Limited Phase II Environmental Site Assessment
Mercer Corridor West Expansion
Broad Megablock Property
800 Mercer Street
Seattle, Washington

June 2, 2017

SHANNON & WILSON, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

Excellence. Innovation. Service. Value.

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EXECUTIVE SUMMARY

Shannon & Wilson, Inc. has completed a Phase II Environmental Site Assessment (ESA) for the Seattle Department of Transportation (SDOT) Broad MegaBlock site (the Site), located in the block bound by Roy Street to the north, 9th Avenue North the east, Mercer Street to the south, and Dexter Avenue North to the west in Seattle, Washington. 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 improvements project.

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

- A gas station previously operated in the southwest corner of the Site.
- A second gas station previously operated in the northwest corner of the Site. One fuel underground storage tank (UST) remains on the site and one fuel UST has been removed.
- A building near the north central portion of the Site was previously used for soap and chemical manufacturing and had a boiler room, suggesting the presence of a heaing oil UST.
- A building on the northeast corner of the Site was previously used by multiple auto wrecking companies. The building had a large parking lot covering the east side of the property, which was used for the storage of wrecked cars.
- A building near the south central portion of the Site (referenced as 800 Mercer) was previously used by multiple tenants. The building had a 1,000-gallon diesel UST.
- Fill material from unknown sources was used on the Site to fill in a previous ramp to an underpass on the site, as well as the portion of the site formerly part of Lake Union.
- The adjacent west parcel has previously been occupied by a gas station and a drycleaner. Multiple USTs containing solvents, heating oil, and bunker fuel have been present in the alleyway to the north of this parcel. This parcel is upgradient to the Site.
- An adjacent north parcel has previously been occupied by a very large laundry/dry cleaning facility, as well as a gas station (American Linen Site). Contamination on this site is well documented, and a tetrachloroethylene (PCE) groundwater plume from the dry cleaning site has extended onto the Site.
- An adjacent north parcel (Seattle Motorsports) was reported to have petroleum contamination in soil and groundwater, as well as halogenated solvents suspected in groundwater.

- An adjacent north parcel (802 Roy Street) has documentation of multiple USTs, leaking USTs, and petroleum contamination in soil and groundwater.
- The parcel southwest of the property, across Dexter Avenue, has previously been occupied by a gas station. This site is upgradient of the Site.
- The AIBS Site, adjacent to the east of the Site, has previously been occupied by multiple dry cleaners, gas stations, auto repair shops, and auto wreckers. Contamination of soil and shallow groundwater with petroleum and metals has been well documented. Cleanup efforts have been made; however, some contamination still remains on the site.
- The parcel south of the western portion of the Site has previously been occupied by a bank building, which had a boiler and an oil-burner for heat, suggesting the presence of a heating oil UST.
- The Site has a high potential for vapor intrusion due to the American Linen Site to the north, as well as multiple gas stations being on the site.
- The Washington Natural Gas Site, adjacent to the south of the Site, was previously used for the manufacturing of coal gas until the mid-1950s. The site had multiple USTs, as well as two roughly 1-million-gallon aboveground storage tanks. Following site cleanup, Washington State Department of Ecology (Ecology) issued a no further action (NFA) letter to the site (Ecology, 2012). This site is a HREC for the Site.
- The adjacent southeast parcel (Amazon VI Site), previously contained a 2,500-gallon leaking UST. Following removal, Ecology issued the site an NFA in 2014. Due to the historical contamination and the NFA letter, this site is an HREC for the Site.

To evaluate the RECs, a direct-push probe was advanced in eleven locations at the Site. Fifteen soil samples and four groundwater samples were collected and analyzed for potential contaminants of concern, including petroleum hydrocarbons, metals, volatile organic compounds, and polynuclear aromatic hydrocarbons (PAHs). Three monitoring wells on or near the site were also sampled by a consultant working for the American Linen Site; their sampling data are included in this report.

In soil, one contaminant of concern was detected above a regulatory criterion. Sample 21417-MB9:22 showed a lead concentration of 279 milligrams per kilogram (mg/kg), which is above the Model Toxics Control Act (MTCA) Method A cleanup criteria of 250 mg/kg. Low levels of oil-range petroleum hydrocarbons were detected. Low levels of volatile organic compounds (VOCs) and PAHs were detected. Metals detected include arsenic, barium, cadmium, chromium, lead, mercury, and selenium. Chromium was detected up to 43.2 mg/kg, which is below the MTCA Method A criteria of 2,000 mg/kg for Chromium III. Diesel- and gasoline-range hydrocarbons were not detected above laboratory detection limits.

In groundwater, multiple contaminants of concern were detected above regulatory cleanup criteria. Heavy oil-range hydrocarbons were detected above cleanup criteria in sample MB10: GW at a concentration of 970 micrograms per liter (µg/L), which is above the MTCA Method A cleanup criteria of 500 µg/L. VOCs including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (DCE), and vinyl chloride were detected above MTCA Method A cleanup criteria in MW119 and MW129. Total arsenic was detected above MTCA Method A cleanup criteria in samples 21417-MB10:GW and 21417-MB11:GW. Total lead was detected above cleanup criteria in samples 21417-MB9:GW and 21417-MB10:GW. Detectable levels of contaminants of concern but below cleanup criteria include diesel-range hydrocarbons, heavy oil-range hydrocarbons, multiple VOCs, multiple total metals, and multiple dissolved metals. Gasoline-range hydrocarbons were not detected above laboratory detection limits.

Based on limited sampling, we offer the following conclusions:

- Petroleum concentrations in soil, likely from various gas stations and USTs on and adjacent to the site, appear to be present in quantities below cleanup criteria. Detectable concentrations of heavy-oil range petroleum hydrocarbons were found in the southwest corner and in the northeast corner, below cleanup criteria. A hydrocarbon odor was observed during drilling in the northwest and southwest corners. This is likely due to a previous gas stations in the southwest corner and northwest corner, and the previous auto wrecker in the northeast corner. The extent of petroleum-contaminated soil is not known but likely to be sporadic but widespread across the site.
- Oil-range petroleum concentrations were detected below cleanup criteria in sediment sampled from the stormwater pond. This detection is likely a result of drips from construction vehicles and/or vehicles on the western portion of the site being washed into the pond by stormwater.
- Lead contamination in soil was seen in the northeast corner of the Site. This is likely due to the previous autowrecker on the site, or fill used in this area. The extent of lead-contaminated soil is not known but likely to be sporadic but widespread across the eastern portion of the site.
- PAHs in soil were not detected above cleanup criteria. One sample from the southwest corner showed detectable levels of PAHs, which may be due to water used to put out a fire on the parcel adjacent to the west, or the use of asphalt in that area.
- Limited sampling of fill material shows the fill may be partially contaminated. Samples taken in the fill material showed detectable levels of PAHs, heavy oils, and metals. Sample 21417-MB9:22, the only soil sample with lead concentrations above MTCA cleanup criteria, was taken in an area where Lake Union previously resided and may have an elevated level of lead due to the fill used in that area.

- Petroleum contamination in groundwater is present on the site. Diesel- and/or oil-range hydrocarbons are above cleanup levels in the southwest and northeast corners of the site. The extent of groundwater plume(s) is not known.
- Dry cleaning VOC contamination (PCE, TCE, DCE, and vinyl chloride) in groundwater was detected in MW-119 and in MW-129. Since these wells were installed as part of American Linen investigations, it appears that the groundwater plume extends onto the eastern portion of the site. Dry cleaning VOCs were not detected in shallower groundwater sampled from push probes.
- Total arsenic and lead concentrations in groundwater exceed cleanup criteria in the eastern boundary of the site. Lead contamination is likely due to the high levels of lead found in one soil sample in that area, and detectable levels of lead in soil in each sample in that area. Elevated arsenic concentrations is likely due to background levels of arsenic in soil being present in the unfiltered groundwater sample. Each dissolved metal sample is well below any cleanup criteria.
- Given the Site's history, additional areas of contamination may exist that were not discovered during this limited, screening-level investigation. Further, petroleum and/or VOC concentrations below cleanup criteria in soil and groundwater can still have odors and staining, which may limit disposal or reuse possibilities.

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BROAD MEGABLOCK PROPERTY
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 a block of land in the South Lake Union neighborhood (the Site). The Site is currently occupied by Shimmick Construction on the west half of the block, and unoccupied on the east half of the block. The block is bound by Roy Street to the north, 9th Avenue North to the east, Mercer Street to the south, and Dexter Avenue North to the west in Seattle, Washington (Figure 1). 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 Site contains King County Parcels 2249000080, 2249000055, 2249000040, and 2249000006. The site does not have any permanent structures; 801 Roy Street is identified as the site address on the online King County Parcel Viewer. The Site encompassed approximately

2.8 acres and is in a mixed commercial area of Seattle's South Lake Union neighborhood. The site contains King County combined sewer overflow (CSO) infrastructure, which includes a CSO drop structure, CSO overflow pipes, and the King County Mercer Tunnel. A Vicinity Map showing the Site and surrounding area is included as Figure 1. Figure 2 is an aerial view of the Site and adjoining parcels, with select historical features.

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 residential dwellings, businesses, roadways, and within a previous extent of Lake Union. The study also revealed several recognized environmental conditions (RECs) and historical recognized environmental conditions (HRECs). Many are shown in Figure 2:

- A gas station previously operated in the southwest corner of the Site.
- A second gas station previously operated in the northwest corner of the Site. One fuel underground storage tank (UST) remains and one fuel UST has been removed.
- A building near the north central portion of the Site was previously used for soap and chemical manufacturing and had a boiler room, suggesting the presence of a heaing oil UST.
- A building on the northeast corner of the Site was previously used by multiple auto wrecking companies. The building had a large parking lot covering the east side of the property, which was used for the storage of wrecked cars.
- A building near the south central portion of the Site (referenced as 800 Mercer) was previously used by multiple tenants. The building had a 1,000-gallon diesel UST.
- Fill material from unknown sources was used on the Site to fill in a previous ramp to an underpass on the site, as well as the portion of the site formerly part of Lake Union.
- The adjacent west parcel has previously been occupied by a gas station and a drycleaner. Multiple USTs containing solvents, heating oil, and bunker fuel have been present in the alleyway to the north of this parcel. This parcel is upgradient of the Site.
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- An adjacent north parcel (Seattle Motorsports) was reported to have petroleum contamination in soil and groundwater, as well as halogenated solvents suspected in groundwater.
- An adjacent north parcel (802 Roy Street) has documentation of multiple USTs, leaking USTs, and petroleum contamination in soil and groundwater.
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- The parcel south of the western portion of the Site has previously been occupied by a bank building, which had a boiler and an oil-burner for heat, suggesting the presence of a heating oil UST.
- The Site has a high potential for vapor intrusion due to the American Linen Site to the north, as well as multiple gas stations being on the site.
- The Washington Natural Gas Site, adjacent to the south of the Site, was previously used for the manufacturing of coal gas until the mid-1950s. The site had multiple USTs, as well as two roughly 1-million-gallon aboveground storage tanks. Following site cleanup, Washington State Department of Ecology (Ecology) issued a no further action (NFA) letter to the site (Ecology, 2012). This site is a HREC for the Site.
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2.2.2 American Linen Monitoring Wells Sampling

PES Environmental (PES) sampled groundwater from three monitoring wells on or near the Broad MegaBlock property associated with the American Linen site adjacent to the north (Figure 2). The wells sampled include MW-106 which is in the northwest parking lot and screened from 130 to 140 feet below ground surface (bgs), MW-129 which is near the northeast corner and screened from 84 to 89 feet bgs, and MW-119 which is in the 9th Avenue North sidewalk just outside of the sites eastern boundary and screened from 35 to 45 feet bgs.

Results from sampling indicate that volatile organic compounds (VOCs) are present in each of the three groundwater samples analyzed. VOCs detected in MW-119 and MW-129 were above Washington Model Toxics Control Act (MTCA) Method A cleanup levels for PCE, trichloroethene (TCE), cis-1,2-dichloroethene (DCE), and vinyl chloride. Select analytical

results are summarized in Table 4. The laboratory analytical reports provided by PES are provided in Appendix B.

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 north 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 sandy fill ranging in depth from 3 to 24 feet bgs, silty sand with gravel to 30 feet bgs, and seams of coarse sand and clay. The fill was not observed to have debris such as concrete, brick, or trash.

3.2 Hydrogeology

Groundwater was observed to be about 28.4 feet bgs on the east side of the site during the drilling of the May 2017 environmental explorations, and at a depth of 24 feet bgs on the west side. 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 May 11 and May 12, 2017, Shannon & Wilson observed completion of eleven 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 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.

Holt Services, under subcontract to Shannon & Wilson, used a limited-access direct-push hydraulic probe rig to complete the explorations. Each probe was advanced until groundwater was reached or the rig encountered refusal, ranging in depth from 10 to 29 feet bgs. Exploration logs, which indicate depths to water (where encountered), can be found in Appendix A. Groundwater was observed in four explorations; refusal was encountered in seven explorations.

4.2 Soil and Groundwater Sampling

Fifteen soil samples and four groundwater samples were collected and analyzed for potential contaminants of concern, including petroleum hydrocarbons, metals, VOCs, and polycyclic aromatic hydrocarbons (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 east border of the Site and in the southwest corner.

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.
- Model Toxics Control Act (MTCA) 5 metals (arsenic, cadmium, chromium, lead, and mercury) by EPA Method 6020/7471.
- 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.
- Copper, nickel, and zinc by EPA 6020.
- PAHs by EPA Method 8270/SIM.

- VOCs by EPA Method 8260C.

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- and diesel-range hydrocarbons were not detected in the thirteen soil samples analyzed.
- Heavy oil-range hydrocarbons were detected in four samples analyzed ranging from 74.3 to 206 milligrams per kilogram (mg/kg). These detections are below the MTCA Method A criteria of 2,000 mg/kg.
- Several VOCs were detected below MTCA Method A criteria in three soil samples. VOCs detected include 1,2,4-Trimethylbenzene, toluene, and PCE.
- Arsenic was detected below cleanup criteria in each of the nine soil samples analyzed.
- Barium was detected below cleanup criteria in each of the eight soil samples analyzed.
- Cadmium was detected below cleanup criteria in two of the soil samples analyzed.
- Chromium was detected below MTCA Method A cleanup criteria for Chromium III in each of the nine soil samples analyzed. Detections ranged from 29.1 to 43.2 mg/kg, which are above the MTCA Method A cleanup criteria for Chromium VI. Chromium VI was not a contaminant of concern, so the cleanup value for Chromium III is used.
- Lead was detected above MTCA Method A criteria of 250 mg/kg in one sample, 21417-MB9:22, at a concentration of 279 mg/kg. Lead was detected below cleanup criteria in the other eight soil samples analyzed.

- Mercury was detected below cleanup criteria in one soil sample, 21417-MB9:22.
- Selenium was detected below cleanup criteria in the eight soil samples analyzed.
- Silver was not detected above laboratory reporting limits in the eight soil samples analyzed.
- Copper, nickel, and zinc were detected below cleanup criteria in the one sample submitted for analysis.
- PAHs were detected in one of the two soil samples analyzed at depths of 1 foot (21417-MB3:1). The toxicity equivalency factor-adjusted concentration, as well as the individual PAH concentrations, did not exceed MTCA Method A or Method B criteria for non-cancer and protective of groundwater criteria.

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 not detected in the four samples analyzed.
- Diesel- and/or oil-range petroleum hydrocarbons were detected in each of the four samples analyzed. Diesel- and/or oil-range hydrocarbons were detected above the MTCA Method A cleanup level of 500 micrograms per liter (µg/L) in two samples. Sample 21417-MB4:GW had a combined diesel- and oil-range petroleum hydrocarbon concentration of 507 µg/L. Sample 21417-MB10:GW had an oil-range petroleum hydrocarbon concentration of 970 µg/L.
- VOCs were detected below cleanup criteria in each of the four samples analyzed.
- Total metals were detected in each of the three samples analyzed. Two samples, 21417-MB10:GW and 21417-MB11:GW, were above MTCA Method A cleanup levels for total arsenic with concentrations of 13.5 µg/L and 4.34µg/L, respectively.
- Each of the three samples analyzed, 21417-MB9:GW, 21417-MB10:GW, and 21417-MB11:GW, were above MTCA Method A cleanup level of 15 µg/L for total lead with concentrations of 123, 24.1, and 19.0 µg/L respectively.
- Dissolved metals were detected well below cleanup criteria in each of the three samples analyzed. Detected dissolved metals include antimony, arsenic, copper, chromium, nickel, and zinc.

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 along the central fence line separating the east and west halves of the site. 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 Broad MegaBlock property:

- Petroleum concentrations in soil, likely from various gas stations and USTs on and adjacent to the site, appear to be present in quantities below cleanup criteria. Detectable concentrations of heavy-oil range petroleum hydrocarbons were found in the southwest corner and in the northeast corner, below cleanup criteria. A hydrocarbon odor was observed during drilling in the northwest and southwest corners. This is likely due to a previous gas stations in the southwest corner and northwest corner, and the previous auto wrecker in the northeast corner. The extent of petroleum-contaminated soil is not known but likely to be sporadic but widespread across the site.
- Oil-range petroleum concentrations were detected below cleanup criteria in sediment sampled from the stormwater pond. This detection is likely a result of drips from construction vehicles and/or vehicles on the western portion of the site being washed into the pond by stormwater.
- Lead contamination in soil was seen in the northeast corner of the Site. This is likely due to the previous autowrecker on the site, or fill used in this area. The extent of lead-contaminated soil is not known but likely to be sporadic but widespread across the eastern portion of the site.
- PAHs in soil were not detected above cleanup criteria. One sample from the southwest corner showed detectable levels of PAHs, which may be due to water used to put out a fire on the parcel adjacent to the west, or the use of asphalt in that area.
- Limited sampling of fill material shows the fill may be partially contaminated. Samples taken in the fill material showed detectable levels of PAHs, heavy oils, and metals. Sample 21417-MB9:22, the only soil sample with lead concentrations above MTCA cleanup criteria, was taken in an area where Lake Union previously resided and may have an elevated level of lead due to the fill used in that area.
- Petroleum contamination in groundwater is present on the site. Diesel- and/or oil-range hydrocarbons are above cleanup levels in the southwest and northeast corners of the site. The extent of groundwater plume(s) is not known.
- Dry cleaning VOC contamination (PCE, TCE, DCE, and vinyl chloride) in groundwater was detected in MW-119 and in MW-129. Since these wells were installed as part of American Linen investigations, it appears that the groundwater

plume extends onto the eastern portion of the site. Dry cleaning VOCs were not detected in shallower groundwater sampled from push probes.

- Total arsenic and lead concentrations in groundwater exceed cleanup criteria in the eastern boundary of the site. Lead contamination is likely due to the high levels of lead found in one soil sample in that area, and detectable levels of lead in soil in each sample in that area. Elevated arsenic concentrations is likely due to background levels of arsenic in soil being present in the unfiltered groundwater sample. Each dissolved metal sample is well below any cleanup criteria.
- Given the Site's history, additional areas of contamination may exist that were not discovered during this limited, screening-level investigation. Further, petroleum and/or VOC concentrations below cleanup criteria in soil and groundwater can still have 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.”

SHANNON & WILSON, INC.

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BON:ACT:SWG/bon

7.0 REFERENCES

Shannon & Wilson, Inc, 2017, Draft Phase I Environmental Site Assessment, Mercer Corridor Project West, Broad MegaBlock Site, Seattle, Washington: Report prepared by Shannon & Wilson, Inc., Seattle, Wash., for KPFF Consulting Engineers, Seattle, Wash., job no. 21-1-21417-206, April 28.

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.

TABLE 1
SAMPLING SUMMARY

Exploration Designation	Location	RECs/Reason Explored	Sample Designation	Exploration Depth	Sample Depth	Selected Analysis				
						Metals	Gx	Dx	VOCs	PAHs
21417-MB1	Northwest corner	Near UST, previous gas station in northwest corner, and American Linen	21417-MB1:9	10 feet	9 feet	MTCA 5	X	X	X	
21417-MB2	Northwest parking lot	Fire adjacent to the west	21417-MB2:1	10 feet	1 foot					X
		Near previous gas station in northwest corner, American Linen, and gas station, dry cleaner, and fire adjacent to the west	21417-MB2:10		10 feet		X	X	X	
21417-MB3	Southwest corner	Fire adjacent to the west, fill	21417-MB3:1	29 feet	1 foot					X
		Near previous gas station in southwest, historical drycleaner adjacent to the southwest, fill	21417-MB3:20		20 feet		X	X	X	
21417-MB4	Near southwest corner by stockpiles	Near previous gas station in southwest corner, fill, historical drycleaner and gas station adjacent to southwest, building with UST adjacent to south	21417-MB4:24	25 feet	24 feet	RCRA 8	X	X	X	
		Near previous gas station in southwest, unidentified fill, historical adjacent drycleaner to southwest	21417-MB4:GW		Screened 15-25 feet bgs		X	X	X	
21417-MB5	Approximate center of west half	Central area of western site to evaluate extents of contamination from gas stations and drycleaners	21417-MB5:9	10 feet	9 feet		X	X	X	
21417-MB6	North end of central fenced off area	Previous chemical and soap mfg. w/ boiler room and likely a UST, downgradient from American Linen	21417-MB6:9	15 feet	9 feet	RCRA 8	X	X	X	

TABLE 1
SAMPLING SUMMARY

Exploration Designation	Location	RECs/Reason Explored	Sample Designation	Exploration Depth	Sample Depth	Selected Analysis				
						Metals	Gx	Dx	VOCs	PAHs
21417-MB7	South end of central fenced off area	Previous refrigerator service w/ removed UST, near WA Natural Gas	21417-MB7:11	12 feet	11 feet		X	X	X	
21417-MB8	Northwest section of east half	Previous chemcial and soap mfg. w/ boiler room, near 802 Roy Street	21417-MB8:27	28 feet	27 feet	RCRA 8	X	X	X	
21417-MB9	Northeast corner	Previous autowrecking site, near AIBS site, near Seattle Motorsports site, unidentified fill, most downgradient location	21417-MB9:13	25 feet	13 feet	RCRA 8	X	X	X	
			21417-MB9:22		22 feet	RCRA 8, Cu, Ni, Zn	X	X	X	
			21417-MB9:GW		Screened 15-25 feet bgs	Priority Pollutant (Total and Dissolved)	X	X	X	
21417-MB10	Center of east boundary	Previous autowrecking site, near AIBS site, unidentified fill, downgradient location	21417-MB10:28	30 feet	28 feet	RCRA 8	X	X	X	
			21417-MG10:GW		Screened 20-30 feet bgs	Priority Pollutant (Total and Dissolved)	X	X	X	
21417-MB11	Southeast corner	Previous autowrecking site, near AIBS site, unidentified fill, near WA Natural gas and Amazon VI, downgradient location	21417-MB11:23	25 feet	23 feet	RCRA 8	X	X	X	
			2141--MB11:GW		Screened 15-25 feet bgs	Priority Pollutant (Total and Dissolved)	X	X	X	
21417-SPW:0.0	West sediment pond	Site use of heavy machinery	21417-SPW:0.0	Surface Scrape	0 feet	RCRA 8	X	X	X	

TABLE 1
SAMPLING SUMMARY

Exploration Designation	Location	RECs/Reason Explored	Sample Designation	Exploration Depth	Sample Depth	Selected Analysis				
						Metals	Gx	Dx	VOCs	PAHs
MONITORING WELLS SAMPLED BY OTHERS										
MW106	Northeast parking lot	American Linen, ongoing groundwater monitoring	MW106-041417	NA	Screened 130-140'				X[2]	
MW129	Northeast corner	American Linen, ongoing groundwater monitoring	MW129-041017	NA	Screened 84-89'				X[2]	
MW119	Just outside of East boundary in sidewalk ROW	American Linen, ongoing groundwater monitoring	MW119-032917	NA	Screened 35-45'				X[2]	

Notes:

[1] Copper (Cu), nickel (Ni), and Zinc (Zn) analyses to support waste disposal facility acceptance.

[2] Additional analysis include: alkalinity, chloride, nitrate, sulfate, total organic carbon, iron, manganese, methane, ethane, and ethene.

AIBS = Allen Institute of Brain Science

bgs = below ground surface

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

Gx = Northwest Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)

MTCA 5 = Model Toxics Control Act 5 metals

NA = not applicable

PAHs = polycyclic aromatic hydrocarbons

RCRA = Resource Conservation and Recovery Act 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver)

ROW = Right of way

UST = Underground Storage Tank

VOCs = volatile organic compounds

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-MB1:9	21417-MB2:1	21417-MB2:10	21417-MB3:1	21417-MB3:20	21417-MB4:24	21417-MB5:9	21417-MB6:9	21417-MB7:11	21417-MB8:27	21417-MB9:13	21417-MB9:22	21417-MB10:28	21417-MB11:23	21417-SPW:0.0
		Unrestricted	Non-cancer	Protective of GW (vadose)	9 feet	1 foot	10 feet	1 foot	20 feet	24 feet	9 feet	9 feet	11 feet	27 feet	13 feet	22 feet	28 feet	23 feet	0 feet
Petroleum Hydrocarbons																			
Gasoline-Range	NWTPH-Gx	100/30*	NE	NE	< 4.04	--	< 4.69	--	< 4.06	< 3.43	< 3.29	< 3.40	< 4.09	< 3.81	< 5.91	< 4.64	< 4.33	< 6.43	< 5.04
Diesel-Range	NWTPH-Dx	2,000	NE	NE	< 22.2	--	< 22.6	--	< 20.9	< 23.2	< 20.9	< 19.4	< 18.7	< 20.9	< 25.3	< 21.3	< 22.2	< 25.7	< 28.7
Heavy Oil-Range	NWTPH-Dx	2,000	NE	NE	< 55.4	--	< 56.2	--	**120**	< 57.9	< 52.3	< 48.4	< 46.8	< 52.3	**206**	**74.3**	< 55.4	< 64.3	**113**
Volatile Organic Compounds (VOCs)																			
1,2,4-Trimethylbenzene	EPA 8260C	NE	NE	NE	< 0.0162	--	**0.0455**	--	< 0.0162	< 0.0137	< 0.0132	< 0.0136	< 0.0163	< 0.0152	< 0.0237	< 0.0186	< 0.0173	< 0.0257	< 0.0201
Toluene	EPA 8260C	7	6400	4.52	< 0.0162	--	< 0.0187	--	< 0.0162	< 0.0137	< 0.0132	< 0.0136	< 0.0163	< 0.0152	< 0.0237	< 0.0186	< 0.0173	**0.0348**	< 0.0201
Tetrachloroethene (PCE)	EPA 8260C	0.05	480	0.0499	< 0.0162	--	< 0.0187	--	< 0.0162	< 0.0137	< 0.0132	< 0.0136	< 0.0163	**0.0238**	< 0.0237	< 0.0186	< 0.0173	< 0.0257	< 0.0201
Other Analyzed VOCs	EPA 8260C	NE	NE	NE	ND	--	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Metals																			
Arsenic	EPA 6020/7471	20	24	2.92	**4.78**	--	--	--	--	**6.94**	--	**3.10**	--	**2.69**	**4.24**	**5.01**	**7.75**	**4.18**	**5.11**
Barium	EPA 6020/7471	NE	16,000	1,650	--	--	--	--	--	**68.9**	--	**43.3**	--	**31.8**	**45.5**	**105**	**42.0**	**101**	**78.4**
Cadmium	EPA 6020/7471	2	80	0.69	< 0.192	--	--	--	--	**0.192**	--	< 0.168	--	< 0.168	**0.428**	< 0.199	< 0.174	< 0.204	< 0.209
Chromium**	EPA 6020/7471	19 / 2,000	120,000	480,000	**41.2**	--	--	--	--	**35.8**	--	**29.1**	--	**29.3**	**31.4**	**39.1**	**43.2**	**39.5**	**33.1**
Copper	EPA 6020/7471	NE	3,200	284	--	--	--	--	--	--	--	--	--	--	--	**26.3**	--	--	--
Lead	EPA 6020/7471	250	NE	3,000	**2.43**	--	--	--	--	**40.2**	--	**9.18**	--	**2.38**	**19.3**	**279**	**6.75**	**7.73**	**11.2**
Mercury	EPA 6020/7471	2	NE	2.09	< 0.293	--	--	--	--	< 0.298	--	< 0.265	--	< 0.276	< 0.291	**0.453**	< 0.268	< 0.325	< 0.339
Nickel	EPA 6020/7471	NE	1600	NE	--	--	--	--	--	--	--	--	--	--	--	**37.3**	--	--	--
Selenium	EPA 6020/7471	NE	400	5	--	--	--	--	--	**1.26**	--	**1.30**	--	**0.988**	**1.39**	**1.26**	**0.990**	**1.76**	**1.53**
Silver	EPA 6020/7471	NE	400	13.6	--	--	--	--	--	< 0.0930	--	< 0.0839	--	< 0.0842	< 0.0979	< 0.0996	< 0.0872	< 0.102	< 0.104
Zinc	EPA 6020/7471	NE	24,000	5,970	--	--	--	--	--	--	--	--	--	--	--	**62.2**	--	--	--
Polynuclear Aromatic Hydrocarbons (PAHs)																			
Naphthalene	EPA 8270/SIM	5	1,600	4.45	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	EPA 8270/SIM	NE	320	NE	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	EPA 8270/SIM	NE	5,600	NE	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Acenapthylene	EPA 8270/SIM	NE	NE	NE	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	EPA 8270/SIM	NE	4,800	97.9	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Fluorene	EPA 8270/SIM	NE	3,200	101	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	EPA 8270/SIM	NE	NE	NE	--	< 0.0426	--	**0.0455**	--	--	--	--	--	--	--	--	--	--	--
Anthracene	EPA 8270/SIM	NE	24,000	2,275	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	EPA 8270/SIM	NE	3,200	631	--	< 0.0426	--	**0.0981**	--	--	--	--	--	--	--	--	--	--	--
Pyrene	EPA 8270/SIM	NE	2,400	655	--	< 0.0426	--	**0.0939**	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	EPA 8270/SIM	NE	NE	NE	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	EPA 8270/SIM	NE	NE	0.858	--	< 0.0426	--	**0.0393**	--	--	--	--	--	--	--	--	--	--	--
Chrysene	EPA 8270/SIM	NE	NE	95.5	--	< 0.0426	--	**0.0462**	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	EPA 8270/SIM	NE	NE	2.95	--	< 0.0426	--	**0.0505**	--	--	--	--	--	--	--	--	--	--	--
Benzo(j,k)fluoranthene	EPA 8270/SIM	NE	NE	29.5	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	EPA 8270/SIM	0.1	NE	2.33	--	< 0.0426	--	**0.0399**	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	EPA 8270/SIM	NE	NE	8.32	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	EPA 8270/SIM	NE	NE	0.429	--	< 0.0426	--	< 0.0382	--	--	--	--	--	--	--	--	--	--	--
cPAH TEF	EPA 8270/SIM	0.1	NE	NE	--	0.01	--	**0.05**	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS

Notes:

[1] Specification in process

* 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.

No chlorinated acid herbicides were detected above detection limits.

No volatile organic compounds were detected above 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-MB4:GW	21417-MB9:GW	21417-MB10:GW	21417-MB11:GW
Petroleum Hydrocarbons							
Gasoline-Range	NWTPH-Gx	1,000/800*	NE	< 50.0	< 50.0	< 50.0	< 50.0
Diesel-range	NWTPH-Dx	500	NE	**281**	< 50.0	< 50.2	< 50.1
Heavy Oil-range			NE	**226**	**146**	**970**	**238**
*Volatiles***							
1-1-Dichloroethene	EPA 8260C	NE	400	< 1.00	< 1.00	< 1.00	< 1.00
cis-1,2-Dichloroethene		NE	16	< 1.00	< 1.00	< 1.00	< 1.00
trans-1,2-Dichloroethene		NE	160	< 1.00	< 1.00	< 1.00	< 1.00
Tetrachloroethene		5.00	2.08	< 1.00	< 1.00	< 1.00	< 1.00
Trichloroethene		5.00	4	< 0.500	< 0.500	< 0.500	< 0.500
Vinyl Chloride		0.02	24	< 0.200	< 0.200	< 0.200	< 0.200
Benzene		5.00	32.0	< 1.00	< 1.00	< 1.00	< 1.00
Toluene		1,000	640	**2.99**	< 1.00	**1.85**	< 1.00
4-Isopropyltoluene		NE	NE	< 1.00	< 1.00	< 1.00	**1.46**
1,2,4-Trimethylbenzene		NE	NE	< 1.00	**1.10**	**1.28**	**1.04**
Naphthalene		160	160	< 1.00	**2.06**	**5.23**	**1.01**
Other Analyzed Volatiles		NE	NE	ND	ND	ND	ND
Metals - Total							
Antimony	EPA 6020/7471	NE	6.4	--	**0.694**	< 0.200	< 0.200
Arsenic		5	4.8	--	**2.88**	**13.5**	**6.34**
Beryllium		NE	32.0	--	< 0.200	**0.264**	**0.248**
Cadmium		5	8	--	< 0.200	< 0.200	**0.353**
Chromium		50	24,000	--	**6.59**	**27.7**	**9.77**
Copper		NE	640	--	**23.7**	**17.2**	**13.2**

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Parameter	Method	MTCA Method A Cleanup Levels (µg/L)	MTCA Method B Cleanup Levels (µg/L)	21417-MB4:GW	21417-MB9:GW	21417-MB10:GW	21417-MB11:GW
Metals - Total							
Lead	EPA 6020/7471	15	NE	--	**123**	**24.1**	**19.0**
Mercury		2	NE	--	< 0.100	< 0.100	< 0.100
Nickel		NE	320	--	**7.56**	**11.2**	**14.3**
Selenium		NE	80	--	**1.06**	**1.92**	**1.02**
Silver		NE	80	--	< 0.200	< 0.200	< 0.200
Thallium		NE	1.60	--	< 1.00	< 1.00	< 0.200
Zinc		NE	4,800	--	**49.2**	**20.8**	**44.2**
Metals - Dissolved							
Antimony	EPA 200.8/245.1	NE	6.4	--	**0.646**	**0.206**	**0.214**
Arsenic		5	4.8	--	< 1.00	**1.87**	< 1.00
Beryllium		NE	32.0	--	< 0.20	< 0.20	< 0.20
Cadmium		5	8	--	< 0.20	< 0.20	< 0.20
Chromium		50	24,000	--	< 0.50	< 0.50	**0.852**
Copper		NE	640	--	**0.733**	**1.01**	< 0.50
Lead		15	NE	--	< 0.50	< 0.50	< 0.50
Mercury		2	NE	--	< 0.10	< 0.10	< 0.10
Nickel		NE	320	--	**3.11**	**3.72**	**5.12**
Selenium		NE	80	--	< 1.00	< 1.00	< 1.00
Silver		NE	80	--	< 0.200	< 0.200	< 0.200
Thallium		NE	1.6	--	< 0.200	< 0.200	< 0.200
Zinc		NE	4,800	--	**4.48**	**1.56**	**1.91**

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.

** Groundwater was sampled from four probes and three existing monitoring wells. Monitoring well data are summarized in Table 4. Only detected analytes from the seven locations are listed below.

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

TABLE 4
GROUNDWATER VOC ANALYTICAL RESULTS (BY OTHERS)

Parameter	Method	MTCA Method A Cleanup Levels (µg/L)	MTCA Method B Cleanup Levels (µg/L)	MW106-041417	MW119-032917	MW129-041017
*Volatiles***						
1-1-Dichloroethene	EPA 8260C	NE	400	ND	ND	**4.86**
cis-1,2-Dichloroethene		NE	16	ND	**42.9**	**1,420**
trans-1,2-Dichloroethene		NE	160	ND	**0.334**	**5.05**
Tetrachloroethene		5.00	2.08	ND	**5.47**	**194**
Trichloroethene		5.00	4	ND	**10.7**	**492**
Vinyl Chloride		0.02	24	ND	**0.272**	**0.885**
Acetone		NE	7200	**1.53**	**1.28**	ND
Benzene		5.00	32.0	ND	**0.139**	ND
Carbon Disulfide		NE	800	**0.641**	ND	ND
Toluene		1,000	640	ND	ND	ND
4-Isopropyltoluene		NE	NE	ND	ND	ND
1,2,4-Trimethylbenzene		NE	NE	ND	ND	ND
Naphthalene		160	160	ND	ND	**1.42**
Other Analyzed Volatiles		NE	NE	ND	ND	ND

Notes:

Bold indicates parameter detected above method detection limits.

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

EPA = U.S. Environmental Protection Agency

MTCA = Model Toxics Control Act

ND = not detected at the reporting limit

NE = no criterion established

µg/L = micrograms per liter

** Groundwater was sampled from four probes and three existing monitoring wells. Probe data are summarized in Table 3. Only detected analytes from the seven locations are listed. Groundwater samples were collected by PES Environmental. Analytical laboratory reports (only) were provided by email on May 22, 2017.

0 500 1000

Approximate Scale in Feet

NOTE

Map adapted from aerial imagery provided by Google Earth Pro, reproduced by permission granted by Google Earth ™ Mapping Service.

Mercer Corridor Project
Broad Megablock Phase II ESA
Seattle, Washington

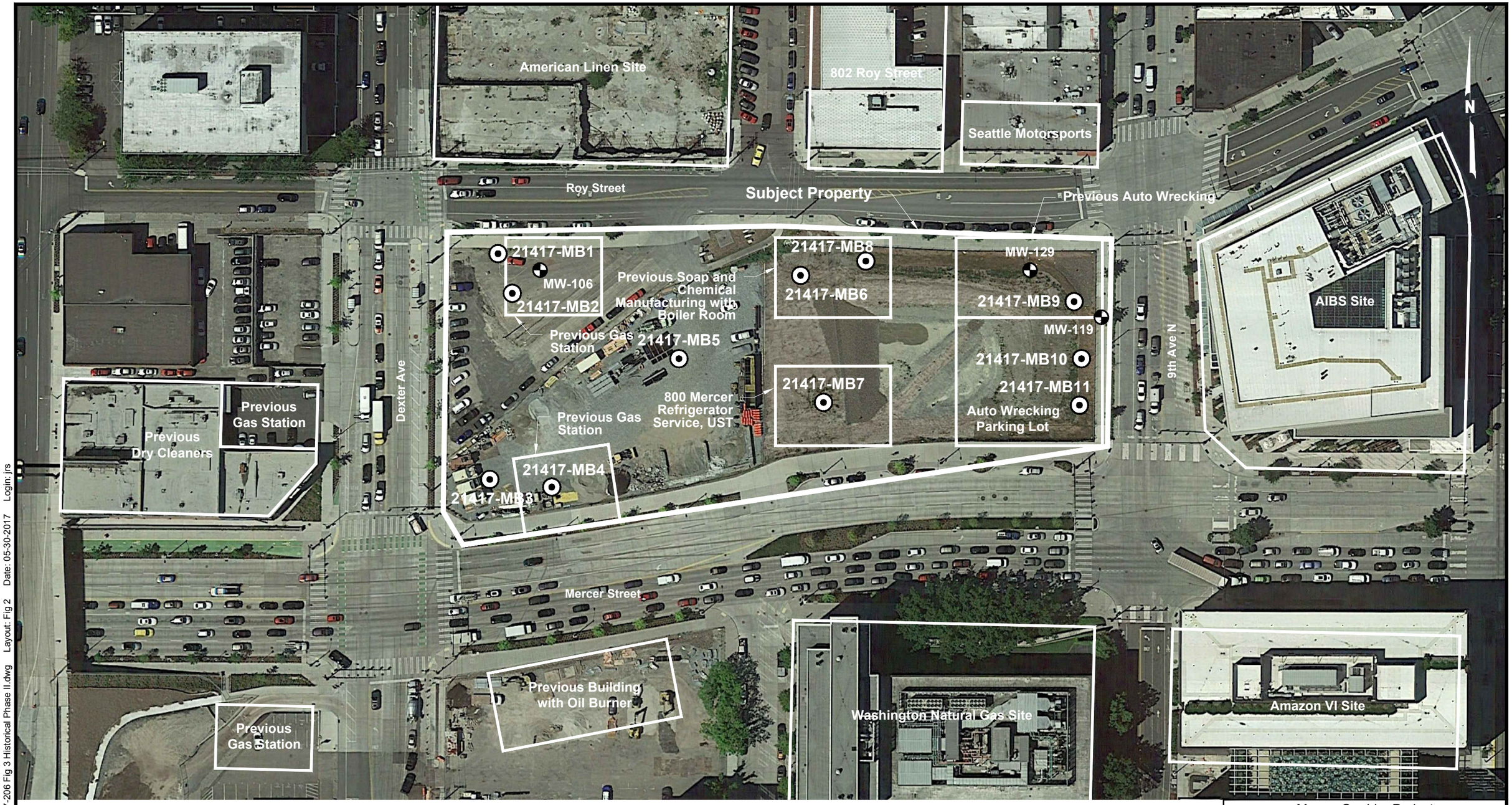
VICINITY MAP

May 2017 21-1-21417-206

SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 1

Filename: J:\21\21417\206\21-1-21417-206 Vicinity Map Megablock Phase II.dwg Date: 05-25-2017 Login: jrs



NOTE
Building Locations are approximate.

LEGEND

21417-MB5 Geoprobe Exploration Designation and Approximate Location

MW-106 Monitoring Well Designation and Approximate Location

0 80 160

Approximate Scale in Feet

NOTE

Map adapted from aerial imagery provided by Google Earth Pro, reproduced by permission granted by Google Earth ™ Mapping Service.

Mercer Corridor Project
Broad Megablock Phase II ESA
Seattle, Washington

SITE AND EXPLORATION PLAN

May 2017 21-1-21417-206

SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 2

Filename: J:\211\21417\206\21-1-21417-206 Fig 3 Historical Phase II.dwg Layout: Fig 2 Date: 05-30-2017 Login: jrs

Filename: J:\211\21417\206\21-1-21417-206 Fig 4 Explorations Phase II.dwg Layout: Fig 3 Date: 05-30-2017 Login: jrs

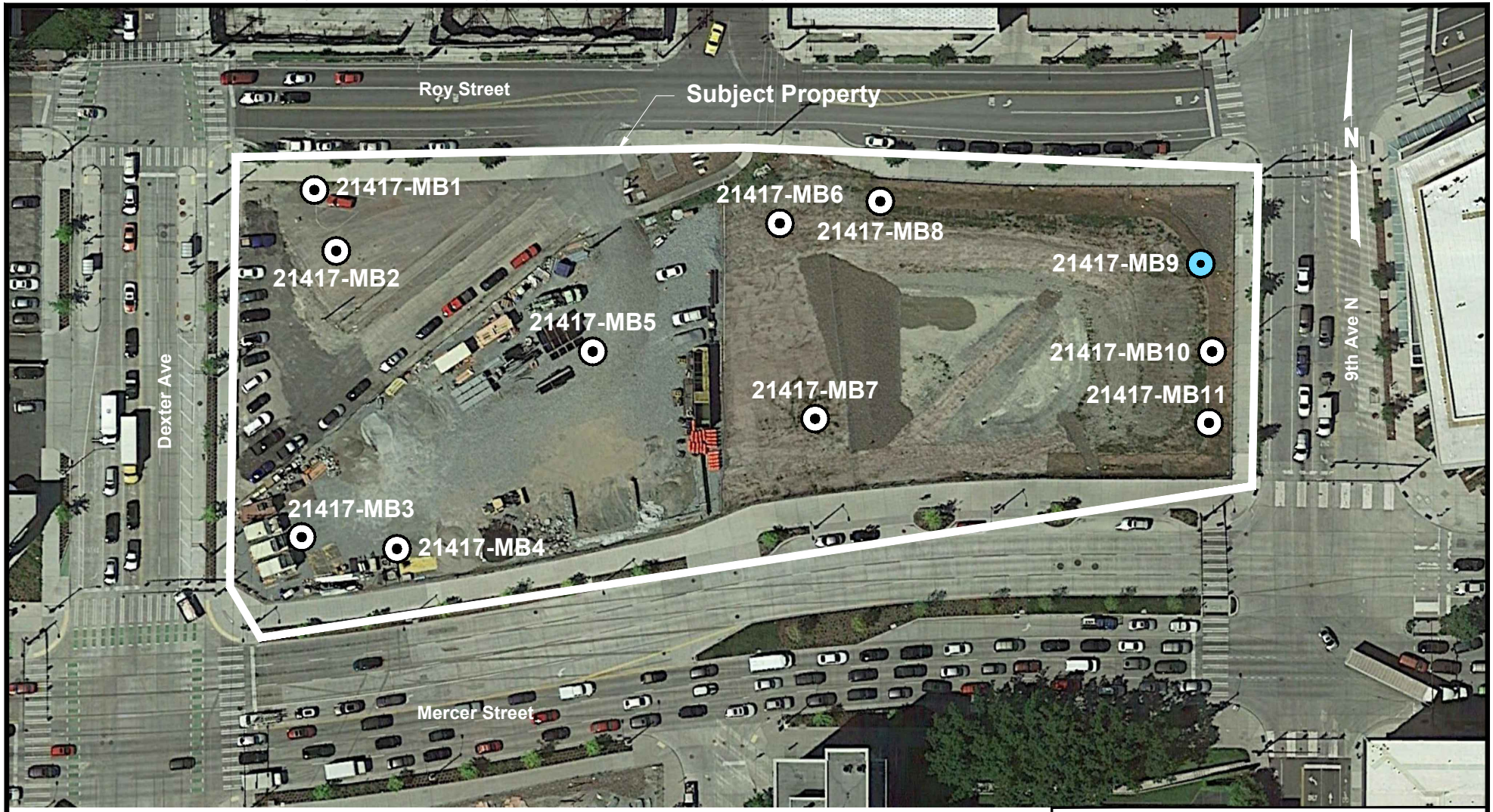


FIG. 3

LEGEND

21417-MB5 Exploration Designation and Approximate Location

21417-MB9 Exploration Designation and Approximate Location with Lead Results Above MTCA

0 80 160

Approximate Scale in Feet

NOTE

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Mercer Corridor Project
Broad Megablock Phase II ESA
Seattle, Washington

SOIL RESULTS ABOVE MTCA

May 2017 21-1-21417-206

SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 3

Filename: J:\211\21417\206\21-1-21417-206 Fig 3 Explorations Phase II.dwg Layout: Fig 4 Date: 06-01-2017 Login: jrs

LEGEND

21417-MB9 Geoprobe Exploration Designation and Approximate Location Where Groundwater was Sampled

MW-106 Monitoring Well Designation and Approximate Location (Sampled by Others)

Location with Petroleum Concentrations Above Cleanup Criteria

Location with Total Metals Concentrations Above Cleanup Criteria

Location with VOCs Above Cleanup Criteria

FIG. 4

Mercer Corridor Project
Broad Megablock Phase II ESA
Seattle, Washington

GROUNDWATER RESULTS ABOVE MTCA

May 2017 21-1-21417-206

SHANNON & WILSON, INC. GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

FIG. 4

APPENDIX A

FIELD METHODS AND EXPLORATION LOGS

APPENDIX A

FIELD METHODS AND EXPLORATION LOGS

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TABLE OF CONTENTS (cont.)

