.3	144	1.780	0.688	30	
1,2-Dichloroethane (EDC)	2.05	0.0285	1.898	0	108	51.3	139	2.082	1.51	30	
Benzene	1.90	0.0190	1.898	0	99.9	63.5	133	1.978	4.24	30	
Trichloroethene (TCE)	1.88	0.0190	1.898	0	98.9	68.6	132	1.968	4.70	30	
1,2-Dichloropropane	2.04	0.0190	1.898	0	108	59	136	2.110	3.29	30	
Bromodichloromethane	1.85	0.0190	1.898	0	97.3	50.7	141	1.884	1.96	30	
Dibromomethane	1.95	0.0380	1.898	0	103	50.6	137	1.978	1.42	30	
cis-1,3-Dichloropropene	1.65	0.0190	1.898	0	87.1	50.4	138	1.682	1.76	30	
Toluene	1.95	0.0190	1.898	0	103	63.4	132	2.039	4.64	30	
trans-1,3-Dichloropropylene	1.63	0.0285	1.898	0	85.8	44.1	147	1.641	0.761	30	
1,1,2-Trichloroethane	1.92	0.0285	1.898	0	101	51.6	137	2.010	4.63	30	
1,3-Dichloropropane	1.98	0.0475	1.898	0	104	53.1	134	2.059	3.81	30	
Tetrachloroethene (PCE)	1.91	0.0190	1.898	0	100	35.6	158	1.996	4.67	30	
Dibromochloromethane	1.68	0.0285	1.898	0	88.6	55.3	140	1.706	1.40	30	
1,2-Dibromoethane (EDB)	1.93	0.00475	1.898	0	102	50.4	136	2.004	3.83	30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-006BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **4/24/2017** RunNo: **35744**
Client ID: **BATCH** Batch ID: **16859** Analysis Date: **4/25/2017** SeqNo: **684693**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.94	0.0190	1.898	0	102	60	133	1.982	2.10	30	
1,1,1,2-Tetrachloroethane	1.91	0.0285	1.898	0	100	53.1	142	1.912	0.360	30	
Ethylbenzene	1.96	0.0285	1.898	0	103	54.5	134	2.026	3.40	30	
m,p-Xylene	3.90	0.0190	3.796	0	103	53.1	132	4.021	3.05	30	
o-Xylene	1.96	0.0190	1.898	0	103	53.3	139	2.025	3.19	30	
Styrene	1.95	0.0190	1.898	0	103	51.1	132	1.994	2.01	30	
Isopropylbenzene	1.99	0.0759	1.898	0	105	58.9	138	2.060	3.65	30	
Bromoform	1.53	0.0190	1.898	0	80.7	57.9	130	1.536	0.201	30	
1,1,2,2-Tetrachloroethane	1.88	0.0190	1.898	0	98.8	51.9	131	1.915	2.05	30	
n-Propylbenzene	1.98	0.0190	1.898	0	104	53.6	140	2.059	3.91	30	
Bromobenzene	1.96	0.0285	1.898	0	103	54.2	140	1.999	1.86	30	
1,3,5-Trimethylbenzene	1.98	0.0190	1.898	0	104	51.8	136	2.048	3.35	30	
2-Chlorotoluene	1.98	0.0190	1.898	0	104	51.6	136	2.042	3.08	30	
4-Chlorotoluene	2.01	0.0190	1.898	0	106	50.1	139	2.061	2.50	30	
tert-Butylbenzene	1.99	0.0190	1.898	0	105	50.5	135	2.075	4.00	30	
1,2,3-Trichloropropane	1.88	0.0190	1.898	0	99.3	50.5	131	1.929	2.33	30	
1,2,4-Trichlorobenzene	2.05	0.0475	1.898	0	108	50.8	130	2.022	1.21	30	
sec-Butylbenzene	1.87	0.0190	1.898	0	98.7	52.6	141	1.939	3.43	30	
4-Isopropyltoluene	1.87	0.0190	1.898	0	98.8	52.9	134	1.928	2.80	30	
1,3-Dichlorobenzene	1.86	0.0190	1.898	0	97.8	52.6	131	1.887	1.68	30	
1,4-Dichlorobenzene	1.86	0.0190	1.898	0	98.0	52.9	129	1.889	1.53	30	
n-Butylbenzene	1.99	0.0190	1.898	0	105	52.6	130	2.024	1.56	30	
1,2-Dichlorobenzene	1.86	0.0190	1.898	0	97.8	55.8	129	1.908	2.70	30	
1,2-Dibromo-3-chloropropane	1.69	0.475	1.898	0	88.9	40.5	131	1.740	3.02	30	
1,2,4-Trimethylbenzene	2.01	0.0190	1.898	0	106	50.6	137	2.085	3.60	30	
Hexachlorobutadiene	2.08	0.0949	1.898	0	110	40.6	158	2.093	0.621	30	
Naphthalene	1.96	0.0285	1.898	0	103	52.3	124	1.911	2.77	30	
1,2,3-Trichlorobenzene	2.04	0.0190	1.898	0	108	54.4	124	2.015	1.33	30	
Surr: Dibromofluoromethane	1.12		1.186		94.7	56.5	129		0		
Surr: Toluene-d8	1.22		1.186		103	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.30		1.186		109	63.1	141		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704274-006BMSD**	SampType: **MSD**			Units: **mg/Kg-dry**	Prep Date: **4/24/2017**		RunNo: **35744**		
Client ID: **BATCH**	Batch ID: **16859**				Analysis Date: **4/25/2017**		SeqNo: **684693**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16857** SampType: **LCS** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **LCSW** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684109**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	17.8	1.00	20.00	0	89.0	18.7	171				
Chloromethane	19.0	1.00	20.00	0	95.0	38.5	171				
Vinyl chloride	18.7	0.200	20.00	0	93.5	48	145				
Bromomethane	18.5	1.00	20.00	0	92.6	32.5	184				
Trichlorofluoromethane (CFC-11)	18.9	1.00	20.00	0	94.7	43.5	149				
Chloroethane	19.3	1.00	20.00	0	96.6	43.8	168				
1,1-Dichloroethene	18.8	1.00	20.00	0	94.0	57.5	150				
Methylene chloride	19.8	1.00	20.00	0	99.2	67.1	131				
trans-1,2-Dichloroethene	19.3	1.00	20.00	0	96.5	71.7	129				
Methyl tert-butyl ether (MTBE)	20.6	1.00	20.00	0	103	58	138				
1,1-Dichloroethane	20.4	1.00	20.00	0	102	67.9	134				
2,2-Dichloropropane	30.2	2.00	20.00	0	151	26.5	185				
cis-1,2-Dichloroethene	20.0	1.00	20.00	0	99.9	70.2	139				
Chloroform	20.6	1.00	20.00	0	103	66.3	131				
1,1,1-Trichloroethane (TCA)	20.2	1.00	20.00	0	101	71	131				
1,1-Dichloropropene	20.8	1.00	20.00	0	104	69.9	124				
Carbon tetrachloride	21.1	1.00	20.00	0	106	66.2	134				
1,2-Dichloroethane (EDC)	21.5	1.00	20.00	0	107	67	126				
Benzene	20.2	1.00	20.00	0	101	69.3	132				
Trichloroethene (TCE)	20.1	0.500	20.00	0	100	65.2	136				
1,2-Dichloropropane	21.3	1.00	20.00	0	106	70.5	130				
Bromodichloromethane	19.8	1.00	20.00	0	99.2	67.2	137				
Dibromomethane	20.1	1.00	20.00	0	100	69.3	143				
cis-1,3-Dichloropropene	22.7	1.00	20.00	0	113	62.6	137				
Toluene	21.0	1.00	20.00	0	105	61.3	145				
trans-1,3-Dichloropropylene	22.1	1.00	20.00	0	110	56.5	163				
1,1,2-Trichloroethane	20.1	1.00	20.00	0	101	71.7	131				
1,3-Dichloropropane	20.4	1.00	20.00	0	102	73.5	127				
Tetrachloroethene (PCE)	21.9	1.00	20.00	0	109	47.5	147				
Dibromochloromethane	20.0	1.00	20.00	0	99.9	67.2	134				
1,2-Dibromoethane (EDB)	19.6	0.0600	20.00	0	98.2	73.6	125				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-16857** SampType: **LCS** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **LCSW** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684109**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.2	1.00	20.00	0	101	73.9	126				
1,1,1,2-Tetrachloroethane	19.6	1.00	20.00	0	97.8	76.8	124				
Ethylbenzene	20.2	1.00	20.00	0	101	72	130				
m,p-Xylene	40.5	1.00	40.00	0	101	70.3	134				
o-Xylene	20.1	1.00	20.00	0	100	72.1	131				
Styrene	19.9	1.00	20.00	0	99.5	64.3	140				
Isopropylbenzene	20.4	1.00	20.00	0	102	73.9	128				
Bromoform	15.5	1.00	20.00	0	77.4	55.3	141				
1,1,2,2-Tetrachloroethane	18.5	1.00	20.00	0	92.3	62.9	132				
n-Propylbenzene	20.5	1.00	20.00	0	103	74.5	127				
Bromobenzene	20.0	1.00	20.00	0	100	71	131				
1,3,5-Trimethylbenzene	20.4	1.00	20.00	0	102	73.1	128				
2-Chlorotoluene	20.7	1.00	20.00	0	104	70.8	130				
4-Chlorotoluene	20.3	1.00	20.00	0	101	70.1	131				
tert-Butylbenzene	20.3	1.00	20.00	0	102	68.2	131				
1,2,3-Trichloropropane	19.0	1.00	20.00	0	94.9	67.7	131				
1,2,4-Trichlorobenzene	20.9	2.00	20.00	0	105	51.8	152				
sec-Butylbenzene	21.6	1.00	20.00	0	108	72	129				
4-Isopropyltoluene	22.0	1.00	20.00	0	110	69.2	130				
1,3-Dichlorobenzene	21.0	1.00	20.00	0	105	80.4	124				
1,4-Dichlorobenzene	20.9	1.00	20.00	0	104	66.8	119				
n-Butylbenzene	22.4	1.00	20.00	0	112	73.8	127				
1,2-Dichlorobenzene	20.5	1.00	20.00	0	102	69.7	119				
1,2-Dibromo-3-chloropropane	16.8	1.00	20.00	0	83.8	63.1	136				
1,2,4-Trimethylbenzene	20.8	1.00	20.00	0	104	73.4	127				
Hexachloro-1,3-butadiene	23.6	4.00	20.00	0	118	58.6	138				
Naphthalene	19.2	1.00	20.00	0	96.1	41.8	165				
1,2,3-Trichlorobenzene	20.4	4.00	20.00	0	102	48.7	156				
Surr: Dibromofluoromethane	24.6		25.00		98.5	45.4	152				
Surr: Toluene-d8	26.3		25.00		105	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.8		25.00		107	64.2	128				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	LCS-16857	SampType:	LCS	Units:	µg/L	Prep Date:	4/24/2017	RunNo:	35722
Client ID:	LCSW	Batch ID:	16857			Analysis Date:	4/24/2017	SeqNo:	684109

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	MB-16857	SampType:	MBLK	Units:	µg/L	Prep Date:	4/24/2017	RunNo:	35722
Client ID:	MBLKW	Batch ID:	16857			Analysis Date:	4/24/2017	SeqNo:	684110

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	1.00									
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									
Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
Methyl tert-butyl ether (MTBE)	ND	1.00									
1,1-Dichloroethane	ND	1.00									
2,2-Dichloropropane	ND	2.00									Q
cis-1,2-Dichloroethene	ND	1.00									
Chloroform	ND	1.00									
1,1,1-Trichloroethane (TCA)	ND	1.00									
1,1-Dichloropropene	ND	1.00									
Carbon tetrachloride	ND	1.00									
1,2-Dichloroethane (EDC)	ND	1.00									
Benzene	ND	1.00									
Trichloroethene (TCE)	ND	0.500									
1,2-Dichloropropane	ND	1.00									
Bromodichloromethane	ND	1.00									
Dibromomethane	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Toluene	ND	1.00									

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-16857** SampType: **MBLK** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **MBLKW** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684110**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,3-Dichloropropane	ND	1.00									
Tetrachloroethene (PCE)	ND	1.00									
Dibromochloromethane	ND	1.00									
1,2-Dibromoethane (EDB)	ND	0.0600									
Chlorobenzene	ND	1.00									
1,1,1,2-Tetrachloroethane	ND	1.00									
Ethylbenzene	ND	1.00									
m,p-Xylene	ND	1.00									
o-Xylene	ND	1.00									
Styrene	ND	1.00									
Isopropylbenzene	ND	1.00									
Bromoform	ND	1.00									Q
1,1,2,2-Tetrachloroethane	ND	1.00									
n-Propylbenzene	ND	1.00									
Bromobenzene	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
tert-Butylbenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
sec-Butylbenzene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
n-Butylbenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-16857** SampType: **MBLK** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **MBLKW** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684110**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachloro-1,3-butadiene	ND	4.00									
Naphthalene	ND	1.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	24.0		25.00		96.0	45.4	152				
Surr: Toluene-d8	24.7		25.00		99.0	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	23.6		25.00		94.5	64.2	128				

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1704267-004ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684088**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	
2,2-Dichloropropane	ND	2.00						0		30	Q
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704267-004ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684088**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	Q
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704267-004ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684088**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	24.7		25.00		98.9	45.4	152		0		
Surr: Toluene-d8	24.8		25.00		99.3	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.6		25.00		94.3	64.2	128		0		

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1704267-006ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	1.00						0		30	
Vinyl chloride	ND	0.200						0		30	
Bromomethane	ND	1.00						0		30	
Trichlorofluoromethane (CFC-11)	ND	1.00						0		30	
Chloroethane	ND	1.00						0		30	
1,1-Dichloroethene	ND	1.00						0		30	
Methylene chloride	ND	1.00						0		30	
trans-1,2-Dichloroethene	ND	1.00						0		30	
Methyl tert-butyl ether (MTBE)	ND	1.00						0		30	
1,1-Dichloroethane	ND	1.00						0		30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704267-006ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	2.00						0		30	Q
cis-1,2-Dichloroethene	ND	1.00						0		30	
Chloroform	ND	1.00						0		30	
1,1,1-Trichloroethane (TCA)	ND	1.00						0		30	
1,1-Dichloropropene	ND	1.00						0		30	
Carbon tetrachloride	ND	1.00						0		30	
1,2-Dichloroethane (EDC)	ND	1.00						0		30	
Benzene	ND	1.00						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
1,2-Dichloropropane	ND	1.00						0		30	
Bromodichloromethane	ND	1.00						0		30	
Dibromomethane	ND	1.00						0		30	
cis-1,3-Dichloropropene	ND	1.00						0		30	
Toluene	ND	1.00						0		30	
trans-1,3-Dichloropropylene	ND	1.00						0		30	
1,1,2-Trichloroethane	ND	1.00						0		30	
1,3-Dichloropropane	ND	1.00						0		30	
Tetrachloroethene (PCE)	ND	1.00						0		30	
Dibromochloromethane	ND	1.00						0		30	
1,2-Dibromoethane (EDB)	ND	0.0600						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	Q
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
n-Propylbenzene	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704267-006ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684091**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
tert-Butylbenzene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
sec-Butylbenzene	ND	1.00						0		30	
4-Isopropyltoluene	ND	1.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
n-Butylbenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
1,2,4-Trimethylbenzene	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
Naphthalene	ND	1.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	24.3		25.00		97.1	45.4	152		0		
Surr: Toluene-d8	24.9		25.00		99.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.4		25.00		93.8	64.2	128		0		

NOTES:
Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF).