FIGURES

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) block of land. The block is bound by Roy Street to the north, 9th Avenue North to the east, Mercer Street to the south, and Dexter Avenue North to the west, and is located in Seattle, Washington. 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 Shimmick Construction, the current tenant on the west half of the site, 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

Since the site is primarily undeveloped, a limited access 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-13.

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 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 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) (± 2°C) with "blue ice."

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.

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).
- Model Toxics Control Act (MTCA) 5 metals (arsenic, cadmium, chromium, lead, and mercury) by EPA Method 6020/7471.
- Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Method 6020/7471.
- Copper, nickel, and zinc by EPA 6020.
- 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.

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.

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.

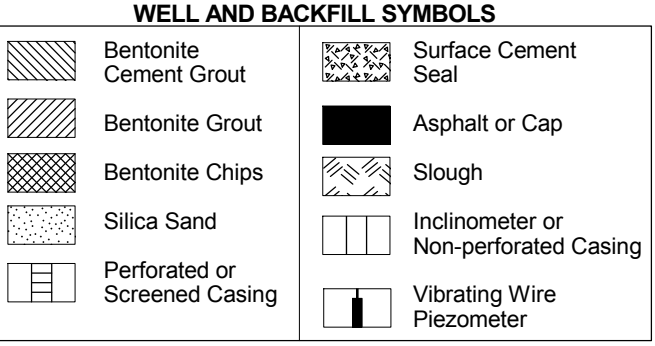
PARTICLE SIZE DEFINITIONS

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.

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Mercer Corridor Project
Broad Megablock Phase II ESA
Seattle, Washington

SOIL DESCRIPTION AND LOG KEY

May 2017 21-1-21417-206

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.

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SOIL DESCRIPTION AND LOG KEY

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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.

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SOIL DESCRIPTION AND LOG KEY

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FIG. A-1
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SOIL_CLASS_KEY_PG3 21-16700-201.GPJ SHAN_WIL.GDT 5/23/17

LOG OF GEOPROBE

Date Started *5/12/17*	**Location** *E of Existing UST in NW Paring Lot*	**Ground Elevation:** *Approx. NA feet*	
Date Completed *5/12/17*		**Typical Run Length** *5 feet*	
Total Depth (ft) *10.2*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
0	1	Olive, coarse *Sand (SP)*. (Fill)			0.2	None Observed During Drilling		0
		Light, gray-brown, fine, *Silty Sand (SM)*.	3.0					
5	2				0			5
		Very hard, light gray, *Silty Sand (SM)*.	8.0					
10	3	BOTTOM OF GEOPROBE COMPLETED 5/12/2017	10.2		0			10
15								15

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.

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

▽ Estimated Water Level

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LOG OF GEOPROBE 21417-MB1

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FIG. A-2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/12/17*	**Location** *15 Ft NE of Central Power Pole in NW Parking Lot*	**Ground Elevation:** *Approx. NA feet*	
Date Completed *5/12/17*		**Typical Run Length** *5 feet*	
Total Depth (ft) *10.0*	**Drilling Company:** *Holt*	**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	Asphalt.	0.5					
		Olive, coarse *Sand Fill with Gravel (SP)*.			0			
5	2	Hard, gray-brown, fine, *Silty Sand (SM)*.	5.0		0	None Observed During Drilling		5
		Very hard, light gray, *Silty Sand (SM)*; hydrocarbon odor from 9.5 to 10 feet.	9.0					
10		BOTTOM OF GEOPROBE COMPLETED 5/12/2017	10.0					10
15								15

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.

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.
Estimated Water Level

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LOG OF GEOPROBE 21417-MB2

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FIG. A-3

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/12/17*	**Location** *SW Corner Near Conex Containers*	**Ground Elevation:** *Approx. NA feet*	
Date Completed *5/12/17*		**Typical Run Length** *5 feet*	
Total Depth (ft) *29.0*	**Drilling Company:** *Holt*	**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	Asphalt.	0.5					
		Olive, coarse *Sand (SP)* fill with few gravels.			0.1			
5	2				0.1	None Observed During Drilling		5
10	3				0.2			10
15	4				0.1			15

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.

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

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Seattle, Washington

LOG OF GEOPROBE 21417-MB3

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FIG. A-4
Sheet 1 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/12/17*	**Location** *SW Corner Near Conex Containers*	**Ground Elevation:** *Approx. NA feet*	
Date Completed *5/12/17*		**Typical Run Length** *5 feet*	
Total Depth (ft) *29.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
25	5	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.						
					0.1			
		Light gray-brown, fine, *Silty Sand (SM)* with clay lense at 25 feet; moist at 27 feet.	24.0					
	6				0.1			
		BOTTOM OF GEOPROBE COMPLETED 5/12/2017	29.0					
30								25
35								30
								35

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.
Estimated Water Level

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LOG OF GEOPROBE 21417-MB3

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FIG. A-4
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REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/12/17*	**Location** *SW Corner Near Fill Stock Piles*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/12/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *25.0*	**Drilling Company:** *Holt*	**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	Asphalt.	0.5					
		Olive, coarse *Sand (SP)* fill with few gravels.			0			
		Gray, coarse *Sand (SM)* fill with few gravels; moist.	4.0					
5	2	Olive, coarse *Sand (SM)* fill with few gravels; moist.	5.0		0			5
10	3				0			10
15	4	Gray *Clay (CH)* lense.	15.0		0			15
		Light gray-brown, fine, *Silty Sand (SM)* with coarse sand lense; slight hydrocarbon odor at 24 feet.	18.0		0			

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.
▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB4

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-5
Sheet 1 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/12/17*	**Location** *SW Corner Near Fill Stock Piles*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/12/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *25.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	5	*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.*			0	During Drilling ▽		
25		BOTTOM OF GEOPROBE COMPLETED 5/12/2017	25.0					25
30								30
35								35

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

▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB4

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-5
Sheet 2 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/12/17*	**Location** *Approximate Center of West Half of Site*	**Ground Elevation:** *Approx. NA feet*	
Date Completed *5/12/17*		**Typical Run Length** *5 feet*	
Total Depth (ft) *10.0*	**Drilling Company:** *Holt*	**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	Olive, coarse *Sand (SP)* fill with little gravels; asphalt at 3 inches.			0			
5	2					None Observed During Drilling		5
		Light gray-brown, *Silty Sand (SM)* with few gravels, moist.	7.0		0			
10		BOTTOM OF BORING COMPLETED 5/12/2017	10.0					10
15								15

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.

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

▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB5

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-6

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *Center Section, North*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *15.0*	**Drilling Company:** *Holt*	**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	Olive, coarse *Sand (SP)* fill.						
		Olive, *Silty Sand (SM)*.	2.0		0			
		Olive, *Silty Sand (SM)* with trace gravels; gray vein at 9 feet.	3.0					
5	2				0	None Observed During Drilling		5
10	3	Very hard, olive, *Silty Sand (SM)* with trace gravels; dry.	10.0		0			10
15		BOTTOM OF GEOPROBE COMPLETED 5/11/2017	15.0		0			15

Typ: LKN Rev: BON Log: BON

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17

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.

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.
▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB6

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-7

REV 0

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *Center Section, South*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *12.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
5	1	Olive, coarse *Sand (SP)* fill with some gravel.	2.0		0.3	None Observed During Drilling		5
10	2	Hard, olive, *Silty Sand (SM)* with few gravels; slightly moist at 8 feet.			0.1			10
15	3	BOTTOM OF GEOPROBE COMPLETED 5/11/2017	12.0		0.1			15

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.

Log: BON Rev: BON Typ: LKN

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17

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

▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB7

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-8

REV 0

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *North of Sediment Ponds Near 802 Roy*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *28.0*	**Drilling Company:** *Holt*	**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	Olive, coarse *Sand (SP)* fill with organics.						
		Olive-gray, coarse *Sand (SP)* fill with some gravels.	1.0		0			
5	2							5
					0.1	None Observed During Drilling		
10	3							10
		Olive, *Silty Sand (SM)* with few gravels, getting harder with depth.	11.0		0.1			
15	4				0			15

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.
Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB8

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-9
Sheet 1 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *North of Sediment Ponds Near 802 Roy*	**Ground Elevation:** *Approx. NA feet*	
Date Completed *5/11/17*		**Typical Run Length** *5 feet*	
Total Depth (ft) *28.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*	

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	5	*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.*			0.1			
	6				0			
25								25
		BOTTOM OF GEOPROBE COMPLETED 5/11/2017	28.0					
30								30
35								35

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

▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB8

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-9
Sheet 2 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *NE Corner*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *25.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
0	1	Olive-gray, coarse *Sand (SP)* fill with some gravels; organics on top 1 inch.			0			0
5	2				0			5
10	3	Olive-brown, coarse *Sand (SW)* fill, mostly gravel.	10.0		0.1			10
15	4	Light gray, *Silty Sand (SM)* getting finer with depth; moist at 22 feet; coarse sand vein at 24.5 feet.	18.0		0.1	▽ During Drilling		15

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.

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.
▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB9

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-10
Sheet 1 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *NE Corner*	**Ground Elevation:**	*Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length**	*5 feet*
Total Depth (ft) *25.0*	**Drilling Company:** *Holt*	**Hole Diameter:**	*2 inches*

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	5	*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.*			0.1			
25		BOTTOM OF GEOPROBE COMPLETED 5/11/2017	25.0					25
30								30
35								35

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

▽ Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB9

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-10
Sheet 2 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *E Border, Center*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *30.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
5	1	Olive, coarse *Sand (SP)* fill with few gravels.			0			5
	2				0			
10	3				0.1			10
15	4	Light gray, *Silty Sand (SM)* with few gravels; moist at 15 feet; organics at 21 feet; sand vein at 28 feet; slight blue tint at soil-water interface.	13.0		0.1			15

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.
Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB10

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-11
Sheet 1 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *E Border, Center*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *30.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
25	5 6	*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.*			0 0	During Drilling ▽		25
30		BOTTOM OF GEOPROBE COMPLETED 5/11/2017	30.0					30
35								35

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 ▽ Estimated Water Level
Run No.

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB10

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-11
Sheet 2 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *SE Corner of Site*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *25.0*	**Drilling Company:** *Holt*	**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	Light gray and dark green, coarse *Sand (SP)* fill with organics at top.						
		Olive, coarse *Sand (SP)* fill with few gravels.	1.5		0			
5	2				0			5
		Light gray, *Silty Sand (SM)* with few gravel; moist at 19.5 feet.	9.0					
10	3				0			10
15	4				0			15

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.
Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB11

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-12
Sheet 1 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

LOG OF GEOPROBE

Date Started *5/11/17*	**Location** *SE Corner of Site*	**Ground Elevation:** *Approx. NA feet*
Date Completed *5/11/17*		**Typical Run Length** *5 feet*
Total Depth (ft) *25.0*	**Drilling Company:** *Holt*	**Hole Diameter:** *2 inches*

Depth (ft)	Probe Run	Soil Description	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	Depth (ft)
	5	Light gray, *Silty Sand (SM)*; wet at 23 feet; hard silt layer with tree root at 22 feet.	20.0		0	During Drilling		
25		BOTTOM OF GEOPROBE COMPLETED 5/11/2017	25.0					25
30								30
35								35

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.

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

Estimated Water Level

Mercer Corridor Project
Broad Megablock Phase II
Seattle, Washington

LOG OF GEOPROBE 21417-MB11

May 2017 21-1-21417-206

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

FIG. A-12
Sheet 2 of 2

REV 0

GEOPROBE 21-21417-206.GPJ 21-16604.GPJ 6/1/17 Log: BON Rev: BON Typ: LKN

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: Megablock Phase II
Work Order Number: 1705140

May 26, 2017

Attention Blaine Nesbit:

Fremont Analytical, Inc. received 12 sample(s) on 5/11/2017 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
Sample Moisture (Percent Moisture)
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

CC:
Agnes Tirao

Date: *05/26/2017*

CLIENT: Shannon & Wilson
Project: Megablock Phase II
Work Order: 1705140

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1705140-001	21417-MB10:28	05/11/2017 11:00 AM	05/11/2017 5:10 PM
1705140-002	21417-MB6:9	05/11/2017 3:35 PM	05/11/2017 5:10 PM
1705140-003	21417-MB11:23	05/11/2017 9:45 AM	05/11/2017 5:10 PM
1705140-004	21417-SPW:0.0	05/11/2017 10:35 AM	05/11/2017 5:10 PM
1705140-005	21417-MB9:22	05/11/2017 1:45 PM	05/11/2017 5:10 PM
1705140-006	21417-MB9:13	05/11/2017 1:05 PM	05/11/2017 5:10 PM
1705140-007	21417-MB8:27	05/11/2017 3:15 PM	05/11/2017 5:10 PM
1705140-008	21417-MB7:11	05/11/2017 4:05 PM	05/11/2017 5:10 PM
1705140-009	21417-MB10:GW	05/11/2017 12:00 PM	05/11/2017 5:10 PM
1705140-010	21417-MB9:GW	05/11/2017 1:55 PM	05/11/2017 5:10 PM
1705140-011	21417-MB11:GW	05/11/2017 10:00 AM	05/11/2017 5:10 PM
1705140-012	Trip Blank	05/10/2017 11:07 AM	05/11/2017 5:10 PM

Case Narrative

WO#: **1705140**
Date: **5/26/2017**

CLIENT: Shannon & Wilson
Project: Megablock 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: 5/11/2017 11:00:00 AM
Project: Megablock Phase II
Lab ID: 1705140-001
Matrix: Soil
Client Sample ID: **21417-MB10:28**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17044		Analyst: SB
Diesel (Fuel Oil)	ND	22.2		mg/Kg-dry	1	5/16/2017 6:01:12 AM
Heavy Oil	ND	55.4		mg/Kg-dry	1	5/16/2017 6:01:12 AM
Surr: 2-Fluorobiphenyl	120	50-150		%Rec	1	5/16/2017 6:01:12 AM
Surr: o-Terphenyl	121	50-150		%Rec	1	5/16/2017 6:01:12 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	4.33		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Surr: Toluene-d8	99.1	65-135		%Rec	1	5/16/2017 1:12:20 PM
Surr: 4-Bromofluorobenzene	98.2	65-135		%Rec	1	5/16/2017 1:12:20 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0519	Q	mg/Kg-dry	1	5/16/2017 1:12:20 PM
Chloromethane	ND	0.0519		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Vinyl chloride	ND	0.00173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Bromomethane	ND	0.0779		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Trichlorofluoromethane (CFC-11)	ND	0.0433		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Chloroethane	ND	0.0519		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,1-Dichloroethene	ND	0.0433		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Methylene chloride	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
trans-1,2-Dichloroethene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Methyl tert-butyl ether (MTBE)	ND	0.0433		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,1-Dichloroethane	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
2,2-Dichloropropane	ND	0.0433	Q	mg/Kg-dry	1	5/16/2017 1:12:20 PM
cis-1,2-Dichloroethene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Chloroform	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,1,1-Trichloroethane (TCA)	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,1-Dichloropropene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Carbon tetrachloride	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2-Dichloroethane (EDC)	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Benzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Trichloroethene (TCE)	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2-Dichloropropane	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Bromodichloromethane	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Dibromomethane	ND	0.0346		mg/Kg-dry	1	5/16/2017 1:12:20 PM
cis-1,3-Dichloropropene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Toluene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
trans-1,3-Dichloropropylene	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM

Analytical Report

Work Order: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 11:00:00 AM
Project: Megablock Phase II
Lab ID: 1705140-001
Matrix: Soil
Client Sample ID: **21417-MB10:28**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,3-Dichloropropane	ND	0.0433		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Tetrachloroethene (PCE)	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Dibromochloromethane	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2-Dibromoethane (EDB)	ND	0.00433		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Chlorobenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,1,1,2-Tetrachloroethane	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Ethylbenzene	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM
m,p-Xylene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
o-Xylene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Styrene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Isopropylbenzene	ND	0.0692		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Bromoform	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,1,2,2-Tetrachloroethane	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
n-Propylbenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Bromobenzene	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,3,5-Trimethylbenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
2-Chlorotoluene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
4-Chlorotoluene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
tert-Butylbenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2,3-Trichloropropane	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2,4-Trichlorobenzene	ND	0.0433		mg/Kg-dry	1	5/16/2017 1:12:20 PM
sec-Butylbenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
4-Isopropyltoluene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,3-Dichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,4-Dichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
n-Butylbenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2-Dichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2-Dibromo-3-chloropropane	ND	0.433		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2,4-Trimethylbenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Hexachlorobutadiene	ND	0.0866		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Naphthalene	ND	0.0260		mg/Kg-dry	1	5/16/2017 1:12:20 PM
1,2,3-Trichlorobenzene	ND	0.0173		mg/Kg-dry	1	5/16/2017 1:12:20 PM
Surr: Dibromofluoromethane	91.0	56.5-129		%Rec	1	5/16/2017 1:12:20 PM
Surr: Toluene-d8	124	64.5-151		%Rec	1	5/16/2017 1:12:20 PM
Surr: 1-Bromo-4-fluorobenzene	94.7	63.1-141		%Rec	1	5/16/2017 1:12:20 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: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 11:00:00 AM
Project: Megablock Phase II
Lab ID: 1705140-001
Matrix: Soil
Client Sample ID: **21417-MB10:28**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.268		mg/Kg-dry	1	5/17/2017 3:57:00 PM
Total Metals by EPA Method 6020				Batch ID: 17042		Analyst: TN
Arsenic	7.75	0.0872		mg/Kg-dry	1	5/15/2017 6:05:18 PM
Barium	42.0	0.436		mg/Kg-dry	1	5/15/2017 6:05:18 PM
Cadmium	ND	0.174		mg/Kg-dry	1	5/15/2017 6:05:18 PM
Chromium	43.2	0.0872		mg/Kg-dry	1	5/15/2017 6:05:18 PM
Lead	6.75	0.174		mg/Kg-dry	1	5/15/2017 6:05:18 PM
Selenium	0.990	0.436		mg/Kg-dry	1	5/15/2017 6:05:18 PM
Silver	ND	0.0872	*	mg/Kg-dry	1	5/15/2017 6:05:18 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	13.8			wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 3:35:00 PM
Project: Megablock Phase II
Lab ID: 1705140-002
Matrix: Soil
Client Sample ID: **21417-MB6:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17044		Analyst: SB
Diesel (Fuel Oil)	ND	19.4		mg/Kg-dry	1	5/16/2017 6:32:30 AM
Heavy Oil	ND	48.4		mg/Kg-dry	1	5/16/2017 6:32:30 AM
Surr: 2-Fluorobiphenyl	94.6	50-150		%Rec	1	5/16/2017 6:32:30 AM
Surr: o-Terphenyl	92.6	50-150		%Rec	1	5/16/2017 6:32:30 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	3.40		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/16/2017 2:09:22 PM
Surr: 4-Bromofluorobenzene	95.7	65-135		%Rec	1	5/16/2017 2:09:22 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0408	Q	mg/Kg-dry	1	5/16/2017 2:09:22 PM
Chloromethane	ND	0.0408		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Vinyl chloride	ND	0.00136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Bromomethane	ND	0.0612		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Trichlorofluoromethane (CFC-11)	ND	0.0340		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Chloroethane	ND	0.0408		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,1-Dichloroethene	ND	0.0340		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Methylene chloride	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
trans-1,2-Dichloroethene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Methyl tert-butyl ether (MTBE)	ND	0.0340		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,1-Dichloroethane	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
2,2-Dichloropropane	ND	0.0340	Q	mg/Kg-dry	1	5/16/2017 2:09:22 PM
cis-1,2-Dichloroethene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Chloroform	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,1,1-Trichloroethane (TCA)	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,1-Dichloropropene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Carbon tetrachloride	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2-Dichloroethane (EDC)	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Benzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Trichloroethene (TCE)	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2-Dichloropropane	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Bromodichloromethane	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Dibromomethane	ND	0.0272		mg/Kg-dry	1	5/16/2017 2:09:22 PM
cis-1,3-Dichloropropene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Toluene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
trans-1,3-Dichloropropylene	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 3:35:00 PM
Project: Megablock Phase II
Lab ID: 1705140-002
Matrix: Soil
Client Sample ID: **21417-MB6:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,3-Dichloropropane	ND	0.0340		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Tetrachloroethene (PCE)	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Dibromochloromethane	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2-Dibromoethane (EDB)	ND	0.00340		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Chlorobenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,1,1,2-Tetrachloroethane	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Ethylbenzene	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM
m,p-Xylene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
o-Xylene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Styrene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Isopropylbenzene	ND	0.0544		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Bromoform	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,1,2,2-Tetrachloroethane	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
n-Propylbenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Bromobenzene	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,3,5-Trimethylbenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
2-Chlorotoluene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
4-Chlorotoluene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
tert-Butylbenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2,3-Trichloropropane	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2,4-Trichlorobenzene	ND	0.0340		mg/Kg-dry	1	5/16/2017 2:09:22 PM
sec-Butylbenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
4-Isopropyltoluene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,3-Dichlorobenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,4-Dichlorobenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
n-Butylbenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2-Dichlorobenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2-Dibromo-3-chloropropane	ND	0.340		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2,4-Trimethylbenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Hexachlorobutadiene	ND	0.0681		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Naphthalene	ND	0.0204		mg/Kg-dry	1	5/16/2017 2:09:22 PM
1,2,3-Trichlorobenzene	ND	0.0136		mg/Kg-dry	1	5/16/2017 2:09:22 PM
Surr: Dibromofluoromethane	89.1	56.5-129		%Rec	1	5/16/2017 2:09:22 PM
Surr: Toluene-d8	97.8	64.5-151		%Rec	1	5/16/2017 2:09:22 PM
Surr: 1-Bromo-4-fluorobenzene	91.8	63.1-141		%Rec	1	5/16/2017 2:09:22 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: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 3:35:00 PM
Project: Megablock Phase II
Lab ID: 1705140-002
Matrix: Soil
Client Sample ID: **21417-MB6:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.265		mg/Kg-dry	1	5/17/2017 3:58:00 PM
Total Metals by EPA Method 6020				Batch ID: 17042		Analyst: TN
Arsenic	3.10	0.0839		mg/Kg-dry	1	5/15/2017 6:09:20 PM
Barium	43.3	0.420		mg/Kg-dry	1	5/15/2017 6:09:20 PM
Cadmium	ND	0.168		mg/Kg-dry	1	5/15/2017 6:09:20 PM
Chromium	29.1	0.0839		mg/Kg-dry	1	5/15/2017 6:09:20 PM
Lead	9.18	0.168		mg/Kg-dry	1	5/15/2017 6:09:20 PM
Selenium	1.30	0.420		mg/Kg-dry	1	5/15/2017 6:09:20 PM
Silver	ND	0.0839	*	mg/Kg-dry	1	5/15/2017 6:09:20 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	7.65			wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 9:45:00 AM
Project: Megablock Phase II
Lab ID: 1705140-003
Matrix: Soil
Client Sample ID: **21417-MB11:23**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17072		Analyst: SB
Diesel (Fuel Oil)	ND	25.7		mg/Kg-dry	1	5/18/2017 1:11:58 PM
Heavy Oil	ND	64.3		mg/Kg-dry	1	5/18/2017 1:11:58 PM
Surr: 2-Fluorobiphenyl	79.7	50-150		%Rec	1	5/18/2017 1:11:58 PM
Surr: o-Terphenyl	91.9	50-150		%Rec	1	5/18/2017 1:11:58 PM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	6.43		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Surr: Toluene-d8	103	65-135		%Rec	1	5/16/2017 2:37:50 PM
Surr: 4-Bromofluorobenzene	94.7	65-135		%Rec	1	5/16/2017 2:37:50 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0772	Q	mg/Kg-dry	1	5/16/2017 2:37:50 PM
Chloromethane	ND	0.0772		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Vinyl chloride	ND	0.00257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Bromomethane	ND	0.116		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Trichlorofluoromethane (CFC-11)	ND	0.0643		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Chloroethane	ND	0.0772		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,1-Dichloroethene	ND	0.0643		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Methylene chloride	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
trans-1,2-Dichloroethene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Methyl tert-butyl ether (MTBE)	ND	0.0643		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,1-Dichloroethane	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
2,2-Dichloropropane	ND	0.0643	Q	mg/Kg-dry	1	5/16/2017 2:37:50 PM
cis-1,2-Dichloroethene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Chloroform	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,1,1-Trichloroethane (TCA)	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,1-Dichloropropene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Carbon tetrachloride	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2-Dichloroethane (EDC)	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Benzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Trichloroethene (TCE)	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2-Dichloropropane	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Bromodichloromethane	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Dibromomethane	ND	0.0515		mg/Kg-dry	1	5/16/2017 2:37:50 PM
cis-1,3-Dichloropropene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Toluene	0.0348	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
trans-1,3-Dichloropropylene	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 9:45:00 AM
Project: Megablock Phase II
Lab ID: 1705140-003
Matrix: Soil
Client Sample ID: **21417-MB11:23**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,3-Dichloropropane	ND	0.0643		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Tetrachloroethene (PCE)	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Dibromochloromethane	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2-Dibromoethane (EDB)	ND	0.00643		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Chlorobenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,1,1,2-Tetrachloroethane	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Ethylbenzene	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM
m,p-Xylene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
o-Xylene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Styrene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Isopropylbenzene	ND	0.103		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Bromoform	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,1,2,2-Tetrachloroethane	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
n-Propylbenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Bromobenzene	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,3,5-Trimethylbenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
2-Chlorotoluene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
4-Chlorotoluene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
tert-Butylbenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2,3-Trichloropropane	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2,4-Trichlorobenzene	ND	0.0643		mg/Kg-dry	1	5/16/2017 2:37:50 PM
sec-Butylbenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
4-Isopropyltoluene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,3-Dichlorobenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,4-Dichlorobenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
n-Butylbenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2-Dichlorobenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2-Dibromo-3-chloropropane	ND	0.643		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2,4-Trimethylbenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Hexachlorobutadiene	ND	0.129		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Naphthalene	ND	0.0386		mg/Kg-dry	1	5/16/2017 2:37:50 PM
1,2,3-Trichlorobenzene	ND	0.0257		mg/Kg-dry	1	5/16/2017 2:37:50 PM
Surr: Dibromofluoromethane	90.2	56.5-129		%Rec	1	5/16/2017 2:37:50 PM
Surr: Toluene-d8	97.7	64.5-151		%Rec	1	5/16/2017 2:37:50 PM
Surr: 1-Bromo-4-fluorobenzene	91.4	63.1-141		%Rec	1	5/16/2017 2:37:50 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: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 9:45:00 AM
Project: Megablock Phase II
Lab ID: 1705140-003
Matrix: Soil
Client Sample ID: **21417-MB11:23**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.325		mg/Kg-dry	1	5/17/2017 4:00:00 PM
Total Metals by EPA Method 6020				Batch ID: 17042		Analyst: TN
Arsenic	4.18	0.102		mg/Kg-dry	1	5/15/2017 6:13:21 PM
Barium	101	0.510		mg/Kg-dry	1	5/15/2017 6:13:21 PM
Cadmium	ND	0.204		mg/Kg-dry	1	5/15/2017 6:13:21 PM
Chromium	39.5	0.102		mg/Kg-dry	1	5/15/2017 6:13:21 PM
Lead	7.73	0.204		mg/Kg-dry	1	5/15/2017 6:13:21 PM
Selenium	1.76	0.510		mg/Kg-dry	1	5/15/2017 6:13:21 PM
Silver	ND	0.102	*	mg/Kg-dry	1	5/15/2017 6:13:21 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	27.4			wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 10:35:00 AM
Project: Megablock Phase II
Lab ID: 1705140-004
Matrix: Soil
Client Sample ID: **21417-SPW:0.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17044		Analyst: SB
Diesel (Fuel Oil)	ND	28.7		mg/Kg-dry	1	5/16/2017 7:35:03 AM
Heavy Oil	113	71.7		mg/Kg-dry	1	5/16/2017 7:35:03 AM
Surr: 2-Fluorobiphenyl	84.2	50-150		%Rec	1	5/16/2017 7:35:03 AM
Surr: o-Terphenyl	83.6	50-150		%Rec	1	5/16/2017 7:35:03 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	5.04		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/16/2017 4:08:46 PM
Surr: 4-Bromofluorobenzene	96.0	65-135		%Rec	1	5/16/2017 4:08:46 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0604	Q	mg/Kg-dry	1	5/16/2017 4:08:46 PM
Chloromethane	ND	0.0604		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Vinyl chloride	ND	0.00201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Bromomethane	ND	0.0906		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Trichlorofluoromethane (CFC-11)	ND	0.0504		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Chloroethane	ND	0.0604		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,1-Dichloroethene	ND	0.0504		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Methylene chloride	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
trans-1,2-Dichloroethene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Methyl tert-butyl ether (MTBE)	ND	0.0504		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,1-Dichloroethane	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
2,2-Dichloropropane	ND	0.0504	Q	mg/Kg-dry	1	5/16/2017 4:08:46 PM
cis-1,2-Dichloroethene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Chloroform	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,1,1-Trichloroethane (TCA)	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,1-Dichloropropene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Carbon tetrachloride	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2-Dichloroethane (EDC)	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Benzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Trichloroethene (TCE)	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2-Dichloropropane	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Bromodichloromethane	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Dibromomethane	ND	0.0403		mg/Kg-dry	1	5/16/2017 4:08:46 PM
cis-1,3-Dichloropropene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Toluene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
trans-1,3-Dichloropropylene	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 10:35:00 AM
Project: Megablock Phase II
Lab ID: 1705140-004
Matrix: Soil
Client Sample ID: **21417-SPW:0.0**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 17056 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1,2-Trichloroethane	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,3-Dichloropropane	ND	0.0504		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Tetrachloroethene (PCE)	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Dibromochloromethane	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2-Dibromoethane (EDB)	ND	0.00504		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Chlorobenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,1,1,2-Tetrachloroethane	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Ethylbenzene	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM
m,p-Xylene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
o-Xylene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Styrene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Isopropylbenzene	ND	0.0806		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Bromoform	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,1,2,2-Tetrachloroethane	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
n-Propylbenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Bromobenzene	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,3,5-Trimethylbenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
2-Chlorotoluene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
4-Chlorotoluene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
tert-Butylbenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2,3-Trichloropropane	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2,4-Trichlorobenzene	ND	0.0504		mg/Kg-dry	1	5/16/2017 4:08:46 PM
sec-Butylbenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
4-Isopropyltoluene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,3-Dichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,4-Dichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
n-Butylbenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2-Dichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2-Dibromo-3-chloropropane	ND	0.504		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2,4-Trimethylbenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Hexachlorobutadiene	ND	0.101		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Naphthalene	ND	0.0302		mg/Kg-dry	1	5/16/2017 4:08:46 PM
1,2,3-Trichlorobenzene	ND	0.0201		mg/Kg-dry	1	5/16/2017 4:08:46 PM
Surr: Dibromofluoromethane	89.4	56.5-129		%Rec	1	5/16/2017 4:08:46 PM
Surr: Toluene-d8	97.6	64.5-151		%Rec	1	5/16/2017 4:08:46 PM
Surr: 1-Bromo-4-fluorobenzene	92.4	63.1-141		%Rec	1	5/16/2017 4:08:46 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: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 10:35:00 AM
Project: Megablock Phase II
Lab ID: 1705140-004
Matrix: Soil
Client Sample ID: **21417-SPW:0.0**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.339		mg/Kg-dry	1	5/17/2017 4:02:00 PM
Total Metals by EPA Method 6020				Batch ID: 17042		Analyst: TN
Arsenic	5.11	0.104		mg/Kg-dry	1	5/15/2017 6:17:22 PM
Barium	78.4	0.521		mg/Kg-dry	1	5/15/2017 6:17:22 PM
Cadmium	ND	0.209		mg/Kg-dry	1	5/15/2017 6:17:22 PM
Chromium	33.1	0.104		mg/Kg-dry	1	5/15/2017 6:17:22 PM
Lead	11.2	0.209		mg/Kg-dry	1	5/15/2017 6:17:22 PM
Selenium	1.53	0.521		mg/Kg-dry	1	5/15/2017 6:17:22 PM
Silver	ND	0.104	*	mg/Kg-dry	1	5/15/2017 6:17:22 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	30.5			wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:45:00 PM
Project: Megablock Phase II
Lab ID: 1705140-005
Matrix: Soil
Client Sample ID: **21417-MB9:22**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17044		Analyst: SB
Diesel (Fuel Oil)	ND	21.3		mg/Kg-dry	1	5/16/2017 8:06:02 AM
Heavy Oil	ND	53.3		mg/Kg-dry	1	5/16/2017 8:06:02 AM
Heavy Oil Range Organics (C24-37)	74.3	53.3		mg/Kg-dry	1	5/16/2017 8:06:02 AM
Surr: 2-Fluorobiphenyl	91.5	50-150		%Rec	1	5/16/2017 8:06:02 AM
Surr: o-Terphenyl	90.3	50-150		%Rec	1	5/16/2017 8:06:02 AM
NOTES: Heavy Oil Range Organics - Indicates the presence of unresolved compounds in the Lube+ Oil ranges.						
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	4.64		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Surr: Toluene-d8	102	65-135		%Rec	1	5/16/2017 4:37:15 PM
Surr: 4-Bromofluorobenzene	94.7	65-135		%Rec	1	5/16/2017 4:37:15 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0557	Q	mg/Kg-dry	1	5/16/2017 4:37:15 PM
Chloromethane	ND	0.0557		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Vinyl chloride	ND	0.00186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Bromomethane	ND	0.0836		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Trichlorofluoromethane (CFC-11)	ND	0.0464		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Chloroethane	ND	0.0557		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,1-Dichloroethene	ND	0.0464		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Methylene chloride	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
trans-1,2-Dichloroethene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Methyl tert-butyl ether (MTBE)	ND	0.0464		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,1-Dichloroethane	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
2,2-Dichloropropane	ND	0.0464	Q	mg/Kg-dry	1	5/16/2017 4:37:15 PM
cis-1,2-Dichloroethene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Chloroform	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,1,1-Trichloroethane (TCA)	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,1-Dichloropropene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Carbon tetrachloride	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2-Dichloroethane (EDC)	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Benzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Trichloroethene (TCE)	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2-Dichloropropane	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Bromodichloromethane	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Dibromomethane	ND	0.0371		mg/Kg-dry	1	5/16/2017 4:37:15 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:45:00 PM
Project: Megablock Phase II
Lab ID: 1705140-005
Matrix: Soil
Client Sample ID: **21417-MB9:22**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
cis-1,3-Dichloropropene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Toluene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
trans-1,3-Dichloropropylene	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,1,2-Trichloroethane	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,3-Dichloropropane	ND	0.0464		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Tetrachloroethene (PCE)	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Dibromochloromethane	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2-Dibromoethane (EDB)	ND	0.00464		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Chlorobenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,1,1,2-Tetrachloroethane	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Ethylbenzene	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
m,p-Xylene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
o-Xylene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Styrene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Isopropylbenzene	ND	0.0743		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Bromoform	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,1,2,2-Tetrachloroethane	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
n-Propylbenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Bromobenzene	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,3,5-Trimethylbenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
2-Chlorotoluene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
4-Chlorotoluene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
tert-Butylbenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2,3-Trichloropropane	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2,4-Trichlorobenzene	ND	0.0464		mg/Kg-dry	1	5/16/2017 4:37:15 PM
sec-Butylbenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
4-Isopropyltoluene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,3-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,4-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
n-Butylbenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2-Dichlorobenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2-Dibromo-3-chloropropane	ND	0.464		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2,4-Trimethylbenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Hexachlorobutadiene	ND	0.0928		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Naphthalene	ND	0.0279		mg/Kg-dry	1	5/16/2017 4:37:15 PM
1,2,3-Trichlorobenzene	ND	0.0186		mg/Kg-dry	1	5/16/2017 4:37:15 PM
Surr: Dibromofluoromethane	87.9	56.5-129		%Rec	1	5/16/2017 4:37:15 PM
Surr: Toluene-d8	96.6	64.5-151		%Rec	1	5/16/2017 4:37:15 PM
Surr: 1-Bromo-4-fluorobenzene	91.0	63.1-141		%Rec	1	5/16/2017 4:37:15 PM

Analytical Report

Work Order: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:45:00 PM
Project: Megablock Phase II
Lab ID: 1705140-005
Matrix: Soil
Client Sample ID: **21417-MB9:22**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG

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

Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	0.453	0.285		mg/Kg-dry	1	5/17/2017 4:03:00 PM
Total Metals by EPA Method 6020				Batch ID: 17042		Analyst: TN
Arsenic	5.01	0.0996		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Barium	105	0.498		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Cadmium	ND	0.199		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Chromium	39.1	0.0996		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Copper	26.3	0.199		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Lead	279	0.199		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Nickel	37.3	0.0996		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Selenium	1.26	0.498		mg/Kg-dry	1	5/15/2017 6:21:24 PM
Silver	ND	0.0996	*	mg/Kg-dry	1	5/15/2017 6:21:24 PM
Zinc	62.2	0.399		mg/Kg-dry	1	5/15/2017 6:21:24 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	20.4			wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:05:00 PM
Project: Megablock Phase II
Lab ID: 1705140-006
Matrix: Soil
Client Sample ID: **21417-MB9:13**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17044		Analyst: SB
Diesel (Fuel Oil)	ND	25.3		mg/Kg-dry	1	5/16/2017 10:10:25 AM
Heavy Oil	206	63.2		mg/Kg-dry	1	5/16/2017 10:10:25 AM
Surr: 2-Fluorobiphenyl	84.7	50-150		%Rec	1	5/16/2017 10:10:25 AM
Surr: o-Terphenyl	86.3	50-150		%Rec	1	5/16/2017 10:10:25 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	5.91		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/16/2017 5:05:47 PM
Surr: 4-Bromofluorobenzene	96.9	65-135		%Rec	1	5/16/2017 5:05:47 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0710	Q	mg/Kg-dry	1	5/16/2017 5:05:47 PM
Chloromethane	ND	0.0710		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Vinyl chloride	ND	0.00237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Bromomethane	ND	0.106		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Trichlorofluoromethane (CFC-11)	ND	0.0591		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Chloroethane	ND	0.0710		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,1-Dichloroethene	ND	0.0591		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Methylene chloride	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
trans-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Methyl tert-butyl ether (MTBE)	ND	0.0591		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,1-Dichloroethane	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
2,2-Dichloropropane	ND	0.0591	Q	mg/Kg-dry	1	5/16/2017 5:05:47 PM
cis-1,2-Dichloroethene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Chloroform	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,1,1-Trichloroethane (TCA)	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,1-Dichloropropene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Carbon tetrachloride	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2-Dichloroethane (EDC)	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Benzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Trichloroethene (TCE)	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2-Dichloropropane	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Bromodichloromethane	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Dibromomethane	ND	0.0473		mg/Kg-dry	1	5/16/2017 5:05:47 PM
cis-1,3-Dichloropropene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Toluene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
trans-1,3-Dichloropropylene	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:05:00 PM
Project: Megablock Phase II
Lab ID: 1705140-006
Matrix: Soil
Client Sample ID: **21417-MB9:13**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 17056 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1,2-Trichloroethane	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,3-Dichloropropane	ND	0.0591		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Tetrachloroethene (PCE)	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Dibromochloromethane	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2-Dibromoethane (EDB)	ND	0.00591		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Chlorobenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,1,1,2-Tetrachloroethane	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Ethylbenzene	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM
m,p-Xylene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
o-Xylene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Styrene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Isopropylbenzene	ND	0.0946		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Bromoform	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,1,2,2-Tetrachloroethane	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
n-Propylbenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Bromobenzene	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,3,5-Trimethylbenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
2-Chlorotoluene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
4-Chlorotoluene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
tert-Butylbenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2,3-Trichloropropane	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2,4-Trichlorobenzene	ND	0.0591		mg/Kg-dry	1	5/16/2017 5:05:47 PM
sec-Butylbenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
4-Isopropyltoluene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,3-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,4-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
n-Butylbenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2-Dichlorobenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2-Dibromo-3-chloropropane	ND	0.591		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2,4-Trimethylbenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Hexachlorobutadiene	ND	0.118		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Naphthalene	ND	0.0355		mg/Kg-dry	1	5/16/2017 5:05:47 PM
1,2,3-Trichlorobenzene	ND	0.0237		mg/Kg-dry	1	5/16/2017 5:05:47 PM
Surr: Dibromofluoromethane	89.3	56.5-129		%Rec	1	5/16/2017 5:05:47 PM
Surr: Toluene-d8	96.4	64.5-151		%Rec	1	5/16/2017 5:05:47 PM
Surr: 1-Bromo-4-fluorobenzene	93.5	63.1-141		%Rec	1	5/16/2017 5:05:47 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: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:05:00 PM
Project: Megablock Phase II
Lab ID: 1705140-006
Matrix: Soil
Client Sample ID: **21417-MB9:13**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.291		mg/Kg-dry	1	5/17/2017 4:05:00 PM
Total Metals by EPA Method 6020				Batch ID: 17042		Analyst: TN
Arsenic	4.24	0.0979		mg/Kg-dry	1	5/15/2017 6:25:25 PM
Barium	45.5	0.489		mg/Kg-dry	1	5/15/2017 6:25:25 PM
Cadmium	0.428	0.196		mg/Kg-dry	1	5/15/2017 6:25:25 PM
Chromium	31.4	0.0979		mg/Kg-dry	1	5/15/2017 6:25:25 PM
Lead	19.3	0.196		mg/Kg-dry	1	5/15/2017 6:25:25 PM
Selenium	1.39	0.489		mg/Kg-dry	1	5/15/2017 6:25:25 PM
Silver	ND	0.0979	*	mg/Kg-dry	1	5/15/2017 6:25:25 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	22.0			wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 3:15:00 PM
Project: Megablock Phase II
Lab ID: 1705140-007
Matrix: Soil
Client Sample ID: **21417-MB8:27**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17044		Analyst: SB
Diesel (Fuel Oil)	ND	20.9		mg/Kg-dry	1	5/17/2017 12:21:06 AM
Heavy Oil	ND	52.3		mg/Kg-dry	1	5/17/2017 12:21:06 AM
Surr: 2-Fluorobiphenyl	97.3	50-150		%Rec	1	5/17/2017 12:21:06 AM
Surr: o-Terphenyl	98.5	50-150		%Rec	1	5/17/2017 12:21:06 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	3.81		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Surr: Toluene-d8	102	65-135		%Rec	1	5/16/2017 9:22:05 PM
Surr: 4-Bromofluorobenzene	95.1	65-135		%Rec	1	5/16/2017 9:22:05 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0457	Q	mg/Kg-dry	1	5/16/2017 9:22:05 PM
Chloromethane	ND	0.0457		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Vinyl chloride	ND	0.00152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Bromomethane	ND	0.0686		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Trichlorofluoromethane (CFC-11)	ND	0.0381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Chloroethane	ND	0.0457		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,1-Dichloroethene	ND	0.0381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Methylene chloride	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
trans-1,2-Dichloroethene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Methyl tert-butyl ether (MTBE)	ND	0.0381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,1-Dichloroethane	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
2,2-Dichloropropane	ND	0.0381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
cis-1,2-Dichloroethene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Chloroform	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,1,1-Trichloroethane (TCA)	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,1-Dichloropropene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Carbon tetrachloride	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2-Dichloroethane (EDC)	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Benzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Trichloroethene (TCE)	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2-Dichloropropane	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Bromodichloromethane	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Dibromomethane	ND	0.0305		mg/Kg-dry	1	5/16/2017 9:22:05 PM
cis-1,3-Dichloropropene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Toluene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
trans-1,3-Dichloropropylene	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 3:15:00 PM
Project: Megablock Phase II
Lab ID: 1705140-007
Matrix: Soil
Client Sample ID: **21417-MB8:27**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,3-Dichloropropane	ND	0.0381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Tetrachloroethene (PCE)	0.0238	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Dibromochloromethane	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2-Dibromoethane (EDB)	ND	0.00381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Chlorobenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,1,1,2-Tetrachloroethane	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Ethylbenzene	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM
m,p-Xylene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
o-Xylene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Styrene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Isopropylbenzene	ND	0.0610		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Bromoform	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,1,2,2-Tetrachloroethane	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
n-Propylbenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Bromobenzene	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,3,5-Trimethylbenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
2-Chlorotoluene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
4-Chlorotoluene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
tert-Butylbenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2,3-Trichloropropane	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2,4-Trichlorobenzene	ND	0.0381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
sec-Butylbenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
4-Isopropyltoluene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,3-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,4-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
n-Butylbenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2-Dichlorobenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2-Dibromo-3-chloropropane	ND	0.381		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2,4-Trimethylbenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Hexachlorobutadiene	ND	0.0762		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Naphthalene	ND	0.0229		mg/Kg-dry	1	5/16/2017 9:22:05 PM
1,2,3-Trichlorobenzene	ND	0.0152		mg/Kg-dry	1	5/16/2017 9:22:05 PM
Surr: Dibromofluoromethane	89.7	56.5-129		%Rec	1	5/16/2017 9:22:05 PM
Surr: Toluene-d8	96.2	64.5-151		%Rec	1	5/16/2017 9:22:05 PM
Surr: 1-Bromo-4-fluorobenzene	91.6	63.1-141		%Rec	1	5/16/2017 9:22:05 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: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 3:15:00 PM
Project: Megablock Phase II
Lab ID: 1705140-007
Matrix: Soil
Client Sample ID: **21417-MB8:27**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.276		mg/Kg-dry	1	5/17/2017 4:06:00 PM
Total Metals by EPA Method 6020				Batch ID: 17042		Analyst: TN
Arsenic	2.69	0.0842		mg/Kg-dry	1	5/15/2017 6:29:27 PM
Barium	31.8	0.421		mg/Kg-dry	1	5/15/2017 6:29:27 PM
Cadmium	ND	0.168		mg/Kg-dry	1	5/15/2017 6:29:27 PM
Chromium	29.3	0.0842		mg/Kg-dry	1	5/15/2017 6:29:27 PM
Lead	2.38	0.168		mg/Kg-dry	1	5/15/2017 6:29:27 PM
Selenium	0.988	0.421		mg/Kg-dry	1	5/15/2017 6:29:27 PM
Silver	ND	0.0842	*	mg/Kg-dry	1	5/15/2017 6:29:27 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	14.6			wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 4:05:00 PM
Project: Megablock Phase II
Lab ID: 1705140-008
Matrix: Soil
Client Sample ID: **21417-MB7:11**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17044		Analyst: SB
Diesel (Fuel Oil)	ND	18.7		mg/Kg-dry	1	5/17/2017 1:23:38 AM
Heavy Oil	ND	46.8		mg/Kg-dry	1	5/17/2017 1:23:38 AM
Surr: 2-Fluorobiphenyl	89.2	50-150		%Rec	1	5/17/2017 1:23:38 AM
Surr: o-Terphenyl	86.8	50-150		%Rec	1	5/17/2017 1:23:38 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	4.09		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/16/2017 9:50:30 PM
Surr: 4-Bromofluorobenzene	95.8	65-135		%Rec	1	5/16/2017 9:50:30 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0490	Q	mg/Kg-dry	1	5/16/2017 9:50:30 PM
Chloromethane	ND	0.0490		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Vinyl chloride	ND	0.00163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Bromomethane	ND	0.0735		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Trichlorofluoromethane (CFC-11)	ND	0.0409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Chloroethane	ND	0.0490		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,1-Dichloroethene	ND	0.0409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Methylene chloride	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
trans-1,2-Dichloroethene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Methyl tert-butyl ether (MTBE)	ND	0.0409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,1-Dichloroethane	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
2,2-Dichloropropane	ND	0.0409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
cis-1,2-Dichloroethene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Chloroform	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,1,1-Trichloroethane (TCA)	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,1-Dichloropropene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Carbon tetrachloride	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2-Dichloroethane (EDC)	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Benzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Trichloroethene (TCE)	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2-Dichloropropane	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Bromodichloromethane	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Dibromomethane	ND	0.0327		mg/Kg-dry	1	5/16/2017 9:50:30 PM
cis-1,3-Dichloropropene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Toluene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
trans-1,3-Dichloropropylene	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 4:05:00 PM
Project: Megablock Phase II
Lab ID: 1705140-008
Matrix: Soil
Client Sample ID: **21417-MB7:11**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,3-Dichloropropane	ND	0.0409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Tetrachloroethene (PCE)	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Dibromochloromethane	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2-Dibromoethane (EDB)	ND	0.00409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Chlorobenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,1,1,2-Tetrachloroethane	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Ethylbenzene	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM
m,p-Xylene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
o-Xylene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Styrene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Isopropylbenzene	ND	0.0654		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Bromoform	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,1,2,2-Tetrachloroethane	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
n-Propylbenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Bromobenzene	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,3,5-Trimethylbenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
2-Chlorotoluene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
4-Chlorotoluene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
tert-Butylbenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2,3-Trichloropropane	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2,4-Trichlorobenzene	ND	0.0409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
sec-Butylbenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
4-Isopropyltoluene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,3-Dichlorobenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,4-Dichlorobenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
n-Butylbenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2-Dichlorobenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2-Dibromo-3-chloropropane	ND	0.409		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2,4-Trimethylbenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Hexachlorobutadiene	ND	0.0817		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Naphthalene	ND	0.0245		mg/Kg-dry	1	5/16/2017 9:50:30 PM
1,2,3-Trichlorobenzene	ND	0.0163		mg/Kg-dry	1	5/16/2017 9:50:30 PM
Surr: Dibromofluoromethane	89.3	56.5-129		%Rec	1	5/16/2017 9:50:30 PM
Surr: Toluene-d8	97.2	64.5-151		%Rec	1	5/16/2017 9:50:30 PM
Surr: 1-Bromo-4-fluorobenzene	92.5	63.1-141		%Rec	1	5/16/2017 9:50:30 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: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 4:05:00 PM
Project: Megablock Phase II
Lab ID: 1705140-008
Matrix: Soil
Client Sample ID: **21417-MB7:11**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R36134		Analyst: BB
Percent Moisture	7.14	0.500		wt%	1	5/15/2017 12:03:59 PM