Sample ID **1704271-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684097**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	19.5	1.00	20.00	0	97.4	33.3	122				
Chloromethane	19.5	1.00	20.00	0	97.4	39.7	143				
Vinyl chloride	20.6	0.200	20.00	0	103	41	165				
Bromomethane	21.2	1.00	20.00	0	106	31.5	135				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704271-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684097**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	21.3	1.00	20.00	0	107	54.7	138				
Chloroethane	21.0	1.00	20.00	0	105	49.9	143				
1,1-Dichloroethene	21.0	1.00	20.00	0	105	51.6	164				
Methylene chloride	20.3	1.00	20.00	0	101	61.6	135				
trans-1,2-Dichloroethene	20.6	1.00	20.00	0	103	63.5	138				
Methyl tert-butyl ether (MTBE)	21.2	1.00	20.00	0	106	60.9	132				
1,1-Dichloroethane	21.3	1.00	20.00	0	106	55.7	151				
2,2-Dichloropropane	20.0	2.00	20.00	0	100	37.7	150				
cis-1,2-Dichloroethene	20.7	1.00	20.00	0	104	60	154				
Chloroform	21.4	1.00	20.00	0	107	48.1	140				
1,1,1-Trichloroethane (TCA)	21.8	1.00	20.00	0	109	64.2	146				
1,1-Dichloropropene	22.4	1.00	20.00	0	112	73.8	136				
Carbon tetrachloride	22.1	1.00	20.00	0	110	62.7	146				
1,2-Dichloroethane (EDC)	22.9	1.00	20.00	0	114	63.4	137				
Benzene	21.5	1.00	20.00	0	107	65.4	138				
Trichloroethene (TCE)	21.6	0.500	20.00	0	108	60.4	134				
1,2-Dichloropropane	22.0	1.00	20.00	0	110	62.6	138				
Bromodichloromethane	21.2	1.00	20.00	0	106	59.4	139				
Dibromomethane	22.7	1.00	20.00	0	113	58.7	148				
cis-1,3-Dichloropropene	22.0	1.00	20.00	0	110	63.8	132				
Toluene	22.1	1.00	20.00	0	110	52	147				
trans-1,3-Dichloropropylene	21.7	1.00	20.00	0	108	57.7	125				
1,1,2-Trichloroethane	22.4	1.00	20.00	0	112	57.5	153				
1,3-Dichloropropane	22.5	1.00	20.00	0	113	54.1	157				
Tetrachloroethene (PCE)	23.0	1.00	20.00	0	115	50.3	133				
Dibromochloromethane	21.9	1.00	20.00	0	110	61.6	139				
1,2-Dibromoethane (EDB)	22.0	0.0600	20.00	0	110	63.2	134				
Chlorobenzene	21.4	1.00	20.00	0	107	65.8	134				
1,1,1,2-Tetrachloroethane	21.0	1.00	20.00	0	105	65.4	135				
Ethylbenzene	21.8	1.00	20.00	0	109	64.5	136				
m,p-Xylene	43.5	1.00	40.00	0	109	63.3	135				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704271-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684097**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	21.4	1.00	20.00	0	107	64.8	150				
Styrene	20.9	1.00	20.00	0	105	52.9	163				
Isopropylbenzene	22.1	1.00	20.00	0	110	56	147				
Bromoform	18.5	1.00	20.00	0	92.3	57.7	139				
1,1,2,2-Tetrachloroethane	22.2	1.00	20.00	0	111	59.8	146				
n-Propylbenzene	21.9	1.00	20.00	0	110	57.6	142				
Bromobenzene	21.3	1.00	20.00	0	107	69.3	157				
1,3,5-Trimethylbenzene	21.7	1.00	20.00	0	109	59.9	136				
2-Chlorotoluene	21.7	1.00	20.00	0	109	61.7	134				
4-Chlorotoluene	21.5	1.00	20.00	0	107	58.4	134				
tert-Butylbenzene	22.4	1.00	20.00	0	112	66.8	141				
1,2,3-Trichloropropane	21.8	1.00	20.00	0	109	62.4	129				
1,2,4-Trichlorobenzene	21.5	2.00	20.00	0	107	50.9	133				
sec-Butylbenzene	23.4	1.00	20.00	0	117	56	146				
4-Isopropyltoluene	23.1	1.00	20.00	0	115	56.4	136				
1,3-Dichlorobenzene	21.6	1.00	20.00	0	108	58.2	128				
1,4-Dichlorobenzene	21.4	1.00	20.00	0	107	60.1	123				
n-Butylbenzene	23.1	1.00	20.00	0	116	54.6	135				
1,2-Dichlorobenzene	21.6	1.00	20.00	0	108	65.4	133				
1,2-Dibromo-3-chloropropane	21.0	1.00	20.00	0	105	51.8	142				
1,2,4-Trimethylbenzene	21.7	1.00	20.00	0	109	63.7	132				
Hexachloro-1,3-butadiene	24.2	4.00	20.00	0	121	58.1	130				
Naphthalene	22.4	1.00	20.00	0	112	50.7	154				
1,2,3-Trichlorobenzene	22.4	4.00	20.00	0	112	57	131				
Surr: Dibromofluoromethane	25.0		25.00		100	45.4	152				
Surr: Toluene-d8	26.3		25.00		105	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	27.0		25.00		108	64.2	128				

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704271-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684098**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	19.0	1.00	20.00	0	95.2	33.3	122	19.48	2.30	30	
Chloromethane	20.9	1.00	20.00	0	105	39.7	143	19.48	7.06	30	
Vinyl chloride	21.8	0.200	20.00	0	109	41	165	20.64	5.24	30	
Bromomethane	20.8	1.00	20.00	0	104	31.5	135	21.19	1.80	30	
Trichlorofluoromethane (CFC-11)	21.6	1.00	20.00	0	108	54.7	138	21.34	1.05	30	
Chloroethane	21.4	1.00	20.00	0	107	49.9	143	20.97	1.83	30	
1,1-Dichloroethene	21.5	1.00	20.00	0	108	51.6	164	21.05	2.31	30	
Methylene chloride	20.7	1.00	20.00	0	103	61.6	135	20.28	1.88	30	
trans-1,2-Dichloroethene	21.1	1.00	20.00	0	105	63.5	138	20.63	2.08	30	
Methyl tert-butyl ether (MTBE)	22.3	1.00	20.00	0	112	60.9	132	21.23	4.92	30	
1,1-Dichloroethane	21.7	1.00	20.00	0	109	55.7	151	21.29	2.02	30	
2,2-Dichloropropane	20.1	2.00	20.00	0	100	37.7	150	20.02	0.214	30	
cis-1,2-Dichloroethene	21.1	1.00	20.00	0	106	60	154	20.73	1.77	30	
Chloroform	21.9	1.00	20.00	0	109	48.1	140	21.42	2.03	30	
1,1,1-Trichloroethane (TCA)	22.1	1.00	20.00	0	111	64.2	146	21.83	1.40	30	
1,1-Dichloropropene	22.5	1.00	20.00	0	112	73.8	136	22.37	0.375	30	
Carbon tetrachloride	22.3	1.00	20.00	0	112	62.7	146	22.08	1.12	30	
1,2-Dichloroethane (EDC)	23.0	1.00	20.00	0	115	63.4	137	22.87	0.574	30	
Benzene	21.5	1.00	20.00	0	107	65.4	138	21.45	0.159	30	
Trichloroethene (TCE)	21.5	0.500	20.00	0	107	60.4	134	21.64	0.854	30	
1,2-Dichloropropane	22.4	1.00	20.00	0	112	62.6	138	21.98	2.12	30	
Bromodichloromethane	21.3	1.00	20.00	0	107	59.4	139	21.24	0.302	30	
Dibromomethane	22.3	1.00	20.00	0	112	58.7	148	22.65	1.56	30	
cis-1,3-Dichloropropene	22.2	1.00	20.00	0	111	63.8	132	22.02	0.932	30	
Toluene	22.0	1.00	20.00	0	110	52	147	22.07	0.330	30	
trans-1,3-Dichloropropylene	22.0	1.00	20.00	0	110	57.7	125	21.70	1.22	30	
1,1,2-Trichloroethane	22.7	1.00	20.00	0	114	57.5	153	22.43	1.32	30	
1,3-Dichloropropane	22.2	1.00	20.00	0	111	54.1	157	22.51	1.18	30	
Tetrachloroethene (PCE)	23.0	1.00	20.00	0	115	50.3	133	22.99	0.0240	30	
Dibromochloromethane	22.3	1.00	20.00	0	111	61.6	139	21.91	1.57	30	
1,2-Dibromoethane (EDB)	22.0	0.0600	20.00	0	110	63.2	134	22.01	0.0680	30	

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704271-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684098**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	21.4	1.00	20.00	0	107	65.8	134	21.44	0.318	30	
1,1,1,2-Tetrachloroethane	21.2	1.00	20.00	0	106	65.4	135	20.96	1.30	30	
Ethylbenzene	22.0	1.00	20.00	0	110	64.5	136	21.81	1.06	30	
m,p-Xylene	43.5	1.00	40.00	0	109	63.3	135	43.48	0.139	30	
o-Xylene	21.6	1.00	20.00	0	108	64.8	150	21.40	1.00	30	
Styrene	21.1	1.00	20.00	0	105	52.9	163	20.92	0.690	30	
Isopropylbenzene	22.3	1.00	20.00	0	112	56	147	22.08	1.13	30	
Bromoform	18.9	1.00	20.00	0	94.6	57.7	139	18.46	2.45	30	
1,1,2,2-Tetrachloroethane	22.5	1.00	20.00	0	112	59.8	146	22.15	1.46	30	
n-Propylbenzene	22.5	1.00	20.00	0	113	57.6	142	21.92	2.65	30	
Bromobenzene	21.7	1.00	20.00	0	109	69.3	157	21.32	1.89	30	
1,3,5-Trimethylbenzene	22.1	1.00	20.00	0	110	59.9	136	21.72	1.52	30	
2-Chlorotoluene	22.0	1.00	20.00	0	110	61.7	134	21.71	1.30	30	
4-Chlorotoluene	21.9	1.00	20.00	0	109	58.4	134	21.47	1.89	30	
tert-Butylbenzene	22.8	1.00	20.00	0	114	66.8	141	22.42	1.71	30	
1,2,3-Trichloropropane	22.3	1.00	20.00	0	111	62.4	129	21.82	2.05	30	
1,2,4-Trichlorobenzene	22.6	2.00	20.00	0	113	50.9	133	21.49	4.96	30	
sec-Butylbenzene	23.8	1.00	20.00	0	119	56	146	23.43	1.69	30	
4-Isopropyltoluene	23.4	1.00	20.00	0	117	56.4	136	23.06	1.42	30	
1,3-Dichlorobenzene	21.9	1.00	20.00	0	109	58.2	128	21.55	1.59	30	
1,4-Dichlorobenzene	21.9	1.00	20.00	0	110	60.1	123	21.42	2.38	30	
n-Butylbenzene	24.0	1.00	20.00	0	120	54.6	135	23.14	3.68	30	
1,2-Dichlorobenzene	22.1	1.00	20.00	0	111	65.4	133	21.58	2.38	30	
1,2-Dibromo-3-chloropropane	21.6	1.00	20.00	0	108	51.8	142	21.00	3.01	30	
1,2,4-Trimethylbenzene	22.0	1.00	20.00	0	110	63.7	132	21.71	1.35	30	
Hexachloro-1,3-butadiene	25.0	4.00	20.00	0	125	58.1	130	24.23	3.19	30	
Naphthalene	23.9	1.00	20.00	0	120	50.7	154	22.42	6.44	30	
1,2,3-Trichlorobenzene	23.1	4.00	20.00	0	115	57	131	22.37	3.05	30	
Surr: Dibromofluoromethane	24.8		25.00		99.2	45.4	152		0		
Surr: Toluene-d8	25.8		25.00		103	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	27.0		25.00		108	64.2	128		0		

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1704271-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **4/24/2017** RunNo: **35722**
Client ID: **BATCH** Batch ID: **16857** Analysis Date: **4/24/2017** SeqNo: **684098**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Work Order: 1704275
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID **1704274-001ADUP** SampType: **DUP** Units: **wt%** Prep Date: **4/24/2017** RunNo: **35703**
Client ID: **BATCH** Batch ID: **R35703** Analysis Date: **4/24/2017** SeqNo: **683761**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	15.3	0.500						17.34	12.3	20	

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1704275**
Logged by:	**Clare Griggs**	Date Received:	**4/21/2017 4:24:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐	
2.	How was the sample delivered?	Client			

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐	
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐		
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Required ☑	
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐	
7.	Were all items received at a temperature of >0°C to 10.0°C*	Yes ☑	No ☐	NA ☐	
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐		
9.	Sufficient sample volume for indicated test(s)?	Yes ☐	No ☑		
10.	Are samples properly preserved?	Yes ☑	No ☐		
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐	
12.	Is there headspace in the VOA vials?	Yes ☐	No ☑	NA ☐	
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐		
14.	Does paperwork match bottle labels?	Yes ☑	No ☐		
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐		
16.	Is it clear what analyses were requested?	Yes ☑	No ☐		
17.	Were all holding times able to be met?	Yes ☑	No ☐		

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☑	No ☐	NA ☐	

Person Notified:	Blaine Nesbit	Date	4/24/2017
By Whom:	Clare Griggs	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	Confirming metals & analyses.		
Client Instructions:	PP Metals for 21417-GP3:GW. Run VOCs/GX on sample 21417-GP4:GW		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	2.1
Sample	3.7
Temp Blank	7.3

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 4/21/17 Page: 1 of: 1

Project Name: 615 Dexter Ave N Phase II

Project No: 21-1-21417-203

Collected by: BON

Location:

Report To (PM): Blaine Nesbit

PM Email: bon@shanwil.com

Laboratory Project No (internal): 1704275

Special Remarks: Not field filtered

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

Client: Shannon & Wilson

Address: 400 N 34th Street, Suite 100

City, State, Zip: Seattle, WA, 98103

Telephone: 206-695-6690

Fax:

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	RCRA 8 Metals			Comments
1	21417-GP1:25	4/21	~~12:40~~ 10:25	S	X			X		X											2 vials, 1 4oz
2	21417-GP2:18	4/21/17	13:55	S	~~X~~			X		X	X						X				" "
3	21417-GP3:15.5	4/21/17	8:20	S	X							X									" "
4	21417-GP4:12	4/21	10:15	S	X			X		X		X									" "
5	21417-GP4:15	4/21	10:25	S	X			X		X		X									1 vial 1 4oz
6	21417-GP1:GW	4/21	12:50	GW	X			X		X											7 VOA, 2 Amber (QC taken)
7	21417-GP3:GW	4/21	9:10	GW	X			X		X				X	T D						1 amber, 2 poly, 3 VOA (total and dissolved)
8	21417-GP4:GW	4/21	10:40	GW	X			X		X											1 VOA (~~samp~~ analysis if possible)
9																					(Do VOC if possible, then Gx or Dx)
10																					

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x [signature]	4/21/17 16:24	x [signature]	4/21/2017 1624
Relinquished	Date/Time	Received	Date/Time
x		x	

Turn-around Time:

- ☐ Standard
- ☐ 3 Day
- ☐ 2 Day
- ☐ Next Day
- Same Day _____ (specify)

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 4/21/17 Page: 1 of: 1

Laboratory Project No (internal): 1704275

Special Remarks: Not field filtered
edit per BN - 4/24/17 cg

Project Name: 615 Dexter Ave N Phase II

Project No: 21-1-21417-205

Collected by: BON

Location:

Client: Shannon & Wilson

Address: 400 N 34th Street, Suite 100

City, State, Zip: Seattle, WA, 98103

Telephone: 206-695-6690

Report To (PM): Blaine Neslit

PM Email: bon@shanwil.com

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	RCRA 8 Metals			Comments
1	21417-GP1:25	4/21	~~12:40~~ 10:25	S	X			X		X											2 vials, 1 4oz
2	21417-GP2:18	4/21/17	13:55	S	~~X~~			X		X	X						X				" "
3	21417-GP3:15.5	4/21/17	8:20	S	X						X										" "
4	21417-GP4:12	4/21	10:15	S	X			X		X	X										" "
5	21417-GP4:15	4/21	10:25	S	X			X		X	X										1 vial 1 4oz
6	21417-GP1:GW	4/21	12:50	GW	X			X		X											7 VOA, 2 Amber (QC taken)
7	21417-GP3:GW	4/21	9:10	GW	X			X		X				X	T D						1 amber, 2 poly, 3 VOA (total and dissolved)
8	21417-GP4:GW	4/21	10:40	GW	X			X		~~X~~											1 VOA (~~Save~~ analysis if possible)
9																					(Do VOC if possible, then Gx or Dx)
10																					

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

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Relinquished	Date/Time	Received	Date/Time
x [signature]	4/21/17 16:24	x [signature]	4/21/2017 1624
Relinquished	Date/Time	Received	Date/Time
x		x	

Turn-around Time:

- ☐ Standard
- ☐ 3 Day
- ☐ 2 Day
- ☐ Next Day
- Same Day _____ (specify)

Fremont
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Client: Shannon & Wilson
Address: [illegible] N 34th St Suite 100
City, State, Zip: Seattle, WA, 98103
Telephone: 206-695-6890
Fax:

Date: 4/21/17 Page: 1 of: 1
Project Name: GIS Dexter Ave N Phase II
Project No: 21-1-21417-[illegible]
Collected by: BDN
Location:
Report To (PM): Blaine Nesbit
PM Email: bdn@shanwil.com

Laboratory Project No (internal): 1704275
Special Remarks: Not field filtered [illegible]
⊗ Add Pb analysis per B.N. 5/26/17 cw

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

#	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	RCRA 8 Metals	Comments
1	21417-GP1:3.5	4/21	[illegible]	S	X			X		X									2 vials, 1 4oz
2	21417-GP2:11.8	4/21/17	13:55	S	[illegible]			X		X	X							X	" "
3	21417-GP3:15.5	4/21/17	8:30	S	X							X							" "
4	21417-GP4:12	4/21	10:17	S	X			X		X		X							" "
5	21417-GP4:16	4/21	10:24	S	X			X		X		X		⊗					" "
6	21417-GP1-GW	4/21	12:36	GW	X			X		X									1 vial 1 4oz
7	21417-GP3-GW	4/21	9:10	GW	X			X		X				X	T D				7 VOA, 7 Amb (QC taken)
8	21417-GP4-GW	4/21	10:40	GW	X			X		X									1 amber, 2 poly, 3 VOA (total and dissolved); 1 VOA (analyze if possible) (D VOC if possible, then GX or DX)
9																			
10																			

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 (Priority Pollutants) TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished x [signature] Date/Time 4/21/17 16:24
Received x [signature] Date/Time 4/21/2017 1624
Relinquished x Date/Time
Received x Date/Time

Turn-around Time:
☐ Standard
☐ 3 Day
☐ 2 Day
☐ Next Day
Same Day ______ *(specify)*

COC 1.2 - 2.22.17

www.fremontanalytical.com

3600 Fremont Ave. N.
Seattle, WA 98103
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F: (206) 352-7178
info@fremontanalytical.com

Shannon & Wilson
Agnes Tirao
400 N. 34th Street, Suite 100
Seattle, WA 98103

RE: 615 Dexter Ave N Phase II
Work Order Number: 1705249

June 06, 2017

Attention Agnes Tirao:

Fremont Analytical, Inc. received 6 sample(s) on 5/19/2017 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Gasoline by NWTPH-Gx
Mercury by EPA Method 7471
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020
Volatile Organic Compounds by EPA Method 8260C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Mike Ridgeway
Laboratory Director

Date: *06/06/2017*

CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II
Work Order: 1705249

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1705249-001	21417-GP5:1	05/19/2017 8:30 AM	05/19/2017 1:08 PM
1705249-002	21417-GP5:14	05/19/2017 9:50 AM	05/19/2017 1:08 PM
1705249-003	21417-GP6:18	05/19/2017 10:30 AM	05/19/2017 1:08 PM
1705249-004	21417-GP7:2	05/19/2017 10:50 AM	05/19/2017 1:08 PM
1705249-005	21417-GP7:13	05/19/2017 11:35 AM	05/19/2017 1:08 PM
1705249-006	Trip Blank	05/17/2017 2:30 PM	05/19/2017 1:08 PM

Case Narrative

WO#: **1705249**
Date: **6/6/2017**

CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Client: Shannon & Wilson
Collection Date: 5/19/2017 8:30:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-001
Matrix: Soil
Client Sample ID: **21417-GP5:1**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17145		Analyst: SB
Diesel (Fuel Oil)	ND	20.9		mg/Kg-dry	1	5/25/2017 7:45:12 AM
Heavy Oil	ND	52.4		mg/Kg-dry	1	5/25/2017 7:45:12 AM
Surr: 2-Fluorobiphenyl	87.5	50-150		%Rec	1	5/25/2017 7:45:12 AM
Surr: o-Terphenyl	86.0	50-150		%Rec	1	5/25/2017 7:45:12 AM
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 17130		Analyst: BT
Naphthalene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
2-Methylnaphthalene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
1-Methylnaphthalene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Acenaphthylene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Acenaphthene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Fluorene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Phenanthrene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Anthracene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Fluoranthene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Pyrene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Benz(a)anthracene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Chrysene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Benzo(b)fluoranthene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Benzo(k)fluoranthene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Benzo(a)pyrene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Indeno(1,2,3-cd)pyrene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Dibenz(a,h)anthracene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Benzo(g,h,i)perylene	ND	42.0		µg/Kg-dry	1	5/23/2017 8:07:02 PM
Surr: 2-Fluorobiphenyl	54.1	24.5-139		%Rec	1	5/23/2017 8:07:02 PM
Surr: Terphenyl-d14 (surr)	78.7	44.3-176		%Rec	1	5/23/2017 8:07:02 PM
Gasoline by NWTPH-Gx				Batch ID: 17161		Analyst: EM
Gasoline	ND	4.32		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/25/2017 9:20:50 PM
Surr: 4-Bromofluorobenzene	100	65-135		%Rec	1	5/25/2017 9:20:50 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0518		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Chloromethane	ND	0.0518		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Vinyl chloride	ND	0.00173		mg/Kg-dry	1	5/25/2017 9:20:50 PM

Client: Shannon & Wilson
Collection Date: 5/19/2017 8:30:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-001
Matrix: Soil
Client Sample ID: **21417-GP5:1**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
Bromomethane	ND	0.0777		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Trichlorofluoromethane (CFC-11)	ND	0.0432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Chloroethane	ND	0.0518		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,1-Dichloroethene	ND	0.0432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Methylene chloride	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
trans-1,2-Dichloroethene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Methyl tert-butyl ether (MTBE)	ND	0.0432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,1-Dichloroethane	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
2,2-Dichloropropane	ND	0.0432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
cis-1,2-Dichloroethene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Chloroform	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,1,1-Trichloroethane (TCA)	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,1-Dichloropropene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Carbon tetrachloride	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2-Dichloroethane (EDC)	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Benzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Trichloroethene (TCE)	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2-Dichloropropane	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Bromodichloromethane	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Dibromomethane	ND	0.0345		mg/Kg-dry	1	5/25/2017 9:20:50 PM
cis-1,3-Dichloropropene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Toluene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
trans-1,3-Dichloropropylene	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,1,2-Trichloroethane	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,3-Dichloropropane	ND	0.0432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Tetrachloroethene (PCE)	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Dibromochloromethane	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2-Dibromoethane (EDB)	ND	0.00432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Chlorobenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,1,1,2-Tetrachloroethane	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Ethylbenzene	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM
m,p-Xylene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
o-Xylene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Styrene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Isopropylbenzene	ND	0.0691		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Bromoform	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,1,2,2-Tetrachloroethane	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
n-Propylbenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Bromobenzene	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM

Client: Shannon & Wilson
Collection Date: 5/19/2017 8:30:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-001
Matrix: Soil
Client Sample ID: **21417-GP5:1**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
1,3,5-Trimethylbenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
2-Chlorotoluene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
4-Chlorotoluene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
tert-Butylbenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2,3-Trichloropropane	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2,4-Trichlorobenzene	ND	0.0432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
sec-Butylbenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
4-Isopropyltoluene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,3-Dichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,4-Dichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
n-Butylbenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2-Dichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2-Dibromo-3-chloropropane	ND	0.432		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2,4-Trimethylbenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Hexachlorobutadiene	ND	0.0863		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Naphthalene	ND	0.0259		mg/Kg-dry	1	5/25/2017 9:20:50 PM
1,2,3-Trichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/25/2017 9:20:50 PM
Surr: Dibromofluoromethane	92.5	56.5-129		%Rec	1	5/25/2017 9:20:50 PM
Surr: Toluene-d8	96.6	64.5-151		%Rec	1	5/25/2017 9:20:50 PM
Surr: 1-Bromo-4-fluorobenzene	95.8	63.1-141		%Rec	1	5/25/2017 9:20:50 PM
Mercury by EPA Method 7471				Batch ID: 17194		Analyst: WF
Mercury	ND	0.273		mg/Kg-dry	1	5/30/2017 5:26:11 PM
Total Metals by EPA Method 6020				Batch ID: 17204		Analyst: TN
Arsenic	4.60	0.0891		mg/Kg-dry	1	5/31/2017 1:14:15 PM
Barium	81.8	0.446		mg/Kg-dry	1	5/31/2017 1:14:15 PM
Cadmium	ND	0.178		mg/Kg-dry	1	5/31/2017 1:14:15 PM
Chromium	39.1	0.0891		mg/Kg-dry	1	5/31/2017 1:14:15 PM
Lead	20.7	0.178		mg/Kg-dry	1	5/31/2017 1:14:15 PM
Selenium	1.38	0.446		mg/Kg-dry	1	5/31/2017 1:14:15 PM
Silver	ND	0.0891		mg/Kg-dry	1	5/31/2017 1:14:15 PM
Sample Moisture (Percent Moisture)				Batch ID: R36324		Analyst: BB
Percent Moisture	13.7	0.500		wt%	1	5/23/2017 9:30:51 AM