Client: Shannon & Wilson
Collection Date: 5/11/2017 12:00:00 PM
Project: Megablock Phase II
Lab ID: 1705140-009
Matrix: Groundwater
Client Sample ID: **21417-MB10:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17035		Analyst: SB
Diesel (Fuel Oil)	ND	50.2		µg/L	1	5/15/2017 4:54:15 PM
Heavy Oil	970	100		µg/L	1	5/15/2017 4:54:15 PM
Surr: 2-Fluorobiphenyl	50.9	50-150		%Rec	1	5/15/2017 4:54:15 PM
Surr: o-Terphenyl	21.3	50-150	S	%Rec	1	5/15/2017 4:54:15 PM
NOTES: S - Outlying surrogate recovery observed.						
Gasoline by NWTPH-Gx				Batch ID: 17040		Analyst: NG
Gasoline	ND	50.0		µg/L	1	5/13/2017 6:13:42 AM
Surr: Toluene-d8	103	65-135		%Rec	1	5/13/2017 6:13:42 AM
Surr: 4-Bromofluorobenzene	106	65-135		%Rec	1	5/13/2017 6:13:42 AM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00	Q	µg/L	1	5/13/2017 6:13:42 AM
Chloromethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2017 6:13:42 AM
Bromomethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Chloroethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Methylene chloride	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/13/2017 6:13:42 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Chloroform	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Carbon tetrachloride	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Benzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/13/2017 6:13:42 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Bromodichloromethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Dibromomethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM

Client: Shannon & Wilson
Collection Date: 5/11/2017 12:00:00 PM
Project: Megablock Phase II
Lab ID: 1705140-009
Matrix: Groundwater
Client Sample ID: **21417-MB10:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
Toluene	1.85	1.00		µg/L	1	5/13/2017 6:13:42 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Dibromochloromethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/13/2017 6:13:42 AM
Chlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Ethylbenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
m,p-Xylene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
o-Xylene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Styrene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Isopropylbenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Bromoform	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
n-Propylbenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
Bromobenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
2-Chlorotoluene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
4-Chlorotoluene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
tert-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/13/2017 6:13:42 AM
sec-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
n-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2,4-Trimethylbenzene	1.28	1.00		µg/L	1	5/13/2017 6:13:42 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/13/2017 6:13:42 AM
Naphthalene	5.23	1.00		µg/L	1	5/13/2017 6:13:42 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/13/2017 6:13:42 AM
Surr: Dibromofluoromethane	86.3	45.4-152		%Rec	1	5/13/2017 6:13:42 AM
Surr: Toluene-d8	91.3	40.1-139		%Rec	1	5/13/2017 6:13:42 AM
Surr: 1-Bromo-4-fluorobenzene	89.9	64.2-128		%Rec	1	5/13/2017 6:13:42 AM

Analytical Report

Work Order: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Project: Megablock Phase II
Lab ID: 1705140-009
Client Sample ID: **21417-MB10:GW**

Collection Date: 5/11/2017 12:00:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 245.1				Batch ID: 17045		Analyst: WF
Mercury	ND	0.100		µg/L	1	5/15/2017 5:31:00 PM
Dissolved Mercury by EPA Method 245.1				Batch ID: 17098		Analyst: WF
Mercury	ND	0.100		µg/L	1	5/18/2017 3:56:31 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 17069		Analyst: TN
Antimony	0.206	0.200		µg/L	1	5/17/2017 4:12:37 PM
Arsenic	1.87	1.00		µg/L	1	5/17/2017 4:12:37 PM
Beryllium	ND	0.200		µg/L	1	5/17/2017 4:12:37 PM
Cadmium	ND	0.200		µg/L	1	5/17/2017 4:12:37 PM
Chromium	ND	0.500		µg/L	1	5/17/2017 4:12:37 PM
Copper	1.01	0.500		µg/L	1	5/17/2017 4:12:37 PM
Lead	ND	0.500		µg/L	1	5/17/2017 4:12:37 PM
Nickel	3.72	0.500		µg/L	1	5/17/2017 4:12:37 PM
Selenium	ND	1.00		µg/L	1	5/17/2017 4:12:37 PM
Silver	ND	0.200		µg/L	1	5/17/2017 4:12:37 PM
Thallium	ND	0.200		µg/L	1	5/17/2017 4:12:37 PM
Zinc	1.56	1.50		µg/L	1	5/17/2017 4:12:37 PM
Total Metals by EPA Method 200.8				Batch ID: 17070		Analyst: TN
Antimony	ND	0.200		µg/L	1	5/17/2017 5:41:12 PM
Arsenic	13.5	1.00		µg/L	1	5/17/2017 5:41:12 PM
Beryllium	0.264	0.200		µg/L	1	5/17/2017 5:41:12 PM
Cadmium	ND	0.200		µg/L	1	5/17/2017 5:41:12 PM
Chromium	27.7	0.500		µg/L	1	5/17/2017 5:41:12 PM
Copper	17.2	0.500		µg/L	1	5/17/2017 5:41:12 PM
Lead	24.1	2.50	D	µg/L	5	5/18/2017 1:17:41 PM
Nickel	11.2	0.500		µg/L	1	5/17/2017 5:41:12 PM
Selenium	1.92	1.00		µg/L	1	5/17/2017 5:41:12 PM
Silver	ND	0.200		µg/L	1	5/17/2017 5:41:12 PM
Thallium	ND	1.00	D	µg/L	5	5/18/2017 1:17:41 PM
Zinc	20.8	1.50		µg/L	1	5/17/2017 5:41:12 PM

NOTES:
Diluted due to matrix.

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:55:00 PM
Project: Megablock Phase II
Lab ID: 1705140-010
Matrix: Groundwater
Client Sample ID: **21417-MB9:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17035		Analyst: SB
Diesel (Fuel Oil)	ND	50.0		µg/L	1	5/15/2017 5:25:50 PM
Heavy Oil	146	99.9		µg/L	1	5/15/2017 5:25:50 PM
Surr: 2-Fluorobiphenyl	74.0	50-150		%Rec	1	5/15/2017 5:25:50 PM
Surr: o-Terphenyl	48.2	50-150	S	%Rec	1	5/15/2017 5:25:50 PM
Gasoline by NWTPH-Gx				Batch ID: 17040		Analyst: NG
Gasoline	ND	50.0		µg/L	1	5/13/2017 6:43:45 AM
Surr: Toluene-d8	100	65-135		%Rec	1	5/13/2017 6:43:45 AM
Surr: 4-Bromofluorobenzene	110	65-135		%Rec	1	5/13/2017 6:43:45 AM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00	Q	µg/L	1	5/13/2017 6:43:45 AM
Chloromethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2017 6:43:45 AM
Bromomethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Chloroethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Methylene chloride	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/13/2017 6:43:45 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Chloroform	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Carbon tetrachloride	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Benzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/13/2017 6:43:45 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Bromodichloromethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Dibromomethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM

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

Client: Shannon & Wilson
Collection Date: 5/11/2017 1:55:00 PM
Project: Megablock Phase II
Lab ID: 1705140-010
Matrix: Groundwater
Client Sample ID: **21417-MB9:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Toluene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Dibromochloromethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/13/2017 6:43:45 AM
Chlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Ethylbenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
m,p-Xylene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
o-Xylene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Styrene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Isopropylbenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Bromoform	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
n-Propylbenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
Bromobenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
2-Chlorotoluene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
4-Chlorotoluene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
tert-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/13/2017 6:43:45 AM
sec-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
n-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2,4-Trimethylbenzene	1.10	1.00		µg/L	1	5/13/2017 6:43:45 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/13/2017 6:43:45 AM
Naphthalene	2.06	1.00		µg/L	1	5/13/2017 6:43:45 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/13/2017 6:43:45 AM
Surr: Dibromofluoromethane	93.8	45.4-152		%Rec	1	5/13/2017 6:43:45 AM
Surr: Toluene-d8	88.5	40.1-139		%Rec	1	5/13/2017 6:43:45 AM
Surr: 1-Bromo-4-fluorobenzene	84.4	64.2-128		%Rec	1	5/13/2017 6:43:45 AM

Analytical Report

Work Order: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Project: Megablock Phase II
Lab ID: 1705140-010
Client Sample ID: **21417-MB9:GW**

Collection Date: 5/11/2017 1:55:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 245.1				Batch ID: 17045		Analyst: WF
Mercury	ND	0.100		µg/L	1	5/15/2017 5:33:00 PM
Dissolved Mercury by EPA Method 245.1				Batch ID: 17098		Analyst: WF
Mercury	ND	0.100		µg/L	1	5/18/2017 3:58:11 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 17069		Analyst: TN
Antimony	0.646	0.200		µg/L	1	5/17/2017 4:16:39 PM
Arsenic	ND	1.00		µg/L	1	5/17/2017 4:16:39 PM
Beryllium	ND	0.200		µg/L	1	5/17/2017 4:16:39 PM
Cadmium	ND	0.200		µg/L	1	5/17/2017 4:16:39 PM
Chromium	ND	0.500		µg/L	1	5/17/2017 4:16:39 PM
Copper	0.733	0.500		µg/L	1	5/17/2017 4:16:39 PM
Lead	ND	0.500		µg/L	1	5/17/2017 4:16:39 PM
Nickel	3.11	0.500		µg/L	1	5/17/2017 4:16:39 PM
Selenium	ND	1.00		µg/L	1	5/17/2017 4:16:39 PM
Silver	ND	0.200		µg/L	1	5/17/2017 4:16:39 PM
Thallium	ND	0.200		µg/L	1	5/17/2017 4:16:39 PM
Zinc	4.48	1.50		µg/L	1	5/17/2017 4:16:39 PM
Total Metals by EPA Method 200.8				Batch ID: 17070		Analyst: TN
Antimony	0.694	0.200		µg/L	1	5/17/2017 5:45:14 PM
Arsenic	2.88	1.00		µg/L	1	5/17/2017 5:45:14 PM
Beryllium	ND	0.200		µg/L	1	5/17/2017 5:45:14 PM
Cadmium	ND	0.200		µg/L	1	5/17/2017 5:45:14 PM
Chromium	6.59	0.500		µg/L	1	5/17/2017 5:45:14 PM
Copper	23.7	0.500		µg/L	1	5/17/2017 5:45:14 PM
Lead	123	2.50	D	µg/L	5	5/18/2017 1:21:43 PM
Nickel	7.56	0.500		µg/L	1	5/17/2017 5:45:14 PM
Selenium	1.06	1.00		µg/L	1	5/17/2017 5:45:14 PM
Silver	ND	0.200		µg/L	1	5/17/2017 5:45:14 PM
Thallium	ND	1.00	D	µg/L	5	5/18/2017 1:21:43 PM
Zinc	49.2	1.50		µg/L	1	5/17/2017 5:45:14 PM

NOTES:
Diluted due to matrix.

Client: Shannon & Wilson
Collection Date: 5/11/2017 10:00:00 AM
Project: Megablock Phase II
Lab ID: 1705140-011
Matrix: Groundwater
Client Sample ID: **21417-MB11:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17035		Analyst: SB
Diesel (Fuel Oil)	ND	50.1		µg/L	1	5/15/2017 6:29:14 PM
Heavy Oil	238	100		µg/L	1	5/15/2017 6:29:14 PM
Surr: 2-Fluorobiphenyl	57.5	50-150		%Rec	1	5/15/2017 6:29:14 PM
Surr: o-Terphenyl	29.8	50-150	S	%Rec	1	5/15/2017 6:29:14 PM
NOTES: S - Outlying surrogate recovery observed.						
Gasoline by NWTPH-Gx				Batch ID: 17040		Analyst: NG
Gasoline	ND	50.0		µg/L	1	5/13/2017 7:13:46 AM
Surr: Toluene-d8	93.3	65-135		%Rec	1	5/13/2017 7:13:46 AM
Surr: 4-Bromofluorobenzene	106	65-135		%Rec	1	5/13/2017 7:13:46 AM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00	Q	µg/L	1	5/13/2017 7:13:46 AM
Chloromethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Vinyl chloride	ND	0.200		µg/L	1	5/13/2017 7:13:46 AM
Bromomethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Chloroethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Methylene chloride	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/13/2017 7:13:46 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Chloroform	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Carbon tetrachloride	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Benzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/13/2017 7:13:46 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Bromodichloromethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Dibromomethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM

Client: Shannon & Wilson
Collection Date: 5/11/2017 10:00:00 AM
Project: Megablock Phase II
Lab ID: 1705140-011
Matrix: Groundwater
Client Sample ID: **21417-MB11:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
Toluene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Dibromochloromethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/13/2017 7:13:46 AM
Chlorobenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Ethylbenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
m,p-Xylene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
o-Xylene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Styrene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Isopropylbenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Bromoform	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
n-Propylbenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
Bromobenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
2-Chlorotoluene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
4-Chlorotoluene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
tert-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/13/2017 7:13:46 AM
sec-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
4-Isopropyltoluene	1.46	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
n-Butylbenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2,4-Trimethylbenzene	1.04	1.00		µg/L	1	5/13/2017 7:13:46 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/13/2017 7:13:46 AM
Naphthalene	1.01	1.00		µg/L	1	5/13/2017 7:13:46 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/13/2017 7:13:46 AM
Surr: Dibromofluoromethane	100	45.4-152		%Rec	1	5/13/2017 7:13:46 AM
Surr: Toluene-d8	106	40.1-139		%Rec	1	5/13/2017 7:13:46 AM
Surr: 1-Bromo-4-fluorobenzene	120	64.2-128		%Rec	1	5/13/2017 7:13:46 AM

Analytical Report

Work Order: **1705140**
Date Reported: **5/26/2017**

Client: Shannon & Wilson
Collection Date: 5/11/2017 10:00:00 AM
Project: Megablock Phase II
Lab ID: 1705140-011
Matrix: Groundwater
Client Sample ID: **21417-MB11:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 245.1				Batch ID: 17045		Analyst: WF
Mercury	ND	0.100		µg/L	1	5/15/2017 5:34:00 PM
Dissolved Mercury by EPA Method 245.1				Batch ID: 17098		Analyst: WF
Mercury	ND	0.100		µg/L	1	5/18/2017 3:59:52 PM
Dissolved Metals by EPA Method 200.8				Batch ID: 17069		Analyst: TN
Antimony	0.214	0.200		µg/L	1	5/17/2017 4:20:40 PM
Arsenic	ND	1.00		µg/L	1	5/17/2017 4:20:40 PM
Beryllium	ND	0.200		µg/L	1	5/17/2017 4:20:40 PM
Cadmium	ND	0.200		µg/L	1	5/17/2017 4:20:40 PM
Chromium	0.852	0.500		µg/L	1	5/17/2017 4:20:40 PM
Copper	ND	0.500		µg/L	1	5/17/2017 4:20:40 PM
Lead	ND	0.500		µg/L	1	5/17/2017 4:20:40 PM
Nickel	5.12	0.500		µg/L	1	5/17/2017 4:20:40 PM
Selenium	ND	1.00		µg/L	1	5/17/2017 4:20:40 PM
Silver	ND	0.200		µg/L	1	5/17/2017 4:20:40 PM
Thallium	ND	0.200		µg/L	1	5/17/2017 4:20:40 PM
Zinc	1.91	1.50		µg/L	1	5/17/2017 4:20:40 PM
Total Metals by EPA Method 200.8				Batch ID: 17070		Analyst: TN
Antimony	ND	0.200		µg/L	1	5/17/2017 5:49:15 PM
Arsenic	6.34	1.00		µg/L	1	5/17/2017 5:49:15 PM
Beryllium	0.248	0.200		µg/L	1	5/17/2017 5:49:15 PM
Cadmium	0.353	0.200		µg/L	1	5/17/2017 5:49:15 PM
Chromium	9.77	0.500		µg/L	1	5/17/2017 5:49:15 PM
Copper	13.2	0.500		µg/L	1	5/17/2017 5:49:15 PM
Lead	19.0	0.500		µg/L	1	5/18/2017 12:23:40 PM
Nickel	14.3	0.500		µg/L	1	5/17/2017 5:49:15 PM
Selenium	1.02	1.00		µg/L	1	5/17/2017 5:49:15 PM
Silver	ND	0.200		µg/L	1	5/17/2017 5:49:15 PM
Thallium	ND	0.200		µg/L	1	5/18/2017 12:23:40 PM
Zinc	44.2	1.50		µg/L	1	5/17/2017 5:49:15 PM

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **MB-17069** SampType: **MBLK** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **MBLKW** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693552**

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	1.00									
Nickel	ND	0.500									
Selenium	ND	1.00									
Silver	ND	0.200									
Thallium	ND	0.200									
Zinc	ND	1.50									

Sample ID **MB-17061FB** SampType: **MBLK** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **MBLKW** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693553**

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	1.00									
Nickel	ND	0.500									
Selenium	ND	1.00									
Silver	ND	0.200									
Thallium	ND	0.200									
Zinc	ND	1.50									

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **MB-17061FB** SampType: **MBLK** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **MBLKW** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693553**

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

NOTES:
Filter Blank

Sample ID **LCS-17069** SampType: **LCS** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **LCSW** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693554**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	5.10	0.200	5.000	0	102	85	115				
Arsenic	104	1.00	100.0	0	104	85	115				
Beryllium	5.18	0.200	5.000	0	104	85	115				
Cadmium	5.08	0.200	5.000	0	102	85	115				
Chromium	102	0.500	100.0	0	102	85	115				
Copper	105	0.500	100.0	0	105	85	115				
Lead	55.2	1.00	50.00	0	110	85	115				
Nickel	103	0.500	100.0	0	103	85	115				
Selenium	10.2	1.00	10.00	0	102	85	115				
Silver	5.13	0.200	5.000	0	103	85	115				
Thallium	2.76	0.200	2.500	0	110	85	115				
Zinc	108	1.50	100.0	0	108	85	115				

Sample ID **1705165-005FDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **BATCH** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693556**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.220	0.200						0.2985	30.3	30	
Arsenic	2.22	1.00						2.359	6.16	30	
Beryllium	ND	0.200						0		30	
Cadmium	ND	0.200						0		30	
Chromium	9.89	0.500						9.488	4.10	30	
Copper	8.01	0.500						8.122	1.39	30	
Lead	6.53	1.00						6.677	2.20	30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **1705165-005FDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **BATCH** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693556**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	4.49	0.500						4.456	0.660	30	
Selenium	2.27	1.00						2.508	10.1	30	
Silver	ND	0.200						0		30	
Thallium	ND	0.200						0		30	
Zinc	25.1	1.50						23.38	7.30	30	

Sample ID **1705165-005FMS** SampType: **MS** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **BATCH** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693562**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	27.2	0.200	25.00	0.2985	108	70	130				
Arsenic	601	1.00	500.0	2.359	120	70	130				
Beryllium	21.8	0.200	25.00	0.02200	87.2	70	130				
Cadmium	25.4	0.200	25.00	0.06750	101	70	130				
Chromium	611	0.500	500.0	9.488	120	70	130				
Copper	502	0.500	500.0	8.122	98.9	70	130				
Lead	244	1.00	250.0	6.677	94.8	70	130				
Nickel	526	0.500	500.0	4.456	104	70	130				
Selenium	53.7	1.00	50.00	2.508	102	70	130				
Silver	16.4	0.200	25.00	0	65.4	70	130				S
Thallium	12.4	0.200	12.50	0.009000	98.9	70	130				
Zinc	544	1.50	500.0	23.38	104	70	130				

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

Sample ID **1705165-005FMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **BATCH** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693563**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	27.6	0.200	25.00	0.2985	109	70	130	27.18	1.39	30	
Arsenic	610	1.00	500.0	2.359	121	70	130	601.2	1.42	30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Dissolved Metals by EPA Method 200.8

Sample ID **1705165-005FMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36208**
Client ID: **BATCH** Batch ID: **17069** Analysis Date: **5/17/2017** SeqNo: **693563**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	21.9	0.200	25.00	0.02200	87.6	70	130	21.81	0.551	30	
Cadmium	26.0	0.200	25.00	0.06750	104	70	130	25.41	2.24	30	
Chromium	608	0.500	500.0	9.488	120	70	130	610.8	0.536	30	
Copper	495	0.500	500.0	8.122	97.4	70	130	502.4	1.50	30	
Lead	238	1.00	250.0	6.677	92.3	70	130	243.6	2.52	30	
Nickel	529	0.500	500.0	4.456	105	70	130	526.3	0.474	30	
Selenium	57.3	1.00	50.00	2.508	109	70	130	53.75	6.31	30	
Silver	17.0	0.200	25.00	0	68.0	70	130	16.36	3.87	30	S
Thallium	12.0	0.200	12.50	0.009000	95.8	70	130	12.37	3.15	30	
Zinc	563	1.50	500.0	23.38	108	70	130	543.7	3.44	30	

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

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID **MB-17070** SampType: **MBLK** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36209**
Client ID: **MBLKW** Batch ID: **17070** Analysis Date: **5/17/2017** SeqNo: **693597**

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	1.00									
Nickel	ND	0.500									
Selenium	ND	1.00									
Silver	ND	0.200									
Thallium	ND	0.200									
Zinc	ND	1.50									

Sample ID **LCS-17070** SampType: **LCS** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36209**
Client ID: **LCSW** Batch ID: **17070** Analysis Date: **5/17/2017** SeqNo: **693598**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	5.05	0.200	5.000	0	101	85	115				
Arsenic	108	1.00	100.0	0	108	85	115				
Beryllium	5.08	0.200	5.000	0	102	85	115				
Cadmium	5.03	0.200	5.000	0	101	85	115				
Chromium	102	0.500	100.0	0	102	85	115				
Copper	102	0.500	100.0	0	102	85	115				
Lead	54.2	1.00	50.00	0	108	85	115				
Nickel	105	0.500	100.0	0	105	85	115				
Selenium	10.2	1.00	10.00	0	102	85	115				
Silver	5.48	0.200	5.000	0	110	85	115				
Thallium	2.69	0.200	2.500	0	108	85	115				
Zinc	107	1.50	100.0	0	107	85	115				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID **1705165-005EDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36209**
Client ID: **BATCH** Batch ID: **17070** Analysis Date: **5/17/2017** SeqNo: **693600**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.200						0.3030	41.4	30	
Arsenic	2.30	1.00						2.792	19.4	30	
Beryllium	ND	0.200						0		30	
Cadmium	ND	0.200						0		30	
Chromium	17.8	0.500						22.73	24.2	30	
Copper	12.5	0.500						12.98	3.93	30	
Lead	9.25	1.00						9.703	4.83	30	
Nickel	6.73	0.500						7.326	8.42	30	
Selenium	2.47	1.00						2.158	13.6	30	
Silver	ND	0.200						0		30	
Thallium	ND	0.200						0		30	
Zinc	44.4	1.50						44.92	1.14	30	

Sample ID **1705165-005EMS** SampType: **MS** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36209**
Client ID: **BATCH** Batch ID: **17070** Analysis Date: **5/17/2017** SeqNo: **693601**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	28.4	0.200	25.00	0.3030	112	70	130				
Arsenic	598	1.00	500.0	2.792	119	70	130				
Beryllium	22.5	0.200	25.00	0.04850	90.0	70	130				
Cadmium	24.6	0.200	25.00	0.02700	98.1	70	130				
Chromium	629	0.500	500.0	22.73	121	70	130				
Copper	507	0.500	500.0	12.98	98.8	70	130				
Lead	236	1.00	250.0	9.703	90.4	70	130				
Nickel	537	0.500	500.0	7.326	106	70	130				
Selenium	55.4	1.00	50.00	2.158	106	70	130				
Silver	16.9	0.200	25.00	0	67.4	70	130				S
Thallium	11.8	0.200	12.50	0.008500	94.0	70	130				
Zinc	562	1.50	500.0	44.92	103	70	130				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 200.8

Sample ID **1705165-005EMS** SampType: **MS** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36209**
Client ID: **BATCH** Batch ID: **17070** Analysis Date: **5/17/2017** SeqNo: **693601**

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.

Sample ID **1705165-005EMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/17/2017** RunNo: **36209**
Client ID: **BATCH** Batch ID: **17070** Analysis Date: **5/17/2017** SeqNo: **693602**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	27.9	0.200	25.00	0.3030	111	70	130	28.38	1.56	30	
Arsenic	600	1.00	500.0	2.792	120	70	130	598.4	0.320	30	
Beryllium	22.1	0.200	25.00	0.04850	88.4	70	130	22.54	1.75	30	
Cadmium	24.1	0.200	25.00	0.02700	96.2	70	130	24.56	1.96	30	
Chromium	626	0.500	500.0	22.73	121	70	130	628.9	0.476	30	
Copper	498	0.500	500.0	12.98	97.1	70	130	507.0	1.69	30	
Lead	237	1.00	250.0	9.703	90.8	70	130	235.8	0.344	30	
Nickel	529	0.500	500.0	7.326	104	70	130	537.0	1.55	30	
Selenium	55.1	1.00	50.00	2.158	106	70	130	55.38	0.514	30	
Silver	16.6	0.200	25.00	0	66.4	70	130	16.86	1.51	30	S
Thallium	11.7	0.200	12.50	0.008500	93.2	70	130	11.76	0.837	30	
Zinc	551	1.50	500.0	44.92	101	70	130	561.8	1.98	30	

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

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Mercury by EPA Method 245.1

Sample ID **MB-17045** SampType: **MBLK** Units: **µg/L** Prep Date: **5/15/2017** RunNo: **36138**
Client ID: **MBLKW** Batch ID: **17045** Analysis Date: **5/15/2017** SeqNo: **692130**

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

Sample ID **LCS-17045** SampType: **LCS** Units: **µg/L** Prep Date: **5/15/2017** RunNo: **36138**
Client ID: **LCSW** Batch ID: **17045** Analysis Date: **5/15/2017** SeqNo: **692131**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.63	0.100	2.500	0	105	85	115				

Sample ID **1705125-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/15/2017** RunNo: **36138**
Client ID: **BATCH** Batch ID: **17045** Analysis Date: **5/15/2017** SeqNo: **692133**

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 **1705125-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/15/2017** RunNo: **36138**
Client ID: **BATCH** Batch ID: **17045** Analysis Date: **5/15/2017** SeqNo: **692134**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.42	0.100	2.500	0	96.8	70	130				

Sample ID **1705125-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/15/2017** RunNo: **36138**
Client ID: **BATCH** Batch ID: **17045** Analysis Date: **5/15/2017** SeqNo: **692135**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	2.39	0.100	2.500	0	95.6	70	130	2.420	1.25	20	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Dissolved Mercury by EPA Method 245.1

Sample ID	**MB-17098**	SampType:	**MBLK**			Units:	**µg/L**		Prep Date:	**5/18/2017**		RunNo:	**36231**	
Client ID:	**MBLKW**	Batch ID:	**17098**						Analysis Date:	**5/18/2017**		SeqNo:	**694394**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Mercury		ND	0.100											

Sample ID	**LCS-17098**	SampType:	**LCS**			Units:	**µg/L**		Prep Date:	**5/18/2017**		RunNo:	**36231**	
Client ID:	**LCSW**	Batch ID:	**17098**						Analysis Date:	**5/18/2017**		SeqNo:	**694395**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Mercury		2.77	0.100	2.500	0	111	85	115						

Sample ID	**1705165-005FDUP**	SampType:	**DUP**			Units:	**µg/L**		Prep Date:	**5/18/2017**		RunNo:	**36231**	
Client ID:	**BATCH**	Batch ID:	**17098**						Analysis Date:	**5/18/2017**		SeqNo:	**694397**	
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	**1705165-005FMS**	SampType:	**MS**			Units:	**µg/L**		Prep Date:	**5/18/2017**		RunNo:	**36231**	
Client ID:	**BATCH**	Batch ID:	**17098**						Analysis Date:	**5/18/2017**		SeqNo:	**694398**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Mercury		2.55	0.100	2.500	0.01200	102	70	130						

Sample ID	**1705165-005FMSD**	SampType:	**MSD**			Units:	**µg/L**		Prep Date:	**5/18/2017**		RunNo:	**36231**	
Client ID:	**BATCH**	Batch ID:	**17098**						Analysis Date:	**5/18/2017**		SeqNo:	**694399**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Mercury		2.53	0.100	2.500	0.01200	101	70	130	2.550	0.787	20			

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Dissolved Mercury by EPA Method 245.1

Sample ID **MB-17061FB** SampType: **MBLK** Units: **µg/L** Prep Date: **5/18/2017** RunNo: **36231**
Client ID: **MBLKW** Batch ID: **17098** Analysis Date: **5/18/2017** SeqNo: **694411**

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: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **MB-17042** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36147**
Client ID: **MBLKS** Batch ID: **17042** Analysis Date: **5/15/2017** SeqNo: **692364**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0752									
Barium	ND	0.376									
Cadmium	ND	0.150									
Chromium	ND	0.0752									
Copper	ND	0.150									
Lead	ND	0.150									
Nickel	ND	0.0752									
Selenium	ND	0.376									
Silver	ND	0.0752									
Zinc	ND	0.301									

Sample ID **LCS-17042** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36147**
Client ID: **LCSS** Batch ID: **17042** Analysis Date: **5/15/2017** SeqNo: **692365**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	36.6	0.0752	37.59	0	97.5	80	120				
Barium	41.7	0.376	37.59	0	111	80	120				
Cadmium	1.98	0.150	1.880	0	106	80	120				
Chromium	35.2	0.0752	37.59	0	93.6	80	120				
Copper	37.5	0.150	37.59	0	99.8	80	120				
Lead	19.0	0.150	18.80	0	101	80	120				
Nickel	36.5	0.0752	37.59	0	97.0	80	120				
Selenium	3.47	0.376	3.759	0	92.3	80	120				
Silver	1.16	0.0752	1.880	0	61.6	80	120				S
Zinc	38.3	0.301	37.59	0	102	80	120				

NOTES:
S - Outlying spike recovery observed (low bias). Samples will be qualified with a *.

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1705117-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36147**
Client ID: **BATCH** Batch ID: **17042** Analysis Date: **5/15/2017** SeqNo: **692367**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.92	0.0858						4.498	9.02	20	
Barium	59.5	0.429						62.31	4.60	20	
Cadmium	0.188	0.172						0.1532	20.6	20	
Chromium	37.4	0.0858						32.48	14.0	20	
Copper	20.1	0.172						19.65	2.49	20	
Lead	14.1	0.172						13.91	1.59	20	
Nickel	40.4	0.0858						37.82	6.71	20	
Selenium	1.21	0.429						1.165	3.53	20	
Silver	ND	0.0858						0		20	*
Zinc	48.7	0.343						47.52	2.42	20	

NOTES:
* - Flagged value is not within established control limits.

Sample ID **1705117-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36147**
Client ID: **BATCH** Batch ID: **17042** Analysis Date: **5/15/2017** SeqNo: **692369**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	53.6	0.0864	43.22	4.498	114	75	125				
Barium	97.7	0.432	43.22	62.31	81.9	75	125				
Cadmium	2.65	0.173	2.161	0.1532	115	75	125				
Chromium	76.3	0.0864	43.22	32.48	101	75	125				
Copper	65.1	0.173	43.22	19.65	105	75	125				
Lead	33.5	0.173	21.61	13.91	90.8	75	125				
Nickel	82.3	0.0864	43.22	37.82	103	75	125				
Selenium	5.88	0.432	4.322	1.165	109	75	125				
Silver	1.19	0.0864	2.161	0.04927	52.7	75	125				S
Zinc	98.1	0.346	43.22	47.52	117	75	125				

NOTES:
S - Outlying spike recovery(ies) observed. Please refer to the LCS.

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1705117-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36147**
Client ID: **BATCH** Batch ID: **17042** Analysis Date: **5/15/2017** SeqNo: **692370**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	52.7	0.0864	43.22	4.498	112	75	125	53.59	1.65	20	
Barium	95.9	0.432	43.22	62.31	77.6	75	125	97.71	1.92	20	
Cadmium	2.69	0.173	2.161	0.1532	117	75	125	2.648	1.46	20	
Chromium	78.2	0.0864	43.22	32.48	106	75	125	76.31	2.45	20	
Copper	62.8	0.173	43.22	19.65	99.8	75	125	65.14	3.67	20	
Lead	34.9	0.173	21.61	13.91	97.2	75	125	33.54	4.00	20	
Nickel	86.7	0.0864	43.22	37.82	113	75	125	82.26	5.30	20	
Selenium	6.09	0.432	4.322	1.165	114	75	125	5.879	3.45	20	
Silver	1.30	0.0864	2.161	0.04927	58.0	75	125	1.189	9.13	20	S
Zinc	96.0	0.346	43.22	47.52	112	75	125	98.14	2.16	20	

NOTES:
S - Outlying spike recovery(ies) observed. Please refer to the LCS.

Sample ID **1705117-001APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36147**
Client ID: **BATCH** Batch ID: **17042** Analysis Date: **5/15/2017** SeqNo: **692371**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	1.44	0.0864	2.16	0.0493	64.6	80	120				S

NOTES:
S - Outlying spike recovery(ies) observed. Please refer to the LCS.

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID	**MB-17075**	SampType:	**MBLK**			Units:	**mg/Kg**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**MBLKS**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693390**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.250										

Sample ID	**LCS-17075**	SampType:	**LCS**			Units:	**mg/Kg**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**LCSS**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693391**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.549	0.250	0.5000	0	110	80	120					

Sample ID	**1705197-001ADUP**	SampType:	**DUP**			Units:	**mg/Kg-dry**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**BATCH**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693393**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.265						0		20		

Sample ID	**1705197-001AMS**	SampType:	**MS**			Units:	**mg/Kg-dry**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**BATCH**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693394**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.617	0.265	0.5309	0.02911	111	70	130					

Sample ID	**1705197-001AMSD**	SampType:	**MSD**			Units:	**mg/Kg-dry**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**BATCH**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693395**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.627	0.271	0.5413	0.02911	110	70	130	0.6169	1.60	20		

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **MB-17044**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **5/15/2017**	RunNo: **36145**
Client ID: **MBLKS**	Batch ID: **17044**		Analysis Date: **5/15/2017**	SeqNo: **692326**

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	18.2		20.00		91.0	50	150				
Surr: o-Terphenyl	17.4		20.00		87.0	50	150				

Sample ID **LCS-17044**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **5/15/2017**	RunNo: **36145**
Client ID: **LCSS**	Batch ID: **17044**		Analysis Date: **5/15/2017**	SeqNo: **692325**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	502	20.0	500.0	0	100	65	135				
Surr: 2-Fluorobiphenyl	19.4		20.00		97.1	50	150				
Surr: o-Terphenyl	21.8		20.00		109	50	150				

Sample ID **1705119-004ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **5/15/2017**	RunNo: **36145**
Client ID: **BATCH**	Batch ID: **17044**		Analysis Date: **5/16/2017**	SeqNo: **692313**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	34.0						0		30	
Diesel Range Organics (C12-C24)	ND	34.0						97.38	101	30	R
Heavy Oil	141	85.0						219.4	43.4	30	
Surr: 2-Fluorobiphenyl	37.5		34.00		110	50	150		0		
Surr: o-Terphenyl	38.8		34.00		114	50	150		0		

NOTES:
R - High RPD observed. The method is in control as indicated by the LCS.
DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (C12-C24).

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **1705119-004AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36145**
Client ID: **BATCH** Batch ID: **17044** Analysis Date: **5/16/2017** SeqNo: **692314**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	1,220	33.9	846.6	97.38	133	65	135				
Surr: 2-Fluorobiphenyl	47.9		33.87		141	50	150				
Surr: o-Terphenyl	53.0		33.87		156	50	150				S

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

Sample ID **1705119-004AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36145**
Client ID: **BATCH** Batch ID: **17044** Analysis Date: **5/16/2017** SeqNo: **692315**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	1,270	33.9	848.3	97.38	139	65	135	1,224	3.91	30	S
Surr: 2-Fluorobiphenyl	42.7		33.93		126	50	150		0		
Surr: o-Terphenyl	46.4		33.93		137	50	150		0		

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

Sample ID **1705140-007ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36145**
Client ID: **21417-MB8:27** Batch ID: **17044** Analysis Date: **5/17/2017** SeqNo: **692963**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	21.7						0		30	
Heavy Oil	ND	54.3						0		30	
Surr: 2-Fluorobiphenyl	21.1		21.70		97.3	50	150		0		
Surr: o-Terphenyl	21.4		21.70		98.4	50	150		0		

Sample ID **MB-17072** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **MBLKS** Batch ID: **17072** Analysis Date: **5/17/2017** SeqNo: **693346**

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									

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **MB-17072** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **MBLKS** Batch ID: **17072** Analysis Date: **5/17/2017** SeqNo: **693346**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	18.0		20.00		89.8	50	150				
Surr: o-Terphenyl	18.0		20.00		89.8	50	150				

Sample ID **LCS-17072** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **LCSS** Batch ID: **17072** Analysis Date: **5/17/2017** SeqNo: **693345**

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	18.9		20.00		94.6	50	150				
Surr: o-Terphenyl	20.8		20.00		104	50	150				

Sample ID **1705199-005ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **BATCH** Batch ID: **17072** Analysis Date: **5/18/2017** SeqNo: **696074**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	40.0						0		30	
Heavy Oil	ND	100						0		30	
Heavy Oil Range Organics (C24-37)	319	100						367.2	14.0	30	
Surr: 2-Fluorobiphenyl	13.8		40.03		34.5	50	150		0		S
Surr: o-Terphenyl	16.9		40.03		42.3	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 **1705173-013ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **BATCH** Batch ID: **17072** Analysis Date: **5/18/2017** SeqNo: **695118**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	21.3						0		30	
Heavy Oil	80.5	53.3						63.39	23.7	30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **1705173-013ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **BATCH** Batch ID: **17072** Analysis Date: **5/18/2017** SeqNo: **695118**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	21.4		21.34		100	50	150		0		
Surr: o-Terphenyl	22.2		21.34		104	50	150		0		

Sample ID **1705173-013AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **BATCH** Batch ID: **17072** Analysis Date: **5/18/2017** SeqNo: **695119**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	549	21.2	529.5	13.17	101	65	135				
Surr: 2-Fluorobiphenyl	20.2		21.18		95.5	50	150				
Surr: o-Terphenyl	23.3		21.18		110	50	150				

Sample ID **1705173-013AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/17/2017** RunNo: **36202**
Client ID: **BATCH** Batch ID: **17072** Analysis Date: **5/18/2017** SeqNo: **695132**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	548	21.4	534.5	13.17	100	65	135	548.9	0.222	30	
Surr: 2-Fluorobiphenyl	26.6		21.38		124	50	150		0		
Surr: o-Terphenyl	28.4		21.38		133	50	150		0		

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **MB-17035**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36159**			
Client ID: **MBLKW**	Batch ID: **17035**					Analysis Date: **5/15/2017**		SeqNo: **692611**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.9									
Heavy Oil	ND	99.8									
Surr: 2-Fluorobiphenyl	59.5		79.83		74.6	50	150				
Surr: o-Terphenyl	60.7		79.83		76.1	50	150				

Sample ID **LCS-17035**	SampType: **LCS**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36159**			
Client ID: **LCSW**	Batch ID: **17035**					Analysis Date: **5/15/2017**		SeqNo: **692609**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	797	49.9	998.8	0	79.8	65	135				
Surr: 2-Fluorobiphenyl	57.7		79.91		72.2	50	150				
Surr: o-Terphenyl	62.1		79.91		77.8	50	150				

Sample ID **LCSD-17035**	SampType: **LCSD**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36159**			
Client ID: **LCSW02**	Batch ID: **17035**					Analysis Date: **5/15/2017**		SeqNo: **692610**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	699	49.9	998.6	0	69.9	65	135	796.9	13.2	30	
Surr: 2-Fluorobiphenyl	52.9		79.89		66.2	50	150		0		
Surr: o-Terphenyl	58.0		79.89		72.6	50	150		0		

Sample ID **1705140-010ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36159**			
Client ID: **21417-MB9:GW**	Batch ID: **17035**					Analysis Date: **5/15/2017**		SeqNo: **692601**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.2						0		30	
Heavy Oil	142	100						145.7	2.89	30	
Surr: 2-Fluorobiphenyl	58.4		80.32		72.7	50	150		0		
Surr: o-Terphenyl	38.8		80.32		48.3	50	150		0		S

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **1705140-010ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36159**	
Client ID: **21417-MB9:GW**	Batch ID: **17035**					Analysis Date: **5/15/2017**		SeqNo: **692601**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **LCS-17056**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **5/15/2017**		RunNo: **36205**		
Client ID: **LCSS**	Batch ID: **17056**					Analysis Date: **5/16/2017**		SeqNo: **693478**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	29.6	5.00	25.00	0	118	65	135				
Surr: Toluene-d8	1.27		1.250		101	65	135				
Surr: 4-Bromofluorobenzene	1.23		1.250		98.6	65	135				

Sample ID **MB-17056**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **5/15/2017**		RunNo: **36205**		
Client ID: **MBLKS**	Batch ID: **17056**					Analysis Date: **5/16/2017**		SeqNo: **693479**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	1.25		1.250		100	65	135				
Surr: 4-Bromofluorobenzene	1.26		1.250		101	65	135				

Sample ID **1705143-001BDUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **5/15/2017**		RunNo: **36205**		
Client ID: **BATCH**	Batch ID: **17056**					Analysis Date: **5/16/2017**		SeqNo: **693492**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.11						0		30	
Surr: Toluene-d8	1.28		1.278		100	65	135		0		
Surr: 4-Bromofluorobenzene	1.29		1.278		101	65	135		0		

Sample ID **1705140-001BDUP**	SampType: **DUP**			Units: **mg/Kg-dry**		Prep Date: **5/15/2017**		RunNo: **36205**		
Client ID: **21417-MB10:28**	Batch ID: **17056**					Analysis Date: **5/16/2017**		SeqNo: **693481**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.33						0		30	
Surr: Toluene-d8	1.10		1.082		101	65	135		0		
Surr: 4-Bromofluorobenzene	1.05		1.082		96.8	65	135		0		

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID	**1705140-007BMS**	SampType: **MS**			Units: **mg/Kg-dry**	Prep Date: **5/15/2017**			RunNo: **36205**		
Client ID:	**21417-MB8:27**	Batch ID: **17056**				Analysis Date: **5/17/2017**			SeqNo: **693488**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	13.7	3.81	19.06	0	71.9	65	135				
Surr: Toluene-d8	0.968		0.9529		102	65	135				
Surr: 4-Bromofluorobenzene	0.937		0.9529		98.3	65	135				

Sample ID	**1705140-007BMSD**	SampType: **MSD**			Units: **mg/Kg-dry**	Prep Date: **5/15/2017**			RunNo: **36205**		
Client ID:	**21417-MB8:27**	Batch ID: **17056**				Analysis Date: **5/17/2017**			SeqNo: **693489**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	19.1	3.81	19.06	0	100	65	135	13.71	32.7	30	R
Surr: Toluene-d8	0.983		0.9529		103	65	135		0		
Surr: 4-Bromofluorobenzene	0.950		0.9529		99.7	65	135		0		

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

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID	**LCS-17040**	SampType: **LCS**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**LCSW**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692161**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	496	50.0	500.0	0	99.3	65	135				
Surr: Toluene-d8	25.3		25.00		101	65	135				
Surr: 4-Bromofluorobenzene	25.6		25.00		103	65	135				

Sample ID	**MB-17040**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**MBLKW**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692162**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: Toluene-d8	25.4		25.00		102	65	135				
Surr: 4-Bromofluorobenzene	24.6		25.00		98.4	65	135				

Sample ID	**1705106-002DDUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**BATCH**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692143**	
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	24.1		25.00		96.3	65	135		0		
Surr: 4-Bromofluorobenzene	24.3		25.00		97.0	65	135		0		

Sample ID	**1705106-003DMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**BATCH**	Batch ID: **17040**					Analysis Date: **5/13/2017**		SeqNo: **692145**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	500	50.0	500.0	0	100	65	135				
Surr: Toluene-d8	25.2		25.00		101	65	135				
Surr: 4-Bromofluorobenzene	25.3		25.00		101	65	135				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **1705106-003DMSD**	SampType: **MSD**	Units: **µg/L**	Prep Date: **5/12/2017**	RunNo: **36139**
Client ID: **BATCH**	Batch ID: **17040**		Analysis Date: **5/13/2017**	SeqNo: **692146**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	458	50.0	500.0	0	91.6	65	135	500.1	8.82	30	
Surr: Toluene-d8	25.2		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	25.4		25.00		102	65	135		0		

Sample ID **1705151-022ADUP**	SampType: **DUP**	Units: **µg/L**	Prep Date: **5/12/2017**	RunNo: **36139**
Client ID: **BATCH**	Batch ID: **17040**		Analysis Date: **5/13/2017**	SeqNo: **692153**

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	24.4		25.00		97.8	65	135		0		
Surr: 4-Bromofluorobenzene	23.7		25.00		94.7	65	135		0		