Client: Shannon & Wilson
Collection Date: 5/19/2017 9:50:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-002
Matrix: Soil
Client Sample ID: **21417-GP5:14**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17145		Analyst: SB
Diesel (Fuel Oil)	ND	20.4		mg/Kg-dry	1	5/25/2017 8:16:48 AM
Heavy Oil	ND	50.9		mg/Kg-dry	1	5/25/2017 8:16:48 AM
Surr: 2-Fluorobiphenyl	88.6	50-150		%Rec	1	5/25/2017 8:16:48 AM
Surr: o-Terphenyl	83.4	50-150		%Rec	1	5/25/2017 8:16:48 AM
Gasoline by NWTPH-Gx				Batch ID: 17161		Analyst: EM
Gasoline	ND	3.71		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/25/2017 9:49:36 PM
Surr: 4-Bromofluorobenzene	98.3	65-135		%Rec	1	5/25/2017 9:49:36 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0445		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Chloromethane	ND	0.0445		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Vinyl chloride	ND	0.00148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Bromomethane	ND	0.0668		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Trichlorofluoromethane (CFC-11)	ND	0.0371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Chloroethane	ND	0.0445		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,1-Dichloroethene	ND	0.0371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Methylene chloride	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
trans-1,2-Dichloroethene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Methyl tert-butyl ether (MTBE)	ND	0.0371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,1-Dichloroethane	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
2,2-Dichloropropane	ND	0.0371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
cis-1,2-Dichloroethene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Chloroform	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,1,1-Trichloroethane (TCA)	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,1-Dichloropropene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Carbon tetrachloride	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2-Dichloroethane (EDC)	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Benzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Trichloroethene (TCE)	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2-Dichloropropane	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Bromodichloromethane	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Dibromomethane	ND	0.0297		mg/Kg-dry	1	5/25/2017 9:49:36 PM
cis-1,3-Dichloropropene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Toluene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
trans-1,3-Dichloropropylene	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM

Client: Shannon & Wilson
Collection Date: 5/19/2017 9:50:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-002
Matrix: Soil
Client Sample ID: **21417-GP5:14**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
1,1,2-Trichloroethane	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,3-Dichloropropane	ND	0.0371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Tetrachloroethene (PCE)	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Dibromochloromethane	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2-Dibromoethane (EDB)	ND	0.00371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Chlorobenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,1,1,2-Tetrachloroethane	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Ethylbenzene	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM
m,p-Xylene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
o-Xylene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Styrene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Isopropylbenzene	ND	0.0594		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Bromoform	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,1,2,2-Tetrachloroethane	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
n-Propylbenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Bromobenzene	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,3,5-Trimethylbenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
2-Chlorotoluene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
4-Chlorotoluene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
tert-Butylbenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2,3-Trichloropropane	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2,4-Trichlorobenzene	ND	0.0371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
sec-Butylbenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
4-Isopropyltoluene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,3-Dichlorobenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,4-Dichlorobenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
n-Butylbenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2-Dichlorobenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2-Dibromo-3-chloropropane	ND	0.371		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2,4-Trimethylbenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Hexachlorobutadiene	ND	0.0742		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Naphthalene	ND	0.0223		mg/Kg-dry	1	5/25/2017 9:49:36 PM
1,2,3-Trichlorobenzene	ND	0.0148		mg/Kg-dry	1	5/25/2017 9:49:36 PM
Surr: Dibromofluoromethane	90.7	56.5-129		%Rec	1	5/25/2017 9:49:36 PM
Surr: Toluene-d8	95.5	64.5-151		%Rec	1	5/25/2017 9:49:36 PM
Surr: 1-Bromo-4-fluorobenzene	94.1	63.1-141		%Rec	1	5/25/2017 9:49:36 PM

Analytical Report

Work Order: **1705249**
Date Reported: **6/6/2017**

Client: Shannon & Wilson
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-002
Client Sample ID: **21417-GP5:14**

Collection Date: 5/19/2017 9:50:00 AM
Matrix: Soil

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R36324		Analyst: BB
Percent Moisture	8.34	0.500		wt%	1	5/23/2017 9:30:51 AM

Client: Shannon & Wilson
Collection Date: 5/19/2017 10:30:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-003
Matrix: Soil
Client Sample ID: **21417-GP6:18**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17145		Analyst: SB
Diesel (Fuel Oil)	ND	19.0		mg/Kg-dry	1	5/25/2017 8:48:21 AM
Heavy Oil	ND	47.5		mg/Kg-dry	1	5/25/2017 8:48:21 AM
Surr: 2-Fluorobiphenyl	92.3	50-150		%Rec	1	5/25/2017 8:48:21 AM
Surr: o-Terphenyl	91.8	50-150		%Rec	1	5/25/2017 8:48:21 AM
Gasoline by NWTPH-Gx				Batch ID: 17161		Analyst: EM
Gasoline	ND	3.98		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Surr: Toluene-d8	103	65-135		%Rec	1	5/25/2017 10:18:13 PM
Surr: 4-Bromofluorobenzene	100	65-135		%Rec	1	5/25/2017 10:18:13 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0478		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Chloromethane	ND	0.0478		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Vinyl chloride	ND	0.00159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Bromomethane	ND	0.0717		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Trichlorofluoromethane (CFC-11)	ND	0.0398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Chloroethane	ND	0.0478		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,1-Dichloroethene	ND	0.0398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Methylene chloride	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
trans-1,2-Dichloroethene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Methyl tert-butyl ether (MTBE)	ND	0.0398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,1-Dichloroethane	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
2,2-Dichloropropane	ND	0.0398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
cis-1,2-Dichloroethene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Chloroform	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,1,1-Trichloroethane (TCA)	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,1-Dichloropropene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Carbon tetrachloride	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2-Dichloroethane (EDC)	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Benzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Trichloroethene (TCE)	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2-Dichloropropane	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Bromodichloromethane	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Dibromomethane	ND	0.0318		mg/Kg-dry	1	5/25/2017 10:18:13 PM
cis-1,3-Dichloropropene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Toluene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
trans-1,3-Dichloropropylene	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM

Client: Shannon & Wilson
Collection Date: 5/19/2017 10:30:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-003
Matrix: Soil
Client Sample ID: **21417-GP6:18**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
1,1,2-Trichloroethane	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,3-Dichloropropane	ND	0.0398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Tetrachloroethene (PCE)	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Dibromochloromethane	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2-Dibromoethane (EDB)	ND	0.00398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Chlorobenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,1,1,2-Tetrachloroethane	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Ethylbenzene	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM
m,p-Xylene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
o-Xylene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Styrene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Isopropylbenzene	ND	0.0637		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Bromoform	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,1,2,2-Tetrachloroethane	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
n-Propylbenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Bromobenzene	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,3,5-Trimethylbenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
2-Chlorotoluene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
4-Chlorotoluene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
tert-Butylbenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2,3-Trichloropropane	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2,4-Trichlorobenzene	ND	0.0398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
sec-Butylbenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
4-Isopropyltoluene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,3-Dichlorobenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,4-Dichlorobenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
n-Butylbenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2-Dichlorobenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2-Dibromo-3-chloropropane	ND	0.398		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2,4-Trimethylbenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Hexachlorobutadiene	ND	0.0796		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Naphthalene	ND	0.0239		mg/Kg-dry	1	5/25/2017 10:18:13 PM
1,2,3-Trichlorobenzene	ND	0.0159		mg/Kg-dry	1	5/25/2017 10:18:13 PM
Surr: Dibromofluoromethane	90.0	56.5-129		%Rec	1	5/25/2017 10:18:13 PM
Surr: Toluene-d8	94.8	64.5-151		%Rec	1	5/25/2017 10:18:13 PM
Surr: 1-Bromo-4-fluorobenzene	95.7	63.1-141		%Rec	1	5/25/2017 10:18:13 PM

Analytical Report

Work Order: **1705249**
Date Reported: **6/6/2017**

Client: Shannon & Wilson
Collection Date: 5/19/2017 10:30:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-003
Matrix: Soil
Client Sample ID: **21417-GP6:18**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R36324		Analyst: BB
Percent Moisture	8.73	0.500		wt%	1	5/23/2017 9:30:51 AM

Client: Shannon & Wilson
Collection Date: 5/19/2017 10:50:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-004
Matrix: Soil
Client Sample ID: **21417-GP7:2**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17145		Analyst: SB
Diesel (Fuel Oil)	ND	22.0		mg/Kg-dry	1	5/25/2017 9:51:37 AM
Heavy Oil	99.2	54.9		mg/Kg-dry	1	5/25/2017 9:51:37 AM
Surr: 2-Fluorobiphenyl	89.9	50-150		%Rec	1	5/25/2017 9:51:37 AM
Surr: o-Terphenyl	88.7	50-150		%Rec	1	5/25/2017 9:51:37 AM
Gasoline by NWTPH-Gx				Batch ID: 17161		Analyst: EM
Gasoline	ND	4.74		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Surr: Toluene-d8	102	65-135		%Rec	1	5/25/2017 10:46:54 PM
Surr: 4-Bromofluorobenzene	97.0	65-135		%Rec	1	5/25/2017 10:46:54 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0568		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Chloromethane	ND	0.0568		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Vinyl chloride	ND	0.00189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Bromomethane	ND	0.0853		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Trichlorofluoromethane (CFC-11)	ND	0.0474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Chloroethane	ND	0.0568		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,1-Dichloroethene	ND	0.0474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Methylene chloride	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
trans-1,2-Dichloroethene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Methyl tert-butyl ether (MTBE)	ND	0.0474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,1-Dichloroethane	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
2,2-Dichloropropane	ND	0.0474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
cis-1,2-Dichloroethene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Chloroform	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,1,1-Trichloroethane (TCA)	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,1-Dichloropropene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Carbon tetrachloride	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2-Dichloroethane (EDC)	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Benzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Trichloroethene (TCE)	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2-Dichloropropane	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Bromodichloromethane	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Dibromomethane	ND	0.0379		mg/Kg-dry	1	5/25/2017 10:46:54 PM
cis-1,3-Dichloropropene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Toluene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
trans-1,3-Dichloropropylene	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM

Client: Shannon & Wilson
Collection Date: 5/19/2017 10:50:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-004
Matrix: Soil
Client Sample ID: **21417-GP7:2**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
1,1,2-Trichloroethane	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,3-Dichloropropane	ND	0.0474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Tetrachloroethene (PCE)	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Dibromochloromethane	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2-Dibromoethane (EDB)	ND	0.00474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Chlorobenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,1,1,2-Tetrachloroethane	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Ethylbenzene	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM
m,p-Xylene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
o-Xylene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Styrene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Isopropylbenzene	ND	0.0758		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Bromoform	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,1,2,2-Tetrachloroethane	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
n-Propylbenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Bromobenzene	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,3,5-Trimethylbenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
2-Chlorotoluene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
4-Chlorotoluene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
tert-Butylbenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2,3-Trichloropropane	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2,4-Trichlorobenzene	ND	0.0474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
sec-Butylbenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
4-Isopropyltoluene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,3-Dichlorobenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,4-Dichlorobenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
n-Butylbenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2-Dichlorobenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2-Dibromo-3-chloropropane	ND	0.474		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2,4-Trimethylbenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Hexachlorobutadiene	ND	0.0947		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Naphthalene	ND	0.0284		mg/Kg-dry	1	5/25/2017 10:46:54 PM
1,2,3-Trichlorobenzene	ND	0.0189		mg/Kg-dry	1	5/25/2017 10:46:54 PM
Surr: Dibromofluoromethane	81.3	56.5-129		%Rec	1	5/25/2017 10:46:54 PM
Surr: Toluene-d8	82.7	64.5-151		%Rec	1	5/25/2017 10:46:54 PM
Surr: 1-Bromo-4-fluorobenzene	92.9	63.1-141		%Rec	1	5/25/2017 10:46:54 PM

Analytical Report

Work Order: **1705249**
Date Reported: **6/6/2017**

Client: Shannon & Wilson
Collection Date: 5/19/2017 10:50:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-004
Matrix: Soil
Client Sample ID: **21417-GP7:2**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)					Batch ID: R36324	Analyst: BB
Percent Moisture	10.2	0.500		wt%	1	5/23/2017 9:30:51 AM

Client: Shannon & Wilson
Collection Date: 5/19/2017 11:35:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-005
Matrix: Soil
Client Sample ID: **21417-GP7:13**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17145		Analyst: SB
Diesel (Fuel Oil)	ND	19.9		mg/Kg-dry	1	5/25/2017 10:55:10 AM
Heavy Oil	ND	49.7		mg/Kg-dry	1	5/25/2017 10:55:10 AM
Surr: 2-Fluorobiphenyl	85.9	50-150		%Rec	1	5/25/2017 10:55:10 AM
Surr: o-Terphenyl	83.3	50-150		%Rec	1	5/25/2017 10:55:10 AM
Gasoline by NWTPH-Gx				Batch ID: 17161		Analyst: EM
Gasoline	ND	4.03		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Surr: Toluene-d8	102	65-135		%Rec	1	5/25/2017 11:15:35 PM
Surr: 4-Bromofluorobenzene	99.1	65-135		%Rec	1	5/25/2017 11:15:35 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
Dichlorodifluoromethane (CFC-12)	ND	0.0484		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Chloromethane	ND	0.0484		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Vinyl chloride	ND	0.00161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Bromomethane	ND	0.0726		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Trichlorofluoromethane (CFC-11)	ND	0.0403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Chloroethane	ND	0.0484		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,1-Dichloroethene	ND	0.0403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Methylene chloride	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
trans-1,2-Dichloroethene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Methyl tert-butyl ether (MTBE)	ND	0.0403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,1-Dichloroethane	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
2,2-Dichloropropane	ND	0.0403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
cis-1,2-Dichloroethene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Chloroform	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,1,1-Trichloroethane (TCA)	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,1-Dichloropropene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Carbon tetrachloride	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2-Dichloroethane (EDC)	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Benzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Trichloroethene (TCE)	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2-Dichloropropane	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Bromodichloromethane	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Dibromomethane	ND	0.0323		mg/Kg-dry	1	5/25/2017 11:15:35 PM
cis-1,3-Dichloropropene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Toluene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
trans-1,3-Dichloropropylene	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM

Client: Shannon & Wilson
Collection Date: 5/19/2017 11:35:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-005
Matrix: Soil
Client Sample ID: **21417-GP7:13**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17161		Analyst: EM
1,1,2-Trichloroethane	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,3-Dichloropropane	ND	0.0403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Tetrachloroethene (PCE)	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Dibromochloromethane	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2-Dibromoethane (EDB)	ND	0.00403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Chlorobenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,1,1,2-Tetrachloroethane	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Ethylbenzene	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM
m,p-Xylene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
o-Xylene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Styrene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Isopropylbenzene	ND	0.0645		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Bromoform	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,1,2,2-Tetrachloroethane	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
n-Propylbenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Bromobenzene	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,3,5-Trimethylbenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
2-Chlorotoluene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
4-Chlorotoluene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
tert-Butylbenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2,3-Trichloropropane	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2,4-Trichlorobenzene	ND	0.0403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
sec-Butylbenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
4-Isopropyltoluene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,3-Dichlorobenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,4-Dichlorobenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
n-Butylbenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2-Dichlorobenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2-Dibromo-3-chloropropane	ND	0.403		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2,4-Trimethylbenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Hexachlorobutadiene	ND	0.0807		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Naphthalene	ND	0.0242		mg/Kg-dry	1	5/25/2017 11:15:35 PM
1,2,3-Trichlorobenzene	ND	0.0161		mg/Kg-dry	1	5/25/2017 11:15:35 PM
Surr: Dibromofluoromethane	91.4	56.5-129		%Rec	1	5/25/2017 11:15:35 PM
Surr: Toluene-d8	88.5	64.5-151		%Rec	1	5/25/2017 11:15:35 PM
Surr: 1-Bromo-4-fluorobenzene	94.6	63.1-141		%Rec	1	5/25/2017 11:15:35 PM

Analytical Report

Work Order: **1705249**
Date Reported: **6/6/2017**

Client: Shannon & Wilson
Collection Date: 5/19/2017 11:35:00 AM
Project: 615 Dexter Ave N Phase II
Lab ID: 1705249-005
Matrix: Soil
Client Sample ID: **21417-GP7:13**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R36324		Analyst: BB
Percent Moisture	11.4	0.500		wt%	1	5/23/2017 9:30:51 AM

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID **MB-17145**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **5/24/2017**		RunNo: **36405**		
Client ID: **MBLKS**	Batch ID: **17145**					Analysis Date: **5/25/2017**		SeqNo: **698273**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	18.7		20.00		93.5	50	150				
Surr: o-Terphenyl	17.9		20.00		89.7	50	150				

Sample ID **LCS-17145**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **5/24/2017**		RunNo: **36405**		
Client ID: **LCSS**	Batch ID: **17145**					Analysis Date: **5/25/2017**		SeqNo: **698272**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	509	20.0	500.0	0	102	65	135				
Surr: 2-Fluorobiphenyl	19.5		20.00		97.5	50	150				
Surr: o-Terphenyl	21.1		20.00		106	50	150				

Sample ID **1705285-009ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **5/24/2017**		RunNo: **36405**		
Client ID: **BATCH**	Batch ID: **17145**					Analysis Date: **5/25/2017**		SeqNo: **698267**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	20.9						0		30	
Heavy Oil	ND	52.2						0		30	
Surr: 2-Fluorobiphenyl	19.7		20.89		94.2	50	150		0		
Surr: o-Terphenyl	19.5		20.89		93.3	50	150		0		

Sample ID **1705286-001ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **5/24/2017**		RunNo: **36405**		
Client ID: **BATCH**	Batch ID: **17145**					Analysis Date: **5/25/2017**		SeqNo: **698734**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	32.8						0		30	
Heavy Oil	ND	82.1						0		30	
Heavy Oil Range Organics (C24-37)	147	82.1						122.7	17.8	30	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID **1705286-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36405**
Client ID: **BATCH** Batch ID: **17145** Analysis Date: **5/25/2017** SeqNo: **698734**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	12.7		32.84		38.7	50	150		0		S
Surr: o-Terphenyl	13.0		32.84		39.7	50	150		0		S

NOTES:
S - Outlying surrogate recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.
Heavy Oil Range Organics - Indicates the presence of unresolved compounds in the Lube+ Oil ranges.

Sample ID **1705286-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36405**
Client ID: **BATCH** Batch ID: **17145** Analysis Date: **5/25/2017** SeqNo: **698742**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	371	33.4	833.9	16.17	42.5	65	135				S
Surr: 2-Fluorobiphenyl	11.6		33.35		34.8	50	150				S
Surr: o-Terphenyl	11.4		33.35		34.2	50	150				S

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.
S - Outlying surrogate recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID **1705286-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36405**
Client ID: **BATCH** Batch ID: **17145** Analysis Date: **5/25/2017** SeqNo: **698735**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	236	32.1	802.5	16.17	27.4	65	135	370.9	44.6	30	RS
Surr: 2-Fluorobiphenyl	3.56		32.10		11.1	50	150		0		S
Surr: o-Terphenyl	4.24		32.10		13.2	50	150		0		S

NOTES:
S/R - Outlying spike recovery and high RPD observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.
S - Outlying surrogate recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **LCS-17161** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36397**
Client ID: **LCSS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698105**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	27.7	5.00	25.00	0	111	65	135				
Surr: Toluene-d8	1.26		1.250		101	65	135				
Surr: 4-Bromofluorobenzene	1.25		1.250		99.9	65	135				

Sample ID **MB-17161** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36397**
Client ID: **MBLKS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698106**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	1.29		1.250		103	65	135				
Surr: 4-Bromofluorobenzene	1.19		1.250		95.2	65	135				

Sample ID **1705238-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36397**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698099**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.60						0		30	
Surr: Toluene-d8	1.43		1.399		102	65	135		0		
Surr: 4-Bromofluorobenzene	1.32		1.399		94.7	65	135		0		

Sample ID **1705238-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36397**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698993**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	20.4	5.63	28.17	0	72.4	65	135				
Surr: Toluene-d8	1.42		1.408		101	65	135				
Surr: 4-Bromofluorobenzene	1.47		1.408		105	65	135				

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **1705238-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36397**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698994**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	23.6	5.63	28.17	0	83.7	65	135	20.39	14.5	30	
Surr: Toluene-d8	1.43		1.408		102	65	135		0		
Surr: 4-Bromofluorobenzene	1.47		1.408		105	65	135		0		

Sample ID **1705255-011BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36397**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/26/2017** SeqNo: **699003**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.27						0		30	
Surr: Toluene-d8	1.35		1.319		102	65	135		0		
Surr: 4-Bromofluorobenzene	1.28		1.319		96.9	65	135		0		

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID	**MB-17194**	SampType:	**MBLK**			Units:	**mg/Kg**	Prep Date:	**5/30/2017**	RunNo:	**36459**
Client ID:	**MBLKS**	Batch ID:	**17194**					Analysis Date:	**5/30/2017**	SeqNo:	**699623**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.250									

Sample ID	**LCS-17194**	SampType:	**LCS**			Units:	**mg/Kg**	Prep Date:	**5/30/2017**	RunNo:	**36459**
Client ID:	**LCSS**	Batch ID:	**17194**					Analysis Date:	**5/30/2017**	SeqNo:	**699624**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.514	0.250	0.5000	0	103	80	120				

Sample ID	**1705268-001ADUP**	SampType:	**DUP**			Units:	**mg/Kg-dry**	Prep Date:	**5/30/2017**	RunNo:	**36459**
Client ID:	**BATCH**	Batch ID:	**17194**					Analysis Date:	**5/30/2017**	SeqNo:	**699626**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.285						0		20	

Sample ID	**1705268-001AMS**	SampType:	**MS**			Units:	**mg/Kg-dry**	Prep Date:	**5/30/2017**	RunNo:	**36459**
Client ID:	**BATCH**	Batch ID:	**17194**					Analysis Date:	**5/30/2017**	SeqNo:	**699627**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.609	0.280	0.5598	0.03470	103	70	130				

Sample ID	**1705268-001AMSD**	SampType:	**MSD**			Units:	**mg/Kg-dry**	Prep Date:	**5/30/2017**	RunNo:	**36459**
Client ID:	**BATCH**	Batch ID:	**17194**					Analysis Date:	**5/30/2017**	SeqNo:	**699628**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.592	0.280	0.5598	0.03470	99.6	70	130	0.6090	2.80	20	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **MB-17130** SampType: **MBLK** Units: **µg/Kg** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **MBLKS** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696373**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	40.0									
2-Methylnaphthalene	ND	40.0									
1-Methylnaphthalene	ND	40.0									
Acenaphthylene	ND	40.0									
Acenaphthene	ND	40.0									
Fluorene	ND	40.0									
Phenanthrene	ND	40.0									
Anthracene	ND	40.0									
Fluoranthene	ND	40.0									
Pyrene	ND	40.0									
Benz(a)anthracene	ND	40.0									
Chrysene	ND	40.0									
Benzo(b)fluoranthene	ND	40.0									
Benzo(k)fluoranthene	ND	40.0									
Benzo(a)pyrene	ND	40.0									
Indeno(1,2,3-cd)pyrene	ND	40.0									
Dibenz(a,h)anthracene	ND	40.0									
Benzo(g,h,i)perylene	ND	40.0									
Surr: 2-Fluorobiphenyl	479		500.0		95.8	24.5	139				
Surr: Terphenyl-d14 (surr)	591		500.0		118	44.3	176				

Sample ID **LCS-17130** SampType: **LCS** Units: **µg/Kg** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **LCSS** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696374**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,180	40.0	1,000	0	118	46.4	125				
2-Methylnaphthalene	1,220	40.0	1,000	0	122	45.1	135				
1-Methylnaphthalene	1,220	40.0	1,000	0	122	46.2	133				
Acenaphthylene	1,260	40.0	1,000	0	126	32.8	136				
Acenaphthene	1,210	40.0	1,000	0	121	38.7	129				

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **LCS-17130** SampType: **LCS** Units: **µg/Kg** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **LCSS** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696374**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	1,290	40.0	1,000	0	129	41.4	144				
Phenanthrene	1,310	40.0	1,000	0	131	43.9	133				
Anthracene	1,320	40.0	1,000	0	132	44.2	136				
Fluoranthene	1,330	40.0	1,000	0	133	45.9	137				
Pyrene	1,330	40.0	1,000	0	133	46.2	137				
Benz(a)anthracene	1,370	40.0	1,000	0	137	41.2	141				
Chrysene	1,300	40.0	1,000	0	130	46.9	138				
Benzo(b)fluoranthene	1,310	40.0	1,000	0	131	41	155				
Benzo(k)fluoranthene	1,290	40.0	1,000	0	129	41.8	153				
Benzo(a)pyrene	1,340	40.0	1,000	0	134	34.3	157				
Indeno(1,2,3-cd)pyrene	1,150	40.0	1,000	0	115	31.3	159				
Dibenz(a,h)anthracene	1,140	40.0	1,000	0	114	28	158				
Benzo(g,h,i)perylene	1,140	40.0	1,000	0	114	32.4	144				
Surr: 2-Fluorobiphenyl	505		500.0		101	24.5	139				
Surr: Terphenyl-d14 (surr)	610		500.0		122	44.3	176				

Sample ID **1705245-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **BATCH** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696376**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	39.5						0		30	
2-Methylnaphthalene	ND	39.5						0		30	
1-Methylnaphthalene	ND	39.5						0		30	
Acenaphthylene	ND	39.5						0		30	
Acenaphthene	ND	39.5						0		30	
Fluorene	ND	39.5						0		30	
Phenanthrene	ND	39.5						0		30	
Anthracene	ND	39.5						0		30	
Fluoranthene	ND	39.5						0		30	
Pyrene	ND	39.5						0		30	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1705245-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **BATCH** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696376**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	ND	39.5						0		30	
Chrysene	ND	39.5						0		30	
Benzo(b)fluoranthene	ND	39.5						0		30	
Benzo(k)fluoranthene	ND	39.5						0		30	
Benzo(a)pyrene	ND	39.5						0		30	
Indeno(1,2,3-cd)pyrene	ND	39.5						0		30	
Dibenz(a,h)anthracene	ND	39.5						0		30	
Benzo(g,h,i)perylene	ND	39.5						0		30	
Surr: 2-Fluorobiphenyl	432		493.4		87.6	24.5	139		0		
Surr: Terphenyl-d14 (surr)	460		493.4		93.3	44.3	176		0		

Sample ID **1705245-001AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **BATCH** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696377**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,020	40.7	1,018	0	100	42.9	138				
2-Methylnaphthalene	1,060	40.7	1,018	0	104	42.8	151				
1-Methylnaphthalene	1,050	40.7	1,018	0	104	41.6	148				
Acenaphthylene	1,120	40.7	1,018	4.232	109	32.6	160				
Acenaphthene	1,060	40.7	1,018	0	104	46.3	142				
Fluorene	1,120	40.7	1,018	0	110	43.4	153				
Phenanthrene	1,130	40.7	1,018	0	111	45.5	140				
Anthracene	1,180	40.7	1,018	4.059	116	32.6	160				
Fluoranthene	1,200	40.7	1,018	4.207	117	44.6	161				
Pyrene	1,180	40.7	1,018	6.431	115	48.3	158				
Benz(a)anthracene	1,210	40.7	1,018	8.617	118	34.9	139				
Chrysene	1,110	40.7	1,018	0	109	45.2	146				
Benzo(b)fluoranthene	1,240	40.7	1,018	8.568	121	42.2	168				
Benzo(k)fluoranthene	1,150	40.7	1,018	5.648	113	34.8	147				
Benzo(a)pyrene	1,280	40.7	1,018	8.693	125	34.4	179				

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1705245-001AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **BATCH** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696377**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	992	40.7	1,018	5.974	96.8	5	113				
Dibenz(a,h)anthracene	978	40.7	1,018	6.070	95.5	17.3	156				
Benzo(g,h,i)perylene	950	40.7	1,018	14.23	91.9	24.9	119				
Surr: 2-Fluorobiphenyl	471		508.9		92.6	24.5	139				
Surr: Terphenyl-d14 (surr)	506		508.9		99.4	44.3	176				

Sample ID **1705245-001AMSD** SampType: **MSD** Units: **µg/Kg-dry** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **BATCH** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696378**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,030	42.1	1,052	0	97.9	42.9	138	1,022	0.780	30	
2-Methylnaphthalene	1,070	42.1	1,052	0	101	42.8	151	1,062	0.357	30	
1-Methylnaphthalene	1,060	42.1	1,052	0	101	41.6	148	1,054	0.368	30	
Acenaphthylene	1,120	42.1	1,052	4.232	106	32.6	160	1,116	0.442	30	
Acenaphthene	1,060	42.1	1,052	0	100	46.3	142	1,057	0.148	30	
Fluorene	1,120	42.1	1,052	0	107	43.4	153	1,121	0.192	30	
Phenanthrene	1,130	42.1	1,052	0	107	45.5	140	1,126	0.302	30	
Anthracene	1,180	42.1	1,052	4.059	112	32.6	160	1,182	0.210	30	
Fluoranthene	1,190	42.1	1,052	4.207	113	44.6	161	1,197	0.319	30	
Pyrene	1,170	42.1	1,052	6.431	111	48.3	158	1,177	0.375	30	
Benz(a)anthracene	1,190	42.1	1,052	8.617	112	34.9	139	1,206	1.58	30	
Chrysene	1,110	42.1	1,052	0	105	45.2	146	1,111	0.438	30	
Benzo(b)fluoranthene	1,270	42.1	1,052	8.568	120	42.2	168	1,235	2.72	30	
Benzo(k)fluoranthene	1,120	42.1	1,052	5.648	106	34.8	147	1,155	3.19	30	
Benzo(a)pyrene	1,270	42.1	1,052	8.693	120	34.4	179	1,281	0.715	30	
Indeno(1,2,3-cd)pyrene	995	42.1	1,052	5.974	94.0	5	113	991.7	0.358	30	
Dibenz(a,h)anthracene	981	42.1	1,052	6.070	92.6	17.3	156	978.2	0.247	30	
Benzo(g,h,i)perylene	950	42.1	1,052	14.23	88.9	24.9	119	949.7	0.0113	30	
Surr: 2-Fluorobiphenyl	473		526.0		89.9	24.5	139		0		
Surr: Terphenyl-d14 (surr)	493		526.0		93.8	44.3	176		0		

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1705245-001AMSD** SampType: **MSD** Units: **µg/Kg-dry** Prep Date: **5/22/2017** RunNo: **36329**
Client ID: **BATCH** Batch ID: **17130** Analysis Date: **5/22/2017** SeqNo: **696378**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID **1705239-030ADUP** SampType: **DUP** Units: **wt%** Prep Date: **5/23/2017** RunNo: **36324**
Client ID: **BATCH** Batch ID: **R36324** Analysis Date: **5/23/2017** SeqNo: **696272**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	20.8	0.500						21.31	2.26	20	

Sample ID **1705249-005ADUP** SampType: **DUP** Units: **wt%** Prep Date: **5/23/2017** RunNo: **36324**
Client ID: **21417-GP7:13** Batch ID: **R36324** Analysis Date: **5/23/2017** SeqNo: **696297**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	11.3	0.500						11.39	1.08	20	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID	**MB-17204**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **5/31/2017**		RunNo: **36492**		
Client ID:	**MBLKS**	Batch ID: **17204**					Analysis Date: **5/31/2017**		SeqNo: **700129**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0769									
Barium	ND	0.385									
Cadmium	ND	0.154									
Chromium	ND	0.0769									
Lead	ND	0.154									
Selenium	ND	0.385									
Silver	ND	0.0769									

Sample ID	**LCS-17204**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **5/31/2017**		RunNo: **36492**		
Client ID:	**LCSS**	Batch ID: **17204**					Analysis Date: **5/31/2017**		SeqNo: **700130**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.3	0.0758	37.88	0	101	80	120				
Barium	39.8	0.379	37.88	0	105	80	120				
Cadmium	1.90	0.152	1.894	0	101	80	120				
Chromium	39.4	0.0758	37.88	0	104	80	120				
Lead	20.2	0.152	18.94	0	107	80	120				
Selenium	3.60	0.379	3.788	0	95.1	80	120				
Silver	8.91	0.0758	9.470	0	94.0	80	120				

Sample ID	**1705249-001ADUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **5/31/2017**		RunNo: **36492**		
Client ID:	**21417-GP5:1**	Batch ID: **17204**					Analysis Date: **5/31/2017**		SeqNo: **700134**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.32	0.0905						4.596	14.6	20	
Barium	81.4	0.452						81.77	0.424	20	
Cadmium	0.187	0.181						0.1745	6.77	20	
Chromium	41.3	0.0905						39.13	5.39	20	
Lead	24.2	0.181						20.70	15.4	20	
Selenium	1.64	0.452						1.382	17.1	20	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1705249-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/31/2017** RunNo: **36492**
Client ID: **21417-GP5:1** Batch ID: **17204** Analysis Date: **5/31/2017** SeqNo: **700134**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.0905						0		20	

Sample ID **1705249-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/31/2017** RunNo: **36492**
Client ID: **21417-GP5:1** Batch ID: **17204** Analysis Date: **5/31/2017** SeqNo: **700136**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.3	0.0898	44.90	4.596	95.2	75	125				
Barium	124	0.449	44.90	81.77	93.2	75	125				
Cadmium	2.34	0.180	2.245	0.1745	96.5	75	125				
Chromium	85.2	0.0898	44.90	39.13	103	75	125				
Lead	30.1	0.180	22.45	20.70	41.8	75	125				S
Selenium	5.19	0.449	4.490	1.382	84.9	75	125				
Silver	8.57	0.0898	11.22	0.04856	75.9	75	125				

NOTES:
S - Outlying spike recovery observed (Pb). A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID **1705249-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/31/2017** RunNo: **36492**
Client ID: **21417-GP5:1** Batch ID: **17204** Analysis Date: **5/31/2017** SeqNo: **700137**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.9	0.0884	44.21	4.596	100	75	125	47.34	3.20	20	
Barium	112	0.442	44.21	81.77	68.2	75	125	123.6	9.96	20	S
Cadmium	2.41	0.177	2.211	0.1745	101	75	125	2.340	2.90	20	
Chromium	79.2	0.0884	44.21	39.13	90.6	75	125	85.17	7.26	20	
Lead	30.4	0.177	22.11	20.70	44.0	75	125	30.08	1.17	20	S
Selenium	4.95	0.442	4.421	1.382	80.7	75	125	5.194	4.83	20	
Silver	8.19	0.0884	11.05	0.04856	73.6	75	125	8.567	4.53	20	S

NOTES:
S - Outlying spike recovery observed (Pb). A duplicate analysis was performed with similar results indicating a possible matrix effect.
S - Outlying spike recovery(ies) observed (Ag, Ba). A duplicate analysis was performed and recovered within range.

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17161** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **LCSS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698118**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	1.51	0.0600	1.000	0	151	14.3	167				
Chloromethane	1.42	0.0600	1.000	0	142	46	144				
Vinyl chloride	1.15	0.00200	1.000	0	115	44	142				
Bromomethane	0.947	0.0900	1.000	0	94.7	40.9	157				
Trichlorofluoromethane (CFC-11)	0.785	0.0500	1.000	0	78.5	36.9	156				
Chloroethane	0.997	0.0600	1.000	0	99.7	33.4	155				
1,1-Dichloroethene	0.960	0.0500	1.000	0	96.0	49.7	142				
Methylene chloride	1.22	0.0200	1.000	0	122	46.3	140				
trans-1,2-Dichloroethene	1.15	0.0200	1.000	0	115	68	130				
Methyl tert-butyl ether (MTBE)	1.19	0.0500	1.000	0	119	66.3	145				
1,1-Dichloroethane	0.888	0.0200	1.000	0	88.8	61.9	137				
2,2-Dichloropropane	1.22	0.0500	1.000	0	122	35.5	186				
cis-1,2-Dichloroethene	1.04	0.0200	1.000	0	104	71.3	135				
Chloroform	0.996	0.0200	1.000	0	99.6	69	145				
1,1,1-Trichloroethane (TCA)	0.936	0.0200	1.000	0	93.6	69	132				
1,1-Dichloropropene	1.07	0.0200	1.000	0	107	72.7	131				
Carbon tetrachloride	0.946	0.0200	1.000	0	94.6	63.4	137				
1,2-Dichloroethane (EDC)	1.05	0.0300	1.000	0	105	50.9	162				
Benzene	1.07	0.0200	1.000	0	107	64.3	133				
Trichloroethene (TCE)	0.969	0.0200	1.000	0	96.9	65.5	137				
1,2-Dichloropropane	0.995	0.0200	1.000	0	99.5	63.2	142				
Bromodichloromethane	0.836	0.0200	1.000	0	83.6	73.2	131				
Dibromomethane	0.917	0.0400	1.000	0	91.7	60.1	146				
cis-1,3-Dichloropropene	0.996	0.0200	1.000	0	99.6	59.1	143				
Toluene	1.02	0.0200	1.000	0	102	67.3	138				
trans-1,3-Dichloropropylene	0.959	0.0300	1.000	0	95.9	49.2	149				
1,1,2-Trichloroethane	0.946	0.0300	1.000	0	94.6	56.9	147				
1,3-Dichloropropane	0.972	0.0500	1.000	0	97.2	56.1	153				
Tetrachloroethene (PCE)	1.03	0.0200	1.000	0	103	52.7	150				
Dibromochloromethane	0.847	0.0300	1.000	0	84.7	70.6	144				
1,2-Dibromoethane (EDB)	0.946	0.00500	1.000	0	94.6	50.5	154				

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17161** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **LCSS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698118**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.04	0.0200	1.000	0	104	76.1	123				
1,1,1,2-Tetrachloroethane	0.917	0.0300	1.000	0	91.7	65.9	141				
Ethylbenzene	1.04	0.0300	1.000	0	104	74	129				
m,p-Xylene	2.10	0.0200	2.000	0	105	70	124				
o-Xylene	1.05	0.0200	1.000	0	105	68.1	139				
Styrene	1.02	0.0200	1.000	0	102	73.3	146				
Isopropylbenzene	1.04	0.0800	1.000	0	104	70	130				
Bromoform	0.684	0.0200	1.000	0	68.4	67	154				
1,1,2,2-Tetrachloroethane	0.898	0.0200	1.000	0	89.8	44.8	165				
n-Propylbenzene	1.03	0.0200	1.000	0	103	74.8	125				
Bromobenzene	0.977	0.0300	1.000	0	97.7	49.2	144				
1,3,5-Trimethylbenzene	1.00	0.0200	1.000	0	100	74.6	123				
2-Chlorotoluene	1.01	0.0200	1.000	0	101	76.7	129				
4-Chlorotoluene	1.02	0.0200	1.000	0	102	77.5	125				
tert-Butylbenzene	1.02	0.0200	1.000	0	102	66.2	130				
1,2,3-Trichloropropane	0.941	0.0200	1.000	0	94.1	67.9	136				
1,2,4-Trichlorobenzene	1.17	0.0500	1.000	0	117	62.6	143				
sec-Butylbenzene	1.06	0.0200	1.000	0	106	75.6	133				
4-Isopropyltoluene	1.06	0.0200	1.000	0	106	76.8	131				
1,3-Dichlorobenzene	1.06	0.0200	1.000	0	106	72.8	128				
1,4-Dichlorobenzene	1.07	0.0200	1.000	0	107	72.6	126				
n-Butylbenzene	1.15	0.0200	1.000	0	115	65.3	136				
1,2-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	126				
1,2-Dibromo-3-chloropropane	0.700	0.500	1.000	0	70.0	40.2	155				
1,2,4-Trimethylbenzene	0.996	0.0200	1.000	0	99.6	77.5	129				
Hexachlorobutadiene	1.14	0.100	1.000	0	114	42	151				
Naphthalene	1.16	0.0300	1.000	0	116	58.4	160				
1,2,3-Trichlorobenzene	1.17	0.0200	1.000	0	117	54.8	143				
Surr: Dibromofluoromethane	1.15		1.250		92.2	56.5	129				
Surr: Toluene-d8	1.23		1.250		98.1	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.27		1.250		101	63.1	141				

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CLIENT: Shannon & Wilson
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Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17161** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **LCSS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698118**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID **MB-17161** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **MBLKS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698119**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									
Chloromethane	ND	0.0600									
Vinyl chloride	ND	0.00200									
Bromomethane	ND	0.0900									
Trichlorofluoromethane (CFC-11)	ND	0.0500									
Chloroethane	ND	0.0600									
1,1-Dichloroethene	ND	0.0500									
Methylene chloride	ND	0.0200									
trans-1,2-Dichloroethene	ND	0.0200									
Methyl tert-butyl ether (MTBE)	ND	0.0500									
1,1-Dichloroethane	ND	0.0200									
2,2-Dichloropropane	ND	0.0500									
cis-1,2-Dichloroethene	ND	0.0200									
Chloroform	ND	0.0200									
1,1,1-Trichloroethane (TCA)	ND	0.0200									
1,1-Dichloropropene	ND	0.0200									
Carbon tetrachloride	ND	0.0200									
1,2-Dichloroethane (EDC)	ND	0.0300									
Benzene	ND	0.0200									
Trichloroethene (TCE)	ND	0.0200									
1,2-Dichloropropane	ND	0.0200									
Bromodichloromethane	ND	0.0200									
Dibromomethane	ND	0.0400									
cis-1,3-Dichloropropene	ND	0.0200									
Toluene	ND	0.0200									

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17161** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **MBLKS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698119**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropylene	ND	0.0300									
1,1,2-Trichloroethane	ND	0.0300									
1,3-Dichloropropane	ND	0.0500									
Tetrachloroethene (PCE)	ND	0.0200									
Dibromochloromethane	ND	0.0300									
1,2-Dibromoethane (EDB)	ND	0.00500									
Chlorobenzene	ND	0.0200									
1,1,1,2-Tetrachloroethane	ND	0.0300									
Ethylbenzene	ND	0.0300									
m,p-Xylene	ND	0.0200									
o-Xylene	ND	0.0200									
Styrene	ND	0.0200									
Isopropylbenzene	ND	0.0800									
Bromoform	ND	0.0200									
1,1,2,2-Tetrachloroethane	ND	0.0200									
n-Propylbenzene	ND	0.0200									
Bromobenzene	ND	0.0300									
1,3,5-Trimethylbenzene	ND	0.0200									
2-Chlorotoluene	ND	0.0200									
4-Chlorotoluene	ND	0.0200									
tert-Butylbenzene	ND	0.0200									
1,2,3-Trichloropropane	ND	0.0200									
1,2,4-Trichlorobenzene	ND	0.0500									
sec-Butylbenzene	ND	0.0200									
4-Isopropyltoluene	ND	0.0200									
1,3-Dichlorobenzene	ND	0.0200									
1,4-Dichlorobenzene	ND	0.0200									
n-Butylbenzene	ND	0.0200									
1,2-Dichlorobenzene	ND	0.0200									
1,2-Dibromo-3-chloropropane	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.0200									