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17056** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **LCSS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693450**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.859	0.0600	1.000	0	85.9	14.3	167				
Chloromethane	1.06	0.0600	1.000	0	106	46	144				
Vinyl chloride	0.960	0.00200	1.000	0	96.0	44	142				
Bromomethane	0.833	0.0900	1.000	0	83.3	40.9	157				
Trichlorofluoromethane (CFC-11)	0.940	0.0500	1.000	0	94.0	36.9	156				
Chloroethane	0.995	0.0600	1.000	0	99.5	33.4	155				
1,1-Dichloroethene	1.04	0.0500	1.000	0	104	49.7	142				
Methylene chloride	1.05	0.0200	1.000	0	105	46.3	140				
trans-1,2-Dichloroethene	0.999	0.0200	1.000	0	99.9	68	130				
Methyl tert-butyl ether (MTBE)	0.986	0.0500	1.000	0	98.6	66.3	145				
1,1-Dichloroethane	0.855	0.0200	1.000	0	85.5	61.9	137				
2,2-Dichloropropane	0.789	0.0500	1.000	0	78.9	35.5	186				
cis-1,2-Dichloroethene	1.05	0.0200	1.000	0	105	71.3	135				
Chloroform	0.953	0.0200	1.000	0	95.3	69	145				
1,1,1-Trichloroethane (TCA)	0.935	0.0200	1.000	0	93.5	69	132				
1,1-Dichloropropene	1.10	0.0200	1.000	0	110	72.7	131				
Carbon tetrachloride	0.999	0.0200	1.000	0	99.9	63.4	137				
1,2-Dichloroethane (EDC)	1.04	0.0300	1.000	0	104	50.9	162				
Benzene	1.03	0.0200	1.000	0	103	64.3	133				
Trichloroethene (TCE)	0.958	0.0200	1.000	0	95.8	65.5	137				
1,2-Dichloropropane	0.986	0.0200	1.000	0	98.6	63.2	142				
Bromodichloromethane	0.813	0.0200	1.000	0	81.3	73.2	131				
Dibromomethane	0.897	0.0400	1.000	0	89.7	60.1	146				
cis-1,3-Dichloropropene	0.933	0.0200	1.000	0	93.3	59.1	143				
Toluene	1.01	0.0200	1.000	0	101	67.3	138				
trans-1,3-Dichloropropylene	0.924	0.0300	1.000	0	92.4	49.2	149				
1,1,2-Trichloroethane	0.954	0.0300	1.000	0	95.4	56.9	147				
1,3-Dichloropropane	0.996	0.0500	1.000	0	99.6	56.1	153				
Tetrachloroethene (PCE)	1.03	0.0200	1.000	0	103	52.7	150				
Dibromochloromethane	0.861	0.0300	1.000	0	86.1	70.6	144				
1,2-Dibromoethane (EDB)	0.962	0.00500	1.000	0	96.2	50.5	154				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17056** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **LCSS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693450**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.03	0.0200	1.000	0	103	76.1	123				
1,1,1,2-Tetrachloroethane	0.920	0.0300	1.000	0	92.0	65.9	141				
Ethylbenzene	1.05	0.0300	1.000	0	105	74	129				
m,p-Xylene	2.11	0.0200	2.000	0	106	70	124				
o-Xylene	1.04	0.0200	1.000	0	104	68.1	139				
Styrene	1.03	0.0200	1.000	0	103	73.3	146				
Isopropylbenzene	1.05	0.0800	1.000	0	105	70	130				
Bromoform	0.710	0.0200	1.000	0	71.0	67	154				
1,1,2,2-Tetrachloroethane	0.906	0.0200	1.000	0	90.6	44.8	165				
n-Propylbenzene	1.06	0.0200	1.000	0	106	74.8	125				
Bromobenzene	1.00	0.0300	1.000	0	100	49.2	144				
1,3,5-Trimethylbenzene	1.03	0.0200	1.000	0	103	74.6	123				
2-Chlorotoluene	1.03	0.0200	1.000	0	103	76.7	129				
4-Chlorotoluene	1.03	0.0200	1.000	0	103	77.5	125				
tert-Butylbenzene	1.06	0.0200	1.000	0	106	66.2	130				
1,2,3-Trichloropropane	0.993	0.0200	1.000	0	99.3	67.9	136				
1,2,4-Trichlorobenzene	1.14	0.0500	1.000	0	114	62.6	143				
sec-Butylbenzene	1.10	0.0200	1.000	0	110	75.6	133				
4-Isopropyltoluene	1.05	0.0200	1.000	0	105	76.8	131				
1,3-Dichlorobenzene	1.04	0.0200	1.000	0	104	72.8	128				
1,4-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.6	126				
n-Butylbenzene	1.08	0.0200	1.000	0	108	65.3	136				
1,2-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	126				
1,2-Dibromo-3-chloropropane	0.743	0.500	1.000	0	74.3	40.2	155				
1,2,4-Trimethylbenzene	0.998	0.0200	1.000	0	99.8	77.5	129				
Hexachlorobutadiene	1.12	0.100	1.000	0	112	42	151				
Naphthalene	1.17	0.0300	1.000	0	117	58.4	160				
1,2,3-Trichlorobenzene	1.15	0.0200	1.000	0	115	54.8	143				
Surr: Dibromofluoromethane	0.932		1.250		74.6	56.5	129				
Surr: Toluene-d8	1.26		1.250		101	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.32		1.250		106	63.1	141				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	**LCS-17056**	SampType: **LCS**			Units: **mg/Kg**		Prep Date: **5/15/2017**		RunNo: **36204**	
Client ID:	**LCSS**	Batch ID: **17056**					Analysis Date: **5/16/2017**		SeqNo: **693450**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	**MB-17056**	SampType: **MBLK**			Units: **mg/Kg**		Prep Date: **5/15/2017**		RunNo: **36204**	
Client ID:	**MBLKS**	Batch ID: **17056**					Analysis Date: **5/16/2017**		SeqNo: **693451**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									Q
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: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17056** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **MBLKS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693451**

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									

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17056** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **MBLKS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693451**

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	1.15		1.250		91.9	56.5	129				
Surr: Toluene-d8	1.38		1.250		110	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.20		1.250		95.7	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 **1705143-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0613						0		30	Q
Chloromethane	ND	0.0613						0		30	
Vinyl chloride	ND	0.00204						0		30	
Bromomethane	ND	0.0920						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0511						0		30	
Chloroethane	ND	0.0613						0		30	
1,1-Dichloroethene	ND	0.0511						0		30	
Methylene chloride	ND	0.0204						0		30	
trans-1,2-Dichloroethene	ND	0.0204						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0511						0		30	
1,1-Dichloroethane	ND	0.0204						0		30	
2,2-Dichloropropane	ND	0.0511						0		30	Q
cis-1,2-Dichloroethene	ND	0.0204						0		30	
Chloroform	ND	0.0204						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0204						0		30	
1,1-Dichloropropene	ND	0.0204						0		30	
Carbon tetrachloride	ND	0.0204						0		30	
1,2-Dichloroethane (EDC)	ND	0.0307						0		30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705143-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0204						0		30	
Trichloroethene (TCE)	ND	0.0204						0		30	
1,2-Dichloropropane	ND	0.0204						0		30	
Bromodichloromethane	ND	0.0204						0		30	
Dibromomethane	ND	0.0409						0		30	
cis-1,3-Dichloropropene	ND	0.0204						0		30	
Toluene	ND	0.0204						0.02925	39.1	30	
trans-1,3-Dichloropropylene	ND	0.0307						0		30	
1,1,2-Trichloroethane	ND	0.0307						0		30	
1,3-Dichloropropane	ND	0.0511						0		30	
Tetrachloroethene (PCE)	ND	0.0204						0		30	
Dibromochloromethane	ND	0.0307						0		30	
1,2-Dibromoethane (EDB)	ND	0.00511						0		30	
Chlorobenzene	ND	0.0204						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0307						0		30	
Ethylbenzene	ND	0.0307						0		30	
m,p-Xylene	0.0271	0.0204						0.03362	21.7	30	
o-Xylene	ND	0.0204						0		30	
Styrene	ND	0.0204						0		30	
Isopropylbenzene	ND	0.0818						0		30	
Bromoform	ND	0.0204						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0204						0		30	
n-Propylbenzene	ND	0.0204						0		30	
Bromobenzene	ND	0.0307						0		30	
1,3,5-Trimethylbenzene	ND	0.0204						0		30	
2-Chlorotoluene	ND	0.0204						0		30	
4-Chlorotoluene	ND	0.0204						0		30	
tert-Butylbenzene	ND	0.0204						0		30	
1,2,3-Trichloropropane	ND	0.0204						0		30	
1,2,4-Trichlorobenzene	ND	0.0511						0		30	
sec-Butylbenzene	ND	0.0204						0		30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705143-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Isopropyltoluene	ND	0.0204						0		30	
1,3-Dichlorobenzene	ND	0.0204						0		30	
1,4-Dichlorobenzene	ND	0.0204						0		30	
n-Butylbenzene	ND	0.0204						0		30	
1,2-Dichlorobenzene	ND	0.0204						0		30	
1,2-Dibromo-3-chloropropane	ND	0.511						0		30	
1,2,4-Trimethylbenzene	0.0444	0.0204						0.04638	4.41	30	
Hexachlorobutadiene	ND	0.102						0		30	
Naphthalene	ND	0.0307						0		30	
1,2,3-Trichlorobenzene	ND	0.0204						0		30	
Surr: Dibromofluoromethane	1.17		1.278		91.4	56.5	129		0		
Surr: Toluene-d8	1.70		1.278		133	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.24		1.278		96.9	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 **1705140-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB10:28** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693429**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0519						0		30	Q
Chloromethane	ND	0.0519						0		30	
Vinyl chloride	ND	0.00173						0		30	
Bromomethane	ND	0.0779						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0433						0		30	
Chloroethane	ND	0.0519						0		30	
1,1-Dichloroethene	ND	0.0433						0		30	
Methylene chloride	ND	0.0173						0		30	
trans-1,2-Dichloroethene	ND	0.0173						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0433						0		30	
1,1-Dichloroethane	ND	0.0173						0		30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB10:28** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693429**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.0433						0		30	Q
cis-1,2-Dichloroethene	ND	0.0173						0		30	
Chloroform	ND	0.0173						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0173						0		30	
1,1-Dichloropropene	ND	0.0173						0		30	
Carbon tetrachloride	ND	0.0173						0		30	
1,2-Dichloroethane (EDC)	ND	0.0260						0		30	
Benzene	ND	0.0173						0		30	
Trichloroethene (TCE)	ND	0.0173						0		30	
1,2-Dichloropropane	ND	0.0173						0		30	
Bromodichloromethane	ND	0.0173						0		30	
Dibromomethane	ND	0.0346						0		30	
cis-1,3-Dichloropropene	ND	0.0173						0		30	
Toluene	ND	0.0173						0		30	
trans-1,3-Dichloropropylene	ND	0.0260						0		30	
1,1,2-Trichloroethane	ND	0.0260						0		30	
1,3-Dichloropropane	ND	0.0433						0		30	
Tetrachloroethene (PCE)	ND	0.0173						0		30	
Dibromochloromethane	ND	0.0260						0		30	
1,2-Dibromoethane (EDB)	ND	0.00433						0		30	
Chlorobenzene	ND	0.0173						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0260						0		30	
Ethylbenzene	ND	0.0260						0		30	
m,p-Xylene	ND	0.0173						0		30	
o-Xylene	ND	0.0173						0		30	
Styrene	ND	0.0173						0		30	
Isopropylbenzene	ND	0.0692						0		30	
Bromoform	ND	0.0173						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0173						0		30	
n-Propylbenzene	ND	0.0173						0		30	
Bromobenzene	ND	0.0260						0		30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB10:28** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693429**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	0.0173						0		30	
2-Chlorotoluene	ND	0.0173						0		30	
4-Chlorotoluene	ND	0.0173						0		30	
tert-Butylbenzene	ND	0.0173						0		30	
1,2,3-Trichloropropane	ND	0.0173						0		30	
1,2,4-Trichlorobenzene	ND	0.0433						0		30	
sec-Butylbenzene	ND	0.0173						0		30	
4-Isopropyltoluene	ND	0.0173						0		30	
1,3-Dichlorobenzene	ND	0.0173						0		30	
1,4-Dichlorobenzene	ND	0.0173						0		30	
n-Butylbenzene	ND	0.0173						0		30	
1,2-Dichlorobenzene	ND	0.0173						0		30	
1,2-Dibromo-3-chloropropane	ND	0.433						0		30	
1,2,4-Trimethylbenzene	ND	0.0173						0		30	
Hexachlorobutadiene	ND	0.0866						0		30	
Naphthalene	ND	0.0260						0		30	
1,2,3-Trichlorobenzene	ND	0.0173						0		30	
Surr: Dibromofluoromethane	0.961		1.082		88.8	56.5	129		0		
Surr: Toluene-d8	1.02		1.082		94.0	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.01		1.082		93.3	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 **1705140-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB11:23** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.702	0.0772	1.287	0	54.6	43.5	121				
Chloromethane	0.939	0.0772	1.287	0	73.0	45	130				
Vinyl chloride	0.866	0.00257	1.287	0	67.3	51.2	146				
Bromomethane	0.873	0.116	1.287	0	67.8	21.3	120				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB11:23** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	1.23	0.0643	1.287	0	95.9	35	131				
Chloroethane	1.07	0.0772	1.287	0	82.9	31.9	123				
1,1-Dichloroethene	1.11	0.0643	1.287	0	86.1	61.9	141				
Methylene chloride	1.13	0.0257	1.287	0	87.5	54.7	142				
trans-1,2-Dichloroethene	1.08	0.0257	1.287	0	84.2	52	136				
Methyl tert-butyl ether (MTBE)	1.09	0.0643	1.287	0	84.8	54.4	132				
1,1-Dichloroethane	1.18	0.0257	1.287	0	91.7	51.8	141				
2,2-Dichloropropane	0.530	0.0643	1.287	0	41.2	36	123				
cis-1,2-Dichloroethene	1.20	0.0257	1.287	0	93.0	58.6	136				
Chloroform	1.20	0.0257	1.287	0	93.1	53.2	129				
1,1,1-Trichloroethane (TCA)	1.11	0.0257	1.287	0	86.0	58.3	145				
1,1-Dichloropropene	1.15	0.0257	1.287	0	89.7	55.1	138				
Carbon tetrachloride	1.01	0.0257	1.287	0	78.7	53.3	144				
1,2-Dichloroethane (EDC)	1.20	0.0386	1.287	0	93.5	51.3	139				
Benzene	1.20	0.0257	1.287	0	93.2	63.5	133				
Trichloroethene (TCE)	1.22	0.0257	1.287	0	94.5	68.6	132				
1,2-Dichloropropane	1.23	0.0257	1.287	0	95.8	59	136				
Bromodichloromethane	1.01	0.0257	1.287	0	78.5	50.7	141				
Dibromomethane	1.13	0.0515	1.287	0	87.6	50.6	137				
cis-1,3-Dichloropropene	1.08	0.0257	1.287	0	83.8	50.4	138				
Toluene	1.24	0.0257	1.287	0.03477	94.0	63.4	132				
trans-1,3-Dichloropropylene	1.07	0.0386	1.287	0	83.3	44.1	147				
1,1,2-Trichloroethane	1.17	0.0386	1.287	0	90.6	51.6	137				
1,3-Dichloropropane	1.20	0.0643	1.287	0	93.5	53.1	134				
Tetrachloroethene (PCE)	1.19	0.0257	1.287	0	92.1	35.6	158				
Dibromochloromethane	1.11	0.0386	1.287	0	86.1	55.3	140				
1,2-Dibromoethane (EDB)	1.16	0.00643	1.287	0	90.5	50.4	136				
Chlorobenzene	1.25	0.0257	1.287	0	97.2	60	133				
1,1,1,2-Tetrachloroethane	1.15	0.0386	1.287	0	89.0	53.1	142				
Ethylbenzene	1.25	0.0386	1.287	0	97.1	54.5	134				
m,p-Xylene	2.52	0.0257	2.574	0	97.7	53.1	132				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB11:23** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	1.24	0.0257	1.287	0	96.0	53.3	139				
Styrene	1.23	0.0257	1.287	0	95.6	51.1	132				
Isopropylbenzene	1.24	0.103	1.287	0	96.2	58.9	138				
Bromoform	0.930	0.0257	1.287	0	72.3	57.9	130				
1,1,2,2-Tetrachloroethane	1.15	0.0257	1.287	0	89.2	51.9	131				
n-Propylbenzene	1.22	0.0257	1.287	0	94.9	53.6	140				
Bromobenzene	1.23	0.0386	1.287	0	95.3	54.2	140				
1,3,5-Trimethylbenzene	1.22	0.0257	1.287	0	94.8	51.8	136				
2-Chlorotoluene	1.22	0.0257	1.287	0	95.2	51.6	136				
4-Chlorotoluene	1.23	0.0257	1.287	0	95.7	50.1	139				
tert-Butylbenzene	1.23	0.0257	1.287	0	95.2	50.5	135				
1,2,3-Trichloropropane	1.13	0.0257	1.287	0	88.1	50.5	131				
1,2,4-Trichlorobenzene	1.27	0.0643	1.287	0	98.3	50.8	130				
sec-Butylbenzene	1.27	0.0257	1.287	0	98.3	52.6	141				
4-Isopropyltoluene	1.23	0.0257	1.287	0	95.5	52.9	134				
1,3-Dichlorobenzene	1.28	0.0257	1.287	0	99.4	52.6	131				
1,4-Dichlorobenzene	1.27	0.0257	1.287	0	99.0	52.9	129				
n-Butylbenzene	1.26	0.0257	1.287	0	98.2	52.6	130				
1,2-Dichlorobenzene	1.28	0.0257	1.287	0	99.5	55.8	129				
1,2-Dibromo-3-chloropropane	0.940	0.643	1.287	0	73.0	40.5	131				
1,2,4-Trimethylbenzene	1.19	0.0257	1.287	0	92.3	50.6	137				
Hexachlorobutadiene	1.27	0.129	1.287	0	98.9	40.6	158				
Naphthalene	1.35	0.0386	1.287	0	105	52.3	124				
1,2,3-Trichlorobenzene	1.30	0.0257	1.287	0	101	54.4	124				
Surr: Dibromofluoromethane	1.58		1.609		98.5	56.5	129				
Surr: Toluene-d8	1.65		1.609		103	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.71		1.609		106	63.1	141				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB11:23** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693434**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.798	0.0772	1.287	0	62.0	43.5	121	0.7025	12.8	30	
Chloromethane	1.02	0.0772	1.287	0	79.4	45	130	0.9393	8.40	30	
Vinyl chloride	0.957	0.00257	1.287	0	74.3	51.2	146	0.8657	9.99	30	
Bromomethane	0.898	0.116	1.287	0	69.8	21.3	120	0.8727	2.85	30	
Trichlorofluoromethane (CFC-11)	1.33	0.0643	1.287	0	104	35	131	1.234	7.79	30	
Chloroethane	1.05	0.0772	1.287	0	81.9	31.9	123	1.066	1.20	30	
1,1-Dichloroethene	1.20	0.0643	1.287	0	93.4	61.9	141	1.108	8.16	30	
Methylene chloride	1.15	0.0257	1.287	0	89.3	54.7	142	1.126	2.11	30	
trans-1,2-Dichloroethene	1.11	0.0257	1.287	0	85.9	52	136	1.083	2.04	30	
Methyl tert-butyl ether (MTBE)	1.15	0.0643	1.287	0	89.3	54.4	132	1.091	5.21	30	
1,1-Dichloroethane	1.19	0.0257	1.287	0	92.4	51.8	141	1.180	0.752	30	
2,2-Dichloropropane	0.555	0.0643	1.287	0	43.1	36	123	0.5297	4.63	30	
cis-1,2-Dichloroethene	1.20	0.0257	1.287	0	93.0	58.6	136	1.196	0.0639	30	
Chloroform	1.21	0.0257	1.287	0	93.8	53.2	129	1.198	0.797	30	
1,1,1-Trichloroethane (TCA)	1.12	0.0257	1.287	0	86.7	58.3	145	1.106	0.844	30	
1,1-Dichloropropene	1.17	0.0257	1.287	0	91.2	55.1	138	1.154	1.68	30	
Carbon tetrachloride	0.971	0.0257	1.287	0	75.5	53.3	144	1.013	4.28	30	
1,2-Dichloroethane (EDC)	1.23	0.0386	1.287	0	95.8	51.3	139	1.204	2.35	30	
Benzene	1.21	0.0257	1.287	0	93.7	63.5	133	1.199	0.543	30	
Trichloroethene (TCE)	1.24	0.0257	1.287	0	96.3	68.6	132	1.216	1.90	30	
1,2-Dichloropropane	1.18	0.0257	1.287	0	91.7	59	136	1.232	4.38	30	
Bromodichloromethane	1.01	0.0257	1.287	0	78.9	50.7	141	1.010	0.471	30	
Dibromomethane	1.14	0.0515	1.287	0	88.9	50.6	137	1.128	1.40	30	
cis-1,3-Dichloropropene	1.08	0.0257	1.287	0	84.0	50.4	138	1.078	0.216	30	
Toluene	1.24	0.0257	1.287	0.03477	93.6	63.4	132	1.245	0.482	30	
trans-1,3-Dichloropropylene	1.09	0.0386	1.287	0	85.1	44.1	147	1.072	2.10	30	
1,1,2-Trichloroethane	1.18	0.0386	1.287	0	92.0	51.6	137	1.165	1.56	30	
1,3-Dichloropropane	1.22	0.0643	1.287	0	94.4	53.1	134	1.204	0.948	30	
Tetrachloroethene (PCE)	1.19	0.0257	1.287	0	92.7	35.6	158	1.186	0.668	30	
Dibromochloromethane	1.11	0.0386	1.287	0	86.5	55.3	140	1.108	0.432	30	
1,2-Dibromoethane (EDB)	1.20	0.00643	1.287	0	92.9	50.4	136	1.165	2.57	30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **21417-MB11:23** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693434**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.25	0.0257	1.287	0	96.8	60	133	1.252	0.438	30	
1,1,1,2-Tetrachloroethane	1.12	0.0386	1.287	0	87.3	53.1	142	1.145	1.89	30	
Ethylbenzene	1.25	0.0386	1.287	0	97.2	54.5	134	1.250	0.0296	30	
m,p-Xylene	2.51	0.0257	2.574	0	97.6	53.1	132	2.516	0.166	30	
o-Xylene	1.25	0.0257	1.287	0	96.9	53.3	139	1.235	0.890	30	
Styrene	1.23	0.0257	1.287	0	95.7	51.1	132	1.230	0.159	30	
Isopropylbenzene	1.25	0.103	1.287	0	97.4	58.9	138	1.238	1.27	30	
Bromoform	0.908	0.0257	1.287	0	70.6	57.9	130	0.9304	2.39	30	
1,1,2,2-Tetrachloroethane	1.15	0.0257	1.287	0	89.6	51.9	131	1.148	0.407	30	
n-Propylbenzene	1.23	0.0257	1.287	0	95.9	53.6	140	1.221	1.01	30	
Bromobenzene	1.22	0.0386	1.287	0	94.6	54.2	140	1.226	0.698	30	
1,3,5-Trimethylbenzene	1.22	0.0257	1.287	0	94.5	51.8	136	1.220	0.316	30	
2-Chlorotoluene	1.23	0.0257	1.287	0	95.2	51.6	136	1.225	0.0954	30	
4-Chlorotoluene	1.23	0.0257	1.287	0	95.2	50.1	139	1.231	0.460	30	
tert-Butylbenzene	1.23	0.0257	1.287	0	95.8	50.5	135	1.225	0.580	30	
1,2,3-Trichloropropane	1.22	0.0257	1.287	0	94.7	50.5	131	1.134	7.19	30	
1,2,4-Trichlorobenzene	1.29	0.0643	1.287	0	100	50.8	130	1.265	1.72	30	
sec-Butylbenzene	1.28	0.0257	1.287	0	99.4	52.6	141	1.265	1.13	30	
4-Isopropyltoluene	1.23	0.0257	1.287	0	95.6	52.9	134	1.229	0.0302	30	
1,3-Dichlorobenzene	1.28	0.0257	1.287	0	99.8	52.6	131	1.279	0.368	30	
1,4-Dichlorobenzene	1.27	0.0257	1.287	0	98.4	52.9	129	1.274	0.580	30	
n-Butylbenzene	1.29	0.0257	1.287	0	101	52.6	130	1.264	2.42	30	
1,2-Dichlorobenzene	1.27	0.0257	1.287	0	99.0	55.8	129	1.281	0.532	30	
1,2-Dibromo-3-chloropropane	0.980	0.643	1.287	0	76.1	40.5	131	0.9400	4.15	30	
1,2,4-Trimethylbenzene	1.18	0.0257	1.287	0	91.5	50.6	137	1.188	0.881	30	
Hexachlorobutadiene	1.29	0.129	1.287	0	100	40.6	158	1.273	1.41	30	
Naphthalene	1.41	0.0386	1.287	0	110	52.3	124	1.350	4.56	30	
1,2,3-Trichlorobenzene	1.29	0.0257	1.287	0	100	54.4	124	1.296	0.259	30	
Surr: Dibromofluoromethane	1.58		1.609		98.2	56.5	129		0		
Surr: Toluene-d8	1.63		1.609		101	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.71		1.609		106	63.1	141		0		

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMSD**	SampType: **MSD**				Units: **mg/Kg-dry**		Prep Date: **5/15/2017**		RunNo: **36204**		
Client ID: **21417-MB11:23**	Batch ID: **17056**						Analysis Date: **5/16/2017**		SeqNo: **693434**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17040** SampType: **LCS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **LCSW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692023**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	13.7	1.00	20.00	0	68.6	18.7	171				
Chloromethane	21.3	1.00	20.00	0	107	38.5	171				
Vinyl chloride	21.2	0.200	20.00	0	106	48	145				
Bromomethane	20.1	1.00	20.00	0	100	32.5	184				
Trichlorofluoromethane (CFC-11)	19.9	1.00	20.00	0	99.5	43.5	149				
Chloroethane	20.7	1.00	20.00	0	103	43.8	168				
1,1-Dichloroethene	17.3	1.00	20.00	0	86.6	57.5	150				
Methylene chloride	18.6	1.00	20.00	0	92.9	67.1	131				
trans-1,2-Dichloroethene	19.6	1.00	20.00	0	97.9	71.7	129				
Methyl tert-butyl ether (MTBE)	21.5	1.00	20.00	0	108	58	138				
1,1-Dichloroethane	19.0	1.00	20.00	0	95.0	67.9	134				
2,2-Dichloropropane	35.8	2.00	20.00	0	179	26.5	185				
cis-1,2-Dichloroethene	18.7	1.00	20.00	0	93.6	70.2	139				
Chloroform	18.2	1.00	20.00	0	90.8	66.3	131				
1,1,1-Trichloroethane (TCA)	21.2	1.00	20.00	0	106	71	131				
1,1-Dichloropropene	20.4	1.00	20.00	0	102	69.9	124				
Carbon tetrachloride	18.8	1.00	20.00	0	93.9	66.2	134				
1,2-Dichloroethane (EDC)	19.3	1.00	20.00	0	96.4	67	126				
Benzene	19.8	1.00	20.00	0	98.9	69.3	132				
Trichloroethene (TCE)	19.9	0.500	20.00	0	99.4	65.2	136				
1,2-Dichloropropane	19.9	1.00	20.00	0	99.7	70.5	130				
Bromodichloromethane	19.1	1.00	20.00	0	95.7	67.2	137				
Dibromomethane	20.2	1.00	20.00	0	101	69.3	143				
cis-1,3-Dichloropropene	23.0	1.00	20.00	0	115	62.6	137				
Toluene	19.6	1.00	20.00	0	98.0	61.3	145				
trans-1,3-Dichloropropylene	21.9	1.00	20.00	0	110	56.5	163				
1,1,2-Trichloroethane	20.6	1.00	20.00	0	103	71.7	131				
1,3-Dichloropropane	20.8	1.00	20.00	0	104	73.5	127				
Tetrachloroethene (PCE)	19.8	1.00	20.00	0	99.2	47.5	147				
Dibromochloromethane	20.1	1.00	20.00	0	101	67.2	134				
1,2-Dibromoethane (EDB)	21.3	0.0600	20.00	0	106	73.6	125				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17040** SampType: **LCS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **LCSW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692023**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.0	1.00	20.00	0	99.9	73.9	126				
1,1,1,2-Tetrachloroethane	19.8	1.00	20.00	0	99.2	76.8	124				
Ethylbenzene	20.6	1.00	20.00	0	103	72	130				
m,p-Xylene	41.2	1.00	40.00	0	103	70.3	134				
o-Xylene	20.0	1.00	20.00	0	100	72.1	131				
Styrene	20.3	1.00	20.00	0	102	64.3	140				
Isopropylbenzene	20.3	1.00	20.00	0	101	73.9	128				
Bromoform	20.5	1.00	20.00	0	102	55.3	141				
1,1,2,2-Tetrachloroethane	20.9	1.00	20.00	0	104	62.9	132				
n-Propylbenzene	20.2	1.00	20.00	0	101	74.5	127				
Bromobenzene	20.1	1.00	20.00	0	101	71	131				
1,3,5-Trimethylbenzene	19.8	1.00	20.00	0	99.1	73.1	128				
2-Chlorotoluene	20.2	1.00	20.00	0	101	70.8	130				
4-Chlorotoluene	20.2	1.00	20.00	0	101	70.1	131				
tert-Butylbenzene	19.8	1.00	20.00	0	98.9	68.2	131				
1,2,3-Trichloropropane	21.5	1.00	20.00	0	108	67.7	131				
1,2,4-Trichlorobenzene	26.0	2.00	20.00	0	130	51.8	152				
sec-Butylbenzene	20.2	1.00	20.00	0	101	72	129				
4-Isopropyltoluene	20.2	1.00	20.00	0	101	69.2	130				
1,3-Dichlorobenzene	20.9	1.00	20.00	0	105	80.4	124				
1,4-Dichlorobenzene	20.9	1.00	20.00	0	105	66.8	119				
n-Butylbenzene	23.8	1.00	20.00	0	119	73.8	127				
1,2-Dichlorobenzene	22.1	1.00	20.00	0	111	69.7	119				
1,2-Dibromo-3-chloropropane	23.4	1.00	20.00	0	117	63.1	136				
1,2,4-Trimethylbenzene	20.4	1.00	20.00	0	102	73.4	127				
Hexachloro-1,3-butadiene	22.1	4.00	20.00	0	110	58.6	138				
Naphthalene	26.8	1.00	20.00	0	134	41.8	165				
1,2,3-Trichlorobenzene	26.1	4.00	20.00	0	131	48.7	156				
Surr: Dibromofluoromethane	21.8		25.00		87.1	45.4	152				
Surr: Toluene-d8	25.4		25.00		102	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.8		25.00		107	64.2	128				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID	**LCS-17040**	SampType: **LCS**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36132**	
Client ID:	**LCSW**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692023**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	**MB-17040**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36132**	
Client ID:	**MBLKW**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692024**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									Q
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									Q
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									
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: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17040** SampType: **MBLK** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **MBLKW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692024**

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									
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: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17040** SampType: **MBLK** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **MBLKW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692024**

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	22.8		25.00		91.1	45.4	152				
Surr: Toluene-d8	23.7		25.00		94.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	21.3		25.00		85.3	64.2	128				

Sample ID **1705106-002DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692000**

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	Q
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	Q
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	
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	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705106-002DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692000**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	2.67	1.00						1.938	31.6	30	
o-Xylene	1.61	1.00						1.325	19.2	30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
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	
4-Isopropyltoluene	ND	1.00						0		30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705106-002DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692000**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	1.40	1.00						1.220	13.8	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	22.5		25.00		90.0	45.4	152		0		
Surr: Toluene-d8	23.4		25.00		93.5	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.1		25.00		92.2	64.2	128		0		

Sample ID **1705155-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692017**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	16.4	1.00	20.00	0	81.9	33.3	122				
Chloromethane	22.4	1.00	20.00	0	112	39.7	143				
Vinyl chloride	24.2	0.200	20.00	0	121	41	165				
Bromomethane	23.1	1.00	20.00	0	116	31.5	135				
Trichlorofluoromethane (CFC-11)	24.1	1.00	20.00	0	121	54.7	138				
Chloroethane	23.0	1.00	20.00	0	115	49.9	143				
1,1-Dichloroethene	20.7	1.00	20.00	0	103	51.6	164				
Methylene chloride	20.9	1.00	20.00	11.29	47.9	61.6	135				S
trans-1,2-Dichloroethene	22.1	1.00	20.00	0	111	63.5	138				
Methyl tert-butyl ether (MTBE)	23.0	1.00	20.00	0	115	60.9	132				
1,1-Dichloroethane	21.8	1.00	20.00	0	109	55.7	151				
2,2-Dichloropropane	33.8	2.00	20.00	0	169	37.7	150				S
cis-1,2-Dichloroethene	21.3	1.00	20.00	0	106	60	154				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692017**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	21.7	1.00	20.00	0	109	48.1	140				
1,1,1-Trichloroethane (TCA)	26.9	1.00	20.00	0	135	64.2	146				
1,1-Dichloropropene	26.6	1.00	20.00	0	133	73.8	136				
Carbon tetrachloride	25.5	1.00	20.00	0	128	62.7	146				
1,2-Dichloroethane (EDC)	22.2	1.00	20.00	0	111	63.4	137				
Benzene	21.5	1.00	20.00	0	107	65.4	138				
Trichloroethene (TCE)	20.9	0.500	20.00	0	105	60.4	134				
1,2-Dichloropropane	20.8	1.00	20.00	0	104	62.6	138				
Bromodichloromethane	19.1	1.00	20.00	0	95.5	59.4	139				
Dibromomethane	20.5	1.00	20.00	0	102	58.7	148				
cis-1,3-Dichloropropene	21.3	1.00	20.00	0	107	63.8	132				
Toluene	18.2	1.00	20.00	0	90.8	52	147				
trans-1,3-Dichloropropylene	20.4	1.00	20.00	0	102	57.7	125				
1,1,2-Trichloroethane	19.7	1.00	20.00	0	98.3	57.5	153				
1,3-Dichloropropane	19.7	1.00	20.00	0	98.5	54.1	157				
Tetrachloroethene (PCE)	18.7	1.00	20.00	0	93.6	50.3	133				
Dibromochloromethane	19.1	1.00	20.00	0	95.3	61.6	139				
1,2-Dibromoethane (EDB)	19.9	0.0600	20.00	0	99.7	63.2	134				
Chlorobenzene	23.0	1.00	20.00	0	115	65.8	134				
1,1,1,2-Tetrachloroethane	23.6	1.00	20.00	0	118	65.4	135				
Ethylbenzene	22.4	1.00	20.00	0	112	64.5	136				
m,p-Xylene	43.2	1.00	40.00	0	108	63.3	135				
o-Xylene	20.4	1.00	20.00	0	102	64.8	150				
Styrene	21.7	1.00	20.00	0	108	52.9	163				
Isopropylbenzene	18.2	1.00	20.00	0	91.0	56	147				
Bromoform	25.2	1.00	20.00	0	126	57.7	139				
1,1,2,2-Tetrachloroethane	27.4	1.00	20.00	0	137	59.8	146				
n-Propylbenzene	20.2	1.00	20.00	0	101	57.6	142				
Bromobenzene	22.9	1.00	20.00	0	114	69.3	157				
1,3,5-Trimethylbenzene	20.0	1.00	20.00	0	100	59.9	136				
2-Chlorotoluene	22.1	1.00	20.00	0	111	61.7	134				

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692017**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	22.2	1.00	20.00	0	111	58.4	134				
tert-Butylbenzene	19.4	1.00	20.00	0	96.8	66.8	141				
1,2,3-Trichloropropane	32.0	1.00	20.00	0	160	62.4	129				S
1,2,4-Trichlorobenzene	25.3	2.00	20.00	0	127	50.9	133				
sec-Butylbenzene	21.5	1.00	20.00	0	107	56	146				
4-Isopropyltoluene	20.8	1.00	20.00	0	104	56.4	136				
1,3-Dichlorobenzene	12.4	1.00	20.00	0	61.8	58.2	128				
1,4-Dichlorobenzene	20.1	1.00	20.00	0	101	60.1	123				
n-Butylbenzene	20.4	1.00	20.00	0	102	54.6	135				
1,2-Dichlorobenzene	21.7	1.00	20.00	0	109	65.4	133				
1,2-Dibromo-3-chloropropane	28.5	1.00	20.00	0	143	51.8	142				S
1,2,4-Trimethylbenzene	21.1	1.00	20.00	0	105	63.7	132				
Hexachloro-1,3-butadiene	18.7	4.00	20.00	0	93.3	58.1	130				
Naphthalene	36.2	1.00	20.00	0	181	50.7	154				S
1,2,3-Trichlorobenzene	26.9	4.00	20.00	0	134	57	131				S
Surr: Dibromofluoromethane	24.9		25.00		99.6	45.4	152				
Surr: Toluene-d8	23.0		25.00		91.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	29.5		25.00		118	64.2	128				

Sample ID **1705155-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	22.7	1.00	20.00	0	114	33.3	122	16.37	32.6	30	R
Chloromethane	23.1	1.00	20.00	0	116	39.7	143	22.38	3.23	30	
Vinyl chloride	24.0	0.200	20.00	0	120	41	165	24.16	0.680	30	
Bromomethane	21.8	1.00	20.00	0	109	31.5	135	23.12	5.78	30	
Trichlorofluoromethane (CFC-11)	23.9	1.00	20.00	0	120	54.7	138	24.14	0.953	30	
Chloroethane	22.8	1.00	20.00	0	114	49.9	143	22.98	0.619	30	
1,1-Dichloroethene	20.7	1.00	20.00	0	104	51.6	164	20.68	0.272	30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methylene chloride	20.0	1.00	20.00	11.29	43.8	61.6	135	20.86	4.01	30	S
trans-1,2-Dichloroethene	21.8	1.00	20.00	0	109	63.5	138	22.12	1.55	30	
Methyl tert-butyl ether (MTBE)	18.5	1.00	20.00	0	92.4	60.9	132	22.98	21.7	30	
1,1-Dichloroethane	20.9	1.00	20.00	0	105	55.7	151	21.78	3.98	30	
2,2-Dichloropropane	31.5	2.00	20.00	0	158	37.7	150	33.76	6.85	30	S
cis-1,2-Dichloroethene	21.2	1.00	20.00	0	106	60	154	21.30	0.557	30	
Chloroform	20.4	1.00	20.00	0	102	48.1	140	21.71	6.12	30	
1,1,1-Trichloroethane (TCA)	23.5	1.00	20.00	0	118	64.2	146	26.94	13.5	30	
1,1-Dichloropropene	23.4	1.00	20.00	0	117	73.8	136	26.63	12.9	30	
Carbon tetrachloride	23.0	1.00	20.00	0	115	62.7	146	25.54	10.6	30	
1,2-Dichloroethane (EDC)	20.1	1.00	20.00	0	100	63.4	137	22.19	9.98	30	
Benzene	21.9	1.00	20.00	0	110	65.4	138	21.46	2.04	30	
Trichloroethene (TCE)	20.8	0.500	20.00	0	104	60.4	134	20.93	0.874	30	
1,2-Dichloropropane	19.5	1.00	20.00	0	97.6	62.6	138	20.77	6.18	30	
Bromodichloromethane	19.7	1.00	20.00	0	98.7	59.4	139	19.09	3.37	30	
Dibromomethane	20.5	1.00	20.00	0	103	58.7	148	20.49	0.182	30	
cis-1,3-Dichloropropene	20.9	1.00	20.00	0	105	63.8	132	21.33	1.92	30	
Toluene	21.1	1.00	20.00	0	106	52	147	18.15	15.0	30	
trans-1,3-Dichloropropylene	20.9	1.00	20.00	0	104	57.7	125	20.43	2.13	30	
1,1,2-Trichloroethane	21.3	1.00	20.00	0	107	57.5	153	19.66	8.09	30	
1,3-Dichloropropane	21.1	1.00	20.00	0	106	54.1	157	19.71	6.88	30	
Tetrachloroethene (PCE)	22.0	1.00	20.00	0	110	50.3	133	18.73	15.9	30	
Dibromochloromethane	20.6	1.00	20.00	0	103	61.6	139	19.05	7.74	30	
1,2-Dibromoethane (EDB)	21.1	0.0600	20.00	0	105	63.2	134	19.94	5.40	30	
Chlorobenzene	21.4	1.00	20.00	0	107	65.8	134	23.02	7.38	30	
1,1,1,2-Tetrachloroethane	21.1	1.00	20.00	0	105	65.4	135	23.59	11.3	30	
Ethylbenzene	21.9	1.00	20.00	0	110	64.5	136	22.44	2.35	30	
m,p-Xylene	44.5	1.00	40.00	0	111	63.3	135	43.24	2.88	30	
o-Xylene	20.9	1.00	20.00	0	105	64.8	150	20.39	2.70	30	
Styrene	21.2	1.00	20.00	0	106	52.9	163	21.67	2.27	30	
Isopropylbenzene	21.6	1.00	20.00	0	108	56	147	18.21	17.0	30	

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromoform	21.1	1.00	20.00	0	105	57.7	139	25.19	17.7	30	
1,1,2,2-Tetrachloroethane	21.8	1.00	20.00	0	109	59.8	146	27.42	22.8	30	
n-Propylbenzene	22.4	1.00	20.00	0	112	57.6	142	20.22	10.4	30	
Bromobenzene	21.5	1.00	20.00	0	107	69.3	157	22.87	6.36	30	
1,3,5-Trimethylbenzene	21.4	1.00	20.00	0	107	59.9	136	20.03	6.68	30	
2-Chlorotoluene	21.8	1.00	20.00	0	109	61.7	134	22.13	1.73	30	
4-Chlorotoluene	19.9	1.00	20.00	0	99.6	58.4	134	22.23	11.0	30	
tert-Butylbenzene	21.6	1.00	20.00	0	108	66.8	141	19.36	10.8	30	
1,2,3-Trichloropropane	22.3	1.00	20.00	0	111	62.4	129	32.04	36.0	30	R
1,2,4-Trichlorobenzene	26.7	2.00	20.00	0	134	50.9	133	25.34	5.24	30	S
sec-Butylbenzene	22.5	1.00	20.00	0	113	56	146	21.50	4.70	30	
4-Isopropyltoluene	22.5	1.00	20.00	0	113	56.4	136	20.81	7.95	30	
1,3-Dichlorobenzene	21.9	1.00	20.00	0	110	58.2	128	12.36	55.7	30	R
1,4-Dichlorobenzene	22.2	1.00	20.00	0	111	60.1	123	20.14	9.66	30	
n-Butylbenzene	26.5	1.00	20.00	0	132	54.6	135	20.42	25.7	30	
1,2-Dichlorobenzene	22.8	1.00	20.00	0	114	65.4	133	21.70	4.92	30	
1,2-Dibromo-3-chloropropane	23.8	1.00	20.00	0	119	51.8	142	28.51	17.9	30	
1,2,4-Trimethylbenzene	22.1	1.00	20.00	0	111	63.7	132	21.07	4.98	30	
Hexachloro-1,3-butadiene	24.4	4.00	20.00	0	122	58.1	130	18.67	26.5	30	
Naphthalene	28.1	1.00	20.00	0	140	50.7	154	36.17	25.2	30	
1,2,3-Trichlorobenzene	28.0	4.00	20.00	0	140	57	131	26.86	4.32	30	S
Surr: Dibromofluoromethane	23.0		25.00		91.9	45.4	152		0		
Surr: Toluene-d8	25.8		25.00		103	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	27.2		25.00		109	64.2	128		0		

Sample ID **1705151-022ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692010**

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	Q

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705151-022ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692010**

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

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705151-022ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692010**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	
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	
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	22.6		25.00		90.4	45.4	152		0		
Surr: Toluene-d8	23.9		25.00		95.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	22.8		25.00		91.3	64.2	128		0		

Work Order: 1705140
CLIENT: Shannon & Wilson
Project: Megablock Phase II

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID **1705143-001ADUP** SampType: **DUP** Units: **wt%** Prep Date: **5/15/2017** RunNo: **36134**
Client ID: **BATCH** Batch ID: **R36134** Analysis Date: **5/15/2017** SeqNo: **691982**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	11.3	0.500						10.82	4.68	20	

Sample ID **1705150-004ADUP** SampType: **DUP** Units: **wt%** Prep Date: **5/15/2017** RunNo: **36134**
Client ID: **BATCH** Batch ID: **R36134** Analysis Date: **5/15/2017** SeqNo: **691997**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	15.5	0.500						15.53	0.430	20	

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1705140**
Logged by:	**Erica Silva**	Date Received:	**5/11/2017 5:10:00 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 ☐
			HNO3 added to 009C, 010C, & 011C	
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	3.1
Sample	2.7
Temp Blank	1.6

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

Chain of Custody Record & Laboratory Services Agreement

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

Date: 5/11/17 Page: 1 of: 2

Laboratory Project No (internal): 1705140

Project Name: Megablock Phase II

Special Remarks: Not field filtered

Project No: 21-21417-20s

Collected by: BON

Location: Megablock

Report To (PM): BON, ACT

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

PM Email: bon@shannwil.com, ACT@shannwil.com

Client: Shannon & Wilson

Address: 400 N 34th St. Suite 100

City, State, Zip: Seattle, WA

Telephone: 206-632-8020

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)	Comments
1	21417-MB10:28	5/11	1100	S	X			X		X				X				RCRA 8
2	21417-MB6:9	5/11	335	S	X			X		X				X				
3	21417-MB11:23	5/11	945	S	X			X		X				X				
4	21417-SPW:0.0	5/11	1035	S	X			X		X				X				
5	21417-MB9:22	5/11	1:45	S	X			X		X				X				
6	21417-MB9:13	5/11	1:05	S	X			X		X				X				
7	21417-MB8:27	5/11	3:15	S	X			X		X				X				
8	21417-MB7:11	5/11	4:05	S	X			X		X								
9	21417-MB10:GW	5/11	~~1200~~	GW	X			X		X				X				Total & Dissolved, Priority
10	21417-MB9:GW	5/11	1:55	GW	X			X		X				X				Total & Dissolved, Priority

*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]	5/11/17 17:10	x [signature]	5/11/17 1710
Relinquished	Date/Time	Received	Date/Time
x		x	

Turn-around Time:

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

Chain of Custody Record & Laboratory Services Agreement

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

Date: 5/11/17 Page: 2 of: 2

Laboratory Project No (internal): 1705140

Project Name: Megablock Phase 2

Special Remarks: Not field filtered

Project No: 21-1-21417-205

Collected by: BON

Location: Megablock

Report To (PM): BON, ACT

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

PM Email: bon@shanwil.com, ACT@shanwil.com

Client: Shannon & Wilson

Address: 400 N 34th St. Suite 100

City, State, Zip: Seattle, WA

Telephone: 206-695-6600

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)			Comments
1 21417-MB11:GW	5/11/17	1000	GW	X			X		X				X							Total & Dissolved, Priority
2																				
3																				
4																				
5																				
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]	5/11/17 17:10	x [signature]	5/11/17 1710
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: 5/11/17 | Page: 1 of: 2 | Laboratory Project No (internal): 1705140

Project Name: Megablock Phase II

Special Remarks: Not field filtered

Client: Shannon & Wilson

Address: 400 N 34th St. Suite 100

City, State, Zip: Seattle, WA

Telephone: 206-632-8020

Project No: 21-2417-205

Collected by: BON

Location: Megablock

Report To (PM): BON, ACT

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

Fax:

PM Email: bon@shanwil.com ACT@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-MB10:28	5/11	1100	S	X			X		X				X					RCRA 8
2	21417-MB6:9	5/11	335	S	X			X		X				X					
3	21417-MB11:23	5/11	945	S	X			X		X				X					
4	21417-SPW:0.0	5/11	1035	S	X			X		X				X					
5	21417-MB9:22	5/11	1:45	S	X			X		X				X					Add Cu, Ni, Zn per Blaine N. 5/22/17 LS
6	21417-MB9:13	5/11	1:05	S	X			X		X				X					
7	21417-MB8:27	5/11	3:15	S	X			X		X				X					
8	21417-MB7:11	5/11	4:05	S	X			X		X									
9	21417-MB10:GW	5/11	~~1200~~	GW	X			X		X				X					Total & Dissolved, Priority
10	21417-MB9:GW	5/11	1:55	GW	X			X		X				X					Total & Dissolved, Priority

*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	5/11/17 17:10	x	5/11/17 1710
Relinquished	Date/Time	Received	Date/Time
x		x	

Turn-around Time:
- ☒ Standard
- ☐ 3 Day
- ☐ 2 Day
- ☐ Next Day
- Same Day ____ (specify)

Chain of Custody Record & Laboratory Services Agreement

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

Date: 5/4/17 Page: 2 of: 2

Laboratory Project No (internal): 1705140

Project Name: Megablock Phase 2

Special Remarks: Not field filtered

Project No: 21-1-21417-205

Client: Shannon & Wilson

Address: 400 N 34th St. Suite 100

Collected by: BON

City, State, Zip: Seattle, WA

Location: Megablock

Telephone: 206-695-6600

Report To (PM): BON, ACT

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

Fax:

PM Email: bon@shanwil.com ACT@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-MB1	5/4/17	1000	GW	X			X		X				X							Total & Dissolved, Priority
2																					
3																					
4																					
5																					
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

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]	5/11/17 17:10	x [signature]	5/11/17 1710
Relinquished	Date/Time	Received	Date/Time
x		x	

Turn-around Time:

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

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: Broad Megablock Phase II
Work Order Number: 1705152

May 19, 2017

Attention Blaine Nesbit:

Fremont Analytical, Inc. received 11 sample(s) on 5/12/2017 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

CC:
Agnes Tirao

Date: *05/19/2017*

CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II
Work Order: 1705152

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1705152-001	21417-MB1:9	05/12/2017 12:00 PM	05/12/2017 2:02 PM
1705152-002	21417-MB2:10	05/12/2017 11:30 AM	05/12/2017 2:02 PM
1705152-003	21417-MB3:20	05/12/2017 9:55 AM	05/12/2017 2:02 PM
1705152-004	21417-MB5:9	05/12/2017 9:10 AM	05/12/2017 2:02 PM
1705152-005	21417-MB4:24	05/12/2017 10:30 AM	05/12/2017 2:02 PM
1705152-006	21417-MB2:1	05/12/2017 11:20 AM	05/12/2017 2:02 PM
1705152-007	21417-MB3:1	05/12/2017 9:20 AM	05/12/2017 2:02 PM
1705152-008	21417-MB4:GW	05/12/2017 10:45 AM	05/12/2017 2:02 PM
1705152-009	Trip Blank	05/09/2017 5:30 PM	05/12/2017 2:02 PM
1705152-010	Trip Blank	05/09/2017 5:30 PM	05/12/2017 2:02 PM
1705152-011	Trip Blank	05/10/2017 11:07 AM	05/12/2017 2:02 PM

Case Narrative

WO#: **1705152**
Date: **5/19/2017**

CLIENT: Shannon & Wilson
Project: Broad Megablock 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: 5/12/2017 12:00:00 PM
Project: Broad Megablock Phase II
Lab ID: 1705152-001
Matrix: Soil
Client Sample ID: **21417-MB1:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17057		Analyst: SB
Diesel (Fuel Oil)	ND	22.2		mg/Kg-dry	1	5/17/2017 5:02:12 AM
Heavy Oil	ND	55.4		mg/Kg-dry	1	5/17/2017 5:02:12 AM
Surr: 2-Fluorobiphenyl	91.8	50-150		%Rec	1	5/17/2017 5:02:12 AM
Surr: o-Terphenyl	92.6	50-150		%Rec	1	5/17/2017 5:02:12 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	4.04		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Surr: Toluene-d8	103	65-135		%Rec	1	5/16/2017 10:19:02 PM
Surr: 4-Bromofluorobenzene	95.3	65-135		%Rec	1	5/16/2017 10:19:02 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0485	Q	mg/Kg-dry	1	5/16/2017 10:19:02 PM
Chloromethane	ND	0.0485		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Vinyl chloride	ND	0.00162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Bromomethane	ND	0.0727		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Trichlorofluoromethane (CFC-11)	ND	0.0404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Chloroethane	ND	0.0485		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,1-Dichloroethene	ND	0.0404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Methylene chloride	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
trans-1,2-Dichloroethene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Methyl tert-butyl ether (MTBE)	ND	0.0404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,1-Dichloroethane	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
2,2-Dichloropropane	ND	0.0404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
cis-1,2-Dichloroethene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Chloroform	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,1,1-Trichloroethane (TCA)	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,1-Dichloropropene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Carbon tetrachloride	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2-Dichloroethane (EDC)	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Benzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Trichloroethene (TCE)	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2-Dichloropropane	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Bromodichloromethane	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Dibromomethane	ND	0.0323		mg/Kg-dry	1	5/16/2017 10:19:02 PM
cis-1,3-Dichloropropene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Toluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
trans-1,3-Dichloropropylene	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM

Analytical Report

Work Order: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 12:00:00 PM
Project: Broad Megablock Phase II
Lab ID: 1705152-001
Matrix: Soil
Client Sample ID: **21417-MB1:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,3-Dichloropropane	ND	0.0404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Tetrachloroethene (PCE)	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Dibromochloromethane	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2-Dibromoethane (EDB)	ND	0.00404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Chlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,1,1,2-Tetrachloroethane	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Ethylbenzene	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM
m,p-Xylene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
o-Xylene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Styrene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Isopropylbenzene	ND	0.0646		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Bromoform	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,1,2,2-Tetrachloroethane	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
n-Propylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Bromobenzene	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,3,5-Trimethylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
2-Chlorotoluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
4-Chlorotoluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
tert-Butylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2,3-Trichloropropane	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2,4-Trichlorobenzene	ND	0.0404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
sec-Butylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
4-Isopropyltoluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,3-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,4-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
n-Butylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2-Dibromo-3-chloropropane	ND	0.404		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2,4-Trimethylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Hexachlorobutadiene	ND	0.0808		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Naphthalene	ND	0.0242		mg/Kg-dry	1	5/16/2017 10:19:02 PM
1,2,3-Trichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 10:19:02 PM
Surr: Dibromofluoromethane	88.4	56.5-129		%Rec	1	5/16/2017 10:19:02 PM
Surr: Toluene-d8	97.2	64.5-151		%Rec	1	5/16/2017 10:19:02 PM
Surr: 1-Bromo-4-fluorobenzene	91.9	63.1-141		%Rec	1	5/16/2017 10:19:02 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: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 12:00:00 PM
Project: Broad Megablock Phase II
Lab ID: 1705152-001
Matrix: Soil
Client Sample ID: **21417-MB1:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.293		mg/Kg-dry	1	5/17/2017 3:32:21 PM
Total Metals by EPA Method 6020				Batch ID: 17060		Analyst: TN
Arsenic	4.78	0.0962		mg/Kg-dry	1	5/16/2017 5:02:42 PM
Cadmium	ND	0.192		mg/Kg-dry	1	5/16/2017 5:02:42 PM
Chromium	41.2	0.0962		mg/Kg-dry	1	5/16/2017 5:02:42 PM
Lead	2.43	0.192		mg/Kg-dry	1	5/16/2017 5:02:42 PM
Sample Moisture (Percent Moisture)				Batch ID: R36151		Analyst: BB
Percent Moisture	19.4			wt%	1	5/16/2017 10:05:52 AM

Client: Shannon & Wilson
Collection Date: 5/12/2017 11:30:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-002
Matrix: Soil
Client Sample ID: **21417-MB2:10**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17057		Analyst: SB
Diesel (Fuel Oil)	ND	22.6		mg/Kg-dry	1	5/17/2017 5:33:22 AM
Heavy Oil	ND	56.6		mg/Kg-dry	1	5/17/2017 5:33:22 AM
Surr: 2-Fluorobiphenyl	86.5	50-150		%Rec	1	5/17/2017 5:33:22 AM
Surr: o-Terphenyl	86.7	50-150		%Rec	1	5/17/2017 5:33:22 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	4.69		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/16/2017 10:47:34 PM
Surr: 4-Bromofluorobenzene	96.3	65-135		%Rec	1	5/16/2017 10:47:34 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0562	Q	mg/Kg-dry	1	5/16/2017 10:47:34 PM
Chloromethane	ND	0.0562		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Vinyl chloride	ND	0.00187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Bromomethane	ND	0.0844		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Trichlorofluoromethane (CFC-11)	ND	0.0469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Chloroethane	ND	0.0562		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,1-Dichloroethene	ND	0.0469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Methylene chloride	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
trans-1,2-Dichloroethene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Methyl tert-butyl ether (MTBE)	ND	0.0469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,1-Dichloroethane	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
2,2-Dichloropropane	ND	0.0469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
cis-1,2-Dichloroethene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Chloroform	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,1,1-Trichloroethane (TCA)	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,1-Dichloropropene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Carbon tetrachloride	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2-Dichloroethane (EDC)	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Benzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Trichloroethene (TCE)	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2-Dichloropropane	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Bromodichloromethane	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Dibromomethane	ND	0.0375		mg/Kg-dry	1	5/16/2017 10:47:34 PM
cis-1,3-Dichloropropene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Toluene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
trans-1,3-Dichloropropylene	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM

Analytical Report

Work Order: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 11:30:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-002
Matrix: Soil
Client Sample ID: **21417-MB2:10**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,3-Dichloropropane	ND	0.0469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Tetrachloroethene (PCE)	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Dibromochloromethane	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2-Dibromoethane (EDB)	ND	0.00469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Chlorobenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,1,1,2-Tetrachloroethane	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Ethylbenzene	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM
m,p-Xylene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
o-Xylene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Styrene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Isopropylbenzene	ND	0.0750		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Bromoform	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,1,2,2-Tetrachloroethane	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
n-Propylbenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Bromobenzene	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,3,5-Trimethylbenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
2-Chlorotoluene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
4-Chlorotoluene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
tert-Butylbenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2,3-Trichloropropane	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2,4-Trichlorobenzene	ND	0.0469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
sec-Butylbenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
4-Isopropyltoluene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,3-Dichlorobenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,4-Dichlorobenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
n-Butylbenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2-Dichlorobenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2-Dibromo-3-chloropropane	ND	0.469		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2,4-Trimethylbenzene	0.0455	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Hexachlorobutadiene	ND	0.0937		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Naphthalene	ND	0.0281		mg/Kg-dry	1	5/16/2017 10:47:34 PM
1,2,3-Trichlorobenzene	ND	0.0187		mg/Kg-dry	1	5/16/2017 10:47:34 PM
Surr: Dibromofluoromethane	88.7	56.5-129		%Rec	1	5/16/2017 10:47:34 PM
Surr: Toluene-d8	97.9	64.5-151		%Rec	1	5/16/2017 10:47:34 PM
Surr: 1-Bromo-4-fluorobenzene	92.6	63.1-141		%Rec	1	5/16/2017 10:47:34 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: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 11:30:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-002
Matrix: Soil
Client Sample ID: **21417-MB2:10**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R36151		Analyst: BB
Percent Moisture	13.0	0.500		wt%	1	5/16/2017 10:05:52 AM

Client: Shannon & Wilson
Collection Date: 5/12/2017 9:55:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-003
Matrix: Soil
Client Sample ID: **21417-MB3:20**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17057		Analyst: SB
Diesel (Fuel Oil)	ND	20.9		mg/Kg-dry	1	5/17/2017 7:38:17 AM
Heavy Oil	120	52.1		mg/Kg-dry	1	5/17/2017 7:38:17 AM
Surr: 2-Fluorobiphenyl	91.4	50-150		%Rec	1	5/17/2017 7:38:17 AM
Surr: o-Terphenyl	95.9	50-150		%Rec	1	5/17/2017 7:38:17 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	4.06		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Surr: Toluene-d8	101	65-135		%Rec	1	5/16/2017 11:16:00 PM
Surr: 4-Bromofluorobenzene	95.9	65-135		%Rec	1	5/16/2017 11:16:00 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0487	Q	mg/Kg-dry	1	5/16/2017 11:16:00 PM
Chloromethane	ND	0.0487		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Vinyl chloride	ND	0.00162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Bromomethane	ND	0.0731		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Trichlorofluoromethane (CFC-11)	ND	0.0406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Chloroethane	ND	0.0487		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,1-Dichloroethene	ND	0.0406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Methylene chloride	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
trans-1,2-Dichloroethene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.0406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,1-Dichloroethane	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
2,2-Dichloropropane	ND	0.0406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
cis-1,2-Dichloroethene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Chloroform	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,1,1-Trichloroethane (TCA)	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,1-Dichloropropene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Carbon tetrachloride	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2-Dichloroethane (EDC)	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Benzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Trichloroethene (TCE)	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2-Dichloropropane	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Bromodichloromethane	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Dibromomethane	ND	0.0325		mg/Kg-dry	1	5/16/2017 11:16:00 PM
cis-1,3-Dichloropropene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Toluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
trans-1,3-Dichloropropylene	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM

Client: Shannon & Wilson
Collection Date: 5/12/2017 9:55:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-003
Matrix: Soil
Client Sample ID: **21417-MB3:20**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,3-Dichloropropane	ND	0.0406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Tetrachloroethene (PCE)	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Dibromochloromethane	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2-Dibromoethane (EDB)	ND	0.00406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Chlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,1,1,2-Tetrachloroethane	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Ethylbenzene	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM
m,p-Xylene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
o-Xylene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Styrene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Isopropylbenzene	ND	0.0650		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Bromoform	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,1,2,2-Tetrachloroethane	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
n-Propylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Bromobenzene	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,3,5-Trimethylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
2-Chlorotoluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
4-Chlorotoluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
tert-Butylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2,3-Trichloropropane	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2,4-Trichlorobenzene	ND	0.0406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
sec-Butylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
4-Isopropyltoluene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,3-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,4-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
n-Butylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2-Dichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2-Dibromo-3-chloropropane	ND	0.406		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2,4-Trimethylbenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Hexachlorobutadiene	ND	0.0812		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Naphthalene	ND	0.0244		mg/Kg-dry	1	5/16/2017 11:16:00 PM
1,2,3-Trichlorobenzene	ND	0.0162		mg/Kg-dry	1	5/16/2017 11:16:00 PM
Surr: Dibromofluoromethane	88.0	56.5-129		%Rec	1	5/16/2017 11:16:00 PM
Surr: Toluene-d8	98.1	64.5-151		%Rec	1	5/16/2017 11:16:00 PM
Surr: 1-Bromo-4-fluorobenzene	92.4	63.1-141		%Rec	1	5/16/2017 11:16:00 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: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 9:55:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-003
Matrix: Soil
Client Sample ID: **21417-MB3:20**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R36151		Analyst: BB
Percent Moisture	8.83	0.500		wt%	1	5/16/2017 10:05:52 AM

Client: Shannon & Wilson
Collection Date: 5/12/2017 9:10:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-004
Matrix: Soil
Client Sample ID: **21417-MB5:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17057		Analyst: SB
Diesel (Fuel Oil)	ND	20.9		mg/Kg-dry	1	5/17/2017 8:09:25 AM
Heavy Oil	ND	52.3		mg/Kg-dry	1	5/17/2017 8:09:25 AM
Surr: 2-Fluorobiphenyl	89.8	50-150		%Rec	1	5/17/2017 8:09:25 AM
Surr: o-Terphenyl	86.4	50-150		%Rec	1	5/17/2017 8:09:25 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	3.29		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Surr: Toluene-d8	102	65-135		%Rec	1	5/16/2017 11:44:32 PM
Surr: 4-Bromofluorobenzene	94.4	65-135		%Rec	1	5/16/2017 11:44:32 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0395	Q	mg/Kg-dry	1	5/16/2017 11:44:32 PM
Chloromethane	ND	0.0395		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Vinyl chloride	ND	0.00132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Bromomethane	ND	0.0593		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Trichlorofluoromethane (CFC-11)	ND	0.0329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Chloroethane	ND	0.0395		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,1-Dichloroethene	ND	0.0329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Methylene chloride	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
trans-1,2-Dichloroethene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Methyl tert-butyl ether (MTBE)	ND	0.0329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,1-Dichloroethane	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
2,2-Dichloropropane	ND	0.0329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
cis-1,2-Dichloroethene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Chloroform	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,1,1-Trichloroethane (TCA)	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,1-Dichloropropene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Carbon tetrachloride	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2-Dichloroethane (EDC)	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Benzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Trichloroethene (TCE)	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2-Dichloropropane	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Bromodichloromethane	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Dibromomethane	ND	0.0263		mg/Kg-dry	1	5/16/2017 11:44:32 PM
cis-1,3-Dichloropropene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Toluene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
trans-1,3-Dichloropropylene	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM

Client: Shannon & Wilson
Collection Date: 5/12/2017 9:10:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-004
Matrix: Soil
Client Sample ID: **21417-MB5:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
1,1,2-Trichloroethane	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,3-Dichloropropane	ND	0.0329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Tetrachloroethene (PCE)	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Dibromochloromethane	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2-Dibromoethane (EDB)	ND	0.00329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Chlorobenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,1,1,2-Tetrachloroethane	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Ethylbenzene	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM
m,p-Xylene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
o-Xylene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Styrene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Isopropylbenzene	ND	0.0527		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Bromoform	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,1,2,2-Tetrachloroethane	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
n-Propylbenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Bromobenzene	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,3,5-Trimethylbenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
2-Chlorotoluene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
4-Chlorotoluene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
tert-Butylbenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2,3-Trichloropropane	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2,4-Trichlorobenzene	ND	0.0329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
sec-Butylbenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
4-Isopropyltoluene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,3-Dichlorobenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,4-Dichlorobenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
n-Butylbenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2-Dichlorobenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2-Dibromo-3-chloropropane	ND	0.329		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2,4-Trimethylbenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Hexachlorobutadiene	ND	0.0658		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Naphthalene	ND	0.0198		mg/Kg-dry	1	5/16/2017 11:44:32 PM
1,2,3-Trichlorobenzene	ND	0.0132		mg/Kg-dry	1	5/16/2017 11:44:32 PM
Surr: Dibromofluoromethane	88.1	56.5-129		%Rec	1	5/16/2017 11:44:32 PM
Surr: Toluene-d8	97.9	64.5-151		%Rec	1	5/16/2017 11:44:32 PM
Surr: 1-Bromo-4-fluorobenzene	91.0	63.1-141		%Rec	1	5/16/2017 11:44:32 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: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 9:10:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-004
Matrix: Soil
Client Sample ID: **21417-MB5:9**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R36151		Analyst: BB
Percent Moisture	8.93	0.500		wt%	1	5/16/2017 10:05:52 AM

Client: Shannon & Wilson
Collection Date: 5/12/2017 10:30:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-005
Matrix: Soil
Client Sample ID: **21417-MB4:24**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17057		Analyst: SB
Diesel (Fuel Oil)	ND	23.2		mg/Kg-dry	1	5/17/2017 8:40:30 AM
Heavy Oil	ND	57.9		mg/Kg-dry	1	5/17/2017 8:40:30 AM
Surr: 2-Fluorobiphenyl	92.8	50-150		%Rec	1	5/17/2017 8:40:30 AM
Surr: o-Terphenyl	92.5	50-150		%Rec	1	5/17/2017 8:40:30 AM
Gasoline by NWTPH-Gx				Batch ID: 17056		Analyst: NG
Gasoline	ND	3.43		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Surr: Toluene-d8	103	65-135		%Rec	1	5/17/2017 12:13:03 AM
Surr: 4-Bromofluorobenzene	95.4	65-135		%Rec	1	5/17/2017 12:13:03 AM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17056		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	0.0411	Q	mg/Kg-dry	1	5/17/2017 12:13:03 AM
Chloromethane	ND	0.0411		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Vinyl chloride	ND	0.00137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Bromomethane	ND	0.0617		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Trichlorofluoromethane (CFC-11)	ND	0.0343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Chloroethane	ND	0.0411		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,1-Dichloroethene	ND	0.0343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Methylene chloride	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
trans-1,2-Dichloroethene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Methyl tert-butyl ether (MTBE)	ND	0.0343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,1-Dichloroethane	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
2,2-Dichloropropane	ND	0.0343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
cis-1,2-Dichloroethene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Chloroform	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,1,1-Trichloroethane (TCA)	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,1-Dichloropropene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Carbon tetrachloride	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2-Dichloroethane (EDC)	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Benzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Trichloroethene (TCE)	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2-Dichloropropane	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Bromodichloromethane	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Dibromomethane	ND	0.0274		mg/Kg-dry	1	5/17/2017 12:13:03 AM
cis-1,3-Dichloropropene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Toluene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
trans-1,3-Dichloropropylene	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM

Client: Shannon & Wilson
Collection Date: 5/12/2017 10:30:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-005
Matrix: Soil
Client Sample ID: **21417-MB4:24**

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 17056 Analyst: NG

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
1,1,2-Trichloroethane	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,3-Dichloropropane	ND	0.0343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Tetrachloroethene (PCE)	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Dibromochloromethane	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2-Dibromoethane (EDB)	ND	0.00343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Chlorobenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,1,1,2-Tetrachloroethane	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Ethylbenzene	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM
m,p-Xylene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
o-Xylene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Styrene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Isopropylbenzene	ND	0.0548		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Bromoform	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,1,2,2-Tetrachloroethane	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
n-Propylbenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Bromobenzene	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,3,5-Trimethylbenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
2-Chlorotoluene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
4-Chlorotoluene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
tert-Butylbenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2,3-Trichloropropane	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2,4-Trichlorobenzene	ND	0.0343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
sec-Butylbenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
4-Isopropyltoluene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,3-Dichlorobenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,4-Dichlorobenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
n-Butylbenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2-Dichlorobenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2-Dibromo-3-chloropropane	ND	0.343		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2,4-Trimethylbenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Hexachlorobutadiene	ND	0.0685		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Naphthalene	ND	0.0206		mg/Kg-dry	1	5/17/2017 12:13:03 AM
1,2,3-Trichlorobenzene	ND	0.0137		mg/Kg-dry	1	5/17/2017 12:13:03 AM
Surr: Dibromofluoromethane	87.5	56.5-129		%Rec	1	5/17/2017 12:13:03 AM
Surr: Toluene-d8	96.7	64.5-151		%Rec	1	5/17/2017 12:13:03 AM
Surr: 1-Bromo-4-fluorobenzene	91.9	63.1-141		%Rec	1	5/17/2017 12:13:03 AM

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: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 10:30:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-005
Matrix: Soil
Client Sample ID: **21417-MB4:24**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Mercury by EPA Method 7471				Batch ID: 17075		Analyst: WF
Mercury	ND	0.298		mg/Kg-dry	1	5/17/2017 3:33:56 PM
Total Metals by EPA Method 6020				Batch ID: 17060		Analyst: TN
Arsenic	6.94	0.0930		mg/Kg-dry	1	5/16/2017 5:14:48 PM
Barium	68.9	0.465		mg/Kg-dry	1	5/16/2017 5:14:48 PM
Cadmium	0.192	0.186		mg/Kg-dry	1	5/16/2017 5:14:48 PM
Chromium	35.8	0.0930		mg/Kg-dry	1	5/16/2017 5:14:48 PM
Lead	40.2	0.186		mg/Kg-dry	1	5/16/2017 5:14:48 PM
Selenium	1.26	0.465		mg/Kg-dry	1	5/16/2017 5:14:48 PM
Silver	ND	0.0930	*	mg/Kg-dry	1	5/16/2017 5:14:48 PM

NOTES:
* - Flagged value is not within established control limits.

Sample Moisture (Percent Moisture)				Batch ID: R36151		Analyst: BB
Percent Moisture	17.9	0.500		wt%	1	5/16/2017 10:05:52 AM

Analytical Report

Work Order: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 11:20:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-006
Matrix: Soil
Client Sample ID: **21417-MB2:1**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 17055		Analyst: BT
Naphthalene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
2-Methylnaphthalene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
1-Methylnaphthalene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Acenaphthylene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Acenaphthene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Fluorene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Phenanthrene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Anthracene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Fluoranthene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Pyrene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Benz(a)anthracene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Chrysene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Benzo(b)fluoranthene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Benzo(k)fluoranthene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Benzo(a)pyrene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Indeno(1,2,3-cd)pyrene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Dibenz(a,h)anthracene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Benzo(g,h,i)perylene	ND	42.6		µg/Kg-dry	1	5/16/2017 6:16:51 PM
Surr: 2-Fluorobiphenyl	69.6	24.5-139		%Rec	1	5/16/2017 6:16:51 PM
Surr: Terphenyl-d14 (surr)	63.9	44.3-176		%Rec	1	5/16/2017 6:16:51 PM
Sample Moisture (Percent Moisture)				Batch ID: R36151		Analyst: BB
Percent Moisture	7.78	0.500		wt%	1	5/16/2017 10:05:52 AM

Analytical Report

Work Order: **1705152**
Date Reported: **5/19/2017**

Client: Shannon & Wilson
Collection Date: 5/12/2017 9:20:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-007
Matrix: Soil
Client Sample ID: **21417-MB3:1**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 17055		Analyst: BT
Naphthalene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
2-Methylnaphthalene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
1-Methylnaphthalene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Acenaphthylene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Acenaphthene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Fluorene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Phenanthrene	45.5	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Anthracene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Fluoranthene	98.1	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Pyrene	93.9	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Benz(a)anthracene	39.3	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Chrysene	46.2	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Benzo(b)fluoranthene	50.5	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Benzo(k)fluoranthene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Benzo(a)pyrene	39.9	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Indeno(1,2,3-cd)pyrene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Dibenz(a,h)anthracene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Benzo(g,h,i)perylene	ND	38.2		µg/Kg-dry	1	5/16/2017 6:39:57 PM
Surr: 2-Fluorobiphenyl	64.2	24.5-139		%Rec	1	5/16/2017 6:39:57 PM
Surr: Terphenyl-d14 (surr)	65.3	44.3-176		%Rec	1	5/16/2017 6:39:57 PM
Sample Moisture (Percent Moisture)				Batch ID: R36151		Analyst: BB
Percent Moisture	9.86	0.500		wt%	1	5/16/2017 10:05:52 AM

Client: Shannon & Wilson
Collection Date: 5/12/2017 10:45:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-008
Matrix: Groundwater
Client Sample ID: **21417-MB4:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.				Batch ID: 17035		Analyst: SB
Diesel (Fuel Oil)	281	74.3	JMDL	µg/L	1	5/15/2017 8:03:55 PM
Heavy Oil	226	119	JMDL	µg/L	1	5/15/2017 8:03:55 PM
Surr: 2-Fluorobiphenyl	81.9	50-150		%Rec	1	5/15/2017 8:03:55 PM
Surr: o-Terphenyl	81.3	50-150		%Rec	1	5/15/2017 8:03:55 PM
NOTES: MDL - Sample reported to Method Detection Limit (MDL)						
Gasoline by NWTPH-Gx				Batch ID: 17040		Analyst: NG
Gasoline	ND	50.0		µg/L	1	5/12/2017 7:12:14 PM
Surr: Toluene-d8	106	65-135		%Rec	1	5/12/2017 7:12:14 PM
Surr: 4-Bromofluorobenzene	106	65-135		%Rec	1	5/12/2017 7:12:14 PM
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
Dichlorodifluoromethane (CFC-12)	ND	1.00	Q	µg/L	1	5/12/2017 7:12:14 PM
Chloromethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Vinyl chloride	ND	0.200		µg/L	1	5/12/2017 7:12:14 PM
Bromomethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Chloroethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,1-Dichloroethene	ND	1.00	Q	µg/L	1	5/12/2017 7:12:14 PM
Methylene chloride	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Methyl tert-butyl ether (MTBE)	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	5/12/2017 7:12:14 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Chloroform	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Carbon tetrachloride	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Benzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	5/12/2017 7:12:14 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Bromodichloromethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Dibromomethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM

Client: Shannon & Wilson
Collection Date: 5/12/2017 10:45:00 AM
Project: Broad Megablock Phase II
Lab ID: 1705152-008
Matrix: Groundwater
Client Sample ID: **21417-MB4:GW**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260C				Batch ID: 17040		Analyst: NG
Toluene	2.99	1.00		µg/L	1	5/12/2017 7:12:14 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Dibromochloromethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2-Dibromoethane (EDB)	ND	0.0600		µg/L	1	5/12/2017 7:12:14 PM
Chlorobenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Ethylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
m,p-Xylene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
o-Xylene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Styrene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Isopropylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Bromoform	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
n-Propylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Bromobenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
2-Chlorotoluene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
4-Chlorotoluene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
tert-Butylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	5/12/2017 7:12:14 PM
sec-Butylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
n-Butylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	5/12/2017 7:12:14 PM
Naphthalene	ND	1.00		µg/L	1	5/12/2017 7:12:14 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	5/12/2017 7:12:14 PM
Surr: Dibromofluoromethane	93.9	45.4-152		%Rec	1	5/12/2017 7:12:14 PM
Surr: Toluene-d8	87.3	40.1-139		%Rec	1	5/12/2017 7:12:14 PM
Surr: 1-Bromo-4-fluorobenzene	83.4	64.2-128		%Rec	1	5/12/2017 7:12:14 PM

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **MB-17057**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **5/15/2017**	RunNo: **36218**
Client ID: **MBLKS**	Batch ID: **17057**		Analysis Date: **5/16/2017**	SeqNo: **693750**

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	19.0		20.00		94.8	50	150				
Surr: o-Terphenyl	18.9		20.00		94.4	50	150				

Sample ID **LCS-17057**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **5/15/2017**	RunNo: **36218**
Client ID: **LCSS**	Batch ID: **17057**		Analysis Date: **5/16/2017**	SeqNo: **693749**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	515	20.0	500.0	0	103	65	135				
Surr: 2-Fluorobiphenyl	19.5		20.00		97.6	50	150				
Surr: o-Terphenyl	21.7		20.00		108	50	150				

Sample ID **1705177-001ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **5/15/2017**	RunNo: **36218**
Client ID: **BATCH**	Batch ID: **17057**		Analysis Date: **5/16/2017**	SeqNo: **693732**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	22.2						0		30	
Heavy Oil	ND	55.5						0		30	
Surr: 2-Fluorobiphenyl	23.1		22.19		104	50	150		0		
Surr: o-Terphenyl	23.4		22.19		105	50	150		0		

Sample ID **1705177-001AMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **5/15/2017**	RunNo: **36218**
Client ID: **BATCH**	Batch ID: **17057**		Analysis Date: **5/16/2017**	SeqNo: **693733**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	534	20.1	502.0	0	106	65	135				
Surr: 2-Fluorobiphenyl	20.7		20.08		103	50	150				
Surr: o-Terphenyl	23.5		20.08		117	50	150				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **1705177-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36218**
Client ID: **BATCH** Batch ID: **17057** Analysis Date: **5/16/2017** SeqNo: **693733**

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

Sample ID **1705177-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36218**
Client ID: **BATCH** Batch ID: **17057** Analysis Date: **5/16/2017** SeqNo: **693734**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	584	21.7	543.0	0	108	65	135	533.9	9.05	30	
Surr: 2-Fluorobiphenyl	25.0		21.72		115	50	150		0		
Surr: o-Terphenyl	27.3		21.72		126	50	150		0		

Sample ID **1705152-002ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36218**
Client ID: **21417-MB2:10** Batch ID: **17057** Analysis Date: **5/17/2017** SeqNo: **693720**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	22.3						0		30	
Heavy Oil	ND	55.7						0		30	
Surr: 2-Fluorobiphenyl	19.1		22.30		85.9	50	150		0		
Surr: o-Terphenyl	19.2		22.30		86.3	50	150		0		

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **MB-17035** SampType: **MBLK** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36159**
Client ID: **MBLKW** Batch ID: **17035** Analysis Date: **5/15/2017** SeqNo: **692611**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.9									
Heavy Oil	ND	99.8									
Surr: 2-Fluorobiphenyl	59.5		79.83		74.6	50	150				
Surr: o-Terphenyl	60.7		79.83		76.1	50	150				

Sample ID **LCS-17035** SampType: **LCS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36159**
Client ID: **LCSW** Batch ID: **17035** Analysis Date: **5/15/2017** SeqNo: **692609**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	797	49.9	998.8	0	79.8	65	135				
Surr: 2-Fluorobiphenyl	57.7		79.91		72.2	50	150				
Surr: o-Terphenyl	62.1		79.91		77.8	50	150				

Sample ID **LCSD-17035** SampType: **LCSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36159**
Client ID: **LCSW02** Batch ID: **17035** Analysis Date: **5/15/2017** SeqNo: **692610**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	699	49.9	998.6	0	69.9	65	135	796.9	13.2	30	
Surr: 2-Fluorobiphenyl	52.9		79.89		66.2	50	150		0		
Surr: o-Terphenyl	58.0		79.89		72.6	50	150		0		

Sample ID **1705140-010ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36159**
Client ID: **BATCH** Batch ID: **17035** Analysis Date: **5/15/2017** SeqNo: **692601**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.2						0		30	
Heavy Oil	142	100						145.7	2.89	30	
Surr: 2-Fluorobiphenyl	58.4		80.32		72.7	50	150		0		
Surr: o-Terphenyl	38.8		80.32		48.3	50	150		0		S

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

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

Sample ID **1705140-010ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36159**	
Client ID: **BATCH**	Batch ID: **17035**					Analysis Date: **5/15/2017**		SeqNo: **692601**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID	**LCS-17056**	SampType: **LCS**		Units: **mg/Kg**		Prep Date: **5/15/2017**		RunNo: **36205**			
Client ID:	**LCSS**	Batch ID: **17056**				Analysis Date: **5/16/2017**		SeqNo: **693478**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	29.6	5.00	25.00	0	118	65	135				
Surr: Toluene-d8	1.27		1.250		101	65	135				
Surr: 4-Bromofluorobenzene	1.23		1.250		98.6	65	135				

Sample ID	**MB-17056**	SampType: **MBLK**		Units: **mg/Kg**		Prep Date: **5/15/2017**		RunNo: **36205**			
Client ID:	**MBLKS**	Batch ID: **17056**				Analysis Date: **5/16/2017**		SeqNo: **693479**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.00									
Surr: Toluene-d8	1.25		1.250		100	65	135				
Surr: 4-Bromofluorobenzene	1.26		1.250		101	65	135				

Sample ID	**1705143-001BDUP**	SampType: **DUP**		Units: **mg/Kg-dry**		Prep Date: **5/15/2017**		RunNo: **36205**			
Client ID:	**BATCH**	Batch ID: **17056**				Analysis Date: **5/16/2017**		SeqNo: **693492**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	5.11						0		30	
Surr: Toluene-d8	1.28		1.278		100	65	135		0		
Surr: 4-Bromofluorobenzene	1.29		1.278		101	65	135		0		

Sample ID	**1705140-001BDUP**	SampType: **DUP**		Units: **mg/Kg-dry**		Prep Date: **5/15/2017**		RunNo: **36205**			
Client ID:	**BATCH**	Batch ID: **17056**				Analysis Date: **5/16/2017**		SeqNo: **693481**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.33						0		30	
Surr: Toluene-d8	1.10		1.082		101	65	135		0		
Surr: 4-Bromofluorobenzene	1.05		1.082		96.8	65	135		0		

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **1705140-007BMS**	SampType: **MS**	Units: **mg/Kg-dry**	Prep Date: **5/15/2017**	RunNo: **36205**
Client ID: **BATCH**	Batch ID: **17056**		Analysis Date: **5/17/2017**	SeqNo: **693488**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	13.7	3.81	19.06	0	71.9	65	135				
Surr: Toluene-d8	0.968		0.9529		102	65	135				
Surr: 4-Bromofluorobenzene	0.937		0.9529		98.3	65	135				

Sample ID **1705140-007BMSD**	SampType: **MSD**	Units: **mg/Kg-dry**	Prep Date: **5/15/2017**	RunNo: **36205**
Client ID: **BATCH**	Batch ID: **17056**		Analysis Date: **5/17/2017**	SeqNo: **693489**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	19.1	3.81	19.06	0	100	65	135	13.71	32.7	30	R
Surr: Toluene-d8	0.983		0.9529		103	65	135		0		
Surr: 4-Bromofluorobenzene	0.950		0.9529		99.7	65	135		0		

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

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID	**LCS-17040**	SampType: **LCS**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**LCSW**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692161**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	496	50.0	500.0	0	99.3	65	135				
Surr: Toluene-d8	25.3		25.00		101	65	135				
Surr: 4-Bromofluorobenzene	25.6		25.00		103	65	135				

Sample ID	**MB-17040**	SampType: **MBLK**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**MBLKW**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692162**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0									
Surr: Toluene-d8	25.4		25.00		102	65	135				
Surr: 4-Bromofluorobenzene	24.6		25.00		98.4	65	135				

Sample ID	**1705106-002DDUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**BATCH**	Batch ID: **17040**					Analysis Date: **5/12/2017**		SeqNo: **692143**	
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	24.1		25.00		96.3	65	135		0		
Surr: 4-Bromofluorobenzene	24.3		25.00		97.0	65	135		0		

Sample ID	**1705106-003DMS**	SampType: **MS**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36139**	
Client ID:	**BATCH**	Batch ID: **17040**					Analysis Date: **5/13/2017**		SeqNo: **692145**	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	500	50.0	500.0	0	100	65	135				
Surr: Toluene-d8	25.2		25.00		101	65	135				
Surr: 4-Bromofluorobenzene	25.3		25.00		101	65	135				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Gasoline by NWTPH-Gx

Sample ID **1705106-003DMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36139**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692146**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	458	50.0	500.0	0	91.6	65	135	500.1	8.82	30	
Surr: Toluene-d8	25.2		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	25.4		25.00		102	65	135		0		

Sample ID **1705151-022ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36139**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692153**

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	24.4		25.00		97.8	65	135		0		
Surr: 4-Bromofluorobenzene	23.7		25.00		94.7	65	135		0		

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Mercury by EPA Method 7471

Sample ID	**MB-17075**	SampType:	**MBLK**			Units:	**mg/Kg**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**MBLKS**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693390**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.250										

Sample ID	**LCS-17075**	SampType:	**LCS**			Units:	**mg/Kg**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**LCSS**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693391**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.549	0.250	0.5000	0	110	80	120					

Sample ID	**1705197-001ADUP**	SampType:	**DUP**			Units:	**mg/Kg-dry**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**BATCH**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693393**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		ND	0.265						0		20		

Sample ID	**1705197-001AMS**	SampType:	**MS**			Units:	**mg/Kg-dry**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**BATCH**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693394**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.617	0.265	0.5309	0.02911	111	70	130					

Sample ID	**1705197-001AMSD**	SampType:	**MSD**			Units:	**mg/Kg-dry**	Prep Date:	**5/17/2017**		RunNo:	**36198**	
Client ID:	**BATCH**	Batch ID:	**17075**					Analysis Date:	**5/17/2017**		SeqNo:	**693395**	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury		0.627	0.271	0.5413	0.02911	110	70	130	0.6169	1.60	20		

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **MB-17055** SampType: **MBLK** Units: **µg/Kg** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **MBLKS** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692688**

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	390		500.0		78.0	24.5	139				
Surr: Terphenyl-d14 (surr)	376		500.0		75.2	44.3	176				

Sample ID **LCS-17055** SampType: **LCS** Units: **µg/Kg** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **LCSS** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692689**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	845	40.0	1,000	0	84.5	46.4	125				
2-Methylnaphthalene	863	40.0	1,000	0	86.3	45.1	135				
1-Methylnaphthalene	939	40.0	1,000	0	93.9	46.2	133				
Acenaphthylene	831	40.0	1,000	0	83.1	32.8	136				
Acenaphthene	868	40.0	1,000	0	86.8	38.7	129				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **LCS-17055** SampType: **LCS** Units: **µg/Kg** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **LCSS** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692689**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluorene	848	40.0	1,000	0	84.8	41.4	144				
Phenanthrene	839	40.0	1,000	0	83.9	43.9	133				
Anthracene	838	40.0	1,000	0	83.8	44.2	136				
Fluoranthene	848	40.0	1,000	0	84.8	45.9	137				
Pyrene	851	40.0	1,000	0	85.1	46.2	137				
Benz(a)anthracene	865	40.0	1,000	0	86.5	41.9	136				
Chrysene	886	40.0	1,000	0	88.6	46.9	138				
Benzo(b)fluoranthene	839	40.0	1,000	0	83.9	41	155				
Benzo(k)fluoranthene	894	40.0	1,000	0	89.4	41.8	153				
Benzo(a)pyrene	873	40.0	1,000	0	87.3	34.3	157				
Indeno(1,2,3-cd)pyrene	793	40.0	1,000	0	79.3	31.3	159				
Dibenz(a,h)anthracene	804	40.0	1,000	0	80.4	28	158				
Benzo(g,h,i)perylene	761	40.0	1,000	0	76.1	32.4	144				
Surr: 2-Fluorobiphenyl	406		500.0		81.2	24.5	139				
Surr: Terphenyl-d14 (surr)	381		500.0		76.3	44.3	176				

Sample ID **1705173-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **BATCH** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692692**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	44.4						0		30	
2-Methylnaphthalene	ND	44.4						0		30	
1-Methylnaphthalene	ND	44.4						0		30	
Acenaphthylene	ND	44.4						0		30	
Acenaphthene	ND	44.4						0		30	
Fluorene	ND	44.4						0		30	
Phenanthrene	ND	44.4						0		30	
Anthracene	ND	44.4						0		30	
Fluoranthene	54.3	44.4						28.11	63.6	30	
Pyrene	52.8	44.4						53.46	1.23	30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1705173-001ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **BATCH** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692692**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	ND	44.4						0		30	
Chrysene	ND	44.4						0		30	
Benzo(b)fluoranthene	59.9	44.4						51.95	14.2	30	
Benzo(k)fluoranthene	ND	44.4						0		30	
Benzo(a)pyrene	ND	44.4						0		30	
Indeno(1,2,3-cd)pyrene	ND	44.4						0		30	
Dibenz(a,h)anthracene	ND	44.4						0		30	
Benzo(g,h,i)perylene	ND	44.4						0		30	
Surr: 2-Fluorobiphenyl	322		554.7		58.1	24.5	139		0		
Surr: Terphenyl-d14 (surr)	313		554.7		56.4	44.3	176		0		

Sample ID **1705173-001AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **BATCH** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692693**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	611	38.7	967.7	3.961	62.8	42.9	138				
2-Methylnaphthalene	657	38.7	967.7	16.77	66.2	42.8	151				
1-Methylnaphthalene	669	38.7	967.7	4.113	68.7	41.6	148				
Acenaphthylene	622	38.7	967.7	3.264	63.9	32.6	160				
Acenaphthene	633	38.7	967.7	0	65.4	46.3	142				
Fluorene	615	38.7	967.7	0	63.5	43.4	153				
Phenanthrene	612	38.7	967.7	40.15	59.1	45.5	140				
Anthracene	532	38.7	967.7	5.127	54.4	32.6	160				
Fluoranthene	650	38.7	967.7	28.11	64.2	44.6	161				
Pyrene	663	38.7	967.7	53.46	63.0	48.3	158				
Benz(a)anthracene	630	38.7	967.7	24.17	62.6	57.5	169				
Chrysene	634	38.7	967.7	24.87	63.0	45.2	146				
Benzo(b)fluoranthene	649	38.7	967.7	51.95	61.7	42.2	168				
Benzo(k)fluoranthene	625	38.7	967.7	14.73	63.0	34.8	147				
Benzo(a)pyrene	640	38.7	967.7	31.03	62.9	34.4	179				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1705173-001AMS** SampType: **MS** Units: **µg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **BATCH** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692693**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	538	38.7	967.7	14.53	54.1	5	113				
Dibenz(a,h)anthracene	537	38.7	967.7	6.174	54.8	17.3	156				
Benzo(g,h,i)perylene	528	38.7	967.7	30.50	51.4	39.4	122				
Surr: 2-Fluorobiphenyl	288		483.8		59.5	24.5	139				
Surr: Terphenyl-d14 (surr)	277		483.8		57.2	44.3	176				

Sample ID **1705173-001AMSD** SampType: **MSD** Units: **µg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36170**
Client ID: **BATCH** Batch ID: **17055** Analysis Date: **5/16/2017** SeqNo: **692694**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	740	41.9	1,049	3.961	70.2	42.9	138	611.5	19.0	30	
2-Methylnaphthalene	811	41.9	1,049	16.77	75.8	42.8	151	657.2	21.0	30	
1-Methylnaphthalene	822	41.9	1,049	4.113	78.0	41.6	148	669.1	20.5	30	
Acenaphthylene	792	41.9	1,049	3.264	75.2	32.6	160	621.7	24.1	30	
Acenaphthene	790	41.9	1,049	0	75.3	46.3	142	632.9	22.0	30	
Fluorene	773	41.9	1,049	0	73.7	43.4	153	614.7	22.8	30	
Phenanthrene	773	41.9	1,049	40.15	69.9	45.5	140	611.9	23.2	30	
Anthracene	674	41.9	1,049	5.127	63.8	32.6	160	531.7	23.6	30	
Fluoranthene	833	41.9	1,049	28.11	76.8	44.6	161	649.7	24.7	30	
Pyrene	823	41.9	1,049	53.46	73.4	48.3	158	663.4	21.5	30	
Benz(a)anthracene	851	41.9	1,049	24.17	78.9	57.5	169	630.2	29.9	30	
Chrysene	790	41.9	1,049	24.87	73.0	45.2	146	634.3	21.9	30	
Benzo(b)fluoranthene	909	41.9	1,049	51.95	81.7	42.2	168	648.9	33.4	30	R
Benzo(k)fluoranthene	742	41.9	1,049	14.73	69.3	34.8	147	624.8	17.1	30	
Benzo(a)pyrene	836	41.9	1,049	31.03	76.8	34.4	179	640.0	26.6	30	
Indeno(1,2,3-cd)pyrene	664	41.9	1,049	14.53	61.9	5	113	537.7	21.0	30	
Dibenz(a,h)anthracene	681	41.9	1,049	6.174	64.3	17.3	156	536.6	23.7	30	
Benzo(g,h,i)perylene	637	41.9	1,049	30.50	57.9	39.4	122	527.7	18.9	30	
Surr: 2-Fluorobiphenyl	337		524.3		64.2	24.5	139		0		
Surr: Terphenyl-d14 (surr)	331		524.3		63.1	44.3	176		0		

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID **1705173-001AMSD**	SampType: **MSD**				Units: **µg/Kg-dry**		Prep Date: **5/15/2017**			RunNo: **36170**		
Client ID: **BATCH**	Batch ID: **17055**						Analysis Date: **5/16/2017**			SeqNo: **692694**		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	

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

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Sample Moisture (Percent Moisture)

Sample ID **1705177-002ADUP** SampType: **DUP** Units: **wt%** Prep Date: **5/16/2017** RunNo: **36151**
Client ID: **BATCH** Batch ID: **R36151** Analysis Date: **5/16/2017** SeqNo: **692433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	8.18	0.500						8.679	5.87	20	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **MB-17060** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **MBLKS** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692870**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0730									
Barium	ND	0.365									
Cadmium	ND	0.146									
Chromium	ND	0.0730									
Lead	ND	0.146									
Selenium	ND	0.365									
Silver	ND	0.0730									*

NOTES:
* - Flagged value is not within established control limits.

Sample ID **LCS-17060** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **LCSS** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692871**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.9	0.0741	37.04	0	105	80	120				
Barium	39.9	0.370	37.04	0	108	80	120				
Cadmium	1.90	0.148	1.852	0	102	80	120				
Chromium	37.1	0.0741	37.04	0	100	80	120				
Lead	19.0	0.148	18.52	0	102	80	120				
Selenium	3.73	0.370	3.704	0	101	80	120				
Silver	1.22	0.0741	1.852	0	66.1	80	120				S

NOTES:
S - Outlying spike recovery observed (low bias). Samples will be qualified with a *.

Sample ID **1705177-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **BATCH** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692874**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	3.17	0.0850						3.035	4.38	20	
Barium	54.4	0.425						57.95	6.33	20	
Cadmium	ND	0.170						0		20	
Chromium	12.5	0.0850						16.04	25.0	20	R

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1705177-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **BATCH** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692874**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	7.87	0.170						8.312	5.52	20	
Selenium	2.09	0.425						1.856	11.9	20	
Silver	0.0872	0.0850						0.07940	9.34	20	*

NOTES:
R - High RPD observed. The method is in control as indicated by the LCS.
* - Flagged value is not within established control limits.

Sample ID **1705177-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **BATCH** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692876**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.6	0.0850	42.50	3.035	112	75	125				
Barium	118	0.425	42.50	57.95	140	75	125				S
Cadmium	2.71	0.170	2.125	0.07855	124	75	125				
Chromium	61.7	0.0850	42.50	16.04	108	75	125				
Lead	27.2	0.170	21.25	8.312	88.8	75	125				
Selenium	6.73	0.425	4.250	1.856	115	75	125				
Silver	1.54	0.0850	2.125	0.07940	68.9	75	125				S

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

Sample ID **1705177-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **BATCH** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692877**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.5	0.0850	42.50	3.035	107	75	125	50.55	4.06	20	
Barium	118	0.425	42.50	57.95	141	75	125	117.6	0.375	20	S
Cadmium	2.66	0.170	2.125	0.07855	122	75	125	2.707	1.66	20	
Chromium	60.0	0.0850	42.50	16.04	104	75	125	61.74	2.79	20	
Lead	26.8	0.170	21.25	8.312	86.9	75	125	27.18	1.46	20	
Selenium	6.41	0.425	4.250	1.856	107	75	125	6.728	4.88	20	
Silver	1.57	0.0850	2.125	0.07940	69.9	75	125	1.544	1.41	20	S

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID **1705177-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **BATCH** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692877**

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.

Sample ID **1705177-001APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **5/16/2017** RunNo: **36175**
Client ID: **BATCH** Batch ID: **17060** Analysis Date: **5/16/2017** SeqNo: **692878**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	109	0.425	42.5	58.0	119	80	120				
Silver	1.65	0.0850	2.12	0.0794	73.9	80	120				S

NOTES:
S - Outlying spike recovery observed.

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17056** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **LCSS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693450**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.859	0.0600	1.000	0	85.9	14.3	167				
Chloromethane	1.06	0.0600	1.000	0	106	46	144				
Vinyl chloride	0.960	0.00200	1.000	0	96.0	44	142				
Bromomethane	0.833	0.0900	1.000	0	83.3	40.9	157				
Trichlorofluoromethane (CFC-11)	0.940	0.0500	1.000	0	94.0	36.9	156				
Chloroethane	0.995	0.0600	1.000	0	99.5	33.4	155				
1,1-Dichloroethene	1.04	0.0500	1.000	0	104	49.7	142				
Methylene chloride	1.05	0.0200	1.000	0	105	46.3	140				
trans-1,2-Dichloroethene	0.999	0.0200	1.000	0	99.9	68	130				
Methyl tert-butyl ether (MTBE)	0.986	0.0500	1.000	0	98.6	66.3	145				
1,1-Dichloroethane	0.855	0.0200	1.000	0	85.5	61.9	137				
2,2-Dichloropropane	0.789	0.0500	1.000	0	78.9	35.5	186				
cis-1,2-Dichloroethene	1.05	0.0200	1.000	0	105	71.3	135				
Chloroform	0.953	0.0200	1.000	0	95.3	69	145				
1,1,1-Trichloroethane (TCA)	0.935	0.0200	1.000	0	93.5	69	132				
1,1-Dichloropropene	1.10	0.0200	1.000	0	110	72.7	131				
Carbon tetrachloride	0.999	0.0200	1.000	0	99.9	63.4	137				
1,2-Dichloroethane (EDC)	1.04	0.0300	1.000	0	104	50.9	162				
Benzene	1.03	0.0200	1.000	0	103	64.3	133				
Trichloroethene (TCE)	0.958	0.0200	1.000	0	95.8	65.5	137				
1,2-Dichloropropane	0.986	0.0200	1.000	0	98.6	63.2	142				
Bromodichloromethane	0.813	0.0200	1.000	0	81.3	73.2	131				
Dibromomethane	0.897	0.0400	1.000	0	89.7	60.1	146				
cis-1,3-Dichloropropene	0.933	0.0200	1.000	0	93.3	59.1	143				
Toluene	1.01	0.0200	1.000	0	101	67.3	138				
trans-1,3-Dichloropropylene	0.924	0.0300	1.000	0	92.4	49.2	149				
1,1,2-Trichloroethane	0.954	0.0300	1.000	0	95.4	56.9	147				
1,3-Dichloropropane	0.996	0.0500	1.000	0	99.6	56.1	153				
Tetrachloroethene (PCE)	1.03	0.0200	1.000	0	103	52.7	150				
Dibromochloromethane	0.861	0.0300	1.000	0	86.1	70.6	144				
1,2-Dibromoethane (EDB)	0.962	0.00500	1.000	0	96.2	50.5	154				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17056** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **LCSS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693450**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.03	0.0200	1.000	0	103	76.1	123				
1,1,1,2-Tetrachloroethane	0.920	0.0300	1.000	0	92.0	65.9	141				
Ethylbenzene	1.05	0.0300	1.000	0	105	74	129				
m,p-Xylene	2.11	0.0200	2.000	0	106	70	124				
o-Xylene	1.04	0.0200	1.000	0	104	68.1	139				
Styrene	1.03	0.0200	1.000	0	103	73.3	146				
Isopropylbenzene	1.05	0.0800	1.000	0	105	70	130				
Bromoform	0.710	0.0200	1.000	0	71.0	67	154				
1,1,2,2-Tetrachloroethane	0.906	0.0200	1.000	0	90.6	44.8	165				
n-Propylbenzene	1.06	0.0200	1.000	0	106	74.8	125				
Bromobenzene	1.00	0.0300	1.000	0	100	49.2	144				
1,3,5-Trimethylbenzene	1.03	0.0200	1.000	0	103	74.6	123				
2-Chlorotoluene	1.03	0.0200	1.000	0	103	76.7	129				
4-Chlorotoluene	1.03	0.0200	1.000	0	103	77.5	125				
tert-Butylbenzene	1.06	0.0200	1.000	0	106	66.2	130				
1,2,3-Trichloropropane	0.993	0.0200	1.000	0	99.3	67.9	136				
1,2,4-Trichlorobenzene	1.14	0.0500	1.000	0	114	62.6	143				
sec-Butylbenzene	1.10	0.0200	1.000	0	110	75.6	133				
4-Isopropyltoluene	1.05	0.0200	1.000	0	105	76.8	131				
1,3-Dichlorobenzene	1.04	0.0200	1.000	0	104	72.8	128				
1,4-Dichlorobenzene	1.05	0.0200	1.000	0	105	72.6	126				
n-Butylbenzene	1.08	0.0200	1.000	0	108	65.3	136				
1,2-Dichlorobenzene	1.02	0.0200	1.000	0	102	72.8	126				
1,2-Dibromo-3-chloropropane	0.743	0.500	1.000	0	74.3	40.2	155				
1,2,4-Trimethylbenzene	0.998	0.0200	1.000	0	99.8	77.5	129				
Hexachlorobutadiene	1.12	0.100	1.000	0	112	42	151				
Naphthalene	1.17	0.0300	1.000	0	117	58.4	160				
1,2,3-Trichlorobenzene	1.15	0.0200	1.000	0	115	54.8	143				
Surr: Dibromofluoromethane	0.932		1.250		74.6	56.5	129				
Surr: Toluene-d8	1.26		1.250		101	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.32		1.250		106	63.1	141				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17056** SampType: **LCS** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **LCSS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693450**

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

Sample ID **MB-17056** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **MBLKS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693451**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0600									Q
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: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17056** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **MBLKS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693451**

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									

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17056** SampType: **MBLK** Units: **mg/Kg** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **MBLKS** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693451**

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	1.15		1.250		91.9	56.5	129				
Surr: Toluene-d8	1.38		1.250		110	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.20		1.250		95.7	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 **1705143-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0613						0		30	Q
Chloromethane	ND	0.0613						0		30	
Vinyl chloride	ND	0.00204						0		30	
Bromomethane	ND	0.0920						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0511						0		30	
Chloroethane	ND	0.0613						0		30	
1,1-Dichloroethene	ND	0.0511						0		30	
Methylene chloride	ND	0.0204						0		30	
trans-1,2-Dichloroethene	ND	0.0204						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0511						0		30	
1,1-Dichloroethane	ND	0.0204						0		30	
2,2-Dichloropropane	ND	0.0511						0		30	Q
cis-1,2-Dichloroethene	ND	0.0204						0		30	
Chloroform	ND	0.0204						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0204						0		30	
1,1-Dichloropropene	ND	0.0204						0		30	
Carbon tetrachloride	ND	0.0204						0		30	
1,2-Dichloroethane (EDC)	ND	0.0307						0		30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705143-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0204						0		30	
Trichloroethene (TCE)	ND	0.0204						0		30	
1,2-Dichloropropane	ND	0.0204						0		30	
Bromodichloromethane	ND	0.0204						0		30	
Dibromomethane	ND	0.0409						0		30	
cis-1,3-Dichloropropene	ND	0.0204						0		30	
Toluene	ND	0.0204						0.02925	39.1	30	
trans-1,3-Dichloropropylene	ND	0.0307						0		30	
1,1,2-Trichloroethane	ND	0.0307						0		30	
1,3-Dichloropropane	ND	0.0511						0		30	
Tetrachloroethene (PCE)	ND	0.0204						0		30	
Dibromochloromethane	ND	0.0307						0		30	
1,2-Dibromoethane (EDB)	ND	0.00511						0		30	
Chlorobenzene	ND	0.0204						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0307						0		30	
Ethylbenzene	ND	0.0307						0		30	
m,p-Xylene	0.0271	0.0204						0.03362	21.7	30	
o-Xylene	ND	0.0204						0		30	
Styrene	ND	0.0204						0		30	
Isopropylbenzene	ND	0.0818						0		30	
Bromoform	ND	0.0204						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0204						0		30	
n-Propylbenzene	ND	0.0204						0		30	
Bromobenzene	ND	0.0307						0		30	
1,3,5-Trimethylbenzene	ND	0.0204						0		30	
2-Chlorotoluene	ND	0.0204						0		30	
4-Chlorotoluene	ND	0.0204						0		30	
tert-Butylbenzene	ND	0.0204						0		30	
1,2,3-Trichloropropane	ND	0.0204						0		30	
1,2,4-Trichlorobenzene	ND	0.0511						0		30	
sec-Butylbenzene	ND	0.0204						0		30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705143-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Isopropyltoluene	ND	0.0204						0		30	
1,3-Dichlorobenzene	ND	0.0204						0		30	
1,4-Dichlorobenzene	ND	0.0204						0		30	
n-Butylbenzene	ND	0.0204						0		30	
1,2-Dichlorobenzene	ND	0.0204						0		30	
1,2-Dibromo-3-chloropropane	ND	0.511						0		30	
1,2,4-Trimethylbenzene	0.0444	0.0204						0.04638	4.41	30	
Hexachlorobutadiene	ND	0.102						0		30	
Naphthalene	ND	0.0307						0		30	
1,2,3-Trichlorobenzene	ND	0.0204						0		30	
Surr: Dibromofluoromethane	1.17		1.278		91.4	56.5	129		0		
Surr: Toluene-d8	1.70		1.278		133	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.24		1.278		96.9	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 **1705140-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693429**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	0.0519						0		30	Q
Chloromethane	ND	0.0519						0		30	
Vinyl chloride	ND	0.00173						0		30	
Bromomethane	ND	0.0779						0		30	
Trichlorofluoromethane (CFC-11)	ND	0.0433						0		30	
Chloroethane	ND	0.0519						0		30	
1,1-Dichloroethene	ND	0.0433						0		30	
Methylene chloride	ND	0.0173						0		30	
trans-1,2-Dichloroethene	ND	0.0173						0		30	
Methyl tert-butyl ether (MTBE)	ND	0.0433						0		30	
1,1-Dichloroethane	ND	0.0173						0		30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693429**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	ND	0.0433						0		30	Q
cis-1,2-Dichloroethene	ND	0.0173						0		30	
Chloroform	ND	0.0173						0		30	
1,1,1-Trichloroethane (TCA)	ND	0.0173						0		30	
1,1-Dichloropropene	ND	0.0173						0		30	
Carbon tetrachloride	ND	0.0173						0		30	
1,2-Dichloroethane (EDC)	ND	0.0260						0		30	
Benzene	ND	0.0173						0		30	
Trichloroethene (TCE)	ND	0.0173						0		30	
1,2-Dichloropropane	ND	0.0173						0		30	
Bromodichloromethane	ND	0.0173						0		30	
Dibromomethane	ND	0.0346						0		30	
cis-1,3-Dichloropropene	ND	0.0173						0		30	
Toluene	ND	0.0173						0		30	
trans-1,3-Dichloropropylene	ND	0.0260						0		30	
1,1,2-Trichloroethane	ND	0.0260						0		30	
1,3-Dichloropropane	ND	0.0433						0		30	
Tetrachloroethene (PCE)	ND	0.0173						0		30	
Dibromochloromethane	ND	0.0260						0		30	
1,2-Dibromoethane (EDB)	ND	0.00433						0		30	
Chlorobenzene	ND	0.0173						0		30	
1,1,1,2-Tetrachloroethane	ND	0.0260						0		30	
Ethylbenzene	ND	0.0260						0		30	
m,p-Xylene	ND	0.0173						0		30	
o-Xylene	ND	0.0173						0		30	
Styrene	ND	0.0173						0		30	
Isopropylbenzene	ND	0.0692						0		30	
Bromoform	ND	0.0173						0		30	
1,1,2,2-Tetrachloroethane	ND	0.0173						0		30	
n-Propylbenzene	ND	0.0173						0		30	
Bromobenzene	ND	0.0260						0		30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-001BDUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693429**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	ND	0.0173						0		30	
2-Chlorotoluene	ND	0.0173						0		30	
4-Chlorotoluene	ND	0.0173						0		30	
tert-Butylbenzene	ND	0.0173						0		30	
1,2,3-Trichloropropane	ND	0.0173						0		30	
1,2,4-Trichlorobenzene	ND	0.0433						0		30	
sec-Butylbenzene	ND	0.0173						0		30	
4-Isopropyltoluene	ND	0.0173						0		30	
1,3-Dichlorobenzene	ND	0.0173						0		30	
1,4-Dichlorobenzene	ND	0.0173						0		30	
n-Butylbenzene	ND	0.0173						0		30	
1,2-Dichlorobenzene	ND	0.0173						0		30	
1,2-Dibromo-3-chloropropane	ND	0.433						0		30	
1,2,4-Trimethylbenzene	ND	0.0173						0		30	
Hexachlorobutadiene	ND	0.0866						0		30	
Naphthalene	ND	0.0260						0		30	
1,2,3-Trichlorobenzene	ND	0.0173						0		30	
Surr: Dibromofluoromethane	0.961		1.082		88.8	56.5	129		0		
Surr: Toluene-d8	1.02		1.082		94.0	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.01		1.082		93.3	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 **1705140-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.702	0.0772	1.287	0	54.6	43.5	121				
Chloromethane	0.939	0.0772	1.287	0	73.0	45	130				
Vinyl chloride	0.866	0.00257	1.287	0	67.3	51.2	146				
Bromomethane	0.873	0.116	1.287	0	67.8	21.3	120				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	1.23	0.0643	1.287	0	95.9	35	131				
Chloroethane	1.07	0.0772	1.287	0	82.9	31.9	123				
1,1-Dichloroethene	1.11	0.0643	1.287	0	86.1	61.9	141				
Methylene chloride	1.13	0.0257	1.287	0	87.5	54.7	142				
trans-1,2-Dichloroethene	1.08	0.0257	1.287	0	84.2	52	136				
Methyl tert-butyl ether (MTBE)	1.09	0.0643	1.287	0	84.8	54.4	132				
1,1-Dichloroethane	1.18	0.0257	1.287	0	91.7	51.8	141				
2,2-Dichloropropane	0.530	0.0643	1.287	0	41.2	36	123				
cis-1,2-Dichloroethene	1.20	0.0257	1.287	0	93.0	58.6	136				
Chloroform	1.20	0.0257	1.287	0	93.1	53.2	129				
1,1,1-Trichloroethane (TCA)	1.11	0.0257	1.287	0	86.0	58.3	145				
1,1-Dichloropropene	1.15	0.0257	1.287	0	89.7	55.1	138				
Carbon tetrachloride	1.01	0.0257	1.287	0	78.7	53.3	144				
1,2-Dichloroethane (EDC)	1.20	0.0386	1.287	0	93.5	51.3	139				
Benzene	1.20	0.0257	1.287	0	93.2	63.5	133				
Trichloroethene (TCE)	1.22	0.0257	1.287	0	94.5	68.6	132				
1,2-Dichloropropane	1.23	0.0257	1.287	0	95.8	59	136				
Bromodichloromethane	1.01	0.0257	1.287	0	78.5	50.7	141				
Dibromomethane	1.13	0.0515	1.287	0	87.6	50.6	137				
cis-1,3-Dichloropropene	1.08	0.0257	1.287	0	83.8	50.4	138				
Toluene	1.24	0.0257	1.287	0.03477	94.0	63.4	132				
trans-1,3-Dichloropropylene	1.07	0.0386	1.287	0	83.3	44.1	147				
1,1,2-Trichloroethane	1.17	0.0386	1.287	0	90.6	51.6	137				
1,3-Dichloropropane	1.20	0.0643	1.287	0	93.5	53.1	134				
Tetrachloroethene (PCE)	1.19	0.0257	1.287	0	92.1	35.6	158				
Dibromochloromethane	1.11	0.0386	1.287	0	86.1	55.3	140				
1,2-Dibromoethane (EDB)	1.16	0.00643	1.287	0	90.5	50.4	136				
Chlorobenzene	1.25	0.0257	1.287	0	97.2	60	133				
1,1,1,2-Tetrachloroethane	1.15	0.0386	1.287	0	89.0	53.1	142				
Ethylbenzene	1.25	0.0386	1.287	0	97.1	54.5	134				
m,p-Xylene	2.52	0.0257	2.574	0	97.7	53.1	132				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693433**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	1.24	0.0257	1.287	0	96.0	53.3	139				
Styrene	1.23	0.0257	1.287	0	95.6	51.1	132				
Isopropylbenzene	1.24	0.103	1.287	0	96.2	58.9	138				
Bromoform	0.930	0.0257	1.287	0	72.3	57.9	130				
1,1,2,2-Tetrachloroethane	1.15	0.0257	1.287	0	89.2	51.9	131				
n-Propylbenzene	1.22	0.0257	1.287	0	94.9	53.6	140				
Bromobenzene	1.23	0.0386	1.287	0	95.3	54.2	140				
1,3,5-Trimethylbenzene	1.22	0.0257	1.287	0	94.8	51.8	136				
2-Chlorotoluene	1.22	0.0257	1.287	0	95.2	51.6	136				
4-Chlorotoluene	1.23	0.0257	1.287	0	95.7	50.1	139				
tert-Butylbenzene	1.23	0.0257	1.287	0	95.2	50.5	135				
1,2,3-Trichloropropane	1.13	0.0257	1.287	0	88.1	50.5	131				
1,2,4-Trichlorobenzene	1.27	0.0643	1.287	0	98.3	50.8	130				
sec-Butylbenzene	1.27	0.0257	1.287	0	98.3	52.6	141				
4-Isopropyltoluene	1.23	0.0257	1.287	0	95.5	52.9	134				
1,3-Dichlorobenzene	1.28	0.0257	1.287	0	99.4	52.6	131				
1,4-Dichlorobenzene	1.27	0.0257	1.287	0	99.0	52.9	129				
n-Butylbenzene	1.26	0.0257	1.287	0	98.2	52.6	130				
1,2-Dichlorobenzene	1.28	0.0257	1.287	0	99.5	55.8	129				
1,2-Dibromo-3-chloropropane	0.940	0.643	1.287	0	73.0	40.5	131				
1,2,4-Trimethylbenzene	1.19	0.0257	1.287	0	92.3	50.6	137				
Hexachlorobutadiene	1.27	0.129	1.287	0	98.9	40.6	158				
Naphthalene	1.35	0.0386	1.287	0	105	52.3	124				
1,2,3-Trichlorobenzene	1.30	0.0257	1.287	0	101	54.4	124				
Surr: Dibromofluoromethane	1.58		1.609		98.5	56.5	129				
Surr: Toluene-d8	1.65		1.609		103	64.5	151				
Surr: 1-Bromo-4-fluorobenzene	1.71		1.609		106	63.1	141				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693434**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	0.798	0.0772	1.287	0	62.0	43.5	121	0.7025	12.8	30	
Chloromethane	1.02	0.0772	1.287	0	79.4	45	130	0.9393	8.40	30	
Vinyl chloride	0.957	0.00257	1.287	0	74.3	51.2	146	0.8657	9.99	30	
Bromomethane	0.898	0.116	1.287	0	69.8	21.3	120	0.8727	2.85	30	
Trichlorofluoromethane (CFC-11)	1.33	0.0643	1.287	0	104	35	131	1.234	7.79	30	
Chloroethane	1.05	0.0772	1.287	0	81.9	31.9	123	1.066	1.20	30	
1,1-Dichloroethene	1.20	0.0643	1.287	0	93.4	61.9	141	1.108	8.16	30	
Methylene chloride	1.15	0.0257	1.287	0	89.3	54.7	142	1.126	2.11	30	
trans-1,2-Dichloroethene	1.11	0.0257	1.287	0	85.9	52	136	1.083	2.04	30	
Methyl tert-butyl ether (MTBE)	1.15	0.0643	1.287	0	89.3	54.4	132	1.091	5.21	30	
1,1-Dichloroethane	1.19	0.0257	1.287	0	92.4	51.8	141	1.180	0.752	30	
2,2-Dichloropropane	0.555	0.0643	1.287	0	43.1	36	123	0.5297	4.63	30	
cis-1,2-Dichloroethene	1.20	0.0257	1.287	0	93.0	58.6	136	1.196	0.0639	30	
Chloroform	1.21	0.0257	1.287	0	93.8	53.2	129	1.198	0.797	30	
1,1,1-Trichloroethane (TCA)	1.12	0.0257	1.287	0	86.7	58.3	145	1.106	0.844	30	
1,1-Dichloropropene	1.17	0.0257	1.287	0	91.2	55.1	138	1.154	1.68	30	
Carbon tetrachloride	0.971	0.0257	1.287	0	75.5	53.3	144	1.013	4.28	30	
1,2-Dichloroethane (EDC)	1.23	0.0386	1.287	0	95.8	51.3	139	1.204	2.35	30	
Benzene	1.21	0.0257	1.287	0	93.7	63.5	133	1.199	0.543	30	
Trichloroethene (TCE)	1.24	0.0257	1.287	0	96.3	68.6	132	1.216	1.90	30	
1,2-Dichloropropane	1.18	0.0257	1.287	0	91.7	59	136	1.232	4.38	30	
Bromodichloromethane	1.01	0.0257	1.287	0	78.9	50.7	141	1.010	0.471	30	
Dibromomethane	1.14	0.0515	1.287	0	88.9	50.6	137	1.128	1.40	30	
cis-1,3-Dichloropropene	1.08	0.0257	1.287	0	84.0	50.4	138	1.078	0.216	30	
Toluene	1.24	0.0257	1.287	0.03477	93.6	63.4	132	1.245	0.482	30	
trans-1,3-Dichloropropylene	1.09	0.0386	1.287	0	85.1	44.1	147	1.072	2.10	30	
1,1,2-Trichloroethane	1.18	0.0386	1.287	0	92.0	51.6	137	1.165	1.56	30	
1,3-Dichloropropane	1.22	0.0643	1.287	0	94.4	53.1	134	1.204	0.948	30	
Tetrachloroethene (PCE)	1.19	0.0257	1.287	0	92.7	35.6	158	1.186	0.668	30	
Dibromochloromethane	1.11	0.0386	1.287	0	86.5	55.3	140	1.108	0.432	30	
1,2-Dibromoethane (EDB)	1.20	0.00643	1.287	0	92.9	50.4	136	1.165	2.57	30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693434**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	1.25	0.0257	1.287	0	96.8	60	133	1.252	0.438	30	
1,1,1,2-Tetrachloroethane	1.12	0.0386	1.287	0	87.3	53.1	142	1.145	1.89	30	
Ethylbenzene	1.25	0.0386	1.287	0	97.2	54.5	134	1.250	0.0296	30	
m,p-Xylene	2.51	0.0257	2.574	0	97.6	53.1	132	2.516	0.166	30	
o-Xylene	1.25	0.0257	1.287	0	96.9	53.3	139	1.235	0.890	30	
Styrene	1.23	0.0257	1.287	0	95.7	51.1	132	1.230	0.159	30	
Isopropylbenzene	1.25	0.103	1.287	0	97.4	58.9	138	1.238	1.27	30	
Bromoform	0.908	0.0257	1.287	0	70.6	57.9	130	0.9304	2.39	30	
1,1,2,2-Tetrachloroethane	1.15	0.0257	1.287	0	89.6	51.9	131	1.148	0.407	30	
n-Propylbenzene	1.23	0.0257	1.287	0	95.9	53.6	140	1.221	1.01	30	
Bromobenzene	1.22	0.0386	1.287	0	94.6	54.2	140	1.226	0.698	30	
1,3,5-Trimethylbenzene	1.22	0.0257	1.287	0	94.5	51.8	136	1.220	0.316	30	
2-Chlorotoluene	1.23	0.0257	1.287	0	95.2	51.6	136	1.225	0.0954	30	
4-Chlorotoluene	1.23	0.0257	1.287	0	95.2	50.1	139	1.231	0.460	30	
tert-Butylbenzene	1.23	0.0257	1.287	0	95.8	50.5	135	1.225	0.580	30	
1,2,3-Trichloropropane	1.22	0.0257	1.287	0	94.7	50.5	131	1.134	7.19	30	
1,2,4-Trichlorobenzene	1.29	0.0643	1.287	0	100	50.8	130	1.265	1.72	30	
sec-Butylbenzene	1.28	0.0257	1.287	0	99.4	52.6	141	1.265	1.13	30	
4-Isopropyltoluene	1.23	0.0257	1.287	0	95.6	52.9	134	1.229	0.0302	30	
1,3-Dichlorobenzene	1.28	0.0257	1.287	0	99.8	52.6	131	1.279	0.368	30	
1,4-Dichlorobenzene	1.27	0.0257	1.287	0	98.4	52.9	129	1.274	0.580	30	
n-Butylbenzene	1.29	0.0257	1.287	0	101	52.6	130	1.264	2.42	30	
1,2-Dichlorobenzene	1.27	0.0257	1.287	0	99.0	55.8	129	1.281	0.532	30	
1,2-Dibromo-3-chloropropane	0.980	0.643	1.287	0	76.1	40.5	131	0.9400	4.15	30	
1,2,4-Trimethylbenzene	1.18	0.0257	1.287	0	91.5	50.6	137	1.188	0.881	30	
Hexachlorobutadiene	1.29	0.129	1.287	0	100	40.6	158	1.273	1.41	30	
Naphthalene	1.41	0.0386	1.287	0	110	52.3	124	1.350	4.56	30	
1,2,3-Trichlorobenzene	1.29	0.0257	1.287	0	100	54.4	124	1.296	0.259	30	
Surr: Dibromofluoromethane	1.58		1.609		98.2	56.5	129		0		
Surr: Toluene-d8	1.63		1.609		101	64.5	151		0		
Surr: 1-Bromo-4-fluorobenzene	1.71		1.609		106	63.1	141		0		

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705140-003BMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **5/15/2017** RunNo: **36204**
Client ID: **BATCH** Batch ID: **17056** Analysis Date: **5/16/2017** SeqNo: **693434**

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

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17040** SampType: **LCS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **LCSW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692023**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	13.7	1.00	20.00	0	68.6	18.7	171				
Chloromethane	21.3	1.00	20.00	0	107	38.5	171				
Vinyl chloride	21.2	0.200	20.00	0	106	48	145				
Bromomethane	20.1	1.00	20.00	0	100	32.5	184				
Trichlorofluoromethane (CFC-11)	19.9	1.00	20.00	0	99.5	43.5	149				
Chloroethane	20.7	1.00	20.00	0	103	43.8	168				
1,1-Dichloroethene	17.3	1.00	20.00	0	86.6	57.5	150				
Methylene chloride	18.6	1.00	20.00	0	92.9	67.1	131				
trans-1,2-Dichloroethene	19.6	1.00	20.00	0	97.9	71.7	129				
Methyl tert-butyl ether (MTBE)	21.5	1.00	20.00	0	108	58	138				
1,1-Dichloroethane	19.0	1.00	20.00	0	95.0	67.9	134				
2,2-Dichloropropane	35.8	2.00	20.00	0	179	26.5	185				
cis-1,2-Dichloroethene	18.7	1.00	20.00	0	93.6	70.2	139				
Chloroform	18.2	1.00	20.00	0	90.8	66.3	131				
1,1,1-Trichloroethane (TCA)	21.2	1.00	20.00	0	106	71	131				
1,1-Dichloropropene	20.4	1.00	20.00	0	102	69.9	124				
Carbon tetrachloride	18.8	1.00	20.00	0	93.9	66.2	134				
1,2-Dichloroethane (EDC)	19.3	1.00	20.00	0	96.4	67	126				
Benzene	19.8	1.00	20.00	0	98.9	69.3	132				
Trichloroethene (TCE)	19.9	0.500	20.00	0	99.4	65.2	136				
1,2-Dichloropropane	19.9	1.00	20.00	0	99.7	70.5	130				
Bromodichloromethane	19.1	1.00	20.00	0	95.7	67.2	137				
Dibromomethane	20.2	1.00	20.00	0	101	69.3	143				
cis-1,3-Dichloropropene	23.0	1.00	20.00	0	115	62.6	137				
Toluene	19.6	1.00	20.00	0	98.0	61.3	145				
trans-1,3-Dichloropropylene	21.9	1.00	20.00	0	110	56.5	163				
1,1,2-Trichloroethane	20.6	1.00	20.00	0	103	71.7	131				
1,3-Dichloropropane	20.8	1.00	20.00	0	104	73.5	127				
Tetrachloroethene (PCE)	19.8	1.00	20.00	0	99.2	47.5	147				
Dibromochloromethane	20.1	1.00	20.00	0	101	67.2	134				
1,2-Dibromoethane (EDB)	21.3	0.0600	20.00	0	106	73.6	125				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17040** SampType: **LCS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **LCSW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692023**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	20.0	1.00	20.00	0	99.9	73.9	126				
1,1,1,2-Tetrachloroethane	19.8	1.00	20.00	0	99.2	76.8	124				
Ethylbenzene	20.6	1.00	20.00	0	103	72	130				
m,p-Xylene	41.2	1.00	40.00	0	103	70.3	134				
o-Xylene	20.0	1.00	20.00	0	100	72.1	131				
Styrene	20.3	1.00	20.00	0	102	64.3	140				
Isopropylbenzene	20.3	1.00	20.00	0	101	73.9	128				
Bromoform	20.5	1.00	20.00	0	102	55.3	141				
1,1,2,2-Tetrachloroethane	20.9	1.00	20.00	0	104	62.9	132				
n-Propylbenzene	20.2	1.00	20.00	0	101	74.5	127				
Bromobenzene	20.1	1.00	20.00	0	101	71	131				
1,3,5-Trimethylbenzene	19.8	1.00	20.00	0	99.1	73.1	128				
2-Chlorotoluene	20.2	1.00	20.00	0	101	70.8	130				
4-Chlorotoluene	20.2	1.00	20.00	0	101	70.1	131				
tert-Butylbenzene	19.8	1.00	20.00	0	98.9	68.2	131				
1,2,3-Trichloropropane	21.5	1.00	20.00	0	108	67.7	131				
1,2,4-Trichlorobenzene	26.0	2.00	20.00	0	130	51.8	152				
sec-Butylbenzene	20.2	1.00	20.00	0	101	72	129				
4-Isopropyltoluene	20.2	1.00	20.00	0	101	69.2	130				
1,3-Dichlorobenzene	20.9	1.00	20.00	0	105	80.4	124				
1,4-Dichlorobenzene	20.9	1.00	20.00	0	105	66.8	119				
n-Butylbenzene	23.8	1.00	20.00	0	119	73.8	127				
1,2-Dichlorobenzene	22.1	1.00	20.00	0	111	69.7	119				
1,2-Dibromo-3-chloropropane	23.4	1.00	20.00	0	117	63.1	136				
1,2,4-Trimethylbenzene	20.4	1.00	20.00	0	102	73.4	127				
Hexachloro-1,3-butadiene	22.1	4.00	20.00	0	110	58.6	138				
Naphthalene	26.8	1.00	20.00	0	134	41.8	165				
1,2,3-Trichlorobenzene	26.1	4.00	20.00	0	131	48.7	156				
Surr: Dibromofluoromethane	21.8		25.00		87.1	45.4	152				
Surr: Toluene-d8	25.4		25.00		102	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	26.8		25.00		107	64.2	128				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **LCS-17040** SampType: **LCS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **LCSW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692023**

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

Sample ID **MB-17040** SampType: **MBLK** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **MBLKW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692024**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									Q
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									Q
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									
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: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17040** SampType: **MBLK** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **MBLKW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692024**

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									
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: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **MB-17040** SampType: **MBLK** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **MBLKW** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692024**

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	22.8		25.00		91.1	45.4	152				
Surr: Toluene-d8	23.7		25.00		94.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	21.3		25.00		85.3	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 **1705106-002DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692000**

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	Q
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	Q
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	
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: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705106-002DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692000**

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	2.67	1.00						1.938	31.6	30	
o-Xylene	1.61	1.00						1.325	19.2	30	
Styrene	ND	1.00						0		30	
Isopropylbenzene	ND	1.00						0		30	
Bromoform	ND	1.00						0		30	
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: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705106-002DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692000**

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	1.40	1.00						1.220	13.8	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	22.5		25.00		90.0	45.4	152		0		
Surr: Toluene-d8	23.4		25.00		93.5	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	23.1		25.00		92.2	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 **1705155-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692017**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	16.4	1.00	20.00	0	81.9	33.3	122				
Chloromethane	22.4	1.00	20.00	0	112	39.7	143				
Vinyl chloride	24.2	0.200	20.00	0	121	41	165				
Bromomethane	23.1	1.00	20.00	0	116	31.5	135				
Trichlorofluoromethane (CFC-11)	24.1	1.00	20.00	0	121	54.7	138				
Chloroethane	23.0	1.00	20.00	0	115	49.9	143				
1,1-Dichloroethene	20.7	1.00	20.00	0	103	51.6	164				
Methylene chloride	20.9	1.00	20.00	11.29	47.9	61.6	135				S
trans-1,2-Dichloroethene	22.1	1.00	20.00	0	111	63.5	138				
Methyl tert-butyl ether (MTBE)	23.0	1.00	20.00	0	115	60.9	132				
1,1-Dichloroethane	21.8	1.00	20.00	0	109	55.7	151				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692017**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,2-Dichloropropane	33.8	2.00	20.00	0	169	37.7	150				S
cis-1,2-Dichloroethene	21.3	1.00	20.00	0	106	60	154				
Chloroform	21.7	1.00	20.00	0	109	48.1	140				
1,1,1-Trichloroethane (TCA)	26.9	1.00	20.00	0	135	64.2	146				
1,1-Dichloropropene	26.6	1.00	20.00	0	133	73.8	136				
Carbon tetrachloride	25.5	1.00	20.00	0	128	62.7	146				
1,2-Dichloroethane (EDC)	22.2	1.00	20.00	0	111	63.4	137				
Benzene	21.5	1.00	20.00	0	107	65.4	138				
Trichloroethene (TCE)	20.9	0.500	20.00	0	105	60.4	134				
1,2-Dichloropropane	20.8	1.00	20.00	0	104	62.6	138				
Bromodichloromethane	19.1	1.00	20.00	0	95.5	59.4	139				
Dibromomethane	20.5	1.00	20.00	0	102	58.7	148				
cis-1,3-Dichloropropene	21.3	1.00	20.00	0	107	63.8	132				
Toluene	18.2	1.00	20.00	0	90.8	52	147				
trans-1,3-Dichloropropylene	20.4	1.00	20.00	0	102	57.7	125				
1,1,2-Trichloroethane	19.7	1.00	20.00	0	98.3	57.5	153				
1,3-Dichloropropane	19.7	1.00	20.00	0	98.5	54.1	157				
Tetrachloroethene (PCE)	18.7	1.00	20.00	0	93.6	50.3	133				
Dibromochloromethane	19.1	1.00	20.00	0	95.3	61.6	139				
1,2-Dibromoethane (EDB)	19.9	0.0600	20.00	0	99.7	63.2	134				
Chlorobenzene	23.0	1.00	20.00	0	115	65.8	134				
1,1,1,2-Tetrachloroethane	23.6	1.00	20.00	0	118	65.4	135				
Ethylbenzene	22.4	1.00	20.00	0	112	64.5	136				
m,p-Xylene	43.2	1.00	40.00	0	108	63.3	135				
o-Xylene	20.4	1.00	20.00	0	102	64.8	150				
Styrene	21.7	1.00	20.00	0	108	52.9	163				
Isopropylbenzene	18.2	1.00	20.00	0	91.0	56	147				
Bromoform	25.2	1.00	20.00	0	126	57.7	139				
1,1,2,2-Tetrachloroethane	27.4	1.00	20.00	0	137	59.8	146				
n-Propylbenzene	20.2	1.00	20.00	0	101	57.6	142				
Bromobenzene	22.9	1.00	20.00	0	114	69.3	157				

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMS** SampType: **MS** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/12/2017** SeqNo: **692017**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3,5-Trimethylbenzene	20.0	1.00	20.00	0	100	59.9	136				
2-Chlorotoluene	22.1	1.00	20.00	0	111	61.7	134				
4-Chlorotoluene	22.2	1.00	20.00	0	111	58.4	134				
tert-Butylbenzene	19.4	1.00	20.00	0	96.8	66.8	141				
1,2,3-Trichloropropane	32.0	1.00	20.00	0	160	62.4	129				S
1,2,4-Trichlorobenzene	25.3	2.00	20.00	0	127	50.9	133				
sec-Butylbenzene	21.5	1.00	20.00	0	107	56	146				
4-Isopropyltoluene	20.8	1.00	20.00	0	104	56.4	136				
1,3-Dichlorobenzene	12.4	1.00	20.00	0	61.8	58.2	128				
1,4-Dichlorobenzene	20.1	1.00	20.00	0	101	60.1	123				
n-Butylbenzene	20.4	1.00	20.00	0	102	54.6	135				
1,2-Dichlorobenzene	21.7	1.00	20.00	0	109	65.4	133				
1,2-Dibromo-3-chloropropane	28.5	1.00	20.00	0	143	51.8	142				S
1,2,4-Trimethylbenzene	21.1	1.00	20.00	0	105	63.7	132				
Hexachloro-1,3-butadiene	18.7	4.00	20.00	0	93.3	58.1	130				
Naphthalene	36.2	1.00	20.00	0	181	50.7	154				S
1,2,3-Trichlorobenzene	26.9	4.00	20.00	0	134	57	131				S
Surr: Dibromofluoromethane	24.9		25.00		99.6	45.4	152				
Surr: Toluene-d8	23.0		25.00		91.9	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	29.5		25.00		118	64.2	128				

NOTES:
S - Outlying spike recoveries were observed.

Sample ID **1705155-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	22.7	1.00	20.00	0	114	33.3	122	16.37	32.6	30	R
Chloromethane	23.1	1.00	20.00	0	116	39.7	143	22.38	3.23	30	
Vinyl chloride	24.0	0.200	20.00	0	120	41	165	24.16	0.680	30	
Bromomethane	21.8	1.00	20.00	0	109	31.5	135	23.12	5.78	30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Trichlorofluoromethane (CFC-11)	23.9	1.00	20.00	0	120	54.7	138	24.14	0.953	30	
Chloroethane	22.8	1.00	20.00	0	114	49.9	143	22.98	0.619	30	
1,1-Dichloroethene	20.7	1.00	20.00	0	104	51.6	164	20.68	0.272	30	
Methylene chloride	20.0	1.00	20.00	11.29	43.8	61.6	135	20.86	4.01	30	S
trans-1,2-Dichloroethene	21.8	1.00	20.00	0	109	63.5	138	22.12	1.55	30	
Methyl tert-butyl ether (MTBE)	18.5	1.00	20.00	0	92.4	60.9	132	22.98	21.7	30	
1,1-Dichloroethane	20.9	1.00	20.00	0	105	55.7	151	21.78	3.98	30	
2,2-Dichloropropane	31.5	2.00	20.00	0	158	37.7	150	33.76	6.85	30	S
cis-1,2-Dichloroethene	21.2	1.00	20.00	0	106	60	154	21.30	0.557	30	
Chloroform	20.4	1.00	20.00	0	102	48.1	140	21.71	6.12	30	
1,1,1-Trichloroethane (TCA)	23.5	1.00	20.00	0	118	64.2	146	26.94	13.5	30	
1,1-Dichloropropene	23.4	1.00	20.00	0	117	73.8	136	26.63	12.9	30	
Carbon tetrachloride	23.0	1.00	20.00	0	115	62.7	146	25.54	10.6	30	
1,2-Dichloroethane (EDC)	20.1	1.00	20.00	0	100	63.4	137	22.19	9.98	30	
Benzene	21.9	1.00	20.00	0	110	65.4	138	21.46	2.04	30	
Trichloroethene (TCE)	20.8	0.500	20.00	0	104	60.4	134	20.93	0.874	30	
1,2-Dichloropropane	19.5	1.00	20.00	0	97.6	62.6	138	20.77	6.18	30	
Bromodichloromethane	19.7	1.00	20.00	0	98.7	59.4	139	19.09	3.37	30	
Dibromomethane	20.5	1.00	20.00	0	103	58.7	148	20.49	0.182	30	
cis-1,3-Dichloropropene	20.9	1.00	20.00	0	105	63.8	132	21.33	1.92	30	
Toluene	21.1	1.00	20.00	0	106	52	147	18.15	15.0	30	
trans-1,3-Dichloropropylene	20.9	1.00	20.00	0	104	57.7	125	20.43	2.13	30	
1,1,2-Trichloroethane	21.3	1.00	20.00	0	107	57.5	153	19.66	8.09	30	
1,3-Dichloropropane	21.1	1.00	20.00	0	106	54.1	157	19.71	6.88	30	
Tetrachloroethene (PCE)	22.0	1.00	20.00	0	110	50.3	133	18.73	15.9	30	
Dibromochloromethane	20.6	1.00	20.00	0	103	61.6	139	19.05	7.74	30	
1,2-Dibromoethane (EDB)	21.1	0.0600	20.00	0	105	63.2	134	19.94	5.40	30	
Chlorobenzene	21.4	1.00	20.00	0	107	65.8	134	23.02	7.38	30	
1,1,1,2-Tetrachloroethane	21.1	1.00	20.00	0	105	65.4	135	23.59	11.3	30	
Ethylbenzene	21.9	1.00	20.00	0	110	64.5	136	22.44	2.35	30	
m,p-Xylene	44.5	1.00	40.00	0	111	63.3	135	43.24	2.88	30	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705155-001AMSD** SampType: **MSD** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692018**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	20.9	1.00	20.00	0	105	64.8	150	20.39	2.70	30	
Styrene	21.2	1.00	20.00	0	106	52.9	163	21.67	2.27	30	
Isopropylbenzene	21.6	1.00	20.00	0	108	56	147	18.21	17.0	30	
Bromoform	21.1	1.00	20.00	0	105	57.7	139	25.19	17.7	30	
1,1,2,2-Tetrachloroethane	21.8	1.00	20.00	0	109	59.8	146	27.42	22.8	30	
n-Propylbenzene	22.4	1.00	20.00	0	112	57.6	142	20.22	10.4	30	
Bromobenzene	21.5	1.00	20.00	0	107	69.3	157	22.87	6.36	30	
1,3,5-Trimethylbenzene	21.4	1.00	20.00	0	107	59.9	136	20.03	6.68	30	
2-Chlorotoluene	21.8	1.00	20.00	0	109	61.7	134	22.13	1.73	30	
4-Chlorotoluene	19.9	1.00	20.00	0	99.6	58.4	134	22.23	11.0	30	
tert-Butylbenzene	21.6	1.00	20.00	0	108	66.8	141	19.36	10.8	30	
1,2,3-Trichloropropane	22.3	1.00	20.00	0	111	62.4	129	32.04	36.0	30	R
1,2,4-Trichlorobenzene	26.7	2.00	20.00	0	134	50.9	133	25.34	5.24	30	S
sec-Butylbenzene	22.5	1.00	20.00	0	113	56	146	21.50	4.70	30	
4-Isopropyltoluene	22.5	1.00	20.00	0	113	56.4	136	20.81	7.95	30	
1,3-Dichlorobenzene	21.9	1.00	20.00	0	110	58.2	128	12.36	55.7	30	R
1,4-Dichlorobenzene	22.2	1.00	20.00	0	111	60.1	123	20.14	9.66	30	
n-Butylbenzene	26.5	1.00	20.00	0	132	54.6	135	20.42	25.7	30	
1,2-Dichlorobenzene	22.8	1.00	20.00	0	114	65.4	133	21.70	4.92	30	
1,2-Dibromo-3-chloropropane	23.8	1.00	20.00	0	119	51.8	142	28.51	17.9	30	
1,2,4-Trimethylbenzene	22.1	1.00	20.00	0	111	63.7	132	21.07	4.98	30	
Hexachloro-1,3-butadiene	24.4	4.00	20.00	0	122	58.1	130	18.67	26.5	30	
Naphthalene	28.1	1.00	20.00	0	140	50.7	154	36.17	25.2	30	
1,2,3-Trichlorobenzene	28.0	4.00	20.00	0	140	57	131	26.86	4.32	30	S
Surr: Dibromofluoromethane	23.0		25.00		91.9	45.4	152		0		
Surr: Toluene-d8	25.8		25.00		103	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	27.2		25.00		109	64.2	128		0		

NOTES:
S - Outlying spike recoveries were observed.
R - High RPD observed.

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705151-022ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692010**

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	Q
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	
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	

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705151-022ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **5/12/2017** RunNo: **36132**
Client ID: **BATCH** Batch ID: **17040** Analysis Date: **5/13/2017** SeqNo: **692010**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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	
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	
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	22.6		25.00		90.4	45.4	152		0		
Surr: Toluene-d8	23.9		25.00		95.7	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	22.8		25.00		91.3	64.2	128		0		

Work Order: 1705152
CLIENT: Shannon & Wilson
Project: Broad Megablock Phase II

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260C

Sample ID **1705151-022ADUP**	SampType: **DUP**			Units: **µg/L**		Prep Date: **5/12/2017**		RunNo: **36132**			
Client ID: **BATCH**	Batch ID: **17040**					Analysis Date: **5/13/2017**		SeqNo: **692010**			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

Sample Log-In Check List

Client Name:	**SW**	Work Order Number:	**1705152**
Logged by:	**Chelsea Ward**	Date Received:	**5/12/2017 2:02:00 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/Agnes Tirao	Date	5/12/2017
By Whom:	Chelsea Ward	Via:	☑ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:	NWTPH-Dx in water		
Client Instructions:	Use VOA for Dx analysis for sample -008.		

19. Additional remarks:

Item Information

Item #	Temp ºC
Cooler	3.1
Sample	4.9
Temp Blank	2.4

* 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: 5/12/17 Page: of:

Laboratory Project No (internal): 1705152

Special Remarks: Not field filtered

Client: Shannon & Wilson

Address: 400 N 34th St Suite 100

City, State, Zip: Seattle, WA

Telephone: 206-695-6900

Fax:

Project Name: Broad Megablock Phase II

Project No: 21-1-21917

Collected by: BON

Location: Megablock

Report To (PM): BON, ACT

PM Email: BON@shanwil.com, ACT@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)	Comments
1	21417-MB1:9	5/12	1200	S	X			X		X				X				MTCA 5
2	21417-MB2:10	5/12	1130	S	X			X		X								
3	21417-MB3:20	5/12	955	S	X			X		X								
4	21417-MB5:9	5/12	910	S	X			X		X								
5	21417-MB4:24	5/12	1030	S	X			X		X				X				RCRA 8
6	21417-MB2:1	5/12	1120	S							X							
7	21417-MB3:1	5/12	920	S							X							
8	21417-MB4:GW	5/12	1045	GW	X			X		X								only 2 VOAs
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 - see comments 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]	5/12/17 19:02	x [signature]	5/12/17 14:02
Relinquished x	Date/Time	Received x	Date/Time

Turn-around Time:

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

PES Environmental, Inc.
Engineering & Environmental Services

TRANSMITTAL

To:	Seattle Dept. of Transportation	***Date:***	**May 18, 2017**
	P.O. Box 34996	***PES Project:***	**1413.001.02**
	700 Fifth Avenue, Suite 3800	***Subject:***	**Former American Linen Supply, 700 Dexter Avenue North, Seattle, Washington**
	Seattle, Washington 98124-4996		
Attn:	Sam Spencer		
cc:	Eric Tweit, SDOT; John McMillan, KPFF; Blaine Nesbitt, S&W	***From:***	**Bill Haldeman**

We Are Sending You:	☒	*Attached*	☒	*Copies*
The Following:	☐	*Under Separate Cover*	☐	*via U.S. Mail*
	☐	*Originals*	☒	*via Email*

Quantity	*Description*
1	ESC Lab Sciences Analytical Report L901706 (Analytical Data for FMW-129, which was sampled April 10, 2017)
1	ESC Lab Sciences Analytical Report L902977 (Analytical Data for MW106, which was sampled April 14, 2017)

Remarks:

1215 Fourth Avenue • Suite 1350 • Seattle, Washington • TEL (206) 529-3980 • FAX (206) 529-3985

ANALYTICAL REPORT

April 20, 2017

PES Environmental, Inc.- WA

Sample Delivery Group:	L901706
Samples Received:	04/11/2017
Project Number:	1413.001.02.002
Description:	American Linen Supply
Site:	700 DEXTER AVE N SEATTLE WA
Report To:	Bill Haldeman 1215 Fourth Ave., Suite 1350 Seattle, WA 98161

Entire Report Reviewed By:

Brian Ford

Technical Service Representative

TABLE OF CONTENTS

MW129-041017 L901706-01 GW

Collected by	Collected date/time	Received date/time
C. DeBoer	04/10/17 14:05	04/11/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG969253	1	04/11/17 11:36	04/11/17 11:36	AMC
Wet Chemistry by Method 9056A	WG969255	1	04/11/17 11:12	04/11/17 11:12	KCF
Wet Chemistry by Method 9056A	WG969853	5	04/13/17 11:59	04/13/17 11:59	SAM
Wet Chemistry by Method 9060A	WG969458	1	04/13/17 04:12	04/13/17 04:12	SJM
Metals (ICPMS) by Method 6020	WG969609	1	04/12/17 17:06	04/13/17 11:44	LAT
Volatile Organic Compounds (GC) by Method RSK175	WG969641	1	04/13/17 01:04	04/13/17 01:04	MJ
Volatile Organic Compounds (GC/MS) by Method 8260C	WG971582	5	04/19/17 05:42	04/19/17 05:42	CAH
Volatile Organic Compounds (GC/MS) by Method 8260C	WG971582	50	04/20/17 00:36	04/20/17 00:36	JHH

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	308000		2710	20000	1	04/11/2017 11:36	WG969253

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	44200		51.9	1000	1	04/11/2017 11:12	WG969255
Nitrate	U		22.7	100	1	04/11/2017 11:12	WG969255
Sulfate	124000		387	25000	5	04/13/2017 11:59	WG969853

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	2740		102	1000	1	04/13/2017 04:12	WG969458

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	365		15.0	100	1	04/13/2017 11:44	WG969609
Manganese	402		0.250	5.00	1	04/13/2017 11:44	WG969609

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	279		0.287	0.678	1	04/13/2017 01:04	WG969641
Ethane	26.8		0.296	1.29	1	04/13/2017 01:04	WG969641
Ethene	U		0.422	1.27	1	04/13/2017 01:04	WG969641

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		5.25	125	5	04/19/2017 05:42	WG971582
Acrylonitrile	U		4.36	12.5	5	04/19/2017 05:42	WG971582
Benzene	U		0.448	2.50	5	04/19/2017 05:42	WG971582
Bromobenzene	U		0.665	2.50	5	04/19/2017 05:42	WG971582
Bromodichloromethane	U		0.400	2.50	5	04/19/2017 05:42	WG971582
Bromochloromethane	U		0.725	2.50	5	04/19/2017 05:42	WG971582
Bromoform	U		0.930	2.50	5	04/19/2017 05:42	WG971582
Bromomethane	U		0.785	2.50	5	04/19/2017 05:42	WG971582
n-Butylbenzene	U		0.715	2.50	5	04/19/2017 05:42	WG971582
sec-Butylbenzene	U		0.670	2.50	5	04/19/2017 05:42	WG971582
tert-Butylbenzene	U		0.915	2.50	5	04/19/2017 05:42	WG971582
Carbon disulfide	U		0.505	2.50	5	04/19/2017 05:42	WG971582
Carbon tetrachloride	U		0.795	2.50	5	04/19/2017 05:42	WG971582
Chlorobenzene	U		0.700	2.50	5	04/19/2017 05:42	WG971582
Chlorodibromomethane	U		0.640	2.50	5	04/19/2017 05:42	WG971582
Chloroethane	U		0.705	2.50	5	04/19/2017 05:42	WG971582
Chloroform	U		0.430	2.50	5	04/19/2017 05:42	WG971582
Chloromethane	U		0.765	2.50	5	04/19/2017 05:42	WG971582
2-Chlorotoluene	U		0.555	2.50	5	04/19/2017 05:42	WG971582
4-Chlorotoluene	U		0.486	2.50	5	04/19/2017 05:42	WG971582
1,2-Dibromo-3-Chloropropane	U		1.62	5.00	5	04/19/2017 05:42	WG971582
1,2-Dibromoethane	U		0.965	2.50	5	04/19/2017 05:42	WG971582
Dibromomethane	U		0.585	2.50	5	04/19/2017 05:42	WG971582

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,2-Dichlorobenzene	U		0.505	2.50	5	04/19/2017 05:42	WG971582
1,3-Dichlorobenzene	U		0.650	2.50	5	04/19/2017 05:42	WG971582
1,4-Dichlorobenzene	U		0.605	2.50	5	04/19/2017 05:42	WG971582
Dichlorodifluoromethane	U		0.635	2.50	5	04/19/2017 05:42	WG971582
1,1-Dichloroethane	U		0.570	2.50	5	04/19/2017 05:42	WG971582
1,2-Dichloroethane	U		0.540	2.50	5	04/19/2017 05:42	WG971582
1,1-Dichloroethene	4.86		0.940	2.50	5	04/19/2017 05:42	WG971582
cis-1,2-Dichloroethene	1420		4.66	25.0	50	04/20/2017 00:36	WG971582
trans-1,2-Dichloroethene	5.05		0.760	2.50	5	04/19/2017 05:42	WG971582
1,2-Dichloropropane	U		0.950	2.50	5	04/19/2017 05:42	WG971582
1,1-Dichloropropene	U		0.640	2.50	5	04/19/2017 05:42	WG971582
1,3-Dichloropropane	U		0.735	2.50	5	04/19/2017 05:42	WG971582
cis-1,3-Dichloropropene	U		0.488	2.50	5	04/19/2017 05:42	WG971582
trans-1,3-Dichloropropene	U		1.11	2.50	5	04/19/2017 05:42	WG971582
trans-1,4-Dichloro-2-butene	U		1.28	25.0	5	04/19/2017 05:42	WG971582
2,2-Dichloropropane	U		0.464	2.50	5	04/19/2017 05:42	WG971582
Di-isopropyl ether	U		0.462	2.50	5	04/19/2017 05:42	WG971582
Ethylbenzene	U		0.790	2.50	5	04/19/2017 05:42	WG971582
Hexachloro-1,3-butadiene	U		0.785	5.00	5	04/19/2017 05:42	WG971582
2-Hexanone	U		3.78	12.5	5	04/19/2017 05:42	WG971582
n-Hexane	U		1.52	5.00	5	04/19/2017 05:42	WG971582
Iodomethane	U	J4	18.8	125	50	04/20/2017 00:36	WG971582
Isopropylbenzene	U		0.630	2.50	5	04/19/2017 05:42	WG971582
p-Isopropyltoluene	U		0.690	2.50	5	04/19/2017 05:42	WG971582
2-Butanone (MEK)	U		6.40	12.5	5	04/19/2017 05:42	WG971582
Methylene Chloride	U		5.35	12.5	5	04/19/2017 05:42	WG971582
4-Methyl-2-pentanone (MIBK)	U		4.12	12.5	5	04/19/2017 05:42	WG971582
Methyl tert-butyl ether	U		0.510	2.50	5	04/19/2017 05:42	WG971582
Naphthalene	1.42	J	0.870	2.50	5	04/19/2017 05:42	WG971582
n-Propylbenzene	U		0.810	2.50	5	04/19/2017 05:42	WG971582
Styrene	U		0.585	2.50	5	04/19/2017 05:42	WG971582
1,1,1,2-Tetrachloroethane	U		0.600	2.50	5	04/19/2017 05:42	WG971582
1,1,2,2-Tetrachloroethane	U		0.650	2.50	5	04/19/2017 05:42	WG971582
1,1,2-Trichlorotrifluoroethane	U		0.820	2.50	5	04/19/2017 05:42	WG971582
Tetrachloroethene	194		0.995	2.50	5	04/19/2017 05:42	WG971582
Toluene	U		2.06	5.00	5	04/19/2017 05:42	WG971582
1,2,3-Trichlorobenzene	U		0.820	2.50	5	04/19/2017 05:42	WG971582
1,2,4-Trichlorobenzene	U		1.78	2.50	5	04/19/2017 05:42	WG971582
1,1,1-Trichloroethane	U		0.470	2.50	5	04/19/2017 05:42	WG971582
1,1,2-Trichloroethane	U		0.930	2.50	5	04/19/2017 05:42	WG971582
Trichloroethene	492		0.765	2.50	5	04/19/2017 05:42	WG971582
Trichlorofluoromethane	U		0.650	2.50	5	04/19/2017 05:42	WG971582
1,2,3-Trichloropropane	U		1.24	12.5	5	04/19/2017 05:42	WG971582
1,2,4-Trimethylbenzene	U		0.615	2.50	5	04/19/2017 05:42	WG971582
1,2,3-Trimethylbenzene	U		0.370	2.50	5	04/19/2017 05:42	WG971582
1,3,5-Trimethylbenzene	U		0.620	2.50	5	04/19/2017 05:42	WG971582
Vinyl acetate	U		3.22	12.5	5	04/19/2017 05:42	WG971582
Vinyl chloride	0.885	J	0.590	2.50	5	04/19/2017 05:42	WG971582
Xylenes, Total	U		1.58	7.50	5	04/19/2017 05:42	WG971582
(S) Toluene-d8	*102*			*80.0-120*		*04/19/2017 05:42*	WG971582
(S) Toluene-d8	*103*			*80.0-120*		*04/20/2017 00:36*	WG971582
(S) Dibromofluoromethane	*105*			*76.0-123*		*04/19/2017 05:42*	WG971582
(S) Dibromofluoromethane	*110*			*76.0-123*		*04/20/2017 00:36*	WG971582
(S) 4-Bromofluorobenzene	*95.7*			*80.0-120*		*04/19/2017 05:42*	WG971582
(S) 4-Bromofluorobenzene	*102*			*80.0-120*		*04/20/2017 00:36*	WG971582

Method Blank (MB)

(MB) R3209969-1 04/11/17 10:06

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Alkalinity	3220	J	2710	20000

L901406-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901406-01 04/11/17 10:32 • (DUP) R3209969-2 04/11/17 10:38

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	46400	47600	1	3.00		20

L901543-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901543-01 04/11/17 12:01 • (DUP) R3209969-4 04/11/17 12:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	75300	74000	1	2.00		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3209969-3 04/11/17 11:11 • (LCSD) R3209969-5 04/11/17 12:14

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Alkalinity	100000	101000	97300	101	97.0	85.0-115			4.00	20

Method Blank (MB)

(MB) R3210076-1 04/11/17 06:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Nitrate	U		22.7	100

L901638-09 Original Sample (OS) • Duplicate (DUP)

(OS) L901638-09 04/11/17 13:04 • (DUP) R3210076-4 04/11/17 13:17

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	16300	16500	1	1		15
Nitrate	1340	1330	1	1		15

L901709-07 Original Sample (OS) • Duplicate (DUP)

(OS) L901709-07 04/11/17 16:10 • (DUP) R3210076-6 04/11/17 16:23

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	47100	47200	1	0		15
Nitrate	2210	2200	1	0		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3210076-2 04/11/17 07:07 • (LCSD) R3210076-3 04/11/17 07:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Chloride	40000	39500	39500	99	99	80-120			0	15
Nitrate	8000	8180	8190	102	102	80-120			0	15

L901638-11 Original Sample (OS) • Matrix Spike (MS)

(OS) L901638-11 04/11/17 13:29 • (MS) R3210076-5 04/11/17 13:41

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Chloride	50000	15900	66300	101	1	80-120	
Nitrate	5000	133	5050	98	1	80-120	

L901709-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901709-08 04/11/17 17:00 • (MS) R3210076-7 04/11/17 17:12 • (MSD) R3210076-8 04/11/17 17:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	27000	76100	76400	98	99	1	80-120			0	15
Nitrate	5000	ND	4900	4830	98	97	1	80-120			1	15

L901705-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L901705-01 04/11/17 18:27 • (MS) R3210076-9 04/11/17 18:39

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate	5000	ND	22700	90	5	80-120	

Method Blank (MB)

(MB) R3210785-2 04/13/17 09:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Sulfate	U		77.4	5000

L901882-05 Original Sample (OS) • Duplicate (DUP)

(OS) L901882-05 04/13/17 13:57 • (DUP) R3210785-7 04/13/17 14:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Sulfate	ND	3640	1	23	J P1	15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3210785-3 04/13/17 09:44 • (LCSD) R3210785-4 04/13/17 09:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Sulfate	40000	40800	40900	102	102	80-120			0	15

L901882-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L901882-01 04/13/17 13:06 • (MS) R3210785-6 04/13/17 13:16

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Sulfate	50000	ND	52200	102	1	80-120	

L902037-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L902037-01 04/13/17 15:49 • (MS) R3210785-8 04/13/17 15:59 • (MSD) R3210785-9 04/13/17 16:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Sulfate	50000	ND	55700	55600	104	104	1	80-120			0	15

Method Blank (MB)

(MB) R3210413-1 04/12/17 16:27

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
TOC (Total Organic Carbon)	U		102	1000

L901588-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901588-01 04/12/17 20:37 • (DUP) R3210413-4 04/12/17 22:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	5370	5180	1	4		20

L901588-13 Original Sample (OS) • Duplicate (DUP)

(OS) L901588-13 04/13/17 03:02 • (DUP) R3210413-7 04/13/17 03:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	4040	3960	1	2		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3210413-2 04/12/17 18:30 • (LCSD) R3210413-3 04/12/17 20:58

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TOC (Total Organic Carbon)	75000	74700	74800	100	100	85-115			0	20

L901588-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901588-07 04/12/17 23:44 • (MS) R3210413-5 04/13/17 00:07 • (MSD) R3210413-6 04/13/17 00:30

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
TOC (Total Organic Carbon)	50000	3980	55700	56900	104	106	1	80-120			2	20

Method Blank (MB)

(MB) R3210537-1 04/13/17 10:55

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Iron	U		15.0	100
Manganese	0.349	J	0.250	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3210537-2 04/13/17 10:58 • (LCSD) R3210537-3 04/13/17 11:02

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Iron	5000	4880	4920	98	98	80-120			1	20
Manganese	50.0	48.1	50.0	96	100	80-120			4	20

L901739-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L901739-09 04/13/17 11:05 • (MS) R3210537-5 04/13/17 11:12 • (MSD) R3210537-6 04/13/17 11:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l		ug/l	ug/l	%	%		%			%	%
Iron	5000		4930	4990	99	100	1	75-125			1	20
Manganese	50.0	ND	48.2	49.3	93	96	1	75-125			2	20

Method Blank (MB)

(MB) R3210496-1 04/12/17 23:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		0.287	0.678
Ethane	U		0.296	1.29
Ethene	U		0.422	1.27

L901416-03 Original Sample (OS) • Duplicate (DUP)

(OS) L901416-03 04/12/17 23:24 • (DUP) R3210496-2 04/13/17 02:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	2460	2500	10	1.67		20
Ethane	U	0.000	10	0.000		20
Ethene	U	0.000	10	0.000		20

L901992-01 Original Sample (OS) • Duplicate (DUP)

(OS) L901992-01 04/13/17 02:44 • (DUP) R3210496-3 04/13/17 05:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3210496-4 04/13/17 05:48 • (LCSD) R3210496-5 04/13/17 06:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	63.5	64.0	93.6	94.5	70.0-130			0.870	20
Ethane	129	111	113	86.0	87.2	70.0-130			1.41	20
Ethene	127	109	110	86.1	86.8	70.0-130			0.840	20

Method Blank (MB)

(MB) R3211879-3 04/19/17 03:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	2.50
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromochloromethane	U		0.145	0.500
Bromodichloromethane	U		0.0800	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	0.500
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	0.500
2-Chlorotoluene	U		0.111	0.500
Chloroform	U		0.0860	0.500
4-Chlorotoluene	U		0.0972	0.500
Chloromethane	U		0.153	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	1.00
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	0.500
cis-1,2-Dichloroethene	0.314	J	0.0933	0.500
1,1-Dichloroethane	U		0.114	0.500
1,1-Dichloropropene	U		0.128	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
1,3-Dichloropropane	U		0.147	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
cis-1,3-Dichloropropene	U		0.0976	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00

Method Blank (MB)

(MB) R3211879-3 04/19/17 03:01

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
trans-1,3-Dichloropropene	U		0.222	0.500
2-Hexanone	U		0.757	2.50
n-Hexane	U		0.305	1.00
Iodomethane	U		0.377	2.50
Ethylbenzene	U		0.158	0.500
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	2.50
Methyl tert-butyl ether	U		0.102	0.500
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Methylene Chloride	U		1.07	2.50
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
Naphthalene	U		0.174	0.500
Trichlorofluoromethane	U		0.130	0.500
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Tetrachloroethene	U		0.199	0.500
Vinyl acetate	U		0.645	2.50
Toluene	U		0.412	1.00
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*104*			*80.0-120*
(S) Dibromofluoromethane	*104*			*76.0-123*
(S) 4-Bromofluorobenzene	*96.9*			*80.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3211879-1 04/19/17 01:06 • (LCSD) R3211879-2 04/19/17 02:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	124	134	99.5	107	10.0-160			7.26	23
Bromobenzene	25.0	25.4	25.4	101	102	79.0-120			0.290	20
Bromochloromethane	25.0	25.6	25.8	102	103	76.0-122			0.740	20
n-Butylbenzene	25.0	23.4	23.3	93.6	93.1	72.0-126			0.550	20
sec-Butylbenzene	25.0	22.5	22.5	90.1	90.0	74.0-121			0.0300	20
tert-Butylbenzene	25.0	22.5	22.6	89.9	90.2	75.0-122			0.380	20
Carbon disulfide	25.0	22.8	22.9	91.0	91.7	55.0-127			0.690	20
2-Chlorotoluene	25.0	24.8	24.7	99.2	99.0	74.0-122			0.200	20
4-Chlorotoluene	25.0	24.6	24.5	98.2	98.0	79.0-120			0.160	20
1,2-Dibromo-3-Chloropropane	25.0	22.7	23.1	90.6	92.5	64.0-127			2.02	20
1,2-Dibromoethane	25.0	25.2	25.1	101	100	77.0-123			0.500	20
Dibromomethane	25.0	24.0	24.3	96.2	97.3	78.0-120			1.17	20
1,2-Dichlorobenzene	25.0	26.6	26.4	106	106	80.0-120			0.860	20
1,3-Dichlorobenzene	25.0	25.3	25.4	101	102	72.0-123			0.340	20
1,4-Dichlorobenzene	25.0	27.2	26.8	109	107	77.0-120			1.22	20
Dichlorodifluoromethane	25.0	25.9	25.8	104	103	49.0-155			0.390	20
cis-1,2-Dichloroethene	25.0	26.7	27.3	107	109	73.0-120			2.32	20
1,1-Dichloropropene	25.0	25.7	25.7	103	103	71.0-129			0.290	20
1,3-Dichloropropane	25.0	27.1	27.1	108	109	80.0-121			0.130	20
Acrylonitrile	125	139	140	111	112	60.0-142			0.460	20
Benzene	25.0	28.0	28.3	112	113	69.0-123			1.11	20
trans-1,4-Dichloro-2-butene	25.0	16.7	16.5	66.9	66.0	55.0-134			1.28	20
2,2-Dichloropropane	25.0	18.8	19.1	75.4	76.5	60.0-125			1.42	20
Bromodichloromethane	25.0	24.3	24.1	97.2	96.5	76.0-120			0.720	20
Di-isopropyl ether	25.0	25.9	26.2	104	105	59.0-133			1.26	20
Bromoform	25.0	24.2	24.2	96.7	96.7	67.0-132			0.0500	20
Hexachloro-1,3-butadiene	25.0	21.8	22.2	87.1	88.9	64.0-131			2.10	20
2-Hexanone	125	142	146	114	117	58.0-147			2.69	20
Bromomethane	25.0	28.7	26.9	115	107	18.0-160			6.52	20
n-Hexane	25.0	25.0	25.3	100	101	56.0-124			0.940	20
Iodomethane	125	48.8	58.6	39.1	46.9	57.0-140	J4	J4	18.1	20
Isopropylbenzene	25.0	24.1	23.9	96.5	95.6	75.0-120			0.890	20
p-Isopropyltoluene	25.0	22.6	22.5	90.3	90.1	74.0-126			0.200	20
2-Butanone (MEK)	125	143	146	114	116	37.0-158			2.12	20
Carbon tetrachloride	25.0	21.6	21.9	86.3	87.7	63.0-122			1.59	20
4-Methyl-2-pentanone (MIBK)	125	142	142	113	113	59.0-143			0.200	20
Chlorobenzene	25.0	26.0	25.7	104	103	79.0-121			1.12	20
Chlorodibromomethane	25.0	23.7	23.7	94.7	94.8	75.0-125			0.110	20
Methyl tert-butyl ether	25.0	24.8	25.0	99.4	100	64.0-123			0.610	20
Chloroethane	25.0	22.4	22.8	89.5	91.2	47.0-152			1.92	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3211879-1 04/19/17 01:06 • (LCSD) R3211879-2 04/19/17 02:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
n-Propylbenzene	25.0	24.9	24.9	99.7	99.7	79.0-120			0.0100	20
Chloroform	25.0	25.4	25.4	101	102	72.0-121			0.180	20
Styrene	25.0	25.5	25.3	102	101	78.0-124			0.880	20
1,1,1,2-Tetrachloroethane	25.0	24.0	24.3	96.1	97.3	75.0-122			1.27	20
Chloromethane	25.0	22.1	23.3	88.4	93.2	48.0-139			5.32	20
1,1,2-Trichlorotrifluoroethane	25.0	24.8	25.1	99.1	100	61.0-136			1.32	20
1,2,3-Trichlorobenzene	25.0	24.3	24.5	97.3	98.2	61.0-133			0.870	20
1,2,4-Trichlorobenzene	25.0	24.8	24.3	99.0	97.0	69.0-129			2.04	20
Trichlorofluoromethane	25.0	24.7	23.7	98.7	95.0	56.0-137			3.86	20
1,2,3-Trichloropropane	25.0	23.2	23.3	93.0	93.1	72.0-124			0.160	20
1,1-Dichloroethane	25.0	26.0	26.7	104	107	70.0-126			2.65	20
1,2,4-Trimethylbenzene	25.0	23.2	23.4	92.7	93.7	75.0-120			1.08	20
1,2,3-Trimethylbenzene	25.0	24.6	24.5	98.3	98.0	75.0-120			0.310	20
1,2-Dichloroethane	25.0	21.4	22.1	85.8	88.5	67.0-126			3.17	20
1,1-Dichloroethene	25.0	24.0	24.6	95.9	98.5	64.0-129			2.68	20
1,3,5-Trimethylbenzene	25.0	23.2	23.2	92.9	92.8	75.0-120			0.140	20
Vinyl acetate	125	106	94.1	84.6	75.3	46.0-160			11.7	20
trans-1,2-Dichloroethene	25.0	26.1	26.1	105	105	71.0-121			0.000	20
1,2-Dichloropropane	25.0	27.5	27.0	110	108	75.0-125			1.76	20
cis-1,3-Dichloropropene	25.0	24.2	23.6	96.8	94.2	79.0-123			2.70	20
trans-1,3-Dichloropropene	25.0	23.0	22.9	92.0	91.7	74.0-127			0.340	20
Ethylbenzene	25.0	25.6	25.8	102	103	77.0-120			0.790	20
Methylene Chloride	25.0	25.4	25.8	102	103	66.0-121			1.27	20
Naphthalene	25.0	24.2	24.7	96.8	98.6	62.0-128			1.84	20
1,1,2,2-Tetrachloroethane	25.0	25.3	24.3	101	97.0	71.0-122			4.16	20
Tetrachloroethene	25.0	25.3	25.0	101	100	70.0-127			1.32	20
Toluene	25.0	26.0	26.0	104	104	77.0-120			0.340	20
1,1,1-Trichloroethane	25.0	22.9	22.9	91.4	91.5	68.0-122			0.0400	20
1,1,2-Trichloroethane	25.0	26.8	26.9	107	108	78.0-120			0.600	20
Trichloroethene	25.0	26.2	26.8	105	107	78.0-120			2.26	20
Vinyl chloride	25.0	28.6	28.8	114	115	64.0-133			0.650	20
Xylenes, Total	75.0	76.4	76.7	102	102	77.0-120			0.390	20
(S) Toluene-d8				*104*	*103*	*80.0-120*				
(S) Dibromofluoromethane				*102*	*104*	*76.0-123*				
(S) 4-Bromofluorobenzene				*94.8*	*95.8*	*80.0-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

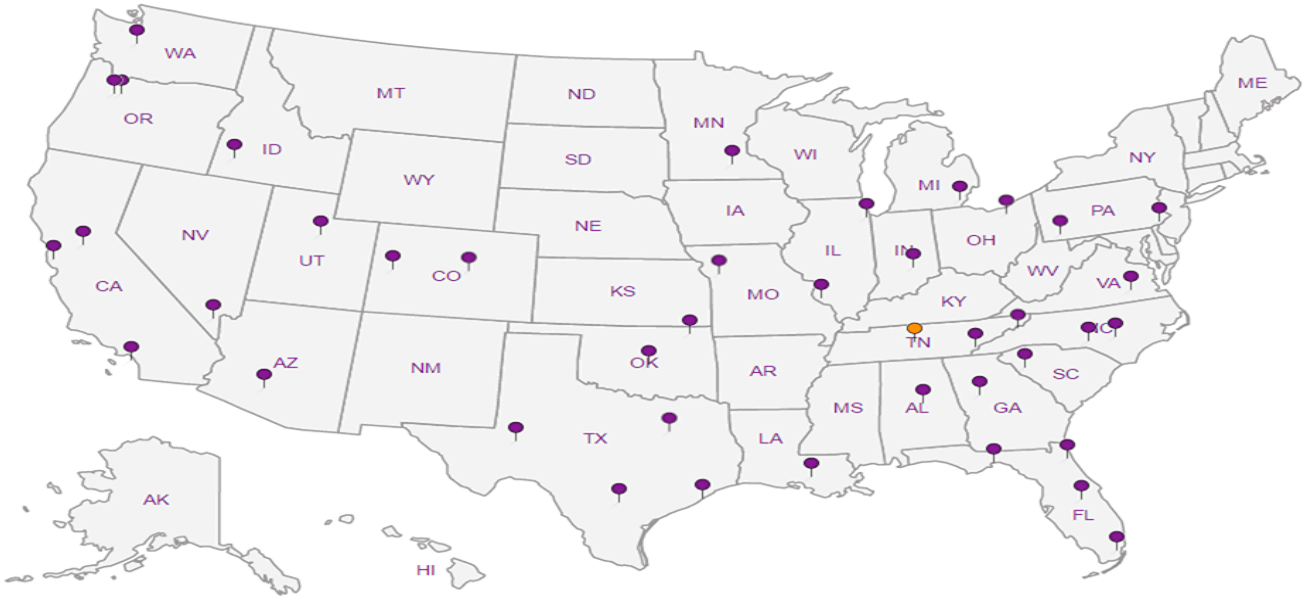
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



PES Environmental, Inc.- WA

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1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Report to: Bill Haldeman

Email To: bhaldeman@pesenv.com

Project Description: American Linen Supply

City/State Collected: Seattle, WA

Phone: 206-529-3980
Fax: 206-529-3985

Client Project # 1413.001.02.002

Lab Project # PESENVSWA-141300102

Collected by (print): C. DeBoer

Site/Facility ID # 700 DEXTER AVE N SEATTLE

P.O. #

Collected by (signature): Chris DeBoer

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	*NO3,Cl,SO4,Alk 250mlHDPE-NoPres	NWTPHGX 40mlAmb HCl	TOC 250mlAmb-HCl	Total Fe Mn 6020 250mlHDPE-HNO3	low level 8260C 40mlAmb-HCl	low level RSK175 40mlAmb-HCl	Remarks	Sample # (lab only)
MW29-041017	Grab	GW	86.5	4/10/17	1405	9		X		X	X	X	X		01
		GW													
		GW													
		GW													
		GW													
		GW													
		GW													
		GW													
		GW													
		GW													
		GW													

Chris DeBoer 4/10/17

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 901706

K019

Acctnum: PESENVSWA
Template: T121414
Prelogin: P592684
TSR: 110 - Brian Ford
PB: 3-13-17

Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: *Nitrate has a 48 hour hold time

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 7176 9011 7177

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Chris DeBoer	4/10/17	1510	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / (No) HCL / MeoH TBR

Temp: 5.1°C Bottles Received: 9

Date: 4-11-17 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

April 27, 2017

PES Environmental, Inc.- WA

Sample Delivery Group:	L902977
Samples Received:	04/15/2017
Project Number:	1413.001.02.002
Description:	American Linen Supply
Site:	700 DEXTER AVE N SEATTLE WA
Report To:	Bill Haldeman 1215 Fourth Ave., Suite 1350 Seattle, WA 98161

Entire Report Reviewed By:

Brian Ford

Technical Service Representative

TABLE OF CONTENTS

MW106-041417 L902977-01 GW

Collected by: Chris D
Collected date/time: 04/14/17 14:15
Received date/time: 04/15/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG971339	1	04/18/17 09:37	04/18/17 09:37	AMC
Wet Chemistry by Method 9056A	WG970796	1	04/15/17 15:21	04/15/17 15:21	MCG
Wet Chemistry by Method 9060A	WG971114	10	04/17/17 15:16	04/17/17 15:16	SJM
Metals (ICPMS) by Method 6020	WG970972	1	04/17/17 19:24	04/18/17 11:30	JPD
Volatile Organic Compounds (GC) by Method RSK175	WG971361	1	04/18/17 12:02	04/18/17 12:02	MJ
Volatile Organic Compounds (GC/MS) by Method 8260C	WG974106	1	04/26/17 23:40	04/26/17 23:40	LRL

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Technical Service Representative

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	309000		2710	20000	1	04/18/2017 09:37	WG971339

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	28700		51.9	1000	1	04/15/2017 15:21	WG970796
Nitrate	U		22.7	100	1	04/15/2017 15:21	WG970796
Sulfate	17900		77.4	5000	1	04/15/2017 15:21	WG970796

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	5930	J	1020	10000	10	04/17/2017 15:16	WG971114

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	14100		15.0	100	1	04/18/2017 11:30	WG970972
Manganese	1080		0.250	5.00	1	04/18/2017 11:30	WG970972

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	79.5		0.287	0.678	1	04/18/2017 12:02	WG971361
Ethane	U		0.296	1.29	1	04/18/2017 12:02	WG971361
Ethene	2.62		0.422	1.27	1	04/18/2017 12:02	WG971361

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	1.53	J J4	1.05	25.0	1	04/26/2017 23:40	WG974106
Acrylonitrile	U		0.873	2.50	1	04/26/2017 23:40	WG974106
Benzene	U		0.0896	0.500	1	04/26/2017 23:40	WG974106
Bromobenzene	U		0.133	0.500	1	04/26/2017 23:40	WG974106
Bromodichloromethane	U		0.0800	0.500	1	04/26/2017 23:40	WG974106
Bromochloromethane	U		0.145	0.500	1	04/26/2017 23:40	WG974106
Bromoform	U		0.186	0.500	1	04/26/2017 23:40	WG974106
Bromomethane	U		0.157	0.500	1	04/26/2017 23:40	WG974106
n-Butylbenzene	U		0.143	0.500	1	04/26/2017 23:40	WG974106
sec-Butylbenzene	U		0.134	0.500	1	04/26/2017 23:40	WG974106
tert-Butylbenzene	U		0.183	0.500	1	04/26/2017 23:40	WG974106
Carbon disulfide	0.641		0.101	0.500	1	04/26/2017 23:40	WG974106
Carbon tetrachloride	U		0.159	0.500	1	04/26/2017 23:40	WG974106
Chlorobenzene	U		0.140	0.500	1	04/26/2017 23:40	WG974106
Chlorodibromomethane	U		0.128	0.500	1	04/26/2017 23:40	WG974106
Chloroethane	U		0.141	0.500	1	04/26/2017 23:40	WG974106
Chloroform	U		0.0860	0.500	1	04/26/2017 23:40	WG974106
Chloromethane	U		0.153	0.500	1	04/26/2017 23:40	WG974106
2-Chlorotoluene	U		0.111	0.500	1	04/26/2017 23:40	WG974106
4-Chlorotoluene	U		0.0972	0.500	1	04/26/2017 23:40	WG974106
1,2-Dibromo-3-Chloropropane	U		0.325	1.00	1	04/26/2017 23:40	WG974106
1,2-Dibromoethane	U		0.193	0.500	1	04/26/2017 23:40	WG974106
Dibromomethane	U		0.117	0.500	1	04/26/2017 23:40	WG974106

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,2-Dichlorobenzene	U		0.101	0.500	1	04/26/2017 23:40	WG974106
1,3-Dichlorobenzene	U		0.130	0.500	1	04/26/2017 23:40	WG974106
1,4-Dichlorobenzene	U		0.121	0.500	1	04/26/2017 23:40	WG974106
Dichlorodifluoromethane	U		0.127	0.500	1	04/26/2017 23:40	WG974106
1,1-Dichloroethane	U		0.114	0.500	1	04/26/2017 23:40	WG974106
1,2-Dichloroethane	U		0.108	0.500	1	04/26/2017 23:40	WG974106
1,1-Dichloroethene	U		0.188	0.500	1	04/26/2017 23:40	WG974106
cis-1,2-Dichloroethene	U		0.0933	0.500	1	04/26/2017 23:40	WG974106
trans-1,2-Dichloroethene	U		0.152	0.500	1	04/26/2017 23:40	WG974106
1,2-Dichloropropane	U		0.190	0.500	1	04/26/2017 23:40	WG974106
1,1-Dichloropropene	U		0.128	0.500	1	04/26/2017 23:40	WG974106
1,3-Dichloropropane	U		0.147	0.500	1	04/26/2017 23:40	WG974106
cis-1,3-Dichloropropene	U		0.0976	0.500	1	04/26/2017 23:40	WG974106
trans-1,3-Dichloropropene	U		0.222	0.500	1	04/26/2017 23:40	WG974106
trans-1,4-Dichloro-2-butene	U		0.257	5.00	1	04/26/2017 23:40	WG974106
2,2-Dichloropropane	U		0.0929	0.500	1	04/26/2017 23:40	WG974106
Di-isopropyl ether	U		0.0924	0.500	1	04/26/2017 23:40	WG974106
Ethylbenzene	U		0.158	0.500	1	04/26/2017 23:40	WG974106
Hexachloro-1,3-butadiene	U		0.157	1.00	1	04/26/2017 23:40	WG974106
2-Hexanone	U		0.757	2.50	1	04/26/2017 23:40	WG974106
n-Hexane	U		0.305	1.00	1	04/26/2017 23:40	WG974106
Iodomethane	U		0.377	2.50	1	04/26/2017 23:40	WG974106
Isopropylbenzene	U		0.126	0.500	1	04/26/2017 23:40	WG974106
p-Isopropyltoluene	U		0.138	0.500	1	04/26/2017 23:40	WG974106
2-Butanone (MEK)	U		1.28	2.50	1	04/26/2017 23:40	WG974106
Methylene Chloride	U		1.07	2.50	1	04/26/2017 23:40	WG974106
4-Methyl-2-pentanone (MIBK)	U		0.823	2.50	1	04/26/2017 23:40	WG974106
Methyl tert-butyl ether	U		0.102	0.500	1	04/26/2017 23:40	WG974106
Naphthalene	U		0.174	0.500	1	04/26/2017 23:40	WG974106
n-Propylbenzene	U		0.162	0.500	1	04/26/2017 23:40	WG974106
Styrene	U		0.117	0.500	1	04/26/2017 23:40	WG974106
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	04/26/2017 23:40	WG974106
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	04/26/2017 23:40	WG974106
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	04/26/2017 23:40	WG974106
Tetrachloroethene	U		0.199	0.500	1	04/26/2017 23:40	WG974106
Toluene	U		0.412	1.00	1	04/26/2017 23:40	WG974106
1,2,3-Trichlorobenzene	U		0.164	0.500	1	04/26/2017 23:40	WG974106
1,2,4-Trichlorobenzene	U		0.355	0.500	1	04/26/2017 23:40	WG974106
1,1,1-Trichloroethane	U		0.0940	0.500	1	04/26/2017 23:40	WG974106
1,1,2-Trichloroethane	U		0.186	0.500	1	04/26/2017 23:40	WG974106
Trichloroethene	U		0.153	0.500	1	04/26/2017 23:40	WG974106
Trichlorofluoromethane	U		0.130	0.500	1	04/26/2017 23:40	WG974106
1,2,3-Trichloropropane	U		0.247	2.50	1	04/26/2017 23:40	WG974106
1,2,4-Trimethylbenzene	U		0.123	0.500	1	04/26/2017 23:40	WG974106
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	04/26/2017 23:40	WG974106
1,3,5-Trimethylbenzene	U		0.124	0.500	1	04/26/2017 23:40	WG974106
Vinyl acetate	U	J4	0.645	2.50	1	04/26/2017 23:40	WG974106
Vinyl chloride	U		0.118	0.500	1	04/26/2017 23:40	WG974106
Xylenes, Total	U		0.316	1.50	1	04/26/2017 23:40	WG974106
(S) Toluene-d8	*107*			*80.0-120*		*04/26/2017 23:40*	WG974106
(S) Dibromofluoromethane	*111*			*76.0-123*		*04/26/2017 23:40*	WG974106
(S) 4-Bromofluorobenzene	*96.7*			*80.0-120*		*04/26/2017 23:40*	WG974106

Method Blank (MB)

(MB) R3211720-1 04/18/17 08:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Alkalinity	U		2710	20000

L902903-01 Original Sample (OS) • Duplicate (DUP)

(OS) L902903-01 04/18/17 08:20 • (DUP) R3211720-2 04/18/17 08:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	460000	489000	1	6.00		20

L903033-08 Original Sample (OS) • Duplicate (DUP)

(OS) L903033-08 04/18/17 11:08 • (DUP) R3211720-5 04/18/17 11:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Alkalinity	39100	37700	1	4.00		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3211720-3 04/18/17 09:14 • (LCSD) R3211720-4 04/18/17 10:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Alkalinity	100000	97900	98100	98.0	98.0	85.0-115			0.000	20

Method Blank (MB)

(MB) R3211274-1 04/15/17 05:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Sulfate	U		77.4	5000

L902943-01 Original Sample (OS) • Duplicate (DUP)

(OS) L902943-01 04/15/17 13:03 • (DUP) R3211274-4 04/15/17 13:18

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	357000	354000	10	1		15
Nitrate	64000	70800	10	10		15
Sulfate	946000	946000	10	0		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3211274-2 04/15/17 06:07 • (LCSD) R3211274-3 04/15/17 06:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40000	39600	39700	99	99	80-120			0	15
Nitrate	8000	8120	8120	102	102	80-120			0	15
Sulfate	40000	39800	39800	100	99	80-120			0	15

L902977-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L902977-01 04/15/17 15:21 • (MS) R3211274-5 04/15/17 15:37 • (MSD) R3211274-6 04/15/17 15:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50000	28700	78200	78500	99	99	1	80-120			0	15
Nitrate	5000	U	5030	5040	101	101	1	80-120			0	15
Sulfate	50000	17900	68100	68100	100	100	1	80-120			0	15

Method Blank (MB)

(MB) R3211244-1 04/17/17 09:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
TOC (Total Organic Carbon)	U		102	1000

L902826-01 Original Sample (OS) • Duplicate (DUP)

(OS) L902826-01 04/17/17 11:46 • (DUP) R3211244-3 04/17/17 12:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	5220	4720	1	10		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3211244-2 04/17/17 11:26 • (LCSD) R3211244-4 04/17/17 13:44

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TOC (Total Organic Carbon)	75000	74800	77500	100	103	85-115			4	20

L902996-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L902996-01 04/17/17 15:36 • (MS) R3211244-5 04/17/17 15:56 • (MSD) R3211244-6 04/17/17 16:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
TOC (Total Organic Carbon)	50000	1980	54400	54600	105	105	1	80-120			0	20

Method Blank (MB)

(MB) R3211509-1 04/18/17 10:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Iron	U		15.0	100
Manganese	0.274	J	0.250	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3211509-2 04/18/17 10:38 • (LCSD) R3211509-3 04/18/17 10:41

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Iron	5000	5040	5080	101	102	80-120			1	20
Manganese	50.0	49.2	48.9	98	98	80-120			1	20

L902939-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L902939-02 04/18/17 10:45 • (MS) R3211509-5 04/18/17 10:52 • (MSD) R3211509-6 04/18/17 10:55

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Iron	5000	ND	4910	5010	98	100	1	75-125			2	20
Manganese	50.0	246	290	291	88	90	1	75-125			0	20

Method Blank (MB)

(MB) R3211767-1 04/18/17 11:28

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		0.287	0.678
Ethane	U		0.296	1.29
Ethene	U		0.422	1.27

L902972-01 Original Sample (OS) • Duplicate (DUP)

(OS) L902972-01 04/18/17 11:45 • (DUP) R3211767-2 04/18/17 14:48

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

L903022-09 Original Sample (OS) • Duplicate (DUP)

(OS) L903022-09 04/18/17 15:21 • (DUP) R3211767-3 04/18/17 18:07

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	2730	3140	1	14.1	E	20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3211767-4 04/18/17 18:24 • (LCSD) R3211767-5 04/18/17 18:40

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	66.2	66.3	97.7	97.8	70.0-130			0.0800	20
Ethane	129	118	118	91.3	91.4	70.0-130			0.180	20
Ethene	127	115	115	90.8	90.7	70.0-130			0.110	20

Method Blank (MB)

(MB) R3213841-4 04/26/17 17:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	2.50
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	0.500
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	0.500
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	0.500
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	1.00
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	0.500
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	0.500
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500

Method Blank (MB)

(MB) R3213841-4 04/26/17 17:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	2.50
n-Hexane	U		0.305	1.00
Iodomethane	U		0.377	2.50
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	2.50
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	2.50
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	0.500
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	1.00
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	0.500
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	2.50
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*108*			*80.0-120*
(S) Dibromofluoromethane	*107*			*76.0-123*
(S) 4-Bromofluorobenzene	*96.3*			*80.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3213841-1 04/26/17 16:26 • (LCSD) R3213841-3 04/26/17 16:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	230	205	184	164	10.0-160	J4	J4	11.6	23
Acrylonitrile	125	148	139	119	111	60.0-142			6.33	20
Benzene	25.0	26.8	26.7	107	107	69.0-123			0.350	20
Bromobenzene	25.0	23.2	23.9	92.8	95.7	79.0-120			3.03	20
Bromodichloromethane	25.0	24.7	24.8	98.9	99.2	76.0-120			0.280	20
Bromochloromethane	25.0	23.8	23.8	95.0	95.0	76.0-122			0.0300	20
Bromoform	25.0	22.6	22.6	90.5	90.4	67.0-132			0.0700	20
Bromomethane	25.0	26.5	26.8	106	107	18.0-160			0.970	20
n-Butylbenzene	25.0	22.5	22.8	89.9	91.2	72.0-126			1.53	20
sec-Butylbenzene	25.0	21.8	22.3	87.2	89.3	74.0-121			2.31	20
tert-Butylbenzene	25.0	21.4	21.8	85.7	87.3	75.0-122			1.83	20
Carbon disulfide	25.0	24.9	24.9	99.5	99.4	55.0-127			0.0600	20
Carbon tetrachloride	25.0	27.4	27.3	110	109	63.0-122			0.530	20
Chlorobenzene	25.0	21.9	22.5	87.6	90.1	79.0-121			2.87	20
Chlorodibromomethane	25.0	22.1	22.3	88.6	89.0	75.0-125			0.500	20
Chloroethane	25.0	27.3	27.6	109	110	47.0-152			1.10	20
Chloroform	25.0	25.8	25.7	103	103	72.0-121			0.420	20
Chloromethane	25.0	28.7	28.7	115	115	48.0-139			0.0200	20
2-Chlorotoluene	25.0	22.7	23.4	90.8	93.6	74.0-122			3.01	20
4-Chlorotoluene	25.0	21.9	22.5	87.5	90.0	79.0-120			2.78	20
1,2-Dibromo-3-Chloropropane	25.0	24.2	23.9	96.8	95.6	64.0-127			1.23	20
1,2-Dibromoethane	25.0	23.1	23.0	92.5	92.1	77.0-123			0.390	20
Dibromomethane	25.0	25.5	24.8	102	99.1	78.0-120			2.86	20
1,2-Dichlorobenzene	25.0	22.6	23.0	90.3	92.2	80.0-120			2.10	20
1,3-Dichlorobenzene	25.0	22.3	22.7	89.3	90.9	72.0-123			1.85	20
1,4-Dichlorobenzene	25.0	23.5	23.9	94.0	95.7	77.0-120			1.77	20
Dichlorodifluoromethane	25.0	25.8	24.6	103	98.5	49.0-155			4.53	20
1,1-Dichloroethane	25.0	26.4	26.3	106	105	70.0-126			0.540	20
1,2-Dichloroethane	25.0	26.3	25.7	105	103	67.0-126			2.30	20
1,1-Dichloroethene	25.0	25.0	24.9	100	99.7	64.0-129			0.340	20
cis-1,2-Dichloroethene	25.0	24.6	24.7	98.5	98.7	73.0-120			0.280	20
trans-1,2-Dichloroethene	25.0	24.5	24.4	98.0	97.5	71.0-121			0.490	20
1,2-Dichloropropane	25.0	25.8	26.0	103	104	75.0-125			0.670	20
1,1-Dichloropropene	25.0	25.3	25.1	101	101	71.0-129			0.460	20
1,3-Dichloropropane	25.0	24.1	24.2	96.5	96.6	80.0-121			0.120	20
cis-1,3-Dichloropropene	25.0	24.3	24.6	97.2	98.3	79.0-123			1.16	20
trans-1,3-Dichloropropene	25.0	24.4	24.5	97.6	98.2	74.0-127			0.580	20
trans-1,4-Dichloro-2-butene	25.0	20.6	20.2	82.6	80.9	55.0-134			2.09	20
2,2-Dichloropropane	25.0	19.9	19.7	79.7	78.7	60.0-125			1.23	20
Di-isopropyl ether	25.0	29.1	28.6	116	114	59.0-133			1.69	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3213841-1 04/26/17 16:26 • (LCSD) R3213841-3 04/26/17 16:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	25.0	22.7	23.4	90.8	93.7	77.0-120			3.10	20
Hexachloro-1,3-butadiene	25.0	21.2	21.6	84.8	86.2	64.0-131			1.73	20
2-Hexanone	125	164	153	131	123	58.0-147			6.47	20
n-Hexane	25.0	23.5	23.4	94.0	93.8	56.0-124			0.280	20
Iodomethane	125	121	122	96.6	97.6	57.0-140			1.11	20
Isopropylbenzene	25.0	22.0	22.7	88.2	90.9	75.0-120			2.99	20
p-Isopropyltoluene	25.0	21.7	22.0	86.6	88.1	74.0-126			1.72	20
2-Butanone (MEK)	125	184	169	148	135	37.0-158			9.01	20
Methylene Chloride	25.0	25.8	25.6	103	103	66.0-121			0.560	20
4-Methyl-2-pentanone (MIBK)	125	153	146	122	117	59.0-143			4.80	20
Methyl tert-butyl ether	25.0	27.8	27.0	111	108	64.0-123			3.06	20
Naphthalene	25.0	23.9	23.5	95.8	94.2	62.0-128			1.70	20
n-Propylbenzene	25.0	22.3	22.8	89.1	91.1	79.0-120			2.14	20
Styrene	25.0	23.1	23.8	92.5	95.4	78.0-124			3.01	20
1,1,1,2-Tetrachloroethane	25.0	21.4	22.2	85.6	88.7	75.0-122			3.54	20
1,1,2,2-Tetrachloroethane	25.0	21.0	20.4	84.0	81.8	71.0-122			2.71	20
1,1,2-Trichlorotrifluoroethane	25.0	23.0	23.2	91.8	92.8	61.0-136			1.06	20
Tetrachloroethene	25.0	21.4	21.9	85.5	87.4	70.0-127			2.27	20
Toluene	25.0	24.7	25.3	98.9	101	77.0-120			2.23	20
1,2,3-Trichlorobenzene	25.0	21.9	22.1	87.8	88.5	61.0-133			0.820	20
1,2,4-Trichlorobenzene	25.0	21.5	21.7	85.9	87.0	69.0-129			1.26	20
1,1,1-Trichloroethane	25.0	24.6	24.4	98.3	97.4	68.0-122			0.890	20
1,1,2-Trichloroethane	25.0	24.1	23.9	96.4	95.7	78.0-120			0.700	20
Trichloroethene	25.0	25.1	25.4	100	102	78.0-120			1.04	20
Trichlorofluoromethane	25.0	25.1	24.8	100	99.2	56.0-137			1.14	20
1,2,3-Trichloropropane	25.0	23.2	23.1	92.6	92.5	72.0-124			0.150	20
1,2,4-Trimethylbenzene	25.0	21.5	22.1	86.1	88.5	75.0-120			2.73	20
1,2,3-Trimethylbenzene	25.0	23.9	24.3	95.5	97.2	75.0-120			1.83	20
1,3,5-Trimethylbenzene	25.0	21.8	22.4	87.4	89.6	75.0-120			2.51	20
Vinyl acetate	125	50.9	49.2	40.7	39.4	46.0-160	J4	J4	3.32	20
Vinyl chloride	25.0	28.4	28.4	113	114	64.0-133			0.0700	20
Xylenes, Total	75.0	68.2	70.3	90.9	93.7	77.0-120			3.03	20
(S) Toluene-d8				*107*	*107*	*80.0-120*				
(S) Dibromofluoromethane				*107*	*105*	*76.0-123*				
(S) 4-Bromofluorobenzene				*97.1*	*98.9*	*80.0-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

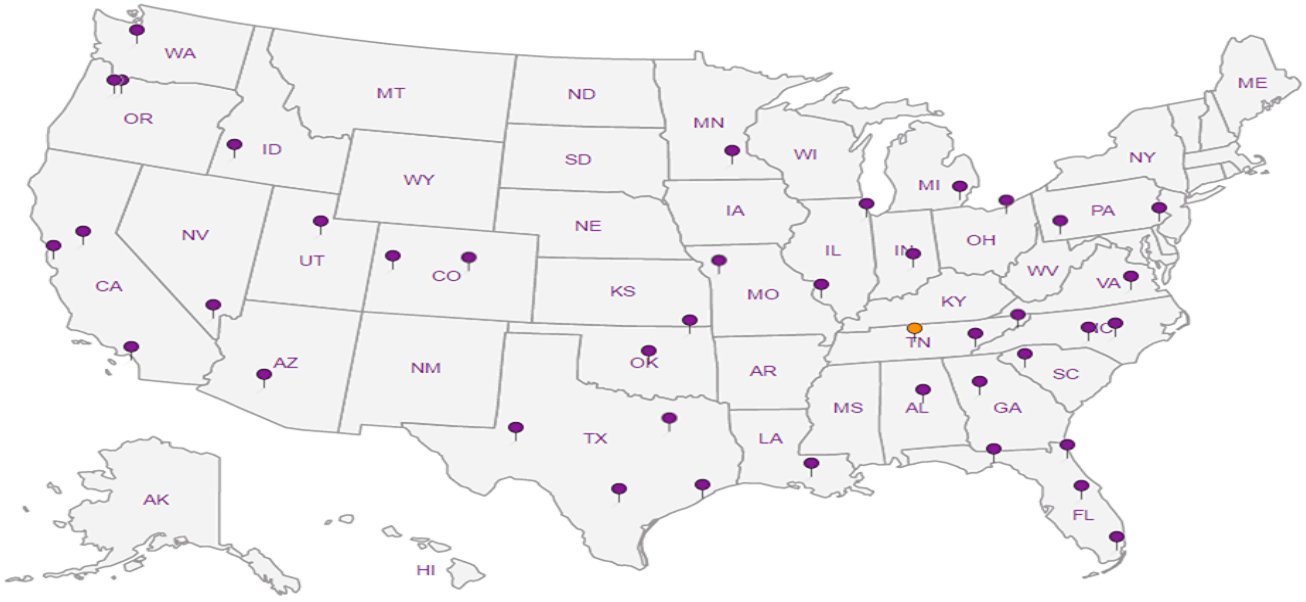
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



PES Environmental, Inc.- WA

1215 Fourth Ave., Suite 1350
Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Report to: Bill Haldeman

Email To: bhaldeman@pesenv.com

Project Description: American Linen Supply

City/State Collected: Seattle, WA

Phone: 206-529-3980
Fax: 206-529-3985

Client Project # 1413.001.02.002

Lab Project # PESENVSWA-141300102

Collected by (print): Chris DeBoer

Site/Facility ID # 700 DEXTER AVE N SEATTLE

P.O. #

Collected by (signature): Chris DeBoer

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	*NO3,Cl,SO4,Alk 250mlHDPE-NoPres	NWTPHGX 40mlAmb HCl	TOC 250mlAmb-HCl	Total Fe Mn 6020 250mlHDPE-HNO3	low level 8260C 40mlAmb-HCl	low level RSK175 40mlAmb-HCl					Remarks	Sample #
								Analysis / Container / Preservative											
MW106-041417	Grab	GW	135	4/14/17	1415	9		X		X	X	X	X						-01
		GW																	
		GW																	

Chain of Custody Page ___ of ___

ESC LAB SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L902977
K209
Acctnum: PESENVSWA
Template: T121414
Prelogin: P592684
TSR: 110 - Brian Ford
PB: 3-13-17
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: *Nitrate has a 48 hour hold time

pH ___ Temp ___
Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier ___

Tracking # 7176 9011 7236

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Chris DeBoer	4/14/17	1600	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			CA

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 3.8 °C Bottles Received: 9

Date: 4-15-17 Time: 8:45

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

PES Environmental, Inc.
Engineering & Environmental Services

TRANSMITTAL

To:	Seattle Dept. of Transportation P.O. Box 34996 700 Fifth Avenue, Suite 3800 Seattle, Washington 98124-4996	***Date:***	**May 22, 2017**
		PES Project:	**1413.001.02**
		Subject:	**Former American Linen Supply, 700 Dexter Avenue North, Seattle, Washington**
Attn:	Sam Spencer		
cc:	Eric Tweit, SDOT; John McMillan, KPFF; Blaine Nesbitt, S&W	***From:***	**Bill Haldeman**

We Are Sending You:	☒	*Attached*	☒	*Copies*
The Following:	☐	*Under Separate Cover*	☐	*via U.S. Mail*
	☐	*Originals*	☒	*via Email*

Quantity	*Description*
1	Laboratory Analytical Data for MW119 (excerpted from ESC Lab Sciences Analytical Report L899176), which was sampled March 29, 2017

Remarks:

1215 Fourth Avenue • Suite 1350 • Seattle, Washington • TEL (206) 529-3980 • FAX (206) 529-3985

ANALYTICAL REPORT

April 10, 2017

PES Environmental, Inc.- WA

Sample Delivery Group:	L899176
Samples Received:	03/30/2017
Project Number:	1413.001.02.002
Description:	American Linen Supply
Site:	700 DEXTER AVE N SEATTLE WA
Report To:	Bill Haldeman 1215 Fourth Ave., Suite 1350 Seattle, WA 98161

Entire Report Reviewed By:

Brian Ford

Technical Service Representative

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Alkalinity	255000		2710	20000	1	03/30/2017 15:30	WG965753

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Chloride	20500		51.9	1000	1	03/30/2017 17:05	WG965688
Nitrate	164		22.7	100	1	03/30/2017 17:05	WG965688
Sulfate	14900		77.4	5000	1	03/30/2017 17:05	WG965688

Wet Chemistry by Method 9060A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TOC (Total Organic Carbon)	6840		102	1000	1	04/04/2017 16:55	WG966665

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Iron	17100		15.0	100	1	04/07/2017 15:35	WG966238
Manganese	2980		0.250	5.00	1	04/07/2017 15:35	WG966238

Volatile Organic Compounds (GC) by Method RSK175

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methane	819		2.87	6.78	10	04/04/2017 17:03	WG967102
Ethane	U		0.296	1.29	1	04/04/2017 04:17	WG966794
Ethene	U		0.422	1.27	1	04/04/2017 04:17	WG966794

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	1.28	J	1.05	25.0	1	04/05/2017 23:15	WG966572
Acrylonitrile	U		0.873	2.50	1	04/05/2017 23:15	WG966572
Benzene	0.139	J	0.0896	0.500	1	04/05/2017 23:15	WG966572
Bromobenzene	U		0.133	0.500	1	04/05/2017 23:15	WG966572
Bromodichloromethane	U		0.0800	0.500	1	04/05/2017 23:15	WG966572
Bromochloromethane	U		0.145	0.500	1	04/05/2017 23:15	WG966572
Bromoform	U		0.186	0.500	1	04/05/2017 23:15	WG966572
Bromomethane	U		0.157	0.500	1	04/05/2017 23:15	WG966572
n-Butylbenzene	U		0.143	0.500	1	04/05/2017 23:15	WG966572
sec-Butylbenzene	U		0.134	0.500	1	04/05/2017 23:15	WG966572
tert-Butylbenzene	U		0.183	0.500	1	04/05/2017 23:15	WG966572
Carbon disulfide	U		0.101	0.500	1	04/05/2017 23:15	WG966572
Carbon tetrachloride	U		0.159	0.500	1	04/05/2017 23:15	WG966572
Chlorobenzene	U		0.140	0.500	1	04/05/2017 23:15	WG966572
Chlorodibromomethane	U		0.128	0.500	1	04/05/2017 23:15	WG966572
Chloroethane	U		0.141	0.500	1	04/05/2017 23:15	WG966572
2-Chloroethyl vinyl ether	U		0.877	2.50	1	04/05/2017 23:15	WG966572
Chloroform	U		0.0860	0.500	1	04/05/2017 23:15	WG966572
Chloromethane	U		0.153	0.500	1	04/05/2017 23:15	WG966572
2-Chlorotoluene	U		0.111	0.500	1	04/05/2017 23:15	WG966572
4-Chlorotoluene	U		0.0972	0.500	1	04/05/2017 23:15	WG966572
1,2-Dibromo-3-Chloropropane	U		0.325	1.00	1	04/05/2017 23:15	WG966572
1,2-Dibromoethane	U		0.193	0.500	1	04/05/2017 23:15	WG966572

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Dibromomethane	U		0.117	0.500	1	04/05/2017 23:15	WG966572
1,2-Dichlorobenzene	U		0.101	0.500	1	04/05/2017 23:15	WG966572
1,3-Dichlorobenzene	U		0.130	0.500	1	04/05/2017 23:15	WG966572
1,4-Dichlorobenzene	U		0.121	0.500	1	04/05/2017 23:15	WG966572
Dichlorodifluoromethane	U		0.127	0.500	1	04/05/2017 23:15	WG966572
1,1-Dichloroethane	U		0.114	0.500	1	04/05/2017 23:15	WG966572
1,2-Dichloroethane	U		0.108	0.500	1	04/05/2017 23:15	WG966572
1,1-Dichloroethene	U		0.188	0.500	1	04/05/2017 23:15	WG966572
cis-1,2-Dichloroethene	42.9		0.0933	0.500	1	04/05/2017 23:15	WG966572
trans-1,2-Dichloroethene	0.334	J	0.152	0.500	1	04/05/2017 23:15	WG966572
1,2-Dichloropropane	U		0.190	0.500	1	04/05/2017 23:15	WG966572
1,1-Dichloropropene	U		0.128	0.500	1	04/05/2017 23:15	WG966572
1,3-Dichloropropane	U		0.147	0.500	1	04/05/2017 23:15	WG966572
cis-1,3-Dichloropropene	U		0.0976	0.500	1	04/05/2017 23:15	WG966572
trans-1,3-Dichloropropene	U		0.222	0.500	1	04/05/2017 23:15	WG966572
trans-1,4-Dichloro-2-butene	U	J0	0.257	5.00	1	04/05/2017 23:15	WG966572
2,2-Dichloropropane	U		0.0929	0.500	1	04/05/2017 23:15	WG966572
Di-isopropyl ether	U		0.0924	0.500	1	04/05/2017 23:15	WG966572
Ethylbenzene	U		0.158	0.500	1	04/05/2017 23:15	WG966572
Hexachloro-1,3-butadiene	U		0.157	1.00	1	04/05/2017 23:15	WG966572
2-Hexanone	U		0.757	2.50	1	04/05/2017 23:15	WG966572
n-Hexane	U		0.305	1.00	1	04/05/2017 23:15	WG966572
Iodomethane	U		0.377	2.50	1	04/05/2017 23:15	WG966572
Isopropylbenzene	U		0.126	0.500	1	04/05/2017 23:15	WG966572
p-Isopropyltoluene	U		0.138	0.500	1	04/05/2017 23:15	WG966572
2-Butanone (MEK)	U		1.28	2.50	1	04/05/2017 23:15	WG966572
Methylene Chloride	U		1.07	2.50	1	04/05/2017 23:15	WG966572
4-Methyl-2-pentanone (MIBK)	U		0.823	2.50	1	04/05/2017 23:15	WG966572
Methyl tert-butyl ether	U		0.102	0.500	1	04/05/2017 23:15	WG966572
Naphthalene	U		0.174	0.500	1	04/05/2017 23:15	WG966572
n-Propylbenzene	U		0.162	0.500	1	04/05/2017 23:15	WG966572
Styrene	U		0.117	0.500	1	04/05/2017 23:15	WG966572
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	04/05/2017 23:15	WG966572
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	04/05/2017 23:15	WG966572
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	04/05/2017 23:15	WG966572
Tetrachloroethene	5.47		0.199	0.500	1	04/05/2017 23:15	WG966572
Toluene	U		0.412	1.00	1	04/05/2017 23:15	WG966572
1,2,3-Trichlorobenzene	U		0.164	0.500	1	04/05/2017 23:15	WG966572
1,2,4-Trichlorobenzene	U		0.355	0.500	1	04/05/2017 23:15	WG966572
1,1,1-Trichloroethane	U		0.0940	0.500	1	04/05/2017 23:15	WG966572
1,1,2-Trichloroethane	U		0.186	0.500	1	04/05/2017 23:15	WG966572
Trichloroethene	10.7		0.153	0.500	1	04/05/2017 23:15	WG966572
Trichlorofluoromethane	U		0.130	0.500	1	04/05/2017 23:15	WG966572
1,2,3-Trichloropropane	U		0.247	2.50	1	04/05/2017 23:15	WG966572
1,2,4-Trimethylbenzene	U		0.123	0.500	1	04/05/2017 23:15	WG966572
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	04/05/2017 23:15	WG966572
1,3,5-Trimethylbenzene	U		0.124	0.500	1	04/05/2017 23:15	WG966572
Vinyl acetate	U		0.645	2.50	1	04/05/2017 23:15	WG966572
Vinyl chloride	0.272	J	0.118	0.500	1	04/05/2017 23:15	WG966572
Xylenes, Total	U		0.316	1.50	1	04/05/2017 23:15	WG966572
(S) Toluene-d8	*101*			*80.0-120*		*04/05/2017 23:15*	WG966572
(S) Dibromofluoromethane	*107*			*76.0-123*		*04/05/2017 23:15*	WG966572
(S) 4-Bromofluorobenzene	*88.5*			*80.0-120*		*04/05/2017 23:15*	WG966572

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	04/05/2017 01:08	WG966455
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-122*		*04/05/2017 01:08*	WG966455

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		1.05	25.0	1	04/05/2017 17:10	WG966572
Acrylonitrile	U		0.873	2.50	1	04/05/2017 17:10	WG966572
Benzene	U		0.0896	0.500	1	04/05/2017 17:10	WG966572
Bromobenzene	U		0.133	0.500	1	04/05/2017 17:10	WG966572
Bromodichloromethane	U		0.0800	0.500	1	04/05/2017 17:10	WG966572
Bromochloromethane	U		0.145	0.500	1	04/05/2017 17:10	WG966572
Bromoform	U		0.186	0.500	1	04/05/2017 17:10	WG966572
Bromomethane	U		0.157	0.500	1	04/05/2017 17:10	WG966572
n-Butylbenzene	U		0.143	0.500	1	04/05/2017 17:10	WG966572
sec-Butylbenzene	U		0.134	0.500	1	04/05/2017 17:10	WG966572
tert-Butylbenzene	U		0.183	0.500	1	04/05/2017 17:10	WG966572
Carbon disulfide	U		0.101	0.500	1	04/05/2017 17:10	WG966572
Carbon tetrachloride	U		0.159	0.500	1	04/05/2017 17:10	WG966572
Chlorobenzene	U		0.140	0.500	1	04/05/2017 17:10	WG966572
Chlorodibromomethane	U		0.128	0.500	1	04/05/2017 17:10	WG966572
Chloroethane	U		0.141	0.500	1	04/05/2017 17:10	WG966572
2-Chloroethyl vinyl ether	U		0.877	2.50	1	04/05/2017 17:10	WG966572
Chloroform	U		0.0860	0.500	1	04/05/2017 17:10	WG966572
Chloromethane	U		0.153	0.500	1	04/05/2017 17:10	WG966572
2-Chlorotoluene	U		0.111	0.500	1	04/05/2017 17:10	WG966572
4-Chlorotoluene	U		0.0972	0.500	1	04/05/2017 17:10	WG966572
1,2-Dibromo-3-Chloropropane	U		0.325	1.00	1	04/05/2017 17:10	WG966572
1,2-Dibromoethane	U		0.193	0.500	1	04/05/2017 17:10	WG966572
Dibromomethane	U		0.117	0.500	1	04/05/2017 17:10	WG966572
1,2-Dichlorobenzene	U		0.101	0.500	1	04/05/2017 17:10	WG966572
1,3-Dichlorobenzene	U		0.130	0.500	1	04/05/2017 17:10	WG966572
1,4-Dichlorobenzene	U		0.121	0.500	1	04/05/2017 17:10	WG966572
Dichlorodifluoromethane	U		0.127	0.500	1	04/05/2017 17:10	WG966572
1,1-Dichloroethane	U		0.114	0.500	1	04/05/2017 17:10	WG966572
1,2-Dichloroethane	U		0.108	0.500	1	04/05/2017 17:10	WG966572
1,1-Dichloroethene	U		0.188	0.500	1	04/05/2017 17:10	WG966572
cis-1,2-Dichloroethene	U		0.0933	0.500	1	04/05/2017 17:10	WG966572
trans-1,2-Dichloroethene	U		0.152	0.500	1	04/05/2017 17:10	WG966572
1,2-Dichloropropane	U		0.190	0.500	1	04/05/2017 17:10	WG966572
1,1-Dichloropropene	U		0.128	0.500	1	04/05/2017 17:10	WG966572
1,3-Dichloropropane	U		0.147	0.500	1	04/05/2017 17:10	WG966572
cis-1,3-Dichloropropene	U		0.0976	0.500	1	04/05/2017 17:10	WG966572
trans-1,3-Dichloropropene	U		0.222	0.500	1	04/05/2017 17:10	WG966572
trans-1,4-Dichloro-2-butene	U	J0	0.257	5.00	1	04/05/2017 17:10	WG966572
2,2-Dichloropropane	U		0.0929	0.500	1	04/05/2017 17:10	WG966572
Di-isopropyl ether	U		0.0924	0.500	1	04/05/2017 17:10	WG966572
Ethylbenzene	U		0.158	0.500	1	04/05/2017 17:10	WG966572
Hexachloro-1,3-butadiene	U		0.157	1.00	1	04/05/2017 17:10	WG966572
2-Hexanone	U		0.757	2.50	1	04/05/2017 17:10	WG966572
n-Hexane	U		0.305	1.00	1	04/05/2017 17:10	WG966572
Iodomethane	U		0.377	2.50	1	04/05/2017 17:10	WG966572
Isopropylbenzene	U		0.126	0.500	1	04/05/2017 17:10	WG966572
p-Isopropyltoluene	U		0.138	0.500	1	04/05/2017 17:10	WG966572
2-Butanone (MEK)	U		1.28	2.50	1	04/05/2017 17:10	WG966572

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		1.07	2.50	1	04/05/2017 17:10	WG966572
4-Methyl-2-pentanone (MIBK)	U		0.823	2.50	1	04/05/2017 17:10	WG966572
Methyl tert-butyl ether	U		0.102	0.500	1	04/05/2017 17:10	WG966572
Naphthalene	0.279	J	0.174	0.500	1	04/05/2017 17:10	WG966572
n-Propylbenzene	U		0.162	0.500	1	04/05/2017 17:10	WG966572
Styrene	U		0.117	0.500	1	04/05/2017 17:10	WG966572
1,1,1,2-Tetrachloroethane	U		0.120	0.500	1	04/05/2017 17:10	WG966572
1,1,2,2-Tetrachloroethane	U		0.130	0.500	1	04/05/2017 17:10	WG966572
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500	1	04/05/2017 17:10	WG966572
Tetrachloroethene	U		0.199	0.500	1	04/05/2017 17:10	WG966572
Toluene	U		0.412	1.00	1	04/05/2017 17:10	WG966572
1,2,3-Trichlorobenzene	U		0.164	0.500	1	04/05/2017 17:10	WG966572
1,2,4-Trichlorobenzene	U		0.355	0.500	1	04/05/2017 17:10	WG966572
1,1,1-Trichloroethane	U		0.0940	0.500	1	04/05/2017 17:10	WG966572
1,1,2-Trichloroethane	U		0.186	0.500	1	04/05/2017 17:10	WG966572
Trichloroethene	U		0.153	0.500	1	04/05/2017 17:10	WG966572
Trichlorofluoromethane	U		0.130	0.500	1	04/05/2017 17:10	WG966572
1,2,3-Trichloropropane	U		0.247	2.50	1	04/05/2017 17:10	WG966572
1,2,4-Trimethylbenzene	U		0.123	0.500	1	04/05/2017 17:10	WG966572
1,2,3-Trimethylbenzene	U		0.0739	0.500	1	04/05/2017 17:10	WG966572
1,3,5-Trimethylbenzene	U		0.124	0.500	1	04/05/2017 17:10	WG966572
Vinyl acetate	U		0.645	2.50	1	04/05/2017 17:10	WG966572
Vinyl chloride	U		0.118	0.500	1	04/05/2017 17:10	WG966572
Xylenes, Total	U		0.316	1.50	1	04/05/2017 17:10	WG966572
(S) Toluene-d8	*101*			*80.0-120*		*04/05/2017 17:10*	WG966572
(S) Dibromofluoromethane	*106*			*76.0-123*		*04/05/2017 17:10*	WG966572
(S) 4-Bromofluorobenzene	*91.5*			*80.0-120*		*04/05/2017 17:10*	WG966572

Method Blank (MB)

(MB) R3207223-2 03/30/17 14:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Alkalinity	3070	J	2710	20000

L899176-01 Original Sample (OS) • Duplicate (DUP)

(OS) L899176-01 03/30/17 15:01 • (DUP) R3207223-4 03/30/17 15:10

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	276000	281000	1	2.00		20

L899203-12 Original Sample (OS) • Duplicate (DUP)

(OS) L899203-12 03/30/17 17:58 • (DUP) R3207223-7 03/30/17 18:06

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	116000	118000	1	2.00		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207223-5 03/30/17 16:18 • (LCSD) R3207223-6 03/30/17 17:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Alkalinity	100000	88600	90100	89.0	90.0	85.0-115			2.00	20

Method Blank (MB)

(MB) R3207248-1 03/30/17 10:43

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Chloride	U		51.9	1000
Nitrate	U		22.7	100
Sulfate	U		77.4	5000

L899168-03 Original Sample (OS) • Duplicate (DUP)

(OS) L899168-03 03/30/17 13:06 • (DUP) R3207248-4 03/30/17 13:24

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Chloride	79500	80200	1	1		15
Nitrate	2080	2150	1	3		15
Sulfate	82000	80500	1	2		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3207248-2 03/30/17 11:01 • (LCSD) R3207248-3 03/30/17 11:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Chloride	40000	39500	39400	99	99	80-120			0	15
Nitrate	8000	8170	8190	102	102	80-120			0	15
Sulfate	40000	40100	39900	100	100	80-120			0	15

L899168-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L899168-04 03/30/17 13:42 • (MS) R3207248-5 03/30/17 14:01

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Chloride	50000	12400	60500	96	1	80-120	
Nitrate	5000	668	5580	98	1	80-120	
Sulfate	50000	6980	58900	104	1	80-120	

Method Blank (MB)

(MB) R3208217-1 04/04/17 08:26

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
TOC (Total Organic Carbon)	U		102	1000

L899068-01 Original Sample (OS) • Duplicate (DUP)

(OS) L899068-01 04/04/17 10:11 • (DUP) R3208217-3 04/04/17 10:25

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	10700	10800	1	1		20

L899255-05 Original Sample (OS) • Duplicate (DUP)

(OS) L899255-05 04/04/17 17:59 • (DUP) R3208217-7 04/04/17 18:14

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
TOC (Total Organic Carbon)	5690	5660	1	1		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208217-2 04/04/17 09:21 • (LCSD) R3208217-4 04/04/17 11:16

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
TOC (Total Organic Carbon)	75000	71300	71600	95	95	85-115			0	20

L899157-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899157-02 04/04/17 10:58 • (MS) R3208217-5 04/04/17 12:25 • (MSD) R3208217-6 04/04/17 12:43

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
TOC (Total Organic Carbon)	50000	417	48500	47400	96	94	1	80-120			2	20

Method Blank (MB)

(MB) R3209215-1 04/07/17 11:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Iron	U		15.0	100
Manganese	0.263	J	0.250	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3209215-2 04/07/17 11:07 • (LCSD) R3209215-3 04/07/17 11:11

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Iron	5000	5420	5330	108	107	80-120			2	20
Manganese	50.0	52.4	52.2	105	104	80-120			0	20

L899122-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L899122-01 04/07/17 11:15 • (MS) R3209215-5 04/07/17 11:21 • (MSD) R3209215-6 04/07/17 11:25

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Iron	5000	28200	34400	33900	124	113	1	75-125			2	20
Manganese	50.0	2070	2170	2160	189	180	1	75-125	V	V	0	20

Method Blank (MB)

(MB) R3208800-3 04/05/17 00:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-122*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208800-1 04/04/17 22:58 • (LCSD) R3208800-2 04/04/17 23:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Gasoline Range Organics-NWTPH	5500	6480	6340	118	115	72.0-134			2.27	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*104*	*77.0-122*				

L898920-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L898920-02 04/05/17 02:53 • (MS) R3208800-4 04/05/17 01:50 • (MSD) R3208800-5 04/05/17 02:11

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Gasoline Range Organics-NWTPH	5500	ND	2230	2360	40.6	42.9	1	23.0-159			5.59	20
(S) a,a,a-Trifluorotoluene(FID)					*104*	*104*		*77.0-122*				

Method Blank (MB)

(MB) R3208061-1 04/04/17 00:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		0.287	0.678
Ethane	U		0.296	1.29
Ethene	U		0.422	1.27

L899438-01 Original Sample (OS) • Duplicate (DUP)

(OS) L899438-01 04/04/17 03:10 • (DUP) R3208061-2 04/04/17 03:27

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	ND	8.93	1	3.50	J	20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

L899439-01 Original Sample (OS) • Duplicate (DUP)

(OS) L899439-01 04/04/17 03:44 • (DUP) R3208061-3 04/04/17 06:47

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	ND	0.000	1	0.000		20
Ethane	ND	0.000	1	0.000		20
Ethene	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208061-4 04/04/17 07:04 • (LCSD) R3208061-5 04/04/17 07:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	70.0	68.4	103	101	70.0-130			2.30	20
Ethane	129	125	123	97.0	95.0	70.0-130			2.06	20
Ethene	127	123	120	96.8	94.6	70.0-130			2.33	20

Method Blank (MB)

(MB) R3208397-1 04/04/17 14:50

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methane	U		0.287	0.678

L898812-08 Original Sample (OS) • Duplicate (DUP)

(OS) L898812-08 04/04/17 15:06 • (DUP) R3208397-2 04/04/17 18:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	1740	1840	1	5.65		20

L899982-01 Original Sample (OS) • Duplicate (DUP)

(OS) L899982-01 04/05/17 08:40 • (DUP) R3208397-5 04/05/17 11:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Methane	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208397-3 04/05/17 10:53 • (LCSD) R3208397-4 04/05/17 11:09

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methane	67.8	69.6	68.8	103	101	70.0-130			1.12	20

Method Blank (MB)

(MB) R3208545-3 04/05/17 14:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrylonitrile	U		0.873	2.50
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromochloromethane	U		0.145	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	0.500
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	0.500
2-Chloroethyl vinyl ether	U		0.877	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	0.500
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	1.00
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	0.500
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	0.500
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
trans-1,4-Dichloro-2-butene	U		0.257	5.00
2,2-Dichloropropane	U		0.0929	0.500

Method Blank (MB)

(MB) R3208545-3 04/05/17 14:43

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Di-isopropyl ether	U		0.0924	0.500
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	U		0.157	1.00
2-Hexanone	U		0.757	2.50
n-Hexane	U		0.305	1.00
Iodomethane	U		0.377	2.50
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	2.50
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	2.50
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	0.500
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U	J	0.412	1.00
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	0.500
1,2,3-Trichloropropane	U		0.247	2.50
1,2,4-Trimethylbenzene	U		0.123	0.500
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl acetate	U		0.645	2.50
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	*103*			*80.0-120*
(S) Dibromofluoromethane	*106*			*76.0-123*
(S) 4-Bromofluorobenzene	*92.8*			*80.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208545-1 04/05/17 13:41 • (LCSD) R3208545-2 04/05/17 14:01

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	126	124	101	99.2	10.0-160			1.53	23
Acrylonitrile	125	152	147	122	118	60.0-142			3.35	20
Benzene	25.0	25.9	25.2	104	101	69.0-123			2.70	20
Bromobenzene	25.0	21.8	21.9	87.4	87.6	79.0-120			0.240	20
Bromodichloromethane	25.0	24.8	24.7	99.2	98.7	76.0-120			0.550	20
Bromochloromethane	25.0	26.4	26.3	105	105	76.0-122			0.180	20
Bromoform	25.0	18.8	18.7	75.1	74.6	67.0-132			0.600	20
Bromomethane	25.0	29.5	29.2	118	117	18.0-160			0.960	20
n-Butylbenzene	25.0	25.8	24.7	103	98.6	72.0-126			4.54	20
sec-Butylbenzene	25.0	22.4	22.3	89.7	89.4	74.0-121			0.310	20
tert-Butylbenzene	25.0	20.5	20.3	81.9	81.3	75.0-122			0.710	20
Carbon disulfide	25.0	28.5	27.7	114	111	55.0-127			2.72	20
Carbon tetrachloride	25.0	22.5	21.6	89.8	86.4	63.0-122			3.84	20
Chlorobenzene	25.0	23.0	23.0	92.0	92.1	79.0-121			0.0700	20
Chlorodibromomethane	25.0	23.6	23.0	94.6	92.0	75.0-125			2.69	20
Chloroethane	25.0	28.3	27.9	113	112	47.0-152			1.40	20
2-Chloroethyl vinyl ether	125	137	131	110	105	10.0-160			4.57	22
Chloroform	25.0	27.3	26.7	109	107	72.0-121			2.13	20
Chloromethane	25.0	24.6	24.3	98.3	97.0	48.0-139			1.30	20
2-Chlorotoluene	25.0	22.8	22.7	91.3	90.9	74.0-122			0.430	20
4-Chlorotoluene	25.0	22.4	22.6	89.6	90.3	79.0-120			0.750	20
1,2-Dibromo-3-Chloropropane	25.0	23.8	22.8	95.3	91.3	64.0-127			4.30	20
1,2-Dibromoethane	25.0	23.2	22.7	93.0	90.8	77.0-123			2.30	20
Dibromomethane	25.0	22.6	22.2	90.5	88.7	78.0-120			1.98	20
1,2-Dichlorobenzene	25.0	23.8	23.5	95.4	93.9	80.0-120			1.54	20
1,3-Dichlorobenzene	25.0	20.5	20.9	81.9	83.7	72.0-123			2.10	20
1,4-Dichlorobenzene	25.0	23.5	22.8	94.0	91.2	77.0-120			3.06	20
Dichlorodifluoromethane	25.0	24.3	22.9	97.1	91.7	49.0-155			5.71	20
1,1-Dichloroethane	25.0	28.7	28.1	115	112	70.0-126			2.02	20
1,2-Dichloroethane	25.0	25.1	25.4	101	101	67.0-126			0.910	20
1,1-Dichloroethene	25.0	28.5	27.5	114	110	64.0-129			3.71	20
cis-1,2-Dichloroethene	25.0	28.3	27.7	113	111	73.0-120			1.94	20
trans-1,2-Dichloroethene	25.0	27.9	27.2	112	109	71.0-121			2.40	20
1,2-Dichloropropane	25.0	27.4	26.8	110	107	75.0-125			2.30	20
1,1-Dichloropropene	25.0	29.3	28.1	117	113	71.0-129			4.15	20
1,3-Dichloropropane	25.0	24.8	24.6	99.2	98.5	80.0-121			0.710	20
cis-1,3-Dichloropropene	25.0	28.2	27.8	113	111	79.0-123			1.40	20
trans-1,3-Dichloropropene	25.0	25.5	25.0	102	100	74.0-127			2.01	20
trans-1,4-Dichloro-2-butene	25.0	20.9	19.9	83.6	79.5	55.0-134			5.03	20
2,2-Dichloropropane	25.0	27.6	27.1	111	108	60.0-125			2.10	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3208545-1 04/05/17 13:41 • (LCSD) R3208545-2 04/05/17 14:01

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Di-isopropyl ether	25.0	26.9	26.8	108	107	59.0-133			0.460	20
Ethylbenzene	25.0	21.0	20.5	84.0	82.1	77.0-120			2.33	20
Hexachloro-1,3-butadiene	25.0	23.6	22.3	94.6	89.3	64.0-131			5.68	20
2-Hexanone	125	127	124	102	98.9	58.0-147			3.01	20
n-Hexane	25.0	24.9	23.7	99.5	94.7	56.0-124			4.95	20
Iodomethane	125	128	126	103	101	57.0-140			1.49	20
Isopropylbenzene	25.0	20.4	20.2	81.4	80.8	75.0-120			0.760	20
p-Isopropyltoluene	25.0	23.3	23.0	93.0	91.9	74.0-126			1.15	20
2-Butanone (MEK)	125	149	143	120	114	37.0-158			4.70	20
Methylene Chloride	25.0	27.2	26.9	109	108	66.0-121			0.980	20
4-Methyl-2-pentanone (MIBK)	125	144	140	115	112	59.0-143			2.70	20
Methyl tert-butyl ether	25.0	28.6	28.6	114	114	64.0-123			0.0300	20
Naphthalene	25.0	21.6	21.3	86.3	85.3	62.0-128			1.22	20
n-Propylbenzene	25.0	20.6	20.4	82.5	81.5	79.0-120			1.23	20
Styrene	25.0	21.1	20.9	84.5	83.7	78.0-124			1.00	20
1,1,1,2-Tetrachloroethane	25.0	22.5	22.7	90.0	90.9	75.0-122			1.07	20
1,1,2,2-Tetrachloroethane	25.0	22.9	22.6	91.5	90.6	71.0-122			1.02	20
1,1,2-Trichlorotrifluoroethane	25.0	26.0	25.2	104	101	61.0-136			2.88	20
Tetrachloroethene	25.0	21.8	21.6	87.3	86.4	70.0-127			1.06	20
Toluene	25.0	22.5	21.6	89.9	86.3	77.0-120			4.10	20
1,2,3-Trichlorobenzene	25.0	24.7	24.6	98.8	98.2	61.0-133			0.620	20
1,2,4-Trichlorobenzene	25.0	23.8	23.3	95.2	93.1	69.0-129			2.30	20
1,1,1-Trichloroethane	25.0	27.1	26.6	108	106	68.0-122			1.70	20
1,1,2-Trichloroethane	25.0	23.5	23.3	94.0	93.0	78.0-120			1.03	20
Trichloroethene	25.0	24.8	24.3	99.3	97.2	78.0-120			2.18	20
Trichlorofluoromethane	25.0	27.6	26.8	111	107	56.0-137			2.85	20
1,2,3-Trichloropropane	25.0	23.3	23.3	93.4	93.3	72.0-124			0.0400	20
1,2,4-Trimethylbenzene	25.0	22.5	22.6	89.8	90.3	75.0-120			0.540	20
1,2,3-Trimethylbenzene	25.0	23.3	22.4	93.1	89.6	75.0-120			3.78	20
1,3,5-Trimethylbenzene	25.0	22.6	22.6	90.5	90.5	75.0-120			0.0100	20
Vinyl acetate	125	131	125	105	99.8	46.0-160			5.24	20
Vinyl chloride	25.0	27.0	26.4	108	106	64.0-133			2.01	20
Xylenes, Total	75.0	62.1	61.4	82.8	81.9	77.0-120			1.13	20
(S) Toluene-d8				*103*	*102*	*80.0-120*				
(S) Dibromofluoromethane				*108*	*107*	*76.0-123*				
(S) 4-Bromofluorobenzene				*88.8*	*91.7*	*80.0-120*				

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0 - Analyte exceeds %D or %Rec for Continuing Calibration per 8260C or 8270D method specific criteria. The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

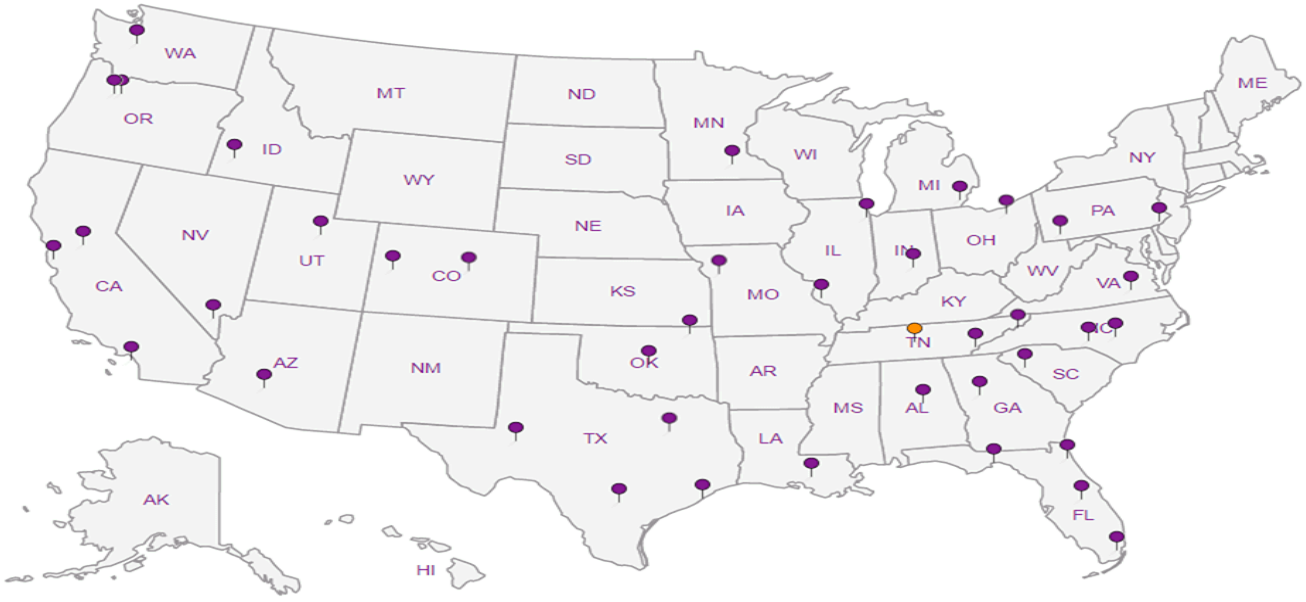
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



PES Environmental, Inc.- WA

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Seattle, WA 98161

Billing Information:
Attn: Accounts Payable
1215 Fourth Ave., Ste. 1350
Seattle, WA 98161

Pres Chk

Report to: Bill Haldeman

Email To: bhaldeman@pesenv.com

Project Description: American Linen Supply

City/State Collected:

Phone: 206-529-3980
Fax: 206-529-3985

Client Project # 1413.001.02.002

Lab Project # PESENVSWA-141300102

Collected by (print): Chris DeBoer

Site/Facility ID # 700 DEXTER AVE N SEATTLE

P.O. #

Collected by (signature): Chris DeBoer

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	*NO3,Cl,SO4,Alk 250mlHDPE-NoPres	NWTPHGX 40mlAmb HCl	TOC 250mlAmb-HCl	Total Fe Mn 6020 250mlHDPE-HNO3	low level 8260C 40mlAmb-HCl	low level RSK175 40mlAmb-HCl	Remarks	Sample # (lab only)
MW130-032917	Grab	GW	75	3/29/17	955	11	X	X	X	X	X	X		-01
MW128-032917	GRAB	GW	65	3/29/17	1000	9	X		X	X	X	X		02
MW124-032917	Grab	GW	120	3/29/17	1205	4					X			03
MW109-032917	GRAB	GW	30	3/29/17	1200	9	X		X	X	X	X		04
MW119-032917	GRAB	GW	40	3/29/17	1355	9	X		X	X	X	X		05
MW107-032917	Grab	GW	120	3/29/17	1410	4		X			X			06
MW301-032917	Grab	GW	120	3/29/17	1450	4		X			X			07
TRIP BLANK		GW				1		X			X			08
		GW												
		GW												

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L899176
1081

Acctnum: PESENVSWA
Template: T121414
Prelogin: P592684
TSR: 110 - Brian Ford
PB: 3-13-17

Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: *Nitrate has a 48 hour hold time

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Chris DeBoer	3/29/17	1500	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCl / MeoH
TBR

Temp: 21° °C Bottles Received: 10 50

Date: 3-30-17 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

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