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17161** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **MBLKS** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698119**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobutadiene	ND	0.100									
Naphthalene	ND	0.0300									
1,2,3-Trichlorobenzene	ND	0.0200									
Surr: Dibromofluoromethane	0.861		1.250		68.9	56.5	129				
Surr: Toluene-d8	1.15		1.250		91.8	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.14		1.250		91.2	63.1	141				

Sample ID **1705238-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698112**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0671						0		30	
Chloromethane	ND	0.0671						0.09612	200	30	R
Vinyl chloride	ND	0.00224						0		30	
Bromomethane	ND	0.101						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0560						0		30	
Chloroethane	ND	0.0671						0		30	
1,1-Dichloroethene	ND	0.0560						0		30	
Methylene chloride	ND	0.0224						0		30	
trans-1,2-Dichloroethene	ND	0.0224						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0560						0		30	
1,1-Dichloroethane	ND	0.0224						0		30	
2,2-Dichloropropane	ND	0.0560						0		30	
cis-1,2-Dichloroethene	ND	0.0224						0		30	
Chloroform	ND	0.0224						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0224						0		30	
1,1-Dichloropropene	ND	0.0224						0		30	
Carbon tetrachloride	ND	0.0224						0		30	
1,2-Dichloroethane (EDC)	ND	0.0336						0		30	
Benzene	ND	0.0224						0		30	

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705238-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698112**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichloroethene (TCE)	ND	0.0224						0		30	
1,2-Dichloropropane	ND	0.0224						0		30	
Bromodichloromethane	ND	0.0224						0		30	
Dibromomethane	ND	0.0448						0		30	
cis-1,3-Dichloropropene	ND	0.0224						0		30	
Toluene	ND	0.0224						0		30	
trans-1,3-Dichloropropylene	ND	0.0336						0		30	
1,1,2-Trichloroethane	ND	0.0336						0		30	
1,3-Dichloropropane	ND	0.0560						0		30	
Tetrachloroethene (PCE)	ND	0.0224						0		30	
Dibromochloromethane	ND	0.0336						0		30	
1,2-Dibromoethane (EDB)	ND	0.00560						0		30	
Chlorobenzene	ND	0.0224						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0336						0		30	
Ethylbenzene	ND	0.0336						0		30	
m,p-Xylene	ND	0.0224						0		30	
o-Xylene	ND	0.0224						0		30	
Styrene	ND	0.0224						0		30	
Isopropylbenzene	ND	0.0895						0		30	
Bromoform	ND	0.0224						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0224						0		30	
n-Propylbenzene	ND	0.0224						0		30	
Bromobenzene	ND	0.0336						0		30	
1,3,5-Trimethylbenzene	ND	0.0224						0.03933	200	30	R
2-Chlorotoluene	ND	0.0224						0		30	
4-Chlorotoluene	ND	0.0224						0		30	
tert-Butylbenzene	ND	0.0224						0		30	
1,2,3-Trichloropropane	ND	0.0224						0		30	
1,2,4-Trichlorobenzene	ND	0.0560						0		30	
sec-Butylbenzene	ND	0.0224						0		30	
4-Isopropyltoluene	ND	0.0224						0		30	

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705238-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698112**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	0.0224						0		30	
1,4-Dichlorobenzene	ND	0.0224						0		30	
n-Butylbenzene	ND	0.0224						0		30	
1,2-Dichlorobenzene	ND	0.0224						0		30	
1,2-Dibromo-3-chloropropane	ND	0.560						0		30	
1,2,4-Trimethylbenzene	ND	0.0224						0.04075	200	30	R
Hexachlorobutadiene	ND	0.112						0		30	
Naphthalene	ND	0.0336						0		30	
1,2,3-Trichlorobenzene	ND	0.0224						0		30	
Surr: Dibromofluoromethane	1.22		1.399		87.1	56.5	129		0		
Surr: Toluene-d8	1.33		1.399		95.3	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.26		1.399		90.3	63.1	141		0		

NOTES:
R - High RPD observed. The method is in control as indicated by the LCS.

Sample ID **1705237-017BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698978**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.727	0.0341	0.5691	0	128	43.5	121				S
Chloromethane	0.715	0.0341	0.5691	0	126	45	130				
Vinyl chloride	0.571	0.00114	0.5691	0	100	51.2	146				
Bromomethane	0.515	0.0512	0.5691	0	90.5	21.3	120				
Trichlorofluoromethane (CFC-11)	0.515	0.0285	0.5691	0	90.6	35	131				
Chloroethane	0.591	0.0341	0.5691	0	104	31.9	123				
1,1-Dichloroethene	0.561	0.0285	0.5691	0	98.5	61.9	141				
Methylene chloride	0.633	0.0114	0.5691	0	111	54.7	142				
trans-1,2-Dichloroethene	0.594	0.0114	0.5691	0	104	52	136				
Methyl tert-butyl ether (MTBE)	0.655	0.0285	0.5691	0	115	54.4	132				
1,1-Dichloroethane	0.570	0.0114	0.5691	0	100	51.8	141				
2,2-Dichloropropane	0.393	0.0285	0.5691	0	69.1	36	123				

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Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705237-017BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698978**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	0.562	0.0114	0.5691	0	98.7	58.6	136				
Chloroform	0.561	0.0114	0.5691	0	98.6	53.2	129				
1,1,1-Trichloroethane (TCA)	0.490	0.0114	0.5691	0	86.1	58.3	145				
1,1-Dichloropropene	0.511	0.0114	0.5691	0	89.9	55.1	138				
Carbon tetrachloride	0.456	0.0114	0.5691	0	80.2	53.3	144				
1,2-Dichloroethane (EDC)	0.626	0.0171	0.5691	0	110	51.3	139				
Benzene	0.580	0.0114	0.5691	0	102	63.5	133				
Trichloroethene (TCE)	0.533	0.0114	0.5691	0	93.7	68.6	132				
1,2-Dichloropropane	0.540	0.0114	0.5691	0	94.9	59	136				
Bromodichloromethane	0.501	0.0114	0.5691	0	88.1	50.7	141				
Dibromomethane	0.546	0.0228	0.5691	0	96.0	50.6	137				
cis-1,3-Dichloropropene	0.550	0.0114	0.5691	0	96.7	50.4	138				
Toluene	0.541	0.0114	0.5691	0	95.1	63.4	132				
trans-1,3-Dichloropropylene	0.550	0.0171	0.5691	0	96.7	44.1	147				
1,1,2-Trichloroethane	0.554	0.0171	0.5691	0	97.3	51.6	137				
1,3-Dichloropropane	0.564	0.0285	0.5691	0	99.0	53.1	134				
Tetrachloroethene (PCE)	0.527	0.0114	0.5691	0	92.6	35.6	158				
Dibromochloromethane	0.535	0.0171	0.5691	0	94.1	55.3	140				
1,2-Dibromoethane (EDB)	0.557	0.00285	0.5691	0	97.9	50.4	136				
Chlorobenzene	0.547	0.0114	0.5691	0	96.1	60	133				
1,1,1,2-Tetrachloroethane	0.521	0.0171	0.5691	0	91.6	53.1	142				
Ethylbenzene	0.535	0.0171	0.5691	0	94.1	54.5	134				
m,p-Xylene	1.08	0.0114	1.138	0	94.6	53.1	132				
o-Xylene	0.541	0.0114	0.5691	0	95.0	53.3	139				
Styrene	0.539	0.0114	0.5691	0	94.7	51.1	132				
Isopropylbenzene	0.518	0.0455	0.5691	0	91.0	58.9	138				
Bromoform	0.458	0.0114	0.5691	0	80.4	57.9	130				
1,1,2,2-Tetrachloroethane	0.564	0.0114	0.5691	0	99.1	51.9	131				
n-Propylbenzene	0.519	0.0114	0.5691	0	91.1	53.6	140				
Bromobenzene	0.552	0.0171	0.5691	0	96.9	54.2	140				
1,3,5-Trimethylbenzene	0.518	0.0114	0.5691	0	91.1	51.8	136				

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705237-017BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698978**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Chlorotoluene	0.537	0.0114	0.5691	0	94.4	51.6	136				
4-Chlorotoluene	0.540	0.0114	0.5691	0	94.9	50.1	139				
tert-Butylbenzene	0.512	0.0114	0.5691	0	90.0	50.5	135				
1,2,3-Trichloropropane	0.588	0.0114	0.5691	0	103	50.5	131				
1,2,4-Trichlorobenzene	0.590	0.0285	0.5691	0	104	50.8	130				
sec-Butylbenzene	0.527	0.0114	0.5691	0	92.5	52.6	141				
4-Isopropyltoluene	0.534	0.0114	0.5691	0	93.9	52.9	134				
1,3-Dichlorobenzene	0.565	0.0114	0.5691	0	99.2	52.6	131				
1,4-Dichlorobenzene	0.561	0.0114	0.5691	0	98.6	52.9	129				
n-Butylbenzene	0.520	0.0114	0.5691	0	91.4	52.6	130				
1,2-Dichlorobenzene	0.561	0.0114	0.5691	0	98.6	55.8	129				
1,2-Dibromo-3-chloropropane	0.512	0.285	0.5691	0	89.9	40.5	131				
1,2,4-Trimethylbenzene	0.522	0.0114	0.5691	0	91.7	50.6	137				
Hexachlorobutadiene	0.487	0.0569	0.5691	0	85.6	40.6	158				
Naphthalene	0.655	0.0171	0.5691	0	115	52.3	124				
1,2,3-Trichlorobenzene	0.620	0.0114	0.5691	0	109	54.4	124				
Surr: Dibromofluoromethane	0.704		0.7114		98.9	56.5	129				
Surr: Toluene-d8	0.718		0.7114		101	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	0.755		0.7114		106	63.1	141				

Sample ID **1705237-017BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698979**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.760	0.0341	0.5691	0	134	43.5	121	0.7268	4.45	30	S
Chloromethane	0.752	0.0341	0.5691	0	132	45	130	0.7147	5.14	30	S
Vinyl chloride	0.634	0.00114	0.5691	0	111	51.2	146	0.5705	10.5	30	
Bromomethane	0.519	0.0512	0.5691	0	91.1	21.3	120	0.5153	0.614	30	
Trichlorofluoromethane (CFC-11)	0.537	0.0285	0.5691	0	94.4	35	131	0.5155	4.13	30	
Chloroethane	0.558	0.0341	0.5691	0	98.0	31.9	123	0.5913	5.88	30	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705237-017BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698979**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.575	0.0285	0.5691	0	101	61.9	141	0.5605	2.61	30	
Methylene chloride	0.607	0.0114	0.5691	0	107	54.7	142	0.6330	4.19	30	
trans-1,2-Dichloroethene	0.578	0.0114	0.5691	0	102	52	136	0.5938	2.68	30	
Methyl tert-butyl ether (MTBE)	0.633	0.0285	0.5691	0	111	54.4	132	0.6545	3.27	30	
1,1-Dichloroethane	0.587	0.0114	0.5691	0	103	51.8	141	0.5697	2.93	30	
2,2-Dichloropropane	0.405	0.0285	0.5691	0	71.1	36	123	0.3931	2.91	30	
cis-1,2-Dichloroethene	0.552	0.0114	0.5691	0	97.0	58.6	136	0.5619	1.77	30	
Chloroform	0.554	0.0114	0.5691	0	97.4	53.2	129	0.5610	1.22	30	
1,1,1-Trichloroethane (TCA)	0.504	0.0114	0.5691	0	88.6	58.3	145	0.4902	2.81	30	
1,1-Dichloropropene	0.516	0.0114	0.5691	0	90.6	55.1	138	0.5114	0.835	30	
Carbon tetrachloride	0.458	0.0114	0.5691	0	80.5	53.3	144	0.4561	0.427	30	
1,2-Dichloroethane (EDC)	0.551	0.0171	0.5691	0	96.8	51.3	139	0.6257	12.8	30	
Benzene	0.553	0.0114	0.5691	0	97.1	63.5	133	0.5800	4.84	30	
Trichloroethene (TCE)	0.586	0.0114	0.5691	0	103	68.6	132	0.5331	9.52	30	
1,2-Dichloropropane	0.537	0.0114	0.5691	0	94.4	59	136	0.5398	0.512	30	
Bromodichloromethane	0.484	0.0114	0.5691	0	85.1	50.7	141	0.5011	3.37	30	
Dibromomethane	0.530	0.0228	0.5691	0	93.1	50.6	137	0.5463	3.04	30	
cis-1,3-Dichloropropene	0.537	0.0114	0.5691	0	94.4	50.4	138	0.5504	2.39	30	
Toluene	0.538	0.0114	0.5691	0	94.6	63.4	132	0.5412	0.527	30	
trans-1,3-Dichloropropylene	0.536	0.0171	0.5691	0	94.2	44.1	147	0.5503	2.62	30	
1,1,2-Trichloroethane	0.533	0.0171	0.5691	0	93.6	51.6	137	0.5536	3.82	30	
1,3-Dichloropropane	0.548	0.0285	0.5691	0	96.3	53.1	134	0.5635	2.73	30	
Tetrachloroethene (PCE)	0.511	0.0114	0.5691	0	89.8	35.6	158	0.5267	3.05	30	
Dibromochloromethane	0.514	0.0171	0.5691	0	90.3	55.3	140	0.5355	4.10	30	
1,2-Dibromoethane (EDB)	0.544	0.00285	0.5691	0	95.7	50.4	136	0.5574	2.35	30	
Chlorobenzene	0.550	0.0114	0.5691	0	96.6	60	133	0.5467	0.538	30	
1,1,1,2-Tetrachloroethane	0.521	0.0171	0.5691	0	91.6	53.1	142	0.5210	0.0602	30	
Ethylbenzene	0.543	0.0171	0.5691	0	95.4	54.5	134	0.5354	1.35	30	
m,p-Xylene	1.09	0.0114	1.138	0	95.4	53.1	132	1.077	0.831	30	
o-Xylene	0.553	0.0114	0.5691	0	97.2	53.3	139	0.5409	2.27	30	
Styrene	0.540	0.0114	0.5691	0	94.8	51.1	132	0.5390	0.0984	30	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705237-017BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/25/2017** SeqNo: **698979**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Isopropylbenzene	0.534	0.0455	0.5691	0	93.8	58.9	138	0.5177	3.12	30	
Bromoform	0.446	0.0114	0.5691	0	78.5	57.9	130	0.4576	2.47	30	
1,1,2,2-Tetrachloroethane	0.541	0.0114	0.5691	0	95.1	51.9	131	0.5639	4.08	30	
n-Propylbenzene	0.534	0.0114	0.5691	0	93.8	53.6	140	0.5185	2.92	30	
Bromobenzene	0.552	0.0171	0.5691	0	96.9	54.2	140	0.5516	0.00965	30	
1,3,5-Trimethylbenzene	0.527	0.0114	0.5691	0	92.7	51.8	136	0.5184	1.71	30	
2-Chlorotoluene	0.540	0.0114	0.5691	0	94.9	51.6	136	0.5372	0.582	30	
4-Chlorotoluene	0.545	0.0114	0.5691	0	95.7	50.1	139	0.5402	0.868	30	
tert-Butylbenzene	0.522	0.0114	0.5691	0	91.7	50.5	135	0.5123	1.83	30	
1,2,3-Trichloropropane	0.547	0.0114	0.5691	0	96.1	50.5	131	0.5885	7.35	30	
1,2,4-Trichlorobenzene	0.593	0.0285	0.5691	0	104	50.8	130	0.5905	0.423	30	
sec-Butylbenzene	0.540	0.0114	0.5691	0	94.9	52.6	141	0.5266	2.55	30	
4-Isopropyltoluene	0.543	0.0114	0.5691	0	95.4	52.9	134	0.5342	1.61	30	
1,3-Dichlorobenzene	0.562	0.0114	0.5691	0	98.8	52.6	131	0.5647	0.412	30	
1,4-Dichlorobenzene	0.559	0.0114	0.5691	0	98.2	52.9	129	0.5610	0.383	30	
n-Butylbenzene	0.536	0.0114	0.5691	0	94.1	52.6	130	0.5200	2.98	30	
1,2-Dichlorobenzene	0.563	0.0114	0.5691	0	99.0	55.8	129	0.5611	0.388	30	
1,2-Dibromo-3-chloropropane	0.487	0.285	0.5691	0	85.6	40.5	131	0.5118	4.95	30	
1,2,4-Trimethylbenzene	0.530	0.0114	0.5691	0	93.1	50.6	137	0.5220	1.49	30	
Hexachlorobutadiene	0.509	0.0569	0.5691	0	89.5	40.6	158	0.4869	4.51	30	
Naphthalene	0.666	0.0171	0.5691	0	117	52.3	124	0.6551	1.61	30	
1,2,3-Trichlorobenzene	0.626	0.0114	0.5691	0	110	54.4	124	0.6204	0.868	30	
Surr: Dibromofluoromethane	0.696		0.7114		97.8	56.5	129		0		
Surr: Toluene-d8	0.703		0.7114		98.8	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	0.762		0.7114		107	63.1	141		0		

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705255-011BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/26/2017** SeqNo: **698988**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0633						0		30	
Chloromethane	ND	0.0633						0		30	
Vinyl chloride	ND	0.00211						0		30	
Bromomethane	ND	0.0949						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0527						0		30	
Chloroethane	ND	0.0633						0		30	
1,1-Dichloroethene	ND	0.0527						0		30	
Methylene chloride	ND	0.0211						0		30	
trans-1,2-Dichloroethene	ND	0.0211						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0527						0		30	
1,1-Dichloroethane	ND	0.0211						0		30	
2,2-Dichloropropane	ND	0.0527						0		30	
cis-1,2-Dichloroethene	ND	0.0211						0		30	
Chloroform	ND	0.0211						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0211						0		30	
1,1-Dichloropropene	ND	0.0211						0		30	
Carbon tetrachloride	ND	0.0211						0		30	
1,2-Dichloroethane (EDC)	ND	0.0316						0		30	
Benzene	ND	0.0211						0		30	
Trichloroethene (TCE)	ND	0.0211						0		30	
1,2-Dichloropropane	ND	0.0211						0		30	
Bromodichloromethane	ND	0.0211						0		30	
Dibromomethane	ND	0.0422						0		30	
cis-1,3-Dichloropropene	ND	0.0211						0		30	
Toluene	ND	0.0211						0		30	
trans-1,3-Dichloropropylene	ND	0.0316						0		30	
1,1,2-Trichloroethane	ND	0.0316						0		30	
1,3-Dichloropropane	ND	0.0527						0		30	
Tetrachloroethene (PCE)	ND	0.0211						0		30	
Dibromochloromethane	ND	0.0316						0		30	
1,2-Dibromoethane (EDB)	ND	0.00527						0		30	

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705255-011BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/26/2017** SeqNo: **698988**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	ND	0.0211						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0316						0		30	
Ethylbenzene	ND	0.0316						0		30	
m,p-Xylene	ND	0.0211						0		30	
o-Xylene	ND	0.0211						0		30	
Styrene	ND	0.0211						0		30	
Isopropylbenzene	ND	0.0844						0		30	
Bromoform	ND	0.0211						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0211						0		30	
n-Propylbenzene	ND	0.0211						0		30	
Bromobenzene	ND	0.0316						0		30	
1,3,5-Trimethylbenzene	ND	0.0211						0		30	
2-Chlorotoluene	ND	0.0211						0		30	
4-Chlorotoluene	ND	0.0211						0		30	
tert-Butylbenzene	ND	0.0211						0		30	
1,2,3-Trichloropropane	ND	0.0211						0		30	
1,2,4-Trichlorobenzene	ND	0.0527						0		30	
sec-Butylbenzene	ND	0.0211						0		30	
4-Isopropyltoluene	ND	0.0211						0		30	
1,3-Dichlorobenzene	ND	0.0211						0		30	
1,4-Dichlorobenzene	ND	0.0211						0		30	
n-Butylbenzene	ND	0.0211						0		30	
1,2-Dichlorobenzene	ND	0.0211						0		30	
1,2-Dibromo-3-chloropropane	ND	0.527						0		30	
1,2,4-Trimethylbenzene	ND	0.0211						0		30	
Hexachlorobutadiene	ND	0.105						0		30	
Naphthalene	ND	0.0316						0		30	
1,2,3-Trichlorobenzene	ND	0.0211						0		30	
Surr: Dibromofluoromethane	1.17		1.319		88.7	56.5	129		0		
Surr: Toluene-d8	1.25		1.319		94.9	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.22		1.319		92.4	63.1	141		0		

Work Order: 1705249
CLIENT: Shannon & Wilson
Project: 615 Dexter Ave N Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705255-011BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/24/2017** RunNo: **36398**
Client ID: **BATCH** Batch ID: **17161** Analysis Date: **5/26/2017** SeqNo: **698988**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1705249**
Logged by:	**Chelsea Ward**	Date Received:	**5/19/2017 1:08:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
5.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Required ☑
6.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
7.	Were all items received at a temperature of >0°C to 10.0°C*	Yes ☑	No ☐	NA ☐
8.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
9.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
10.	Are samples properly preserved?	Yes ☑	No ☐	
11.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
12.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
13.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
14.	Does paperwork match bottle labels?	Yes ☑	No ☐	
15.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
16.	Is it clear what analyses were requested?	Yes ☑	No ☐	
17.	Were all holding times able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

18.	Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	4.9
Sample	2.3

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 5/19/17 Page: 1 of: 1

Laboratory Project No (internal): 1705249

Project Name: 615 Dexter Ave N Phase II

Special Remarks:

Client: Shannon & Wilson

Project No: 21417-205

Address: 400 N 34th St. Suite 100

Collected by: BON

City, State, Zip: Seattle, WA

Location: 615 Dexter Ave N

Telephone: 206-695-6690

Report To (PM): ACT, BON

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

Fax:

PM Email: ACT@shanwil.com, BON@shanwil.com

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	21417-GP5:1	5/19	830	S	X			X		X		X						
2	21417-GP5:14	5/19	950	S	X			X		X								
3	21417-GP6:18	5/19	1030	S	X			X		X								
4	21417-GP7:2	5/19	1050	S	X			X		X								
5	21417-GP7:13	5/19	1135	S	X			X		X								
6																		
7																		
8																		
9																		
10																		

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around Time:

- ☒ Standard
- ☐ 3 Day
- ☐ 2 Day
- ☐ Next Day
- Same Day _____ (specify)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished	Date/Time	Received	Date/Time
x	5/19/17 1308	x	5/19/17 1308
Relinquished	Date/Time	Received	Date/Time
x		x	

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 5/19/17 Page: 1 of: 1

Laboratory Project No (internal): 1705249

Project Name: 615 Dexter Ave N Phase II

Special Remarks:

Project No: 21417-205

Client: Shannon & Wilson

Address: 400 N 34th St. Suite 100

Collected by: BON

City, State, Zip: Seattle, WA

Location: 615 Dexter Ave N

Telephone: 206-695-6600

Report To (PM): ACT, BON

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

Fax:

PM Email: ACT@shanwil.com, BON@shanwil.com

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	21417-GP5:1	5/19	830	S	X			X		X		X	X				Add per BN std 5/30/17 cg
2	21417-GP5:14	5/19	950	S	X			X		X							
3	21417-GP6:18	5/19	1030	S	X			X		X							
4	21417-GP7:2	5/19	1050	S	X			X		X							
5	21417-GP7:13	5/19	1135	S	X			X		X							
6																	
7																	
8																	
9																	
10																	

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

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Relinquished	Date/Time	Received	Date/Time
x [signature]	5/19/17 1308	x [signature]	5/19/17 1308
Relinquished	Date/Time	Received	Date/Time
x		x	

Turn-around Time:

- ☒ Standard
- ☐ 3 Day
- ☐ 2 Day
- ☐ Next Day
- Same Day _____ (specify)

Draft

APPENDIX C

IMPORTANT INFORMATION ABOUT YOUR ENVIRONMENTAL SITE ASSESSMENT/EVALUATION REPORT

IMPORTANT INFORMATION ABOUT YOUR ENVIRONMENTAL SITE ASSESSMENT/EVALUATION REPORT

ENVIRONMENTAL SITE ASSESSMENTS/EVALUATIONS ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

This report was prepared to meet the needs you specified with respect to your specific site and your risk management preferences. Unless indicated otherwise, we prepared your report expressly for you and for the purposes you indicated. No one other than you should use this report for any purpose without first conferring with us. No one is authorized to use this report for any purpose other than that originally contemplated without our prior written consent.

The findings and conclusions documented in this site assessment/evaluation have been prepared for specific application to this project and have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in this area. The conclusions presented are based on interpretation of information currently available to us and are made within the operational scope, budget, and schedule constraints of this project. No warranty, express or implied, is made.

OUR REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

Our environmental site assessment is based on several factors and may include (but not be limited to): reviewing public documents to chronicle site ownership for the past 30, 40, or more years; investigating the site's regulatory history to learn about permits granted or citations issued; determining prior uses of the site and those adjacent to it; reviewing available topographic and real estate maps, historical aerial photos, geologic information, and hydrologic data; reviewing readily available published information about surface and subsurface conditions; reviewing federal and state lists of known and potentially contaminated sites; evaluating the potential for naturally occurring hazards; and interviewing public officials, owners/operators, and/or adjacent owners with respect to local concerns and environmental conditions.

Except as noted within the text of the report, no sampling or quantitative laboratory testing was performed by us as part of this site assessment. Where such analyses were conducted by an outside laboratory, Shannon & Wilson relied upon the data provided and did not conduct an independent evaluation regarding the reliability of the data.

CONDITIONS CAN CHANGE.

Site conditions, both surface and subsurface, may be affected as a result of natural processes or human influence. An environmental site assessment/evaluation is based on conditions that existed at the time of the evaluation. Because so many aspects of a historical review rely on third party information, most consultants will refuse to certify (warrant) that a site is free of contaminants, as it is impossible to know with absolute certainty if such a condition exists. Contaminants may be present in areas that were not surveyed or sampled, or may migrate to areas that showed no signs of contamination at the time they were studied.

Unless your consultant indicates otherwise, your report should not be construed to represent geotechnical subsurface conditions at or adjacent to the site and does not provide sufficient information for construction-related activities. Your report also should not be used following floods, earthquakes, or other acts of nature; if the size or configuration of the site is altered; if the location of the site is modified; or if there is a change of ownership and/or use of the property.

INCIDENTAL DAMAGE MAY OCCUR DURING SAMPLING ACTIVITIES.

Incidental damage to a facility may occur during sampling activities. Asbestos and lead-based paint sampling often require destructive sampling of pipe insulation, floor tile, walls, doors, ceiling tile, roofing, and other building materials. Shannon & Wilson does not provide for paint repair. Limited repair of asbestos sample locations are provided. However, Shannon & Wilson neither warranties repairs made by our field personnel, nor are we held liable for injuries or damages as a result of those repairs. If you desire a specific form of repair, such as those provided by a licensed roofing contractor, you need to request the specific repair at the time of the proposal. The owner is responsible for repair methods that are not specified in the proposal.

READ RESPONSIBILITY CLAUSES CAREFULLY.

Environmental site assessments/evaluations are less exact than other design disciplines because they are based extensively on judgment and opinion, and there may not have been any (or very limited) investigation of actual subsurface conditions. Wholly unwarranted claims have been lodged against consultants. To limit this exposure, consultants have developed a number of clauses for use in their contracts, reports, and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses may appear in this report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

Consultants cannot accept responsibility for problems that may develop if they are not consulted after factors considered in their reports have changed, or conditions at the site have changed. Therefore, it is incumbent upon you to notify your consultant of any factors that may have changed prior to submission of the final assessment/evaluation.

An assessment/evaluation of a site helps reduce your risk, but does not eliminate it. Even the most rigorous professional assessment may fail to identify all existing conditions.

ONE OF THE OBLIGATIONS OF YOUR CONSULTANT IS TO PROTECT THE SAFETY, HEALTH, PROPERTY, AND WELFARE OF THE PUBLIC.

If our environmental site assessment/evaluation discloses the existence of conditions that may endanger the safety, health, property, or welfare of the public, we may be obligated under rules of professional conduct, statutory law, or common law to notify you and others of these conditions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland