



Annual Groundwater Compliance Monitoring Report

Bothell Paint, Bothell Hertz, and Bothell Landing Sites Bothell, Washington

Prepared For:

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A handwritten signature in blue ink that reads "John Kane". The signature is written in a cursive style and is positioned above a horizontal line.

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1.0 INTRODUCTION

Kane Environmental, Inc. (Kane Environmental) has prepared this Annual Groundwater Compliance Monitoring Report to satisfy the Agreed Order requirements for DE15748, DE15747 & DE15746, regarding quarterly groundwater monitoring activities performed in 2019/2020 at the Bothell Paint and Decorating Site (Bothell Paint), Bothell Former Hertz Facility (Bothell Hertz), and Bothell Landing Sites, located in Bothell, Washington. This Annual Groundwater Compliance Monitoring Report is identified as Deliverable No. 5 in the respective Agreed Orders for the three Sites (see Attachment A). The Site vicinities are displayed in Figure 1 and the location of the Sites relative to surrounding properties are shown in Figure 2.

1.1 Background

Background information, including physical characteristics and location, historical development, and previous environmental investigations for the Bothell Paint, Bothell Hertz, and Bothell Landing are described below.

1.1.1 Bothell Paint

The Bothell Paint Site is situated south of Bothell Way NE and west of NE 180th St in Bothell, Washington. According to available information, the Site was developed by at least 1914 and has historically contained mixed commercial development including automobile repair and dealership, a retail paint and flooring business, and a sand blasting operation. The Site also formerly contained a gasoline/Stoddard solvent underground storage tank (UST) which was reportedly removed in 1988. HWA Geosciences (HWA) conducted subsurface investigations throughout the Site between 2008 and 2016 to assess potential contamination associated with former Site operations and the former UST. The investigations reportedly revealed that total petroleum hydrocarbons (TPH) as gasoline, diesel, and heavy oil, benzene, toluene, ethylbenzene, and xylenes (BTEX), select metals including arsenic, cadmium, lead, and mercury, halogenated volatile organic compounds (HVOCs), and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) were present in soil and or groundwater throughout the Site, often at concentrations exceeding Model Toxics Control Act (MTCA) cleanup levels (HWA, 2017a).

Several interim remedial actions were reportedly conducted throughout the Site to address soil and groundwater contamination in 2010, 2013, and 2014. Following the interim remedial actions on the Site, the following chemicals of concern (COCs) were identified:

Soil: Gasoline- and motor oil-range petroleum hydrocarbons

Groundwater: Diesel- and oil-range petroleum hydrocarbons, and arsenic.

According to the Cleanup Action Plan (CAP) for the Site, the selected remedial alternative to address residual soil and groundwater contamination on the Site was compliance monitoring, monitored natural

attenuation (MNA), compliance with cleanup standards, statistical and MNA-based analysis, contingency planning, and five year periodic Site reviews (Ecology, 2018b).

1.1.2 Bothell Hertz

The Bothell Hertz Site is situated on vacant lot south of Main St and east of 98th Ave NE, west of Bothell Way NE and extends south of the SR 522 Roadway to a grassed area north of the Park at Bothell Landing and west of 98th Ave NE. The Site is also located just south of the Bothell Service Center Simon and Son (BSCSS) site, which contained a former drycleaner and is listed on the Washington State Department of Ecology (Ecology) Confirmed or Suspected Contaminated Sites List with HVOC contaminated soil and groundwater. According to historical information, the Site was developed by at least 1918 and historically contained automobile repair and dealerships, fueling operations, and equipment rental. All buildings were reportedly removed from the Site by May 2010. Three leaking underground storage tanks (LUST) were reportedly removed from the Site in 1993 which were reported to have formerly contained kerosene, diesel fuel, and leaded gasoline. Subsurface investigations were conducted throughout the Site between 2008 and 2016 to assess potential subsurface contamination associated with former Site operations and the former USTs. The investigations also sought to evaluate whether HVOC contamination from the BSCSS site had migrated laterally to the south/southwest to impact the Site. The investigations reportedly found TPH as gasoline, diesel, and heavy oil, BTEX, HVOCs, and arsenic contamination in soil and or groundwater throughout the Site (HWA, 2017b).

HWA reportedly conducted interim remedial actions in 2010, 2012, and 2013 to address soil and groundwater contamination on the Site. Following the interim remedial actions on the Site, the following COCs were identified:

Soil: HVOCs from the BSCSS site to the north.

Groundwater: Gasoline-, diesel-, and motor oil-range petroleum hydrocarbons, arsenic, HVOCs associated with the BSCSS site to the north.

According to the CAP for the Site, the selected remedial alternative to address residual soil and groundwater contamination on the Site was compliance monitoring, monitored natural attenuation (MNA), compliance with cleanup standards, statistical and MNA-based analysis, contingency planning, and five year periodic Site reviews (Ecology, 2018c).

1.1.3 Bothell Landing

The Bothell Landing Site is located on a vacant parcel between Bothell Way NE and Ne 180th St in Bothell, Washington. According to available materials, between the 1930's and 1970's the Site contained two service stations, located in the northeastern and northwestern corners of the Site. USTs associated with these stations were reportedly removed in 1970. More recently the Site contained mixed commercial

development including restaurants, and multi-unit retail structures. All buildings were reportedly removed from the Site in 2010 (HWA, 2018c).

During roadway expansion work in 1998, five USTs and associate petroleum contaminated soils were discovered in the northern portion of the Site. After a portion of soils were excavated, Kleinfelder conducted Site investigation activities in 1999 and discovered TPH as gasoline, diesel, and heavy oil, and benzene contamination in soil and groundwater on the Site. The Site filed for a restrictive covenant and received a soil only No Further Action (NFA) determination in 2002, but the NFA was rescinded in 2006 due to changing cleanup levels. HWA conducted subsurface investigation activities between 2007 and 2016. Analytical results indicated that TPH as gasoline, diesel, and heavy oil, BTEX, PAHs, lead, arsenic and HVOCs were present in soil and or groundwater throughout the Site. Petroleum, BTEX, PAHs, and metals were reportedly attributed to on-Site sources and historical operations while the HVOCs were reportedly associated with the up-gradient Ultra Custom Care Cleaners site which was responsible for the remediation of migrating HVOCs under a separate AO (HWA 2018c).

HWA reportedly conducted interim remedial actions in 2010 and from 2013 to 2017 to address soil and groundwater contamination on the Site. Following the interim remedial actions on the Site, the following COCs were identified:

Soil: Gasoline-range petroleum hydrocarbons and benzene.

Groundwater: Arsenic.

According to the CAP for the Site, the selected remedial alternative to address residual soil and groundwater contamination on the Site was engineering controls (capping under roadways) and institutional controls (environmental covenants restricting access to soil and ground water) with compliance monitoring for ground water with option to remove arsenic from the covenant if monitoring shows naturally elevated concentrations unrelated to historical or current contamination at the Site (Ecology, 2018a).

1.2 Scope of Work

Kane Environmental was approved by the City of Bothell (the Client) to complete Quarterly Compliance Groundwater Monitoring scope of work at all three Sites to comply with the requirements outlined in each Site's respective Agreed Order (AO) listed below. The groundwater monitoring activities were performed in compliance with the Ecology-approved Compliance Monitoring Plans for each site (see Attachment B), and in accordance with an Ecology-approved quarterly monitoring schedule (see Attachment C).

- Bothell Paint – AO No. DE 15748, effective May 31, 2018
- Bothell Hertz – AO No. DE 15747, effective May 31, 2018
- Bothell Landing – AO No. DE 15746, effective date June 11, 2018

Kane Environmental performed the following tasks to complete this scope of work:

- **Sample Collection:** Groundwater samples were collected from select monitoring wells at each Site. Surface water samples were also collected from Horse Creek in association with the Bothell Paint Site. Groundwater monitoring wells at each Site are associated with previous remedial operations and current activities being conducted by Kane Environmental.
- **Chemical Analysis:** Groundwater samples collected from the Bothell Paint, Bothell Hertz, and Bothell Landing Sites were analyzed for one or more of the following chemical constituents by an analytical laboratory accredited by the Washington State Department of Ecology (Ecology):
 - Diesel and Heavy-Oil Range Hydrocarbons by Method NWTPH-Dx/Dx Ext;
 - Total and Dissolved Arsenic by EPA Method 200.8;
 - Dissolved Manganese by EPA Method 200.8;
 - Dissolved gases by RSK 175;
 - Nitrate by EPA Method 353.2;
 - Sulfate by Method ASTM D516-11; and,
 - Total alkalinity by Method SM 2320B.

Surface water samples collected from Horse Creek in association with the Bothell Paint Site were analyzed for one or more of the following chemical constituents by an analytical laboratory accredited by the Washington State Department of Ecology (Ecology):

- Gasoline Range Hydrocarbons by Method NWTPH-Gx;
- Diesel and Heavy-Oil Range Hydrocarbons by Method NWTPH-Dx/Dx Ext; and,
- HVOCs by EPA Method 8260.

2.0 SUBSURFACE CONDITIONS

2.1 Geologic Setting

Geologic site conditions for Bothell Paint, Bothell Hertz, and Bothell Landing have been assessed based on previous subsurface investigations conducted at each site and from adjacent properties. A summary for the geologic condition at each site is discussed below.

2.1.1 Bothell Paint

According to previous subsurface investigations at the Site, soils at the Paint Site consist of loose gravelly and silty sand fill material at depths extending to approximately 22 feet below the ground surface (bgs). Underlying the fill, peat was encountered from approximately 10 to 21 feet bgs. Below the peat, an organic and silty clay, as well as a silt sand were observed at depths extending from 21 to 38 feet bgs.

2.1.2 Bothell Hertz

Information collected from soil borings at the Hertz Site indicate the Site generally contains a gravelly sand fill extending from approximately 5 to 13 feet bgs. The fill at the Site is likely associated with dredged spoils from the realignment of the Sammamish River in the 1960s (HWA, 2008). A small alluvial unit of silty sand was identified below the fill. Deposits and interbeds of peat were observed at depths extending from 15 to 21 feet bgs. The peat layer overlies an additional alluvial unit of stiff silt and clay.

2.1.3 Bothell Landing

Subsurface information collected from soil borings at the Site indicate the Site contains approximately 5 to 8 feet of a silty sand fill above a thick zone of alluvial deposits. Fill material placed at the Site is likely associated with dredged spoils from the realignment of the Sammamish River in the 1960s (HWA, 2008). The alluvium consists of primarily sand and silt that were observed containing interbeds of peat in zones extending below 10 feet bgs.

2.2 Hydrogeologic Setting

Groundwater conditions for each Site were based off information collected from previous subsurface investigations and from groundwater elevation measurements collected during quarterly groundwater sampling events. The depth of groundwater fluctuates seasonally and with distance from the Sammamish River. The general groundwater flow direction for each Site is generally south towards the Sammamish River. Groundwater conditions for each Site are summarized below.

2.2.1 Bothell Paint

Groundwater was encountered in a previous environmental investigation from approximately 2 to 9 feet bgs. Artesian conditions were encountered at the southwest portion of the Site (HWA, 2017a). Groundwater

measurements collected by Kane Environmental in 2019 were observed to extend from approximately 1.4 feet to 12.16 feet below the top of well casings throughout the Site (see Table 1).

2.2.2 Bothell Hertz

Groundwater was encountered in a previous environmental investigation from approximately 5 to 8 feet bgs (HWA, 2017b). Kane Environmental observed the depth to groundwater in monitoring wells during 2019 sampling events to be approximately 5.8 to 10.35 feet below the top of well casings throughout the Site (see Table 2).

2.2.3 Bothell Landing

Groundwater was encountered in a previous environmental investigation at approximately 3 to 9 feet bgs (HWA, 2018c). Depth to groundwater measurements collected throughout 2019 by Kane Environmental indicate that groundwater was situated approximately 5.02 to 9.60 feet below the top of well casings throughout the Site (see Table 3).

3.0 FIELD METHODOLOGY

3.1 Sampling Location

Groundwater monitoring and sampling activities were conducted by Kane Environmental at each Site between March 2019 and October 2019. Four quarters of groundwater monitoring were conducted at each Site in 2019 (March 2019, May 2019, July 2019, and October 2019). Compliance monitoring wells were previously selected for each Site in their respective Compliance Monitoring Plans from HWA, completed in 2018 (HWA, 2018a; HWA, 2018b; HWA, 2018d, respectively) Samples were collected from monitoring wells to assess potential impacts to groundwater following remedial activities at each Site.

Descriptions for sampling locations at the Bothell Paint, Bothell Hertz, and Bothell Landing Sites are discussed in detail below.

3.1.1 Bothell Paint Sampling Locations

The Bothell Paint Site contains five groundwater monitoring wells which are included in groundwater compliance monitoring: BPMW-2R, BPMW-6, BC-10, BC-11R, BPMW-1. Two of these wells (BPMW-2R and BC-11R) are replacement wells which were installed in November 2018 as close to their original locations as was feasible. Following two quarters of results below Site-specific cleanup levels (See Section 5.1), monitoring well BC-10 was removed from the list of compliance monitoring wells, and only four groundwater monitoring wells were sampled during the final two sampling events of the quarter. See Figure 3 for a depiction of the monitoring well locations.

In addition to four quarters of groundwater sampling, one surface water sampling event including three sampling locations within Horse Creek was conducted in March of 2019. Sample location S1 was located within the open channel portion of Horse Creek, just south of the culvert under SR 522. Sample S2 was located just north of the culvert under SR 522, and sample S3 was located approximately 160 feet north of the culvert under SR 522. See Figure 4 for a depiction of the sampling locations.

3.1.2 Bothell Hertz Sampling Locations

The Bothell Hertz site contains seven groundwater monitoring wells which are included in groundwater compliance monitoring: HZ-MW-1, HZ-MW-4, HZ-MW-12, HZ-MW-17, HZ-MW-19, BC-16, and BLMW-8R. One of these wells (BLMW-8R) is a replacement well which was installed in November 2018. See Figure 5 for a depiction of the monitoring well locations.

3.1.3 Bothell Landing Sampling Locations

The Bothell Landing site contains three groundwater monitoring wells which are included in groundwater compliance monitoring: MW-1, BL-MW-11, and BL-MW-12. See Figure 4 for a depiction of the monitoring well locations. See Figure 6 for a depiction of the monitoring well locations.

3.2 Monitoring Well Sampling Methods

Groundwater sample collection methodology was consistent between all three Sites. Prior to collecting groundwater samples, the depth to groundwater at each well was measured with a decontaminated electric water interface probe. Groundwater collected from the well was sampled using a peristaltic pump with new polyethylene tubing that was inserted and extended to at least 1-foot off the bottom of each well. Field parameters, including pH, temperature, conductivity, redox potential, and dissolved oxygen were recorded and allowed to stabilize for three consecutive readings prior to collecting each groundwater sample. A field reading of dissolved iron was also collected from each sampling location. Groundwater was placed into appropriate laboratory-supplied, pre-cleaned and preserved containers for analysis. Samples were labeled and placed into an ice-filled cooler. Groundwater samples were transported under standard chain-of-custody procedures to OnSite Environmental in Redmond, Washington, or Fremont Analytical in Seattle, Washington, both Ecology-accredited analytical laboratories.

Groundwater monitoring well sampling nomenclature identified each sample with the well identification number, followed by a "W". For example, sample "BC-16:W" was a groundwater sample collected from monitoring well BC-16.

3.3 Surface Water Sampling Methods

During the March 2019 sampling event, three surface water samples were collected from Horse Creek as a component of the Bothell Paint Site compliance monitoring. Unfiltered surface water samples were collected by directly placing the mouth of an appropriate laboratory-supplied, pre-cleaned container to a depth slightly below the surface of Horse Creek and allowing it to fill; laboratory-supplied containers which contained a preservative were filled by decanting from an unpreserved container. A new container was used at each sampling location.

Surface monitoring well sampling nomenclature identified each sample with the well identification number, followed by a "W". For example, sample "S-3:W" was a surface sample collected from location S-3.

4.0 ANALYTICAL METHODS

Following collection, groundwater or surface water samples were placed in a cooler and submitted to OnSite Environmental laboratory in Redmond, Washington or Fremont Analytical Laboratory in Seattle, WA.

4.1 Bothell Paint Analytical Methods

Groundwater samples collected from the Bothell Paint Site during 2019 were analyzed for the following:

- Diesel and Heavy-Oil Range Hydrocarbons by Method NWTPH-Dx/Dx Ext;
- Total and Dissolved Arsenic by EPA Method 200.8;
- Dissolved Manganese by EPA Method 200.8;
- Dissolved gases by RSK 175;
- Nitrate by EPA Method 353.2;
- Sulfate by Method ASTM D516-11; and,
- Total alkalinity by Method SM 2320B.

Surface water samples collected from Horse Creek during March of 2019 were analyzed for the following:

- Gasoline Range Hydrocarbons by Method NWTPH-Gx;
- Diesel and Heavy-Oil Range Hydrocarbons by Method NWTPH-Dx/Dx Ext; and,
- HVOCs by EPA Method 8260.

All analyses were performed in accordance with the analytical laboratories' in-house Quality Assurance/Quality Control Plans. Sample analyses were performed in compliance with EPA analytical methods and Ecology guidelines. Samples were analyzed within specified holding times. All detection limits were within method requirements and no factors appeared to adversely affect data quality.

4.2 Bothell Hertz Analytical Methods

Groundwater samples collected from the Bothell Hertz Site were analyzed for the following:

- Diesel and Heavy-Oil Range Hydrocarbons by Method NWTPH-Dx/Dx Ext;
- Total and Dissolved Arsenic by EPA Method 200.8;
- Dissolved Manganese by EPA Method 200.8;
- Dissolved gases by RSK 175;
- Nitrate by EPA Method 353.2;
- Sulfate by Method ASTM D516-11; and,

- Total alkalinity by Method SM 2320B.

All analyses were performed in accordance with the analytical laboratories' in-house Quality Assurance/Quality Control Plans. Sample analyses were performed in compliance with EPA analytical methods and Ecology guidelines. Samples were analyzed within specified holding times. All detection limits were within method requirements and no factors appeared to adversely affect data quality.

4.3 Bothell Landing Analytical Methods

Groundwater samples collected from the Bothell Landing Site were analyzed for the following:

- Diesel and Heavy-Oil Range Hydrocarbons, by Method NWTPH-Dx/Dx Ext; and,
- Total and Dissolved Arsenic by EPA Method 200.8.

Additionally, during the March 2019 sampling event, BL-MW-12 was also analyzed for:

- Select polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270 (SIM).

All analyses were performed in accordance with the analytical laboratories' in-house Quality Assurance/Quality Control Plans. Sample analyses were performed in compliance with EPA analytical methods and Ecology guidelines. Samples were analyzed within specified holding times. All detection limits were within method requirements and no factors appeared to adversely affect data quality.

4.4 Laboratory QA/QC Procedures

Internal test methods run by the laboratory to ensure data accuracy and reproducibility include method blanks, laboratory control standards, sample duplicates, matrix spikes, and matrix spike duplicates.

5.0 RESULTS

Detailed below is a summary of data from groundwater samples collected from the Bothell Paint, Bothell Hertz, and Bothell Landing Sites, as well as surface water analytical results collected from the Bothell Paint Site. The type of analysis performed at each well, along with contaminant concentrations have been described for each site. Additionally, laboratory analytical reports containing results for the groundwater samples discussed below are included in Attachment D. These results are also summarized in Table 1 through Table 4. Monitoring wells were sampled in the following months: March 2019, May 2019, July 2019, and October 2019.

5.1 Bothell Paint Analytical Results

Analytical results for the Bothell Paint Site from the 2019 sampling events are described below. See Tables 1 and 4 for the analytical results.

5.1.1 Petroleum

Three of the five monitoring wells sampled in 2019 were analyzed for diesel and heavy oil range petroleum hydrocarbons (BPMW-2R, BPMW-6, and BC-10). BP-MW-6 reported two quarters where heavy oil was detected at concentrations above the laboratory reporting limit, 500 micrograms per liter (ug/L) in May 2019 and 740 ug/L in October 2019. Both of these concentrations were at or above the Site-specific cleanup level (500 ug/L). Neither diesel or heavy oil were detected above the laboratory reporting limit at BPMW-6 in the March 2019 or July 2019 sampling events. At BPMW-2R, diesel and heavy oil range petroleum hydrocarbons were only detected above the laboratory reporting limit in the March 2019 sampling event, and at concentrations (122 ug/L and 219 ug/L, respectively) below the Site-specific cleanup level (500 ug/L). Neither diesel or heavy oil were detected above the laboratory reporting limit at BPMW-2R during the May 2019, July 2019, or October 2019 sampling events. Diesel and heavy oil were not detected above the laboratory reporting limit at BC-10 during the March 2019 and May 2019 sampling events. Per the Compliance Monitoring Plan (HWA, 2018a), following these results, this location was removed from compliance monitoring.

5.1.2 Arsenic

Total and dissolved arsenic were analyzed for at four of the five compliance monitoring wells in 2019 (BPMW-6, BC-10, BC-11R, and BPMW-1). BPMW-1 reported detections of total and dissolved arsenic above the Site-specific cleanup level (10 ug/L) in all four quarters of 2019, with the exception of March 2019 when the dissolved fraction reported a concentration of 4.83 ug/L. Monitoring well BPMW-6 reported detections of total and dissolved arsenic in all four quarters of 2019. Two of these events, March 2019 and July 2019 contained concentrations of both total and dissolved arsenic above the Site-specific cleanup level. Arsenic was not detected above the laboratory reporting limit during any of the 2019 sampling events at BC-10 or BC-11R.

5.1.3 Surface Water

Three surface water samples were collected from Horse Creek during the March 2019 sampling event. No gasoline, diesel, or heavy oil range petroleum hydrocarbons were detected above the laboratory reporting limit in any of the samples analyzed. Additionally, no HVOCs were detected above the laboratory reporting limit in any of the samples analyzed

5.2 Bothell Hertz Analytical Results

Analytical results for the Bothell Hertz Site from the 2019 sampling events are described below. See Table 2 for the analytical results.

5.2.1 Petroleum

Three of the seven monitoring wells sampled in 2019 were analyzed for diesel and heavy oil range petroleum hydrocarbons (HZ-MW-19, BC-16, and BLMW-8R). HZ-MW-19 reported detections of diesel in three of the four quarters (March 2019, May 2019, and October 2019) at concentrations ranging between 210 ug/L to 410 ug/L, all below the Site-specific cleanup level (500 ug/L). Heavy oil was only detected above the laboratory reporting limit during the October 2019 sampling event at a concentration of 950 ug/L, above the Site-specific cleanup level. Diesel was not detected above the laboratory reporting limit in any of the samples collected from BC-16. Heavy oil was detected in three quarters (March 2019, May 2019, and July 2019) with July 2019 reporting a concentration of 540 ug/L, above the Site-specific cleanup level. Heavy oil was not detected above the laboratory reporting limit during the October 2019 sampling event. BLMW-8R reported detectable concentrations of diesel in the May 2019 and July 2019 sampling events at concentrations of 400 ug/L and 470 ug/L, respectively, both below the Site-specific cleanup level (500 ug/L). Heavy oil was detected in all four quarters at concentrations ranging between 234 ug/L to 1,000 ug/L, with the May 2019, July 2019, and October 2019 sampling events reporting concentrations greater than the Site-specific cleanup level (500 ug/L).

5.2.2 Arsenic

Analysis for total and dissolved arsenic was conducted at each well at the Bothell Hertz site. Monitoring wells HZ-MW-1, HZ-MW-4, HZ-MW-17, HZ-MW-19, and BC-16 did not report any detections of total or dissolved arsenic with the exception of BC-16 in March 2019, when the total fraction of arsenic was detected at a concentration of 2.56 ug/L, well below the Site-specific cleanup level of 10 ug/L. HZ-MW-12 reported detectable concentrations of total and dissolved arsenic in all four quarters except for March 2019, when only the total fraction of arsenic was detected above the laboratory reporting limit. Concentrations ranged between 2.89 ug/L to 4.60 ug/L, all below the Site-specific cleanup level. BLMW-8R reported detectable concentrations of total and dissolved arsenic during the May 2019, July 2019, and October 2019. Only the October 2019 sampling event contained concentrations of total and dissolved arsenic (27 ug/L and 16 ug/L, respectively) in exceedance of the Site-specific cleanup level.

5.3 Bothell Landing Analytical Results

Analytical results for the Bothell Landing Site from the 2019 sampling events are described below. See Table 3 for the analytical results.

5.3.1 Petroleum

All three compliance monitoring wells on the Site were analyzed for diesel and heavy oil range petroleum hydrocarbons during sampling in 2019. Diesel was not detected above the laboratory reporting limit in any of the samples analyzed during the four quarters of 2019. MW-1 contained one quarter (July 2019) in which heavy oil was detected at a concentration above the laboratory reporting limit (470 ug/L) but at a concentration below the Site-specific cleanup level (500 ug/L). BL-MW-11 reported detectable concentrations of heavy oil in three of the four sampling events of 2019 with concentrations ranging between 159 ug/L to 510 ug/L. Only May 2019 contained a concentration of heavy oil above the Site-specific cleanup level. BL-MW-12 reported detectable concentrations of heavy oil during two sampling events (March 2019 and July 2019), with only July 2019 containing a concentration of heavy oil (790 ug/L) in exceedance of the Site-specific cleanup level.

5.3.2 Arsenic

Total and dissolved arsenic analysis was performed at each well at the Bothell Landing Site. MW-1 did not report any detections of total or dissolved arsenic above the laboratory reporting limit in any of the samples analyzed in 2019. BL-MW-11 reported detections of total and dissolved arsenic in all four quarters of 2019. Only July 2019 and October 2019 contained concentrations of total and dissolved arsenic, ranging between 21 ug/l to 30 ug/L, all above the Site-specific cleanup level (10 ug/L). BL-MW-12 reported detectable concentrations of total and dissolved arsenic in two of the four quarters of 2019 sampling (March 2019 and July 2019). In March of 2019 only the concentration of total arsenic (17.7 ug/L) was above the Site-specific cleanup level, while the dissolved fraction reported a concentration of 3.6 ug/L. In July of 2019 both the total and dissolved fractions of arsenic reported concentrations (16 ug/L and 14 ug/L, respectively) in exceedance of the Site-specific cleanup level.

5.3.2 PAHs

During the March 2019 sampling event, the sample collected from BL-MW-12 was also analyzed for select PAHs including naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. No analytes were detected above the laboratory reporting limit in the sample analyzed.

6.0 DISCUSSION

The Bothell Paint Site contains five wells which were sampled during 2019 for compliance monitoring. Site COCs in groundwater are diesel and heavy oil range petroleum hydrocarbons and arsenic. Heavy oil was only detected at concentrations above the Site-specific cleanup level in one well located on the Site, BPMW-6. Heavy oil concentrations at this well have fluctuated between non-detect to just above the Site-specific cleanup level. Arsenic was detected in groundwater at concentrations above the Site-specific cleanup level in two of the five compliance monitoring wells, BPMW-6 and BPMW-1. Similar to heavy oil, arsenic concentrations at BPMW-6 have fluctuated between above and below the Site-specific cleanup level for both the total and dissolved fractions. BPMW-1 has reported exceedances of arsenic in groundwater during every monitoring event of 2019. Concentrations at this well have also fluctuated throughout 2019 and do not appear to follow a specific trend. Based on these results, heavy oil and arsenic contaminated groundwater remains on Site and appears to be concentrated in the central portion of the Site. Kane Environmental will continue compliance monitoring at the Site until eight quarters of monitoring have been completed.

The Bothell Hertz Site contains seven monitoring wells which were sampled during 2019 for compliance monitoring. Site COCs in groundwater are diesel and heavy oil range petroleum hydrocarbons and arsenic. Three monitoring wells contained at least one sampling event where heavy oil was detected at a concentration greater than the Site-specific cleanup level. Two of these locations, HZ-MW-19 and BC-16 only reported one exceedance of heavy oil. Samples collected from BLMW-8R reported exceedances of heavy oil in groundwater during the final three quarters of the year. The concentrations of heavy oil in groundwater on the Site do not appear to follow any specific trend. Arsenic was detected at a concentration greater than the Site-specific cleanup level in only one sampling event at one well throughout the entire Site, BLMW-8R during October 2019. Based on these results, it appears as though heavy oil contamination in groundwater remains on Site and is primarily concentrated near BLMW-8R, with sporadic exceedances located in the western and southern portions of the Site. Arsenic contaminated groundwater may also exist in the proximity of BLMW-8R. Kane Environmental will continue compliance monitoring at the Site until eight quarters of monitoring have been completed.

The Bothell Landing Site contains three monitoring wells which were sampled during 2019 for compliance monitoring. Site COCs in groundwater are diesel and heavy oil range petroleum hydrocarbons and arsenic. During the four quarters of sampling only two exceedances of heavy oil were detected in groundwater on the Site. BL-MW-11 reported a heavy oil concentration of 510 ug/L in May of 2019 and BL-MW-12 reported a concentration of 790 ug/L in July of 2019, both just above the Site-specific cleanup level (500 ug/L). Arsenic was detected at concentrations greater than the Site-specific cleanup level at BL-MW-11 during July 2019 and October 2019, and at BL-MW-12 during the March 2019 and July 2019 sampling events. Based on these results it appears as though arsenic and low-level heavy oil contaminated groundwater is



sporadically located in the southern portion of the Site, south of SR 522. Kane Environmental will continue compliance monitoring at the Site until eight quarters of monitoring have been completed.

7.0 LIMITATIONS

Kane Environmental has performed this work in general accordance with generally accepted professional practices using the standard of the industry today, for the nature and conditions of the work completed in the same locality and at the same time as the work was performed, and with the terms and conditions as set forth in our proposal.

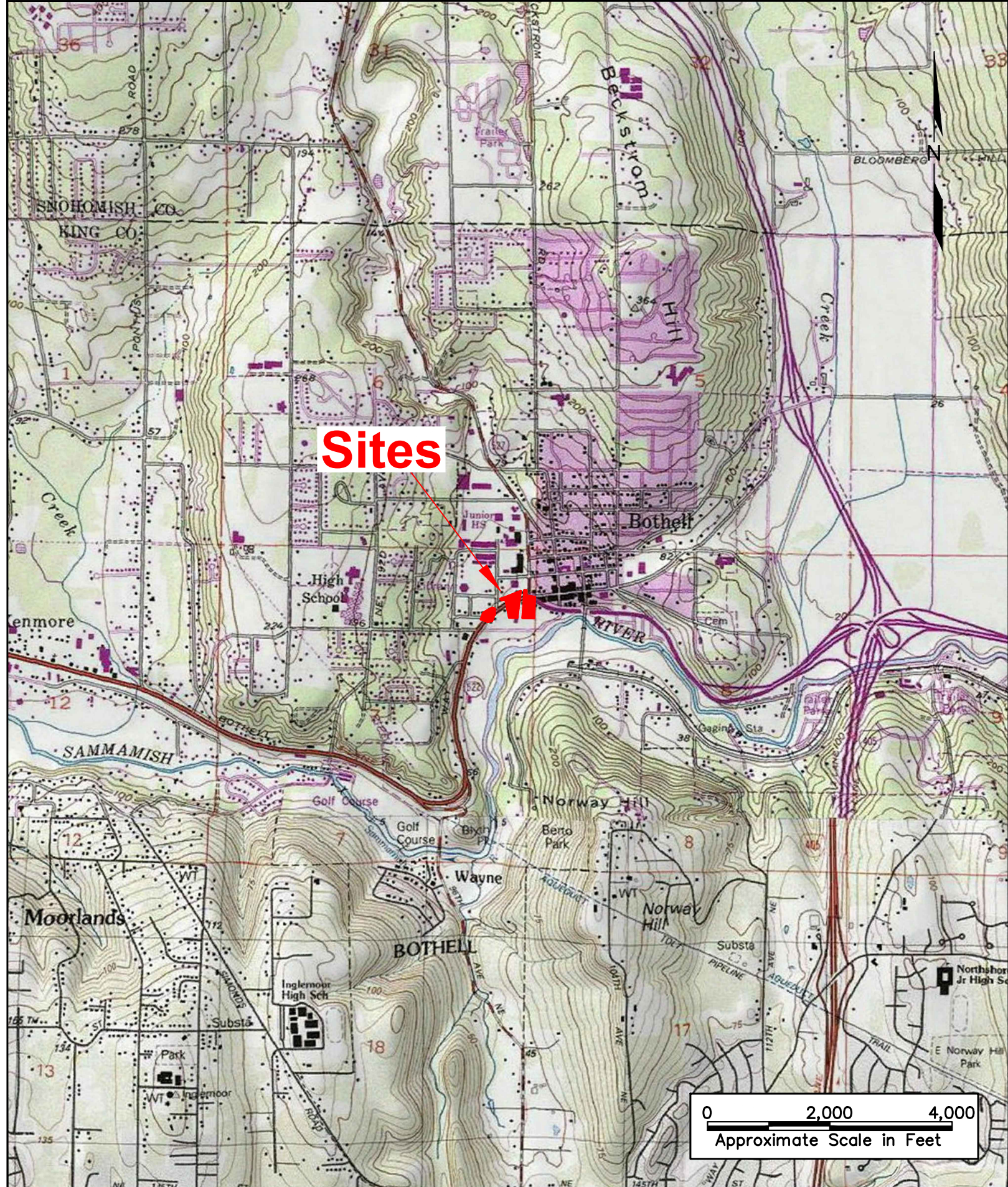
Kane Environmental shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the report was prepared. Facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time the work was performed. This Annual Groundwater Compliance Monitoring Report does not include other services not specifically described in the scope of work in Section 1.2 of this report. Conclusions were made within the operative constraints of the scope of work, budget, and schedule for this project.

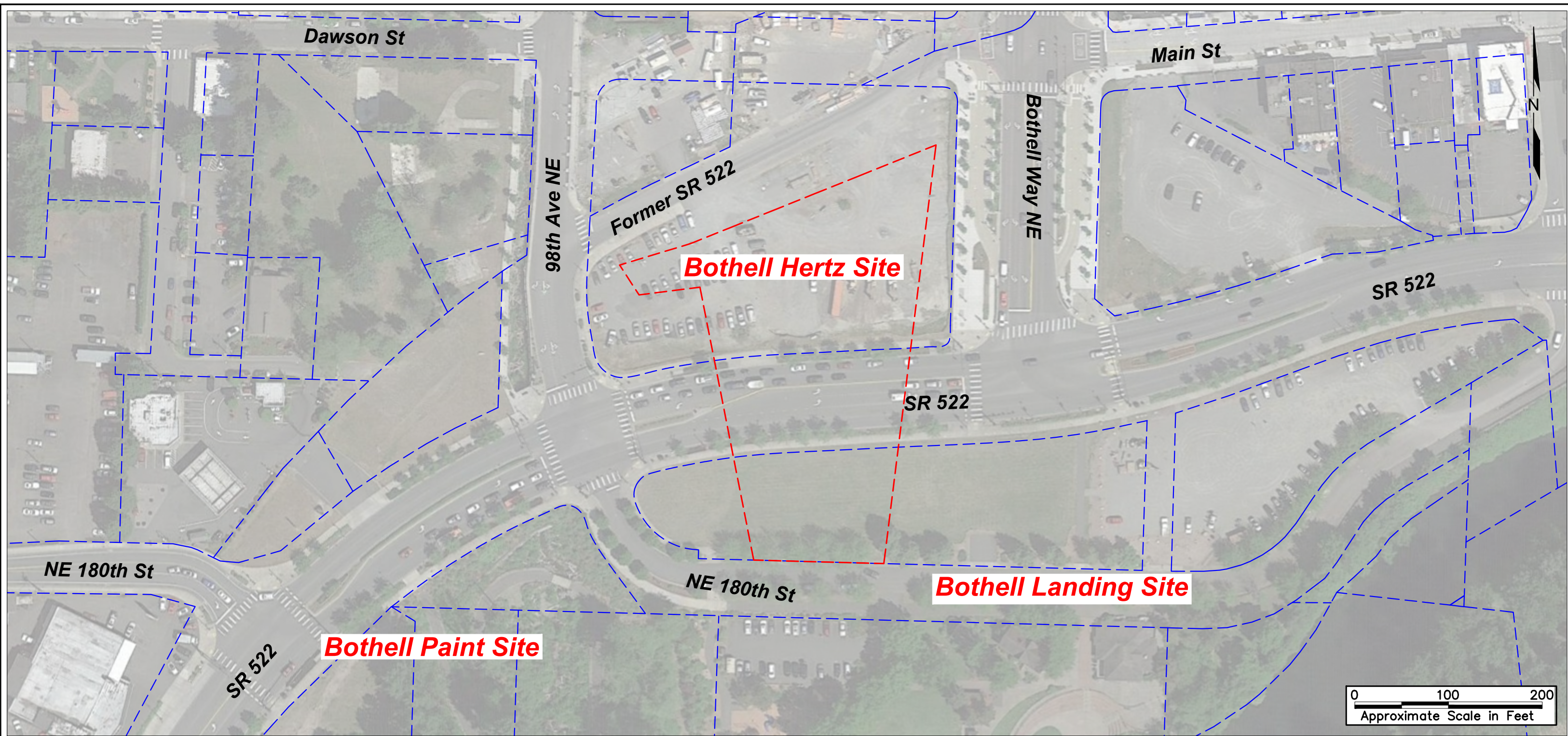
Our assessment of the property may change as new data become available, either from persons familiar with the site or during additional site studies, exploration or sampling. This report is intended for the exclusive use of the City of Bothell, and its designated assignees, for specific application to the referenced property. It is not meant to represent a legal opinion. No other warranty, express or implied, is made.

8.0 REFERENCES

- HWA Geosciences, Inc., August 10, 2017 (HWA, 2017a). *Draft Final Remedial Investigation / Feasibility Study, Former Bothell Paint and Decorating Site, Bothell, Washington*. Prepared for City of Bothell.
- HWA Geosciences, Inc., August 10, 2017 (HWA 2017b). *Draft Final Remedial Investigation / Feasibility Study, Bothell Former Hertz Facility, Bothell, Washington*. Prepared for City of Bothell.
- HWA Geosciences, Inc., January 2, 2018 (HWA, 2018a). *Compliance Ground Water Monitoring Plan, Bothell Paint and Decorating Site, Bothell, Washington*. Prepared for City of Bothell.
- HWA Geosciences, Inc., January 2, 2018 (HWA, 2018b). *Compliance Ground Water Monitoring Plan, Bothell Former Hertz Facility, Bothell, Washington*. Prepared for City of Bothell.
- HWA Geosciences, Inc., May 24, 2018 (HWA 2018c). *Final Remedial Investigation / Feasibility Study, Bothell Landing Site, Bothell, Washington*. Prepared for City of Bothell.
- HWA Geosciences, Inc., June 5, 2018 (HWA, 2018d). *Compliance Ground Water Monitoring Plan, Bothell Landing Site, Bothell, Washington*. Prepared for City of Bothell.
- Washington State Department of Ecology, May 24, 2018 (Ecology 2018a). *Final Cleanup Action Plan, Bothell Landing Site, Bothell, Washington*.
- Washington State Department of Ecology, May 29, 2018 (Ecology 2018b). *Final Cleanup Action Plan, Bothell Paint and Decorating Site, Bothell, Washington*.
- Washington State Department of Ecology, May 29, 2018 (Ecology 2018c). *Final Cleanup Action Plan, Bothell Former Hertz Facility, Bothell, Washington*.

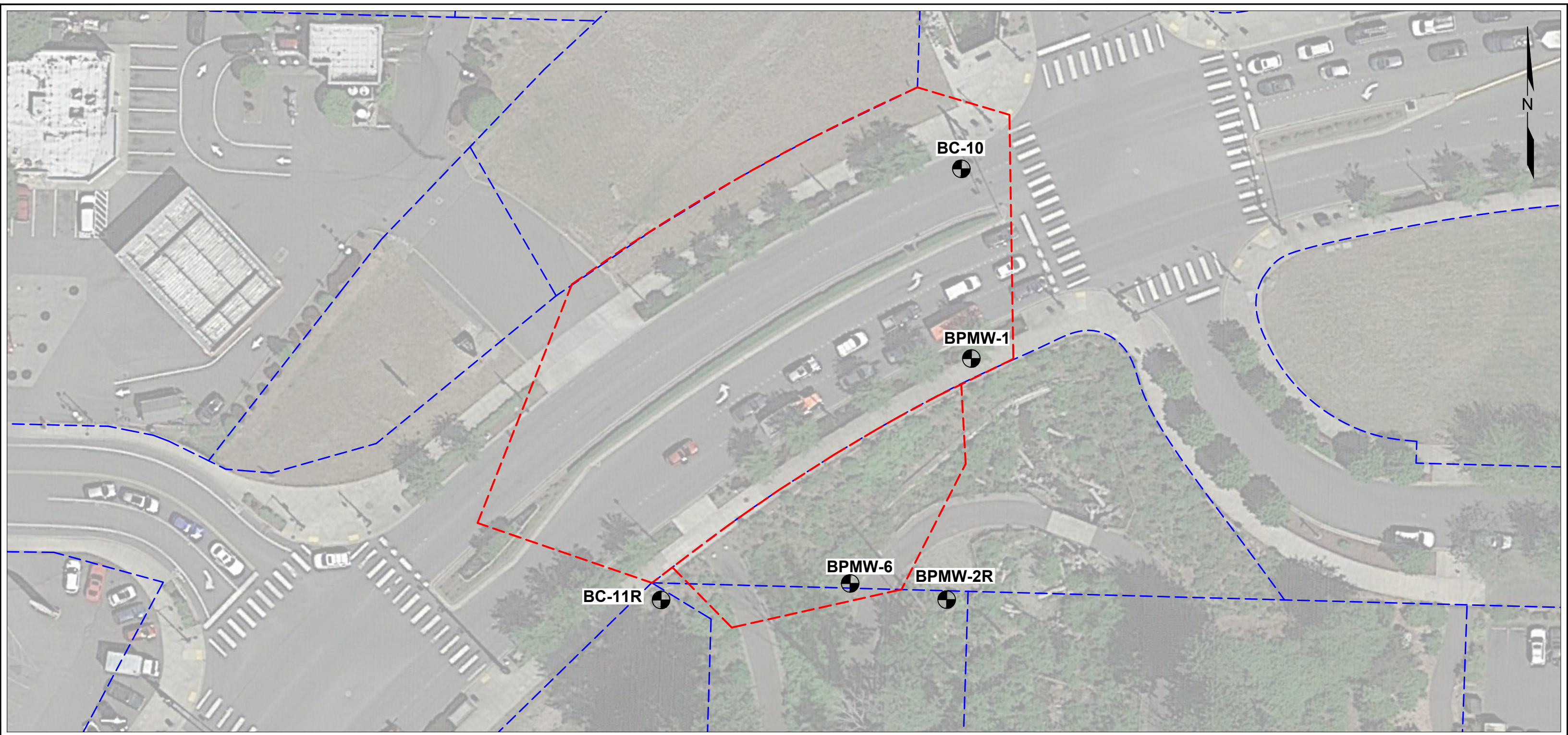
FIGURES





LEGEND

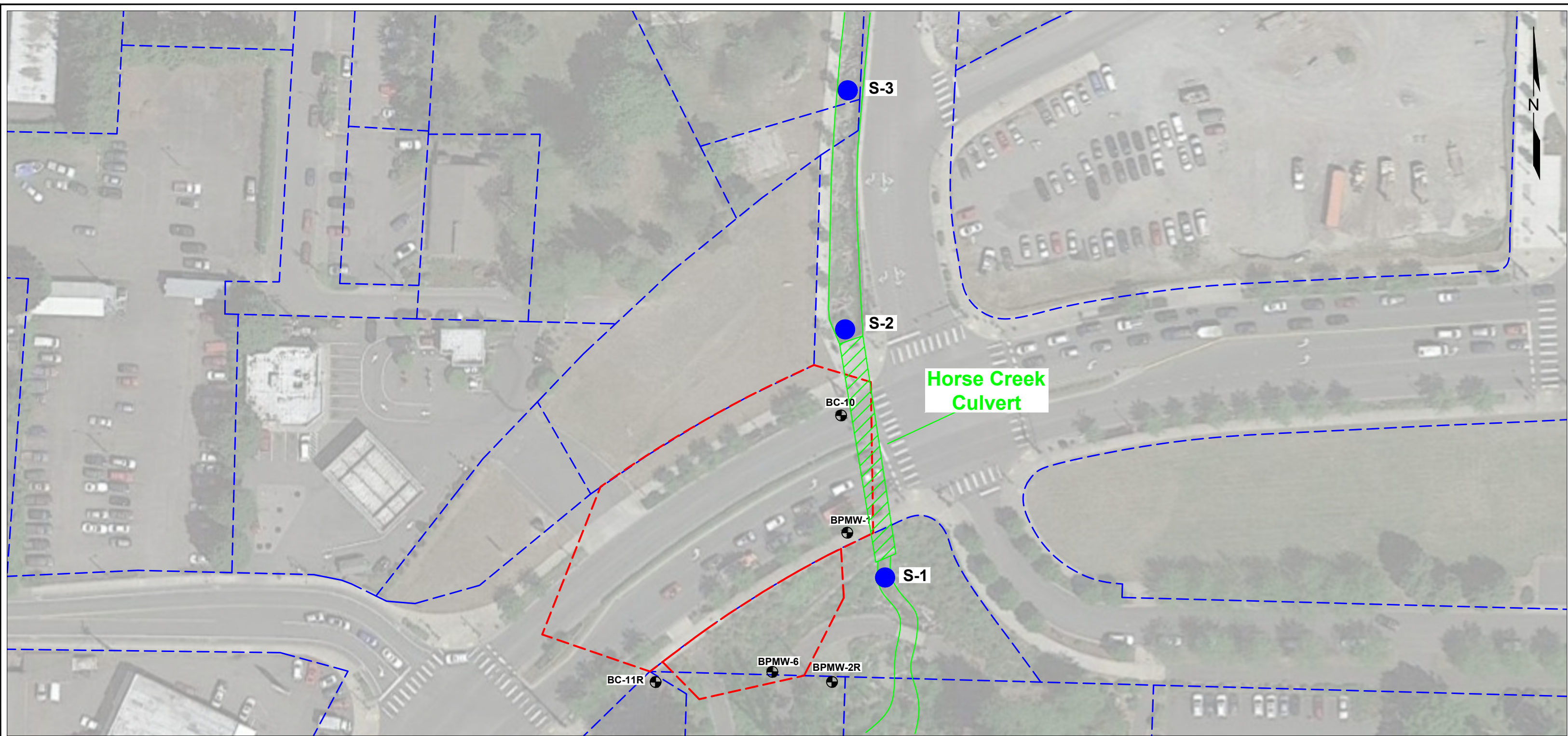
- - - Approximate Location of King County parcel boundary
- - - Approximate Location of Institutional Control Area




LEGEND

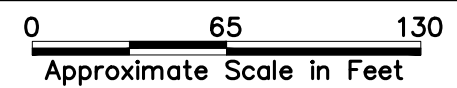
- - - - Approximate location of King County parcel boundary
- - - - Approximate location of Institutional Control Areas
- ⊕ Location of monitoring well

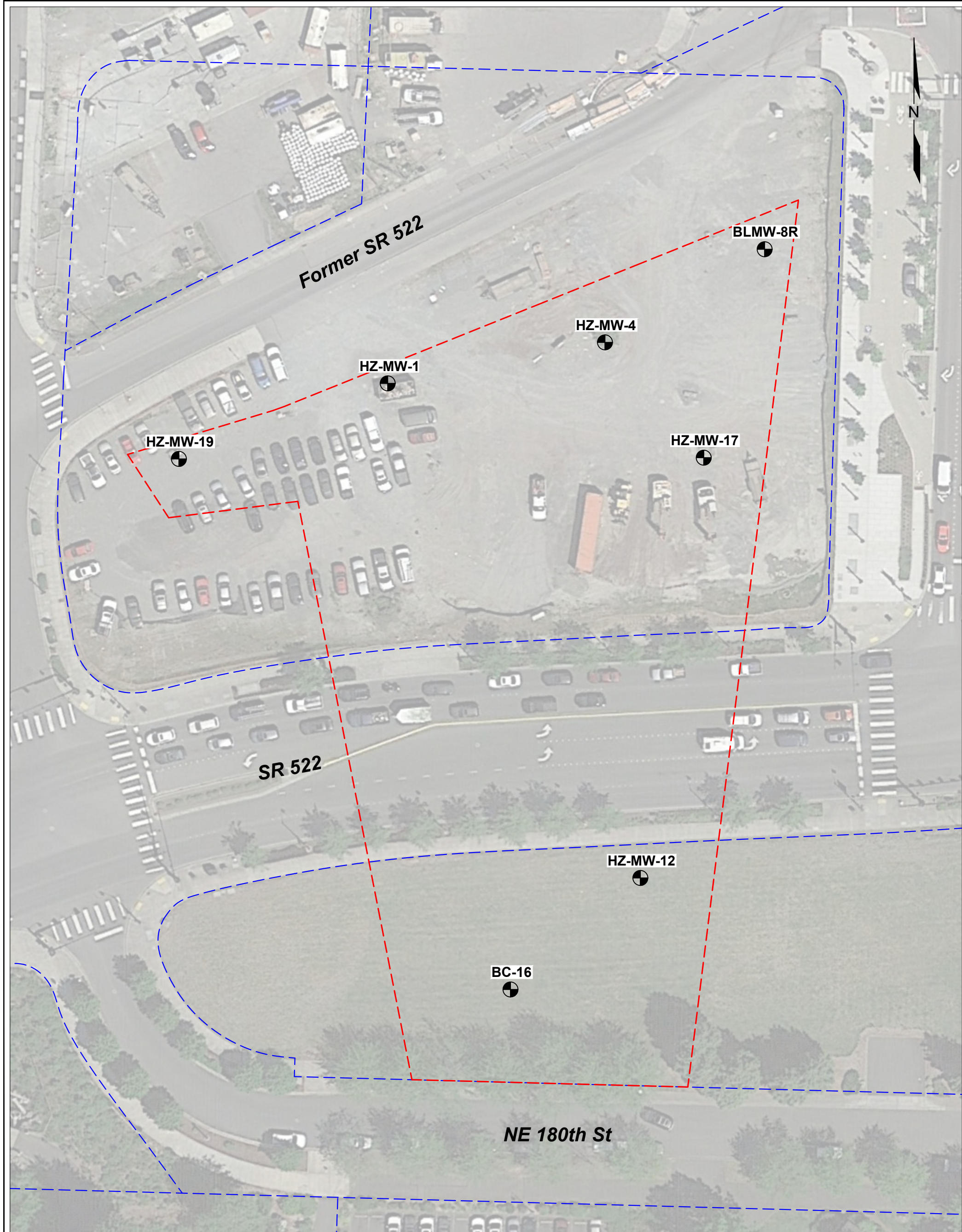
0 40 80
Approximate Scale in Feet



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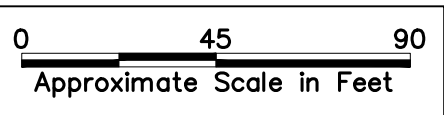
- Approximate location of King County parcel boundary
- Approximate location of Institutional Control Areas
- Approximate location of Horse Creek Channel
-  Location of monitoring well
- Approximate location of surface water sample

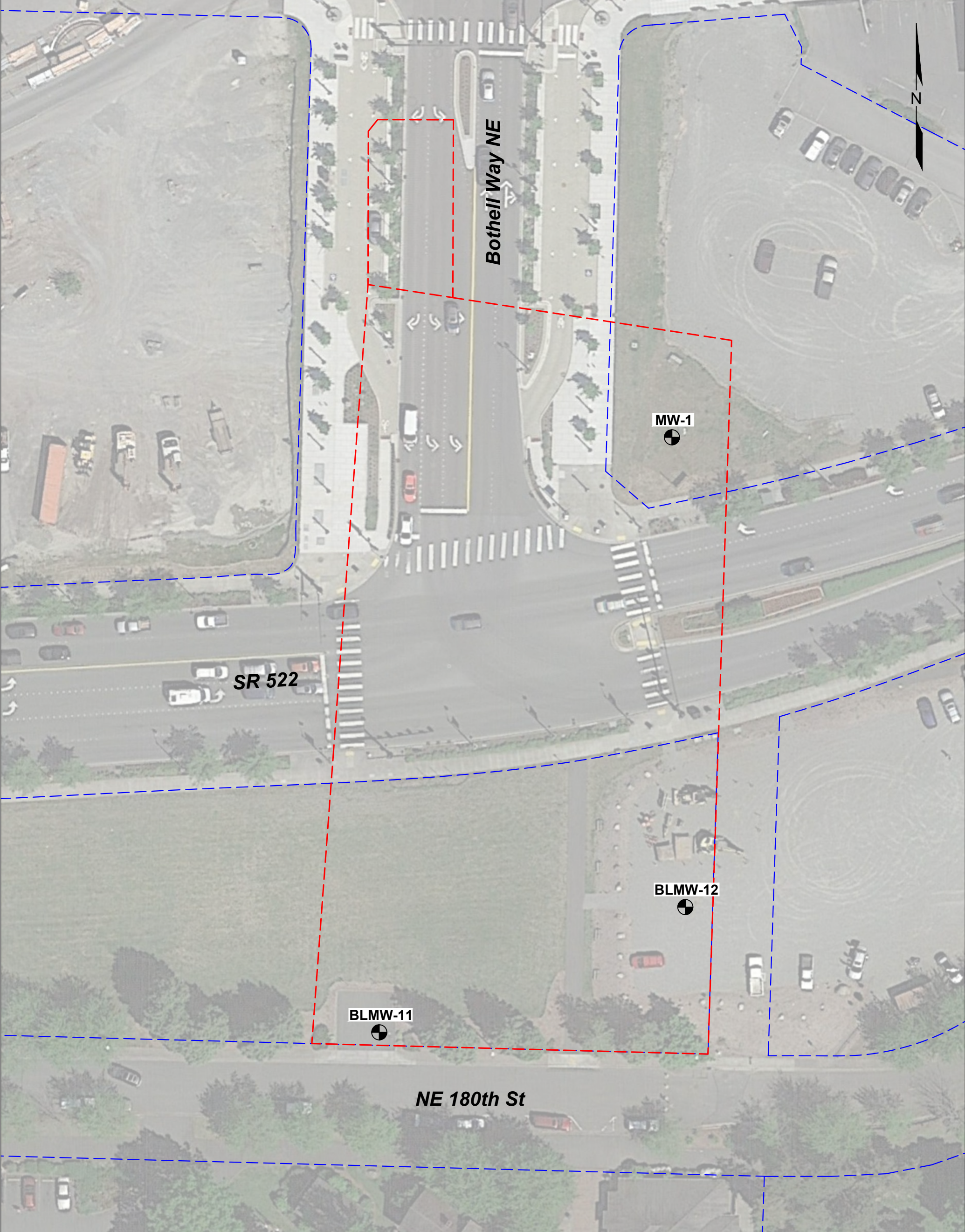





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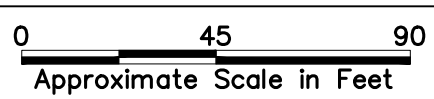
- - - Approximate Location of King County parcel boundary
- - - Approximate Location of Institutional Control Area
- ⊕ Location of monitoring well





LEGEND

- - - Approximate Location of King County parcel boundary
- - - Approximate Location of Institutional Control Area
-  Location of monitoring well



TABLES

Table 1
2019 - Compliance Groundwater Sampling
Bothell Paint Site
Bothell, Washington

Sample ID	Sample Date	Approximate Depth to Groundwater	Diesel Range Organics	Heavy Oil Range Organics	Total		Dissolved		Total		Dissolved		Dissolved Manganese	Semi-Volatile Organic Compounds (SVOCs)	Volatile Organic Compounds (VOCs)	Methane	Nitrate (as Nitrogen)	Sulfate	Ferrous Iron	Total Alkalinity (as CaCO ₃)	pH	Dissolved Oxygen	Oxidation Reduction Potential	Conductivity	
					Arsenic	Cadmium	Chromium	Lead	Mercury	ug/L	ug/L	ug/L													ug/L
		Feet Below Ground Surface	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mV	uS/cm	
BPMW-2R:W	3/7/2019	5.5*	122^b	219	-	-	-	-	-	-	-	-	94	-	-	0.651	<0.100	1.87	0.5	117	7.47	0.19	-64.7	240	
	5/20/2019	7.98*	<260	<420	-	-	-	-	-	-	-	-	60	-	-	0.66	0.055	<5.0	0.5	110	7.25	0.26	-120.9	235	
	7/18/2019	8.46*	<260	<420	-	-	-	-	-	-	-	-	92	-	-	1.2	<0.050	<5.0	0.5	110	7.14	0.07	38.9	258.7	
	10/10/2019	8.50*	<260	<410	-	-	-	-	-	-	-	-	120	-	-	0.9	<0.050	<5.0	0.5	110	7.51	0	-78.5	246.7	
BPMW-6:W	3/7/2019	2.25	<50.3	<101	14.7	13.8	-	-	-	-	-	-	27.7	-	-	2.25	10 ^e	5.18	0.5	25.7	5.68	0.32	98.9	159.2	
	5/20/2019	1.4	<270	500	9.3	8.4	-	-	-	-	-	-	26	-	-	1.8	25	<5.0	0.5	44.0	5.87	0.44	32.8	359.6	
	7/18/2019	3.14	<300	<490	44.0	38.0	-	-	-	-	-	-	130	-	-	5.9	<0.050	<5.0	1.5	120.0	6.06	0.07	109.9	382.4	
	10/10/2019	2.71	<290	740	9.1	5.8	-	-	-	-	-	-	190	-	-	4.4	9.1	<5.0	1.0	110.0	6.2	0.02	99.5	364	
BC-10:W	3/15/2019	9.42	<50.3	<101	<1.75	<1.75	-	-	-	-	-	-	194	-	-	0.0872	<0.10	6.22	3.0	167	6.62	0.23	-1	351	
	5/23/2019	10.9	<260	<410	<3.3	<3.0	-	-	-	-	-	-	150	-	-	0.23	<0.050	6	4.0	160	6.27	0.28	-149	348.8	
BC-11R	3/7/2019	10.06	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	6.44	0.26	-4.8	467.4	
	5/20/2019	11.06	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	6.22	0.33	-45.7	461.9	
	7/18/2019	11.87	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	6.13	0.07	50	509.6	
	10/10/2019	11.7	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	6.51	0.01	-20.8	482.9	
BPMW-1	3/7/2019	12.56	-	-	12.9	4.83	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	6.52	0.24	0.4	515.6	
	5/23/2019	12.35	-	-	22.0	11.0	-	-	-	-	-	-	-	-	-	-	-	-	3.0	-	6.21	0.37	-162.7	514.9	
	7/19/2019	12.42	-	-	14.0	12.0	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	6.56	0.08	-23.3	535.6	
	10/10/2019	12.16	-	-	17.0	15.0	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	6.62	0	-43.9	509	
Site Specific Cleanup Level +			500	500	10																				
MTCA Method A or Method B Cleanup Level [^]			500	500	5.0		5.0	50	15	2.0	(2,240)	Varies#	Varies#	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Notes:
All results reported in ug/L (micrograms per liter), or mg/L (milligrams per liter)
ug/L = micrograms per liter [equivalent to parts per billion (ppb)]
mg/L = milligrams per liter [equivalent to parts per million (ppm)]
Bold concentrations are detectable concentrations, below their Site Specific Cleanup Level (if available).
Shaded and Bold concentrations are detectable concentrations, exceeding their Site Specific Cleanup Level
nd = No analytes detected above the laboratory reporting limit. See laboratory analytical report for full list of results
= Various cleanup levels for multiple analytes. See laboratory analytical report for full list of analytes
* = Well is angled at approximately 47 degree angle
b = Identified as Diesel Range Organics, indicating the presence of unresolved compounds eluting from dodecane through tetracosane (~C12-C24).
SR = Minor detections of other VOCs or SVOCs, at concentrations below state cleanup levels. See analytical report for specific detections.
- = Not analyzed
[^] = MTCA Method B Cleanup Level in parentheses
+ = Site specific cleanup level as established in Cleanup Action Plan dated May 29, 2018

Table 2
2019 - Compliance Groundwater Sampling
Bothell Hertz Site
Bothell, Washington

Sample ID	Sample Date	Approximate Depth to Groundwater	Diesel Range Organics	Heavy Oil Range Organics	Total		Total		Total		Total		Total		Dissolved Manganese	Semi-Volatile Organic Compounds (SVOCs)	Volatile Organic Compounds (VOCs)	Methane	Nitrate (as Nitrogen)	Sulfate	Ferrous Iron	Total Alkalinity (as CaCO3)	pH	Dissolved Oxygen	Oxidation Reduction Potential	Conductivity						
					Arsenic	Cadmium	Chromium	Lead	Mercury	ug/L	ug/L	ug/L	ug/L	ug/L													ug/L	mg/L	mg/L	mg/L	mg/L	mg/L
					ug/L	ug/L	ug/L	ug/L	ug/L																							
HZ-MW-1:W	9/5/2019	6.5	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.18	5.59	152.5	149.3							
	5/21/2019	6.81	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	5.99	7	66.7	159.6							
	7/16/2019	7.2	-	-	<3.0	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.23	7.98	158.3	203.4							
	10/16/2019	7.45	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.4	3.56	148.7	200.1							
HZ-MW-4:W	3/5/2019	5.8	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.27	0.24	133.6	486.1							
	5/21/2019	6.37	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	6.1	0.35	26.2	426.1							
	7/16/2019	7.2	-	-	<3.0	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.05	4.65	114.6	396							
	10/11/2019	7.13	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.37	1.88	100.1	353.8							
HZ-MW-12:W	3/6/2019	8.33	-	-	2.89	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	6.37	0.59	-66.9	1,063							
	5/22/2019	9.46	-	-	4.20	3.20	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	-	6.01	0.26	-115.3	1,151							
	7/19/2019	10.35	-	-	4.60	3.90	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	6.14	0.09	9.7	1,220							
	10/9/2019	10.7	-	-	4.40	3.80	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	6.38	0.03	-39.3	1,133							
HZ-MW-17:W	3/5/2019	7.1	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	6.76	0.13	-24.9	269.6							
	5/23/2019	7.08	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	6.31	1.02	-79.6	304							
	7/17/2019	7.63	-	-	<3.0	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	6.65	0.07	-12.1	8.44							
	10/11/2019	7.7	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	6.98	0.73	41.4	340.5							
HZ-MW-19:W	3/5/2019	6.00	210^b	<98.5	-	-	-	-	-	-	-	-	-	136	-	-	0.0332	0.414 ^H	8.98	2.0	162	5.94	0.33	77.7	221.1							
	5/21/2019	6.25	410	<420	<3.3	<3.0	-	-	-	-	-	-	-	720	-	-	0.11	0.14	17	4.0	180	5.87	0.31	-11	330.9							
	7/16/2019	7.1	<260	<420	<3.0	<3.0	-	-	-	-	-	-	-	850	-	-	0.035	<0.050	44	2.0	210	6.09	0.12	45.9	520.9							
	10/16/2019	6.8	340	950	<3.3	<3.0	-	-	-	-	-	-	-	840	-	-	0.018	<0.050	48	1.5	190	6.33	0.04	15.9	486.5							
BC-16:W	3/6/2019	3.78	<50.4	179	2.56	<1.75	-	-	-	-	-	-	-	3,760	-	-	3.44	0.31	270	3.0	371	6.37	0.44	-31	1,118							
	5/22/2019	5.89	<260	450	<3.3	<3.0	-	-	-	-	-	-	-	4,600	-	-	2.1	0.27	260	4.5	510	6.09	0.35	-114.1	1,292							
	7/19/2019	7.63	<260	540	<3.3	<3.0	-	-	-	-	-	-	-	4,800	-	-	8.9	<0.050	160	2.0	560	6.15	0.84	39.7	1,347							
	10/11/2019	8.32	<270	<440	<3.3	<3.0	-	-	-	-	-	-	-	3,900	-	-	6	<0.050	61	1.0	520	6.36	0.32	-35.3	1,150							
BLMW-8R:W	3/6/2019	7.72	<49.5	234	-	-	-	-	-	-	-	-	-	3,480	-	-	4.26	<0.100	1.7	2.5	348	6.74	0.31	-64.4	669.8							
	5/21/2019	7.91	400	720	7.10	5.60	-	-	-	-	-	-	-	2,400	-	-	2.90	0.14	<5.0	3.0	310	6.46	0.27	-101.8	602.6							
	7/17/2019	8.34	470	1,000	8.10	6.50	-	-	-	-	-	-	-	2,700	-	-	3.30	<0.050	<5.0	2.0	340	6.36	0.06	-27.4	746							
	10/11/2019	8.34	<270	720	27	16	-	-	-	-	-	-	-	2,600	-	-	1.9	<0.050	<5.0	1.5	370	6.97	0.07	-90.5	776							
Site Specific Cleanup Level +			500	500	10																											
MTCA Method A or Method B Cleanup Level [^]			500	500	5.0	5.0	50	15	2.0	(2,240)	Varies#	Varies#	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						

Notes:
All results reported in ug/L (micrograms per liter), or mg/L (milligrams per liter)
ug/L = micrograms per liter [equivalent to parts per billion (ppb)]
mg/L = milligrams per liter [equivalent to parts per million (ppm)]
Bold concentrations are detectable concentrations, below their Site Specific Cleanup Level (if available).
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b = Identified as Diesel Range Organics, indicating the presence of unresolved compounds eluting from dodecane through tetracosane (~C12-C24).
H = Holding times for preparation or analysis exceeded
SR = Minor detections of other VOCs or SVOCs, at concentrations below state cleanup levels. See analytical report for specific detections.
- = Not analyzed
[^] = MTCA Method B Cleanup Level in parentheses
+ = Site specific cleanup level as established in Cleanup Action Plan dated May 29, 2018

Table 3
Compliance Groundwater Sampling
Bothell Landing Site
Bothell, Washington

Sample ID	Sample Date	Approximate Depth to Groundwater Feet Below Ground Surface	Diesel Range Organics ug/L	Heavy Oil Range Organics ug/L	Arsenic		Cadmium		Chromium		Lead		Mercury		Naphthalene ug/L	1-Methylnaphthalene ug/L	2-Methylnaphthalene ug/L	Other Semi-Volatile Organic Compounds (SVOCs) ug/L	Other Volatile Organic Compounds (VOCs) ug/L	Ferrous Iron mg/L	pH	Dissolved Oxygen mg/L	Oxidation Reduction Potential mV	Conductivity uS/cm
					Total ug/L	Dissolved ug/L	Total ug/L	Dissolved ug/L	Total ug/L	Dissolved ug/L	Total ug/L	Dissolved ug/L	Total ug/L	Dissolved ug/L										
MW-1:W	3/11/2019	5.85	<52.8	<106	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	6.37	0.32	33.3	428.1
	5/24/2019	6.38	<260	<420	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	6.05	0.39	-77.3	488.9
	7/17/2019	7.05	<260	470	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	6.26	0.19	5.9	586
	10/8/2019	6.72	<250	<400	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	6.49	0.04	-8.8	512
BL-MW-11:W	3/6/2019	5.02	<50.5	159	6.97	3.58	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	6.56	0.27	-49.1	388.8
	5/22/2019	8.31	<260	510	7.9	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	6.17	0.25	-82.2	404.7
	7/19/2019	9.44	<260	<420	27	21	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	6.33	0.06	-28.9	589.6
	10/9/2019	9.44	<260	450	30	24	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	6.59	0.14	-100.5	601
BL-MW-12:W	3/11/2019	7.75	<53.1	114	17.7	3.6	-	-	-	-	-	-	-	-	<0.100	<0.100	<0.100	-	-	2.5	6.02	0.27	52.2	207.5
	5/22/2019	8.25	<260	<420	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	5.39	0.49	85.8	70.2
	7/22/2019	9.52	<260	790	16.0	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	5.91	0.04	84.8	500.3
	10/9/2019	9.6	<250	<400	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	5.83	0.13	171.4	66.3
Site Specific Cleanup Level +			500	500	10																			
MTCA Method A or Method B Cleanup Level^			500	500	5.0		5.0		50		15		2.0		160	(1.51)	32	Varies#	Varies#	n/a	n/a	n/a	n/a	n/a

Notes:
All results reported in ug/L (micrograms per liter), or mg/L (milligrams per liter)
ug/L = micrograms per liter [equivalent to parts per billion (ppb)]
mg/L = milligrams per liter [equivalent to parts per million (ppm)]
Bold concentrations are detectable concentrations, below their Site Specific Cleanup Level (if available).
Shaded and Bold concentrations are detectable concentrations, exceeding their Site Specific Cleanup Level
nd = No analytes detected above the laboratory reporting limit. See laboratory analytical report for full list of results
= Various cleanup levels for multiple analytes. See laboratory analytical report for full list of analytes
b = Identified as Diesel Range Organics, indicating the presence of unresolved compounds eluting from dodecane through tetracosane (~C12-C24).
SR = Minor detections of other VOCs or SVOCs, at concentrations below state cleanup levels. See analytical report for specific detections.
- = Not analyzed
^ = MTCA Method B Cleanup Level in parentheses
* = Result from analysis by EPA Method 8260. Concentration of 160 ug/L reported from analysis by EPA Method 8270
+ = Site specific cleanup level as established in Cleanup Action Plan dated May 24, 2018

Table 4
2019 - Compliance Surface Water Sampling
Bothell Paint Site
Bothell, Washington

<i>Sample ID</i>	<i>Sample Date</i>	<i>Diesel Range Organics</i>	<i>Heavy Oil Range Organics</i>	<i>Gasoline Range Organics</i>	<i>Volatile Organic Compounds (VOCs)</i>
		<i>ug/L</i>	<i>ug/L</i>	<i>ug/L</i>	<i>ug/L</i>
S-1: W	3/15/2019	<50.3	<101	<50.0	ND
S-2: W	3/15/2019	<50.0	<99.9	<50.0	ND
S-3: W	3/15/2019	<50.3	<101	<50.0	ND

Notes:

All results reported in ug/L (micrograms per liter), or mg/L (milligrams per liter)

ug/L = micrograms per liter [equivalent to parts per billion (ppb)]

mg/L = milligrams per liter [equivalent to parts per million (ppm)]

ND = No analytes detected above the laboratory reporting limit. See laboratory analytical report for full list of results

ATTACHMENT A
AGREED ORDER SCHEDULE OF DELIVERABLES FOR BOTHELL
PAINT, BOTHELL HERTZ, BOTHELL LANDING

EXHIBIT D

Bothell Paint & Decorating Facility Schedule of Deliverables

<u>Deliverables.</u>	<u>Due Date</u>
Draft Institutional Control (IC) Plan; Draft Environmental Covenant(s); and a Title Report	Within 120 days after the effective date of the Agreed Order
Final IC Plan and Final Environmental Covenant(s)	Within 30 days of receipt of Ecology comments on the Draft IC Plan and Draft Environmental Covenant(s).
Record Final Environmental Covenant(s) with King County Auditor	Within 5 days after Ecology's approval of the Final IC Plan or Ecology's signature as grantee of the Final Environmental Covenant(s), whichever occurs last.
Start ground water monitoring	Within 90 days after final CAP is approved
Combined TPH/MNA/Arsenic ground water monitoring	Quarterly for two years, then modify based on results and consultation with Ecology Duration: 5 years unless a different action is triggered by the decision tree shown in table 1 of the dCAP
Combined TPH/MNA/Arsenic ground water monitoring reports	90 days after 4 th quarter sampling Annually for a minimum of 5 years unless a different action is triggered by the decision tree shown in table 1 of the dCAP
Progress reports	Every 3 months unless Ecology authorizes less frequent reporting

EXHIBIT D

Bothell Former Hertz Facility Schedule of Deliverables

<u>Deliverables.</u>	<u>Due Date</u>
Draft Institutional Control (IC) Plan; Draft Environmental Covenant(s); and a Title Report	Within 120 days after the effective date of the Agreed Order
Final IC Plan and Final Environmental Covenant(s)	Within 30 days of receipt of Ecology comments on the Draft IC Plan and Draft Environmental Covenant(s).
Record Final Environmental Covenant(s) with King County Auditor	Within 5 days after Ecology's approval of the Final IC Plan or Ecology's signature as grantee of the Final Environmental Covenant(s), whichever occurs last.
Start ground water monitoring	Within 90 days after final CAP is approved
Combined TPH/MNA/Arsenic ground water monitoring	Quarterly for two years, then modify based on results and consultation with Ecology Duration: 5 years unless a different action is triggered by the decision tree shown in table 1 of the dCAP
Combined TPH/MNA/Arsenic ground water monitoring reports	90 days after 4 th quarter sampling Annually for a minimum of 5 years unless a different action is triggered by the decision tree shown in table 1 of the dCAP
Progress reports	Every 3 months unless Ecology authorizes less frequent reporting

EXHIBIT D

Bothell Landing Facility Schedule of Deliverables

<u>Deliverables.</u>	<u>Due Date</u>
Draft Institutional Control (IC) Plan; Draft Environmental Covenant(s); and a Title Report	Within 120 days after the effective date of the Agreed Order
Final IC Plan and Final Environmental Covenant(s)	Within 30 days of receipt of Ecology comments on the Draft IC Plan and Draft Environmental Covenant(s).
Record Final Environmental Covenant(s) with King County Auditor	Within 5 days after Ecology's approval of the Final IC Plan or Ecology's signature as grantee of the Final Environmental Covenant(s), whichever occurs last.
Start ground water monitoring	Within 90 days after final CAP is approved
Combined TPH/Arsenic ground water monitoring	Quarterly for two years, then modify based on results and consultation with Ecology
Combined TPH/Arsenic ground water monitoring reports	90 days after 4 th quarter sampling
Progress reports	Every 3 months unless Ecology authorizes less frequent reporting

**ATTACHMENT B
ECOLOGY APPROVED COMPLIANCE MONITORING PLANS FOR
BOTHELL PAINT, BOTHELL HERTZ, BOTHELL LANDING**

3.0 SAMPLING PROCESS DESIGN

3.1 SAMPLING APPROACH

Compliance monitoring after the cleanup will include existing monitoring wells with documented past impacts, as summarized in Table 3-1. A one-time sampling event of the Horse Creek stormwater facility will also be conducted.

Table 3-1A
Sampling Approach – Ground Water
INITIAL ROUND

Sample type	Sampling location	Sampling Frequency / Rationale	Analytes
Point of Compliance	BPMW-6 BPMW-2R* BC-10	Initial Round	Total petroleum hydrocarbons, diesel and oil range (TPH-D, TPH-O) Nitrate, manganese (soluble), sulfate, methane, alkalinity Volatile Organic compounds (VOCs) Semivolatile Organic compounds (SVOCs) Total and dissolved metals (arsenic, cadmium, chromium, lead, mercury) Field parameters: dissolved oxygen, redox potential, pH, conductivity, temperature, ferrous iron

**Table 3-1B
Sampling Approach – Ground Water
SUBSEQUENT ROUNDS**

Sample type	Sampling location	Sampling Frequency / Rationale	Analytes
Petroleum hydrocarbons – Ground Water			
Point of Compliance	BPMW-6 BPMW-2R* BC-10	Quarterly for two years, then modify based on results and consultation with Ecology Duration: 5 years BC-10 will be monitored for two quarters to confirm compliance, if results exceed cleanup levels, monitoring will be the same as other wells.	Total petroleum hydrocarbons, diesel and oil range TPH-D, TPH-O, nitrate, manganese (soluble), sulfate, methane, alkalinity. Field parameters: dissolved oxygen, redox potential, pH, conductivity, temperature, ferrous iron
Petroleum hydrocarbons – Storm Water			
1 sample upgradient of Site, 2 samples on Site	See Figure 2	One time event	Total petroleum hydrocarbons, gasoline, diesel and oil range, BTEX TPH-G/BTEX, TPH-D, TPH-O, HVOCs
Arsenic – Ground Water			
Point of compliance	BPMW-1 BPMW-6 BC-10 BC-11	Same as petroleum hydrocarbon, but with additional quarterly monitoring for two years if TPH decreases to be in compliance** BC-10 will be monitored for two quarters to confirm compliance, if results exceed cleanup levels, monitoring will be the same as other wells.	Total Arsenic Dissolved Arsenic Field parameters

* BPMW-2R is a replacement well to be installed 30 to 35 feet northwest of BPMW-2, which was located in the middle of the newly constructed Horse Creek and therefore decommissioned.

** If compliance monitoring from the Site shows that the arsenic remains at elevated concentrations for eight quarters of monitoring, with no other detections of petroleum hydrocarbon or solvent contamination, this data can be used to demonstrate that the elevated concentrations represents a locally high natural

3.0 SAMPLING PROCESS DESIGN

3.1 SAMPLING APPROACH

Compliance monitoring after the cleanup will include existing monitoring wells with documented past impacts, as summarized in Table 3-1.

Table 3-1A
Sampling Approach – Ground Water
INITIAL ROUND

Sample type	Sampling location	Sampling Frequency / Rationale	Analytes
Point of Compliance	HZMW-19 BLMW-8 BC-16 HZMW-1 HZMW-4 HZMW-12 HZMW-17	Initial Round	Total petroleum hydrocarbons, diesel and oil range (TPH-D, TPH-O) Nitrate, manganese (soluble), sulfate, methane, alkalinity Volatile Organic compounds (VOCs) Semivolatile Organic compounds (SVOCs) Total and dissolved metals (arsenic, cadmium, chromium, lead, mercury) Field parameters: dissolved oxygen, redox potential, pH, conductivity, temperature, ferrous iron

**Table 3-1B
Sampling Approach – Ground Water
SUBSEQUENT ROUNDS**

Sample type	Sampling location	Sampling Frequency / Rationale	Analytes
Petroleum hydrocarbons – Ground Water			
Point of Compliance	HZMW-19 BLMW-8 BC-16	Quarterly for two years, then modify based on results and consultation with Ecology Duration: 5 years	Total petroleum hydrocarbons, diesel and oil range TPH-D, TPH-O, nitrate, manganese (soluble), sulfate, methane, alkalinity. Field parameters: dissolved oxygen, redox potential, pH, conductivity, temperature, ferrous iron
Arsenic – Ground Water			
Point of compliance	HZMW-1 HZMW-4 HZMW-12 HZMW-17 BC-16	Same as petroleum hydrocarbon, but with additional quarterly monitoring for two years if TPH decreases to be in compliance** BC-10 will be monitored for two quarters to confirm compliance, if results exceed cleanup levels, monitoring will be the same as other wells.	Total Arsenic Dissolved Arsenic Field parameters

* If compliance monitoring from the Site shows that the arsenic remains at elevated concentrations for eight quarters of monitoring, with no other detections of petroleum hydrocarbon or solvent contamination, this data can be used to demonstrate that the elevated concentrations represents a locally high natural background for arsenic. Based on this evidence, a request can be made to remove the institutional controls for ground water at the site and discontinue monitoring.

Figure 1 shows the well locations. The objective of the ground water sampling is to confirm that all COCs have met cleanup levels in ground water. Cleanup levels are provided in the cleanup action plan. The initial round of sampling will include a wider suite of analytes, to confirm the COC list. Note, however, that solvents are being addressed under separate agreements for the source sites, Bothell Service Center and Ultra Custom Cleaners.

Descriptions of the specific sampling methods for the above activities are presented in Sections 3.2. In addition, all sampling will be conducted in accordance with standard operating procedures.

LANDING – To include in A. *A list of on-site activities that have taken place during this quarter*

During a meeting with Jerome Cruz, Ching Pi and John Kane, Naphthalene, 1-Methylnaphthalene, and 2-Methylnaphthalene will continued to be included in compliance groundwater monitoring for one well, BL-MW-12 only. Concentrations of these chemicals were above their respective MTCA cleanup standard.

**Table 3-1B
Sampling Approach – Ground Water
SUBSEQUENT ROUNDS**

Sample type	Sampling location	Sampling Frequency / Rationale	Analytes
Arsenic			
Point of compliance	BLMW-11 BLMW-12 MW-1	Quarterly for two years, then modify based on results and consultation with Ecology*	Total Arsenic Dissolved Arsenic Total petroleum hydrocarbons, diesel and oil range TPH-D, TPH-O, Field parameters

* If compliance monitoring from the Site shows that the arsenic remains at elevated concentrations for eight quarters of monitoring, with no other detections of petroleum hydrocarbon contamination, this data can be used to demonstrate that the elevated concentrations represents a locally high natural background for arsenic. Based on this evidence, a request can be made to remove the institutional controls for ground water at the site and discontinue monitoring.

- F. A list of deliverables for the upcoming quarter if different from the schedule.
Same as the schedule

EXHIBIT D

**Bothell Landing Facility
Schedule of Deliverables**

*Naphthalene,
1-Methylnaphthalene, &
2-Methylnaphthalene*

<u>Deliverables.</u>	<u>Due Date</u>
Draft Institutional Control (IC) Plan; Draft Environmental Covenant(s); and a Title Report	Within 120 days after the effective date of the Agreed Order
Final IC Plan and Final Environmental Covenant(s)	Within 30 days of receipt of Ecology comments on the Draft IC Plan and Draft Environmental Covenant(s).
Record Final Environmental Covenant(s) with King County Auditor	Within 5 days after Ecology's approval of the Final IC Plan or Ecology's signature as grantee of the Final Environmental Covenant(s), whichever occurs last.
Start ground water monitoring	Within 90 days after final CAP is approved
Combined TPH/Arsenic ground water monitoring	Quarterly for two years, then modify based on results and consultation with Ecology
Combined TPH/Arsenic ground water monitoring reports	90 days after 4 th quarter sampling
Progress reports	Every 3 months unless Ecology authorizes less frequent reporting

ATTACHMENT C
ECOLOGY APPROVED COMPLIANCE MONITORING SCHEDULE FOR
BOTHELL PAINT, BOTHELL HERTZ, BOTHELL LANDING

From: [Cruz, Jerome \(ECY\)](#)
To: [Jeff Jensen](#); [John Kane](#)
Cc: [Nduta Mbutia](#); [Wang, Ching-Pi \(ECY\)](#)
Subject: [EXTERNAL] RE: Kane Environmental Compliance Sampling Schedule for Hertz-Landing -Paint
Date: Thursday, April 4, 2019 7:57:32 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

"

Jeff and John,

Let's proceed with your revised schedule below. The CMP calls for 8 quarters, but let's analyze the results and discuss if additional monitoring is necessary, if the City is willing to accept institutional controls with periodic reviews as the final remedy.

Let me know if you all agree.

Thanks,

Jerome

- **Winter 2019:** March 5, 2019 – March 15, 2019
- **Spring 2019:** May 20, 2019 – June 3, 2019
- **Summer 2019:** July 15, 2019 - August 5, 2019
- **Fall 2019:** October 7, 2019 – October 25, 2019
- **Winter 2020:** January 6, 2020 – January 20, 2020



Jerome B. Cruz, Ph.D.

Toxics Cleanup Program, Northwest Regional Office

3190 - 160th SE Bellevue, WA 98008

Tel: (425) 649-7094 Fax: (425) 649-7098

Jerome.Cruz@ecy.wa.gov

<http://www.ecy.wa.gov/programs/tcp/cleanup.html>

From: Jeff Jensen [mailto:Jeff@kane-environmental.com]

Sent: Monday, April 1, 2019 4:28 PM

To: Cruz, Jerome (ECY) <JCRU461@ECY.WA.GOV>; John Kane <jkane@kane-environmental.com>

Cc: Nduta Mbutia <Nduta.Mbutia@bothellwa.gov>; Wang, Ching-Pi (ECY) <CWAN461@ECY.WA.GOV>

Subject: RE: Kane Environmental Compliance Sampling Schedule for Hertz-Landing -Paint

Jerome,

Just to clarify, the ranges of dates listed for the proposed groundwater sampling events are hard start and stop dates, not a range of dates when sampling will begin. The compliance monitoring for Hertz, Paint, and Landing, as well as the performance monitoring for BSCSS, is anticipated to take a total of three weeks combined. That is why there is the three week range listed for each

quarter/event. We believe the proposed dates listed should provide a representative sampling event for each quarter. However, if you would like us to move some of the dates around we can certainly do that.

I have also attached updated tables which include the field parameters collected during the initial groundwater sampling event. I apologize for not including these in the original table. Going forward we will be sure to include this data in the tables.

As for the surface water data, all results came back non-detect. We will have data tables to deliver to Nduta later today.

Please let me know if you have any additional questions or comments.

Thanks,

Jeff Jensen, Project Geologist

Kane Environmental, Inc. | Environmental Issues. Business Solutions.

PO Box 31936, Seattle WA 98103

Headquarters 4015 13th Avenue West, Seattle, WA 98119

Direct: 206-673-5731 Cell: 425-344-3707 Toll Free 1-844-529-KANE

Jeff@kane-environmental.com www.kane-environmental.com

Seattle, WA | Tacoma, WA | Phoenix, AZ | Nationwide Services

From: Cruz, Jerome (ECY) <JCRU461@ECY.WA.GOV>

Sent: Friday, March 29, 2019 4:06 PM

To: John Kane <jkane@kane-environmental.com>

Cc: Nduta Mbutia <Nduta.Mbutia@bothellwa.gov>; Wang, Ching-Pi (ECY)

<CWAN461@ECY.WA.GOV>; Jeff Jensen <Jeff@kane-environmental.com>

Subject: RE: Kane Environmental Compliance Sampling Schedule for Hertz-Landing -Paint

Hi John,

Given that the revised sampling schedule provides a range of dates, it still seems off to me because the ranges are so close you could have sampling between rounds that are at least 5 days apart! Since March 9, 2019 is the winter sampling round, could you construct a schedule that keeps to a quarterly interval and also begins and ends at the same period of time so that we can encompass the full seasonal cycle?

Also, since ORP measurements were taken, could you resubmit the Sept-Nov 2018 tables with the ORP or redox measurements (taking out "Draft" mark)? Also, what are the Horse creek stormwater samples showing? This was meant to see if the relocation of the Creek through the Paint site has not resulted in any recontamination by the Paint and BSCSS sites as it flows in this reach.

Thanks,

Jerome



Jerome B. Cruz, Ph.D.
Toxics Cleanup Program, Northwest Regional Office
3190 - 160th SE Bellevue, WA 98008
Tel: (425) 649-7094 Fax: (425) 649-7098
Jerome.Cruz@ecy.wa.gov
<http://www.ecy.wa.gov/programs/tcp/cleanup.html>

From: John Kane [<mailto:jkane@kane-environmental.com>]
Sent: Wednesday, March 27, 2019 1:11 PM
To: Cruz, Jerome (ECY) <JCRU461@ECY.WA.GOV>
Cc: Nduta Mbutia <Nduta.Mbutia@bothellwa.gov>; Wang, Ching-Pi (ECY) <CWAN461@ECY.WA.GOV>; Jeff Jensen <Jeff@kane-environmental.com>; John Kane <jkane@kane-environmental.com>
Subject: Kane Environmental Compliance Sampling Schedule for Hertz-Landing -Paint

Jerome,

We have addressed your comments in red below:

- Attached progress report says Winter sampling was to occur in January, yet the schedule letter says it was completed in March. Why was this delayed? Is winter sampling the second round of compliance monitoring?

Per the email exchange between me (John Kane) and yourself on Friday February 8, 2019, sampling was to be conducted in February (See attached). Unfortunately the snow prevented us from starting when we had originally planned (2/11/19). Additionally, per my notes on the meeting between John Kane, Ching Pi, and yourself on February 1, 2019, groundwater sampling around the ERH system at the BSCSS site was to occur before the Paint, Hertz, and Landing sampling event. This, coupled with the bad weather, pushed the sampling into early March. Sampling in March represents the Winter 2019 Quarter especially due to the amount of snow and rain during mid to late February 2019.

- Attached report also says an end of the year report was to be submitted as part of the compliance monitoring reporting. I can't find any in my files.

Attached email correspondence from 10/26 & 10/29 between yourself and Nduta which

discusses this point.

- What do you consider as the first round of sampling? Winter 2019? My records say the first round occurred on Sept. 6, 2018 (Hertz and Landing), and Nov. 20, 2018 (Paint). Also, if you consider March 9, 2019 as a quarter of monitoring, the next round proposed on April-22-May, 2019, seems too soon.

Winter 2019 is considered the first Quarter of Quarterly Monitoring. The first groundwater sampling event (in September and November 2018) was considered the "Initial Round". We can push the second Quarter to the weeks of May 20, 2019 – June 3, 2019. The goal of the sampling schedule is meant to encompass all groundwater monitoring at the BSCSS, and the Paint, Hertz, and Landing sites. How does this look?:

- **Winter 2019:** March 5, 2019 – March 15, 2019
- **Spring 2019:** May 20, 2019 – June 3, 2019
- **Summer 2019:** July 15, 2019 - August 5, 2019
- **Fall 2019:** October 7, 2019 – October 25, 2019
- **Winter 2020:** January 6, 2020 – January 20, 2020

- Winter 2019 dates seem too soon after Fall 2018 (Oct, then December is less than a quarter).

Please see the amended proposed schedule above.

- What about Horse Creek sampling at the Paint site as required in the Paint CMP? When will this be done or has this been done?

The surface water sampling in Horse Creek was conducted in March as a part of the Winter Quarter sampling event.

- First round of results (Sept-Nov 2018): Why is redox potential or ORP not reported as required in the XCMP for the three sites? If omitted, please include this measurement in the compliance sampling program. Also, the tables submitted say Draft on them. Were the data validated by the analytical lab? Can you include the analytical reports in the submissions?

We have always collected redox potential and ORP (along with the other required field

parameters). I will be sure the field parameter data is included in all future tables. The original tables were submitted for review as a draft just in case requests to alter the formatting were made. The “Draft” mark can be removed. All data was reviewed and validated by the analytical laboratory. I will be sure that Nduta gets all of the laboratory analytical reports to include in the submissions.

- I would like to know if Kane Environmental will offer some interpretation and/or discussion on the results to account for the persistent high arsenic in groundwater. I would like to know if they expect this to be Ecology’s scope of work.

We would prefer to hold off on making any interpretations or discussions on the data until we have completed more quarterly monitoring events and collected more data.

Let us know if you have any additional comments or questions.

John Kane, CEO/President
Kane Environmental, Inc.
Environmental Issues. Business Solutions.
4015 13th Avenue West
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Seattle, WA | Phoenix, AZ | Nationwide Services

**ATTACHMENT A
LABORATORY ANALYTICAL REPORTS**



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

Kane Environmental, Inc.

Jeff Jensen
4015 13th Ave W.
Seattle, WA 98103

RE: Paint

Work Order Number: 1903087

March 14, 2019

Attention Jeff Jensen:

Fremont Analytical, Inc. received 4 sample(s) on 3/7/2019 for the analyses presented in the following report.

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

Dissolved Gases by RSK-175

Dissolved Metals by EPA Method 200.8

Ion Chromatography by EPA Method 300.0

Total Metals by EPA Method 200.8

Total Alkalinity by SM 2320B

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,

Chelsea Ward
Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

CLIENT: Kane Environmental, Inc.
Project: Paint
Work Order: 1903087

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1903087-001	BPMW-2R:W	03/07/2019 11:50 AM	03/07/2019 4:07 PM
1903087-002	BPMW-6:W	03/07/2019 1:05 PM	03/07/2019 4:07 PM
1903087-003	BC-11R:W	03/07/2019 2:02 PM	03/07/2019 4:07 PM
1903087-004	BPMW-1:W	03/07/2019 3:03 PM	03/07/2019 4:07 PM

CLIENT: Kane Environmental, Inc.

Project: Paint

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: Kane Environmental, Inc.

Collection Date: 3/7/2019 11:50:00 AM

Project: Paint

Lab ID: 1903087-001

Matrix: Groundwater

Client Sample ID: BPMW-2R:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Gases by RSK-175

Batch ID: R50033 Analyst: AD

Methane	0.651	0.0863	D	mg/L	10	3/14/2019 12:36:00 PM
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23765 Analyst: DW

Diesel (Fuel Oil)	ND	49.7		µg/L	1	3/13/2019 1:30:58 AM
Diesel Range Organics (C12-C24)	122	49.7		µg/L	1	3/13/2019 1:30:58 AM
Heavy Oil	219	99.4		µg/L	1	3/13/2019 1:30:58 AM
Surr: 2-Fluorobiphenyl	79.5	50 - 150		%Rec	1	3/13/2019 1:30:58 AM
Surr: o-Terphenyl	83.6	50 - 150		%Rec	1	3/13/2019 1:30:58 AM

NOTES:

DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (~C12-C24).

Ion Chromatography by EPA Method 300.0

Batch ID: 23719 Analyst: TN

Nitrate (as N)	ND	0.100		mg/L	1	3/8/2019 9:59:00 PM
Sulfate	1.87	0.300		mg/L	1	3/8/2019 9:59:00 PM

Dissolved Metals by EPA Method 200.8

Batch ID: 23798 Analyst: WC

Manganese	94.0	2.00		µg/L	1	3/13/2019 3:03:20 PM
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Total Alkalinity by SM 2320B

Batch ID: R50025 Analyst: ME

Alkalinity, Total (As CaCO3)	117	2.50		mg/L	1	3/12/2019 8:20:00 AM
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Client: Kane Environmental, Inc.

Collection Date: 3/7/2019 1:05:00 PM

Project: Paint

Lab ID: 1903087-002

Matrix: Groundwater

Client Sample ID: BPMW-6:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Gases by RSK-175

Batch ID: R50033 Analyst: AD

Methane	2.25	0.173	D	mg/L	20	3/14/2019 1:25:00 PM
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23765 Analyst: DW

Diesel (Fuel Oil)	ND	50.3		µg/L	1	3/13/2019 2:00:29 AM
Heavy Oil	ND	101		µg/L	1	3/13/2019 2:00:29 AM
Surr: 2-Fluorobiphenyl	82.7	50 - 150		%Rec	1	3/13/2019 2:00:29 AM
Surr: o-Terphenyl	39.1	50 - 150	S	%Rec	1	3/13/2019 2:00:29 AM

NOTES:

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

Ion Chromatography by EPA Method 300.0

Batch ID: 23777 Analyst: TN

Nitrate (as N)	8.59	1.00	DH	mg/L	10	3/12/2019 3:31:00 PM
Nitrate (as N)	10.0	0.100	E	mg/L	1	3/8/2019 10:22:00 PM
Sulfate	5.18	0.300		mg/L	1	3/8/2019 10:22:00 PM

NOTES:

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

Dissolved Metals by EPA Method 200.8

Batch ID: 23798 Analyst: WC

Arsenic	13.8	1.75		µg/L	1	3/13/2019 3:19:25 PM
Manganese	27.7	2.00		µg/L	1	3/13/2019 3:19:25 PM

Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	14.7	1.75		µg/L	1	3/8/2019 5:52:07 PM
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Total Alkalinity by SM 2320B

Batch ID: R50025 Analyst: ME

Alkalinity, Total (As CaCO3)	25.7	2.50		mg/L	1	3/12/2019 8:20:00 AM
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Client: Kane Environmental, Inc.

Collection Date: 3/7/2019 2:02:00 PM

Project: Paint

Lab ID: 1903087-003

Matrix: Groundwater

Client Sample ID: BC-11R:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Metals by EPA Method 200.8

Batch ID: 23798 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/13/2019 3:23:26 PM
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Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 5:56:09 PM
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Client: Kane Environmental, Inc.

Collection Date: 3/7/2019 3:03:00 PM

Project: Paint

Lab ID: 1903087-004

Matrix: Groundwater

Client Sample ID: BPMW-1:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Metals by EPA Method 200.8

Batch ID: 23798 Analyst: WC

Arsenic	4.83	1.75		µg/L	1	3/13/2019 3:35:30 PM
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Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	12.9	1.75		µg/L	1	3/8/2019 6:00:11 PM
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Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID	LCS-23719	SampType:	LCS	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49874		
Client ID:	LCSW	Batch ID:	23719	Analysis Date:	3/6/2019	SeqNo:	977978				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.443	0.100	0.7500	0	59.1	90	110				S*
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NOTES:
LCS serves as an initial calibration verification. Samples will be flagged with a *.

Sample ID	MB-23719	SampType:	MBLK	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49874		
Client ID:	MBLKW	Batch ID:	23719	Analysis Date:	3/6/2019	SeqNo:	977979				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100									*
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NOTES:
* - Flagged value is not within established control limits.

Sample ID	1903055-015BDUP	SampType:	DUP	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49874		
Client ID:	BATCH	Batch ID:	23719	Analysis Date:	3/6/2019	SeqNo:	977981				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.411	0.100						0.4110	0	20	*
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NOTES:
* - Flagged value is not within established control limits.

Sample ID	1903055-015BMS	SampType:	MS	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49874		
Client ID:	BATCH	Batch ID:	23719	Analysis Date:	3/6/2019	SeqNo:	977982				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.18	0.100	0.7500	0.4110	103	80	120				
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Sample ID	1903055-015BMSD	SampType:	MSD	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49874		
Client ID:	BATCH	Batch ID:	23719	Analysis Date:	3/6/2019	SeqNo:	977983				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.23	0.100	0.7500	0.4110	109	80	120	1.181	3.82	20	
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Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID 1903055-015BMSD	SampType: MSD	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719	Analysis Date: 3/6/2019	SeqNo: 977983								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID 1903055-016BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719	Analysis Date: 3/7/2019	SeqNo: 977995								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.39	0.200						1.398	0.574	20	D*
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NOTES:

* - Flagged value is not within established control limits.

Sample ID 1903055-016BMS	SampType: MS	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719	Analysis Date: 3/7/2019	SeqNo: 977998								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	2.98	0.200	1.500	1.398	105	80	120				D
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Sample ID LCS-23719	SampType: LCS	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49924							
Client ID: LCSW	Batch ID: 23719	Analysis Date: 3/8/2019	SeqNo: 978987								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.687	0.100	0.7500	0	91.6	90	110				
Sulfate	3.44	0.300	3.750	0	91.8	90	110				

Sample ID MB-23719	SampType: MBLK	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49924							
Client ID: MBLKW	Batch ID: 23719	Analysis Date: 3/8/2019	SeqNo: 978988								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									



Date: 3/14/2019

Work Order: 1903087
 CLIENT: Kane Environmental, Inc.
 Project: Paint

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID	1903055-015BDUP	SampType:	DUP	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	BATCH	Batch ID:	23719			Analysis Date:	3/8/2019	SeqNo:	978992		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.394	0.100						0.3940	0	20	H
Sulfate	5.87	0.300						5.884	0.255	20	

Sample ID	1903055-015BMS	SampType:	MS	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	BATCH	Batch ID:	23719			Analysis Date:	3/8/2019	SeqNo:	978993		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.04	0.100	0.7500	0.3940	86.0	80	120				H
Sulfate	9.32	0.300	3.750	5.884	91.6	80	120				

Sample ID	1903055-015BMSD	SampType:	MSD	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	BATCH	Batch ID:	23719			Analysis Date:	3/8/2019	SeqNo:	978994		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.09	0.100	0.7500	0.3940	92.4	80	120	1.039	4.52	20	H
Sulfate	9.59	0.300	3.750	5.884	98.8	80	120	9.320	2.83	20	

Sample ID	1903055-016BDUP	SampType:	DUP	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	BATCH	Batch ID:	23719			Analysis Date:	3/9/2019	SeqNo:	979002		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.37	0.200						1.368	0.146	20	DH
Sulfate	6.86	0.600						6.830	0.380	20	D

Sample ID	1903055-016BMS	SampType:	MS	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	BATCH	Batch ID:	23719			Analysis Date:	3/9/2019	SeqNo:	979003		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	2.93	0.200	0.7500	1.368	209	80	120				DSH
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Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID 1903055-016BMS	SampType: MS	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49924							
Client ID: BATCH	Batch ID: 23719		Analysis Date: 3/9/2019	SeqNo: 979003							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	14.3	0.600	3.750	6.830	199	80	120				DS
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Sample ID MB-23777	SampType: MBLK	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49986							
Client ID: MBLKW	Batch ID: 23777		Analysis Date: 3/12/2019	SeqNo: 980776							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100									
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Sample ID LCS-23777	SampType: LCS	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49986							
Client ID: LCSW	Batch ID: 23777		Analysis Date: 3/12/2019	SeqNo: 980777							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.709	0.100	0.7500	0	94.5	90	110				
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Sample ID 1903068-002BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49986							
Client ID: BATCH	Batch ID: 23777		Analysis Date: 3/12/2019	SeqNo: 980779							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.200						0		20	DH
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Sample ID 1903068-002BMS	SampType: MS	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49986							
Client ID: BATCH	Batch ID: 23777		Analysis Date: 3/12/2019	SeqNo: 980780							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.38	0.200	1.500	0	92.3	80	120				DH
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Work Order: 1903087
 CLIENT: Kane Environmental, Inc.
 Project: Paint

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID 1903068-002BMSD	SampType: MSD	Units: mg/L			Prep Date: 3/11/2019	RunNo: 49986					
Client ID: BATCH	Batch ID: 23777				Analysis Date: 3/12/2019	SeqNo: 980781					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	1.45	0.200	1.500	0	96.4	80	120	1.384	4.38	20	DH

Sample ID 1903068-005BDUP	SampType: DUP	Units: mg/L			Prep Date: 3/11/2019	RunNo: 49986					
Client ID: BATCH	Batch ID: 23777				Analysis Date: 3/12/2019	SeqNo: 980786					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.200						0		20	DH

Sample ID 1903068-005BMS	SampType: MS	Units: mg/L			Prep Date: 3/11/2019	RunNo: 49986					
Client ID: BATCH	Batch ID: 23777				Analysis Date: 3/12/2019	SeqNo: 980789					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	1.43	0.200	1.500	0.1020	88.7	80	120				DH



Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID MB-23798	SampType: MBLK	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50016					
Client ID: MBLKW	Batch ID: 23798				Analysis Date: 3/13/2019	SeqNo: 981695					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75									
Manganese	ND	2.00									

Sample ID LCS-23798	SampType: LCS	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50016					
Client ID: LCSW	Batch ID: 23798				Analysis Date: 3/13/2019	SeqNo: 981696					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	99.8	1.75	100.0	0	99.8	85	115				
Manganese	105	2.00	100.0	0	105	85	115				

Sample ID 1903087-001BDUP	SampType: DUP	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50016					
Client ID: BPMW-2R:W	Batch ID: 23798				Analysis Date: 3/13/2019	SeqNo: 981698					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75						0		30	
Manganese	92.9	2.00						94.04	1.24	30	

Sample ID 1903087-001BMS	SampType: MS	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50016					
Client ID: BPMW-2R:W	Batch ID: 23798				Analysis Date: 3/13/2019	SeqNo: 981699					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	519	1.75	500.0	0.9435	104	70	130				
Manganese	610	2.00	500.0	94.04	103	70	130				

Sample ID 1903087-001BMSD	SampType: MSD	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50016					
Client ID: BPMW-2R:W	Batch ID: 23798				Analysis Date: 3/13/2019	SeqNo: 981700					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	520	1.75	500.0	0.9435	104	70	130	518.9	0.284	30	
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Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID 1903087-001BMSD	SampType: MSD	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50016					
Client ID: BPMW-2R:W	Batch ID: 23798				Analysis Date: 3/13/2019	SeqNo: 981700					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	650	2.00	500.0	94.04	111	70	130	610.4	6.34	30	

Sample ID MB-23782FB	SampType: MBLK	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50016					
Client ID: MBLKW	Batch ID: 23798				Analysis Date: 3/13/2019	SeqNo: 981706					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.75									
Manganese	ND	2.00									

Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID MB-23755	SampType: MBLK	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49935							
Client ID: MBLKW	Batch ID: 23755	Analysis Date: 3/8/2019	SeqNo: 979307								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75

Sample ID LCS-23755	SampType: LCS	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49935							
Client ID: LCSW	Batch ID: 23755	Analysis Date: 3/8/2019	SeqNo: 979310								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 103 1.75 100.0 0 103 85 115

Sample ID 1903074-001DDUP	SampType: DUP	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49935							
Client ID: BATCH	Batch ID: 23755	Analysis Date: 3/8/2019	SeqNo: 979312								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 3.26 1.75 3.704 12.7 30

Sample ID 1903074-001DMS	SampType: MS	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49935							
Client ID: BATCH	Batch ID: 23755	Analysis Date: 3/8/2019	SeqNo: 979313								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 569 1.75 500.0 3.704 113 70 130

Sample ID 1903074-001DMSD	SampType: MSD	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49935							
Client ID: BATCH	Batch ID: 23755	Analysis Date: 3/8/2019	SeqNo: 979314								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 579 1.75 500.0 3.704 115 70 130 568.7 1.83 30

Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID MB-23765	SampType: MBLK	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: MBLKW	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 980531					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	50.1									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	64.3		80.23		80.2	50	150				
Surr: o-Terphenyl	65.2		80.23		81.2	50	150				

Sample ID LCS-23765	SampType: LCS	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: LCSW	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 980532					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	729	50.3	1,006	0	72.5	65	135				
Surr: 2-Fluorobiphenyl	66.9		80.50		83.1	50	150				
Surr: o-Terphenyl	62.9		80.50		78.1	50	150				

Sample ID 1903064-001BDUP	SampType: DUP	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: BATCH	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 981126					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	54.1						0		30	
Heavy Oil	275	108						234.4	16.1	30	
Surr: 2-Fluorobiphenyl	61.4		86.61		70.9	50	150		0		
Surr: o-Terphenyl	70.7		86.61		81.7	50	150		0		

Sample ID 1903076-001AMS	SampType: MS	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: BATCH	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 981129					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	6,850	50.1	1,001	5,757	109	65	135				E
Surr: 2-Fluorobiphenyl	73.6		80.09		91.9	50	150				
Surr: o-Terphenyl	72.2		80.09		90.1	50	150				

Work Order: 1903087
 CLIENT: Kane Environmental, Inc.
 Project: Paint

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID	1903076-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977				
Client ID:	BATCH	Batch ID:	23765			Analysis Date:	3/12/2019	SeqNo:	981129				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

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

Sample ID	1903076-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977				
Client ID:	BATCH	Batch ID:	23765			Analysis Date:	3/12/2019	SeqNo:	981130				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)		7,050		49.9	997.8	5,757	130	65	135	6,848	2.91	30	E
Surr: 2-Fluorobiphenyl		53.5			79.83		67.1	50	150		0		
Surr: o-Terphenyl		84.2			79.83		105	50	150		0		

NOTES:

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

Sample ID	1903086-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977				
Client ID:	BATCH	Batch ID:	23765			Analysis Date:	3/13/2019	SeqNo:	981143				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)		ND		49.8						0		30	
Heavy Oil		ND		99.6						0		30	
Surr: 2-Fluorobiphenyl		67.1			79.71		84.2	50	150		0		
Surr: o-Terphenyl		67.4			79.71		84.6	50	150		0		

Work Order: 1903087
 CLIENT: Kane Environmental, Inc.
 Project: Paint

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID	MB-R50033A	SampType:	MBLK	Units:	mg/L	Prep Date:	3/13/2019	RunNo:	50033			
Client ID:	MBLKW	Batch ID:	R50033			Analysis Date:	3/13/2019	SeqNo:	981993			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID	LCS-R50033A	SampType:	LCS	Units:	mg/L	Prep Date:	3/13/2019	RunNo:	50033			
Client ID:	LCSW	Batch ID:	R50033			Analysis Date:	3/13/2019	SeqNo:	981992			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1,040 0.00863 1,000 0 104 70 130

Sample ID	1903064-001DREP	SampType:	REP	Units:	mg/L	Prep Date:	3/13/2019	RunNo:	50033			
Client ID:	BATCH	Batch ID:	R50033			Analysis Date:	3/13/2019	SeqNo:	981982			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1.72 0.00863 1.446 17.6 30 E

NOTES:

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

Sample ID	MB-R50033B	SampType:	MBLK	Units:	mg/L	Prep Date:	3/14/2019	RunNo:	50033			
Client ID:	MBLKW	Batch ID:	R50033			Analysis Date:	3/14/2019	SeqNo:	982411			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID	LCS-R50033B	SampType:	LCS	Units:	mg/L	Prep Date:	3/14/2019	RunNo:	50033			
Client ID:	LCSW	Batch ID:	R50033			Analysis Date:	3/14/2019	SeqNo:	982410			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1,020 0.00863 1,000 0 102 70 130



Work Order: 1903087
CLIENT: Kane Environmental, Inc.
Project: Paint

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID 1903064-001DREP	SampType: REP	Units: mg/L			Prep Date: 3/14/2019	RunNo: 50033					
Client ID: BATCH	Batch ID: R50033				Analysis Date: 3/14/2019	SeqNo: 982400					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	4.44	0.173						4.260	4.14	30	DE

NOTES:

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

Client Name: **KANE**

 Work Order Number: **1903087**

 Logged by: **Brianna Barnes**

 Date Received: **3/7/2019 4:07:00 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 dissolved metals volume.
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:	<input type="text"/>	Date	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	2.5
Sample	6.3
Temp Blank	3.0

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



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

Chain of Custody Record & Laboratory Services Agreement

Date: 3/7/19 Page: 1 of 1

Project Name: PAINT

Project No: 82302-13

Collected by: RGT+JJ

Location: Portwell

Report To (PM): JEFF JENSEN

PM Email: JEFF@KANE-ENVIRONMENTAL.COM

Laboratory Project No (Internal): 1903087

Special Remarks:

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes										Comments				
				VOCs (EPA 8260 / 624)	GX/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DH)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)		Total (T) Dissolved (D)	Anions (Cl)***	EDB (8011)	Metals alkalinity
1 BPMN-2R:W	3/7	1150	GW															MN; Lab Filter
2 BPMN-10:W	3/7	1205	GW				X											DIS MN; TSD AS; Lab Filter
3 BC-11R:W	3/7	1402	GW															MN AS; Lab Filter
4 BPMN-1:W	3/7	1503	GW															AS; Lab Filter
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): Mn As B Ba Be Ca Cd Co Cr Cu Fe Hg K Me (Mn) Mo Na Ni Pb Sb Se Sr Sn 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: MJL Date/Time: 3/7/19 1007

Received: [Signature] Date/Time: 3/7/19 1007

Relinquished: [Signature] Date/Time: 3/7/19 1007

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



Kane Environmental, Inc.

Jeff Jensen
4015 13th Ave W.
Seattle, WA 98103

RE: Bothell Paint
Work Order Number: 1903225

March 22, 2019

Attention Jeff Jensen:

Fremont Analytical, Inc. received 4 sample(s) on 3/15/2019 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Gases by RSK-175
Dissolved Metals by EPA Method 200.8
Gasoline by NWTPH-Gx
Ion Chromatography by EPA Method 300.0
Total Metals by EPA Method 200.8
Total Alkalinity by SM 2320B
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,

Chelsea Ward
Project Manager

CLIENT: Kane Environmental, Inc.
Project: Bothell Paint
Work Order: 1903225

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1903225-001	BC-10:W	03/15/2019 10:15 AM	03/15/2019 12:30 PM
1903225-002	S-1:W	03/15/2019 10:45 AM	03/15/2019 12:30 PM
1903225-003	S-2:W	03/15/2019 10:58 AM	03/15/2019 12:30 PM
1903225-004	S-3:W	03/15/2019 11:08 AM	03/15/2019 12:30 PM

CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

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: Kane Environmental, Inc.

Collection Date: 3/15/2019 10:15:00 AM

Project: Bothell Paint

Lab ID: 1903225-001

Matrix: Groundwater

Client Sample ID: BC-10:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Gases by RSK-175

Batch ID: R50238 Analyst: AD

Methane	0.0872	0.00863		mg/L	1	3/22/2019 12:42:00 PM
Ethene	ND	0.0151		mg/L	1	3/22/2019 12:42:00 PM
Ethane	ND	0.0162		mg/L	1	3/22/2019 12:42:00 PM

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

Batch ID: 23870 Analyst: DW

Diesel (Fuel Oil)	ND	50.3		µg/L	1	3/21/2019 3:26:08 AM
Heavy Oil	ND	101		µg/L	1	3/21/2019 3:26:08 AM
Surr: 2-Fluorobiphenyl	94.1	50 - 150		%Rec	1	3/21/2019 3:26:08 AM
Surr: o-Terphenyl	103	50 - 150		%Rec	1	3/21/2019 3:26:08 AM

Ion Chromatography by EPA Method 300.0

Batch ID: 23831 Analyst: GM

Nitrate (as N)	ND	0.100		mg/L	1	3/15/2019 7:07:00 PM
Sulfate	6.22	0.300		mg/L	1	3/15/2019 7:07:00 PM

Dissolved Metals by EPA Method 200.8

Batch ID: 23888 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/20/2019 11:52:17 AM
Manganese	194	2.00		µg/L	1	3/20/2019 11:52:17 AM

Total Metals by EPA Method 200.8

Batch ID: 23889 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/20/2019 1:29:26 PM
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Total Alkalinity by SM 2320B

Batch ID: R50150 Analyst: ME

Alkalinity, Total (As CaCO3)	167	2.50		mg/L	1	3/18/2019 9:30:00 AM
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Client: Kane Environmental, Inc.

Collection Date: 3/15/2019 10:45:00 AM

Project: Bothell Paint

Lab ID: 1903225-002

Matrix: Water

Client Sample ID: S-1:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23870 Analyst: DW

Diesel (Fuel Oil)	ND	50.3		µg/L	1	3/21/2019 3:55:35 AM
Heavy Oil	ND	101		µg/L	1	3/21/2019 3:55:35 AM
Surr: 2-Fluorobiphenyl	97.7	50 - 150		%Rec	1	3/21/2019 3:55:35 AM
Surr: o-Terphenyl	104	50 - 150		%Rec	1	3/21/2019 3:55:35 AM

Gasoline by NWTPH-Gx

Batch ID: 23914 Analyst: KT

Gasoline	ND	50.0		µg/L	1	3/21/2019 11:27:49 PM
Surr: Toluene-d8	101	65 - 135		%Rec	1	3/21/2019 11:27:49 PM
Surr: 4-Bromofluorobenzene	97.9	65 - 135		%Rec	1	3/21/2019 11:27:49 PM

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 23914 Analyst: KT

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Chloromethane	ND	2.00	Q	µg/L	1	3/21/2019 11:27:49 PM
Vinyl chloride	ND	0.200		µg/L	1	3/21/2019 11:27:49 PM
Bromomethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Chloroethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Methylene chloride	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
2,2-Dichloropropane	ND	2.00		µg/L	1	3/21/2019 11:27:49 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Chloroform	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Carbon tetrachloride	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Benzene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/21/2019 11:27:49 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Bromodichloromethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Dibromomethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Toluene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM



Client: Kane Environmental, Inc.

Collection Date: 3/15/2019 10:45:00 AM

Project: Bothell Paint

Lab ID: 1903225-002

Matrix: Water

Client Sample ID: S-1:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: 23914

Analyst: KT

1,3-Dichloropropane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Dibromochloromethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	3/21/2019 11:27:49 PM
Chlorobenzene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Ethylbenzene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
m,p-Xylene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
o-Xylene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Bromoform	ND	2.00		µg/L	1	3/21/2019 11:27:49 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Bromobenzene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
2-Chlorotoluene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
4-Chlorotoluene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	3/21/2019 11:27:49 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	3/21/2019 11:27:49 PM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	3/21/2019 11:27:49 PM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	3/21/2019 11:27:49 PM
Surr: Dibromofluoromethane	98.0	45.4 - 152		%Rec	1	3/21/2019 11:27:49 PM
Surr: Toluene-d8	105	40.1 - 139		%Rec	1	3/21/2019 11:27:49 PM
Surr: 1-Bromo-4-fluorobenzene	99.2	64.2 - 128		%Rec	1	3/21/2019 11:27:49 PM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria



Client: Kane Environmental, Inc.

Collection Date: 3/15/2019 10:58:00 AM

Project: Bothell Paint

Lab ID: 1903225-003

Matrix: Water

Client Sample ID: S-2:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23870 Analyst: DW

Diesel (Fuel Oil)	ND	50.0		µg/L	1	3/21/2019 5:24:01 AM
Heavy Oil	ND	99.9		µg/L	1	3/21/2019 5:24:01 AM
Surr: 2-Fluorobiphenyl	98.1	50 - 150		%Rec	1	3/21/2019 5:24:01 AM
Surr: o-Terphenyl	106	50 - 150		%Rec	1	3/21/2019 5:24:01 AM

Gasoline by NWTPH-Gx

Batch ID: 23914 Analyst: KT

Gasoline	ND	50.0		µg/L	1	3/22/2019 12:28:57 AM
Surr: Toluene-d8	99.8	65 - 135		%Rec	1	3/22/2019 12:28:57 AM
Surr: 4-Bromofluorobenzene	97.5	65 - 135		%Rec	1	3/22/2019 12:28:57 AM

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 23914 Analyst: KT

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Chloromethane	ND	2.00	Q	µg/L	1	3/22/2019 12:28:57 AM
Vinyl chloride	ND	0.200		µg/L	1	3/22/2019 12:28:57 AM
Bromomethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Chloroethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Methylene chloride	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	3/22/2019 12:28:57 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Chloroform	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Carbon tetrachloride	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Benzene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/22/2019 12:28:57 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Bromodichloromethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Dibromomethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Toluene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM



Client: Kane Environmental, Inc.

Collection Date: 3/15/2019 10:58:00 AM

Project: Bothell Paint

Lab ID: 1903225-003

Matrix: Water

Client Sample ID: S-2:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: 23914

Analyst: KT

1,3-Dichloropropane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Dibromochloromethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	3/22/2019 12:28:57 AM
Chlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Ethylbenzene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
m,p-Xylene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
o-Xylene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Bromoform	ND	2.00		µg/L	1	3/22/2019 12:28:57 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Bromobenzene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
2-Chlorotoluene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
4-Chlorotoluene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	3/22/2019 12:28:57 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	3/22/2019 12:28:57 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	3/22/2019 12:28:57 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	3/22/2019 12:28:57 AM
Surr: Dibromofluoromethane	97.6	45.4 - 152		%Rec	1	3/22/2019 12:28:57 AM
Surr: Toluene-d8	104	40.1 - 139		%Rec	1	3/22/2019 12:28:57 AM
Surr: 1-Bromo-4-fluorobenzene	98.8	64.2 - 128		%Rec	1	3/22/2019 12:28:57 AM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria



Client: Kane Environmental, Inc.

Collection Date: 3/15/2019 11:08:00 AM

Project: Bothell Paint

Lab ID: 1903225-004

Matrix: Water

Client Sample ID: S-3:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23870 Analyst: DW

Diesel (Fuel Oil)	ND	50.3		µg/L	1	3/21/2019 5:53:30 AM
Heavy Oil	ND	101		µg/L	1	3/21/2019 5:53:30 AM
Surr: 2-Fluorobiphenyl	98.8	50 - 150		%Rec	1	3/21/2019 5:53:30 AM
Surr: o-Terphenyl	107	50 - 150		%Rec	1	3/21/2019 5:53:30 AM

Gasoline by NWTPH-Gx

Batch ID: 23914 Analyst: KT

Gasoline	ND	50.0		µg/L	1	3/22/2019 12:59:32 AM
Surr: Toluene-d8	99.6	65 - 135		%Rec	1	3/22/2019 12:59:32 AM
Surr: 4-Bromofluorobenzene	98.8	65 - 135		%Rec	1	3/22/2019 12:59:32 AM

Volatile Organic Compounds by EPA Method 8260C

Batch ID: 23914 Analyst: KT

Dichlorodifluoromethane (CFC-12)	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Chloromethane	ND	2.00	Q	µg/L	1	3/22/2019 12:59:32 AM
Vinyl chloride	ND	0.200		µg/L	1	3/22/2019 12:59:32 AM
Bromomethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Trichlorofluoromethane (CFC-11)	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Chloroethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Methylene chloride	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
2,2-Dichloropropane	ND	2.00		µg/L	1	3/22/2019 12:59:32 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Chloroform	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,1,1-Trichloroethane (TCA)	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Carbon tetrachloride	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,2-Dichloroethane (EDC)	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Benzene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	3/22/2019 12:59:32 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Bromodichloromethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Dibromomethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Toluene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
trans-1,3-Dichloropropylene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM



Client: Kane Environmental, Inc.

Collection Date: 3/15/2019 11:08:00 AM

Project: Bothell Paint

Lab ID: 1903225-004

Matrix: Water

Client Sample ID: S-3:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260C

Batch ID: 23914

Analyst: KT

1,3-Dichloropropane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Tetrachloroethene (PCE)	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Dibromochloromethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,2-Dibromoethane (EDB)	ND	0.250		µg/L	1	3/22/2019 12:59:32 AM
Chlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Ethylbenzene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
m,p-Xylene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
o-Xylene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Bromoform	ND	2.00		µg/L	1	3/22/2019 12:59:32 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Bromobenzene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
2-Chlorotoluene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
4-Chlorotoluene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,2,4-Trichlorobenzene	ND	2.00		µg/L	1	3/22/2019 12:59:32 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	3/22/2019 12:59:32 AM
Hexachloro-1,3-butadiene	ND	4.00		µg/L	1	3/22/2019 12:59:32 AM
1,2,3-Trichlorobenzene	ND	4.00		µg/L	1	3/22/2019 12:59:32 AM
Surr: Dibromofluoromethane	97.4	45.4 - 152		%Rec	1	3/22/2019 12:59:32 AM
Surr: Toluene-d8	104	40.1 - 139		%Rec	1	3/22/2019 12:59:32 AM
Surr: 1-Bromo-4-fluorobenzene	100	64.2 - 128		%Rec	1	3/22/2019 12:59:32 AM

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Total Alkalinity by SM 2320B

Sample ID: MB-R50150	SampType: MBLK	Units: mg/L	Prep Date: 3/18/2019	RunNo: 50150							
Client ID: MBLKW	Batch ID: R50150		Analysis Date: 3/18/2019	SeqNo: 984592							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID: LCS-R50150	SampType: LCS	Units: mg/L	Prep Date: 3/18/2019	RunNo: 50150							
Client ID: LCSW	Batch ID: R50150		Analysis Date: 3/18/2019	SeqNo: 984593							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	105	2.50	100.0	0	105	80	120				

Sample ID: 1903194-001CDUP	SampType: DUP	Units: mg/L	Prep Date: 3/18/2019	RunNo: 50150							
Client ID: BATCH	Batch ID: R50150		Analysis Date: 3/18/2019	SeqNo: 984595							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	393	2.50						388.3	1.23	20	

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID: MB-23831	SampType: MBLK	Units: mg/L			Prep Date: 3/14/2019	RunNo: 50091					
Client ID: MBLKW	Batch ID: 23831				Analysis Date: 3/15/2019	SeqNo: 983211					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID: LCS-23831	SampType: LCS	Units: mg/L			Prep Date: 3/14/2019	RunNo: 50091					
Client ID: LCSW	Batch ID: 23831				Analysis Date: 3/15/2019	SeqNo: 983201					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.713	0.100	0.7500	0	95.1	90	110				
Sulfate	3.58	0.300	3.750	0	95.6	90	110				

Sample ID: 1903196-001ADUP	SampType: DUP	Units: mg/L			Prep Date: 3/14/2019	RunNo: 50091					
Client ID: BATCH	Batch ID: 23831				Analysis Date: 3/15/2019	SeqNo: 983205					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	6.97	1.00						6.990	0.287	20	DH
Sulfate	28.8	3.00						28.94	0.381	20	D

Sample ID: 1903196-001AMS	SampType: MS	Units: mg/L			Prep Date: 3/14/2019	RunNo: 50091					
Client ID: BATCH	Batch ID: 23831				Analysis Date: 3/15/2019	SeqNo: 983206					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	14.7	1.00	7.500	6.990	103	80	120				DH
Sulfate	67.1	3.00	37.50	28.94	102	80	120				D

Sample ID: 1903196-001AMSD	SampType: MSD	Units: mg/L			Prep Date: 3/14/2019	RunNo: 50091					
Client ID: BATCH	Batch ID: 23831				Analysis Date: 3/15/2019	SeqNo: 983207					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	15.4	1.00	7.500	6.990	112	80	120	14.74	4.25	20	DH
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Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID: 1903196-001AMSD	SampType: MSD	Units: mg/L			Prep Date: 3/14/2019	RunNo: 50091					
Client ID: BATCH	Batch ID: 23831				Analysis Date: 3/15/2019	SeqNo: 983207					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	70.3	3.00	37.50	28.94	110	80	120	67.06	4.69	20	D

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID: MB-23888	SampType: MBLK	Units: µg/L			Prep Date: 3/20/2019	RunNo: 50174					
Client ID: MBLKW	Batch ID: 23888				Analysis Date: 3/20/2019	SeqNo: 985077					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75									
Manganese	ND	2.00									

Sample ID: LCS-23888	SampType: LCS	Units: µg/L			Prep Date: 3/20/2019	RunNo: 50174					
Client ID: LCSW	Batch ID: 23888				Analysis Date: 3/20/2019	SeqNo: 985080					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	95.9	1.75	100.0	0	95.9	85	115				
Manganese	101	2.00	100.0	0	101	85	115				

Sample ID: 1903105-023DDUP	SampType: DUP	Units: µg/L			Prep Date: 3/20/2019	RunNo: 50174					
Client ID: BATCH	Batch ID: 23888				Analysis Date: 3/20/2019	SeqNo: 985082					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75						0		30	
Manganese	48.6	2.00						47.21	2.90	30	

Sample ID: 1903105-023DMS	SampType: MS	Units: µg/L			Prep Date: 3/20/2019	RunNo: 50174					
Client ID: BATCH	Batch ID: 23888				Analysis Date: 3/20/2019	SeqNo: 985083					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	483	1.75	500.0	0	96.5	70	130				
Manganese	568	2.00	500.0	47.21	104	70	130				

Sample ID: 1903105-023DMSD	SampType: MSD	Units: µg/L			Prep Date: 3/20/2019	RunNo: 50174					
Client ID: BATCH	Batch ID: 23888				Analysis Date: 3/20/2019	SeqNo: 985084					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	472	1.75	500.0	0	94.4	70	130	482.5	2.16	30	
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Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID: 1903105-023DMSD		SampType: MSD		Units: µg/L		Prep Date: 3/20/2019		RunNo: 50174			
Client ID: BATCH		Batch ID: 23888				Analysis Date: 3/20/2019		SeqNo: 985084			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	558	2.00	500.0	47.21	102	70	130	568.2	1.72	30	

Sample ID: MB-23873FB		SampType: MBLK		Units: µg/L		Prep Date: 3/20/2019		RunNo: 50174			
Client ID: MBLKW		Batch ID: 23888				Analysis Date: 3/20/2019		SeqNo: 985088			
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.75									
Manganese	ND	2.00									

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID: MB-23889	SampType: MBLK	Units: µg/L	Prep Date: 3/20/2019	RunNo: 50176							
Client ID: MBLKW	Batch ID: 23889		Analysis Date: 3/20/2019	SeqNo: 985196							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75

Sample ID: LCS-23889	SampType: LCS	Units: µg/L	Prep Date: 3/20/2019	RunNo: 50176							
Client ID: LCSW	Batch ID: 23889		Analysis Date: 3/20/2019	SeqNo: 985197							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 93.9 1.75 100.0 0 93.9 85 115

Sample ID: 1903222-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 3/20/2019	RunNo: 50176							
Client ID: BATCH	Batch ID: 23889		Analysis Date: 3/20/2019	SeqNo: 985199							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 3.12 1.75 3.036 2.62 30

Sample ID: 1903222-001AMS	SampType: MS	Units: µg/L	Prep Date: 3/20/2019	RunNo: 50176							
Client ID: BATCH	Batch ID: 23889		Analysis Date: 3/20/2019	SeqNo: 985200							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 549 1.75 500.0 3.036 109 70 130

Sample ID: 1903222-001AMSD	SampType: MSD	Units: µg/L	Prep Date: 3/20/2019	RunNo: 50176							
Client ID: BATCH	Batch ID: 23889		Analysis Date: 3/20/2019	SeqNo: 985201							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 563 1.75 500.0 3.036 112 70 130 548.9 2.45 30

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: MB-23870	SampType: MBLK	Units: µg/L			Prep Date: 3/18/2019	RunNo: 50159					
Client ID: MBLKW	Batch ID: 23870				Analysis Date: 3/19/2019	SeqNo: 984794					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.8									
Heavy Oil	ND	99.7									
Surr: 2-Fluorobiphenyl	78.7		79.72		98.7	50	150				
Surr: o-Terphenyl	84.5		79.72		106	50	150				

Sample ID: LCS-23870	SampType: LCS	Units: µg/L			Prep Date: 3/18/2019	RunNo: 50159					
Client ID: LCSW	Batch ID: 23870				Analysis Date: 3/19/2019	SeqNo: 984858					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	685	50.2	1,003	0	68.3	65	135				
Surr: 2-Fluorobiphenyl	72.6		80.24		90.5	50	150				
Surr: o-Terphenyl	67.2		80.24		83.7	50	150				

Sample ID: 1903260-001BDUP	SampType: DUP	Units: µg/L			Prep Date: 3/18/2019	RunNo: 50159					
Client ID: BATCH	Batch ID: 23870				Analysis Date: 3/19/2019	SeqNo: 984859					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.8						0		30	
Heavy Oil	ND	99.6						0		30	
Surr: 2-Fluorobiphenyl	159		79.67		199	50	150		0		S
Surr: o-Terphenyl	171		79.67		214	50	150		0		S

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

Sample ID: LCSD-23870	SampType: LCSD	Units: µg/L			Prep Date: 3/18/2019	RunNo: 50159					
Client ID: LCSW02	Batch ID: 23870				Analysis Date: 3/21/2019	SeqNo: 985736					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	750	49.6	992.7	0	75.6	65	135	684.6	9.12	30	
Surr: 2-Fluorobiphenyl	75.5		79.41		95.1	50	150		0		

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: LCSD-23870	SampType: LCSD	Units: µg/L	Prep Date: 3/18/2019	RunNo: 50159							
Client ID: LCSW02	Batch ID: 23870		Analysis Date: 3/21/2019	SeqNo: 985736							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: o-Terphenyl	73.7		79.41		92.8	50	150		0		

Sample ID: 1903206-001BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/18/2019	RunNo: 50159							
Client ID: BATCH	Batch ID: 23870		Analysis Date: 3/21/2019	SeqNo: 985738							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	49.8						0		30	
Heavy Oil	379	99.6						352.6	7.11	30	
Surr: 2-Fluorobiphenyl	85.2		79.65		107	50	150		0		
Surr: o-Terphenyl	76.1		79.65		95.5	50	150		0		

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID: MB-R50238	SampType: MBLK	Units: mg/L	Prep Date: 3/22/2019	RunNo: 50238							
Client ID: MBLKW	Batch ID: R50238		Analysis Date: 3/22/2019	SeqNo: 986737							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane	ND	0.00863									
Ethene	ND	0.0151									
Ethane	ND	0.0162									

Sample ID: LCS-R50238	SampType: LCS	Units: mg/L	Prep Date: 3/22/2019	RunNo: 50238							
Client ID: LCSW	Batch ID: R50238		Analysis Date: 3/22/2019	SeqNo: 986736							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane	1,000	0.00863	1,000	0	100	70	130				
Ethene	974	0.0151	1,000	0	97.4	70	130				
Ethane	993	0.0162	1,000	0	99.3	70	130				

Sample ID: 1903225-001EREP	SampType: REP	Units: mg/L	Prep Date: 3/22/2019	RunNo: 50238							
Client ID: BC-10:W	Batch ID: R50238		Analysis Date: 3/22/2019	SeqNo: 986725							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane	0.0998	0.00863						0.08718	13.5	30	
Ethene	ND	0.0151						0		30	
Ethane	ND	0.0162						0		30	

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Gasoline by NWTPH-Gx

Sample ID: LCS-23914	SampType: LCS	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50212							
Client ID: LCSW	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986202							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	512	50.0	500.0	0	102	65	135				
Surr: Toluene-d8	25.4		25.00		102	65	135				
Surr: 4-Bromofluorobenzene	24.7		25.00		98.6	65	135				

Sample ID: LCS-23914	SampType: LCS	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50212							
Client ID: LCSW02	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986203							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	489	50.0	500.0	0	97.8	65	135	511.8	4.56	20	
Surr: Toluene-d8	25.3		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	24.8		25.00		99.0	65	135		0		

Sample ID: MB-23914	SampType: MBLK	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50212							
Client ID: MBLKW	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986204							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	50.0									
Surr: Toluene-d8	25.0		25.00		100	65	135				
Surr: 4-Bromofluorobenzene	24.6		25.00		98.6	65	135				

Sample ID: 1903225-002BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50212							
Client ID: S-1:W	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986195							
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	25.1		25.00		101	65	135		0		
Surr: 4-Bromofluorobenzene	24.5		25.00		97.9	65	135		0		

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Gasoline by NWTPH-Gx

Sample ID: 1903230-001BDUP	SampType: DUP	Units: µg/L			Prep Date: 3/21/2019	RunNo: 50212					
Client ID: BATCH	Batch ID: 23914				Analysis Date: 3/22/2019	SeqNo: 986199					
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	25.4		25.00		102	65	135		0		
Surr: 4-Bromofluorobenzene	23.8		25.00		95.4	65	135		0		

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: LCS-23914	SampType: LCS	Units: µg/L				Prep Date: 3/21/2019	RunNo: 50213				
Client ID: LCSW	Batch ID: 23914					Analysis Date: 3/21/2019	SeqNo: 986224				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	28.7	1.00	20.00	0	144	18.7	171				
Chloromethane	19.0	2.00	20.00	0	95.0	38.5	171				
Vinyl chloride	23.4	0.200	20.00	0	117	48	145				
Bromomethane	43.7	1.00	20.00	0	218	32.5	184				S
Trichlorofluoromethane (CFC-11)	23.7	1.00	20.00	0	118	43.5	149				
Chloroethane	23.6	1.00	20.00	0	118	43.8	168				
1,1-Dichloroethene	22.8	1.00	20.00	0	114	57.5	150				
Methylene chloride	22.1	1.00	20.00	0	111	67.1	131				
trans-1,2-Dichloroethene	22.1	1.00	20.00	0	110	71.7	129				
1,1-Dichloroethane	22.2	1.00	20.00	0	111	67.9	134				
2,2-Dichloropropane	21.0	2.00	20.00	0	105	26.5	185				
cis-1,2-Dichloroethene	21.9	1.00	20.00	0	110	70.2	139				
Chloroform	22.2	1.00	20.00	0	111	66.3	131				
1,1,1-Trichloroethane (TCA)	22.5	1.00	20.00	0	112	63	140				
1,1-Dichloropropene	22.4	1.00	20.00	0	112	69.9	124				
Carbon tetrachloride	22.3	1.00	20.00	0	111	66.2	134				
1,2-Dichloroethane (EDC)	21.9	1.00	20.00	0	109	67	126				
Benzene	22.3	1.00	20.00	0	112	69.3	132				
Trichloroethene (TCE)	23.1	0.500	20.00	0	115	65.2	136				
1,2-Dichloropropane	21.6	1.00	20.00	0	108	70.5	130				
Bromodichloromethane	22.0	1.00	20.00	0	110	67.2	137				
Dibromomethane	21.8	1.00	20.00	0	109	69.3	143				
cis-1,3-Dichloropropene	20.9	1.00	20.00	0	105	62.6	137				
Toluene	22.1	1.00	20.00	0	110	61.3	145				
trans-1,3-Dichloropropylene	20.4	1.00	20.00	0	102	56.5	163				
1,1,2-Trichloroethane	21.1	1.00	20.00	0	106	71.7	131				
1,3-Dichloropropane	21.1	1.00	20.00	0	106	73.5	127				
Tetrachloroethene (PCE)	21.2	1.00	20.00	0	106	47.5	147				
Dibromochloromethane	20.8	1.00	20.00	0	104	67.2	134				
1,2-Dibromoethane (EDB)	20.8	0.250	20.00	0	104	73.6	125				
Chlorobenzene	21.3	1.00	20.00	0	106	73.9	126				

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: LCS-23914	SampType: LCS	Units: µg/L				Prep Date: 3/21/2019	RunNo: 50213				
Client ID: LCSW	Batch ID: 23914					Analysis Date: 3/21/2019	SeqNo: 986224				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.4	1.00	20.00	0	102	76.8	124				
Ethylbenzene	22.9	1.00	20.00	0	115	72	130				
m,p-Xylene	43.3	1.00	40.00	0	108	70.3	134				
o-Xylene	20.9	1.00	20.00	0	105	72.1	131				
Bromoform	19.1	2.00	20.00	0	95.3	55.3	141				
1,1,2,2-Tetrachloroethane	18.8	1.00	20.00	0	93.8	62.9	132				
Bromobenzene	20.3	1.00	20.00	0	102	71	131				
2-Chlorotoluene	24.4	1.00	20.00	0	122	70.8	130				
4-Chlorotoluene	21.8	1.00	20.00	0	109	70.1	131				
1,2,3-Trichloropropane	20.4	1.00	20.00	0	102	67.7	131				
1,2,4-Trichlorobenzene	19.4	2.00	20.00	0	97.0	41	139				
1,3-Dichlorobenzene	21.6	1.00	20.00	0	108	69.5	128				
1,4-Dichlorobenzene	21.8	1.00	20.00	0	109	66.8	119				
1,2-Dichlorobenzene	21.3	1.00	20.00	0	107	69.7	119				
1,2-Dibromo-3-chloropropane	21.2	1.00	20.00	0	106	63.1	136				
Hexachloro-1,3-butadiene	19.8	4.00	20.00	0	99.1	58.6	138				
1,2,3-Trichlorobenzene	19.6	4.00	20.00	0	97.8	35.8	155				
Surr: Dibromofluoromethane	24.8		25.00		99.1	45.4	152				
Surr: Toluene-d8	26.2		25.00		105	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.8		25.00		103	64.2	128				

NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.

Sample ID: MB-23914	SampType: MBLK	Units: µg/L				Prep Date: 3/21/2019	RunNo: 50213				
Client ID: MBLKW	Batch ID: 23914					Analysis Date: 3/21/2019	SeqNo: 986225				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00									
Chloromethane	ND	2.00									Q
Vinyl chloride	ND	0.200									
Bromomethane	ND	1.00									

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: MB-23914	SampType: MBLK	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: MBLKW	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986225							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Trichlorofluoromethane (CFC-11)	ND	1.00									
Chloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
Methylene chloride	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
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									
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	0.250									
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									

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: MB-23914	SampType: MBLK	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: MBLKW	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986225							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Bromoform	ND	2.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
Bromobenzene	ND	1.00									
2-Chlorotoluene	ND	1.00									
4-Chlorotoluene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	2.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
Hexachloro-1,3-butadiene	ND	4.00									
1,2,3-Trichlorobenzene	ND	4.00									
Surr: Dibromofluoromethane	24.4		25.00		97.7	45.4	152				
Surr: Toluene-d8	26.1		25.00		104	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.0		25.00		99.9	64.2	128				

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Sample ID: 1903225-002BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: S-1:W	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986207							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	Q
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	

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903225-002BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: S-1:W	Batch ID: 23914	Analysis Date: 3/21/2019	SeqNo: 986207								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	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	0.250						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Bromoform	ND	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903225-002BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: S-1:W	Batch ID: 23914		Analysis Date: 3/21/2019	SeqNo: 986207							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	
1,4-Dichlorobenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	24.4		25.00		97.6	45.4	152		0		
Surr: Toluene-d8	25.9		25.00		104	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.8		25.00		99.3	64.2	128		0		

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Sample ID: 1903230-001BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: BATCH	Batch ID: 23914		Analysis Date: 3/22/2019	SeqNo: 986211							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	ND	1.00						0		30	
Chloromethane	ND	2.00						0		30	Q
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	
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	

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903230-001BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: BATCH	Batch ID: 23914		Analysis Date: 3/22/2019	SeqNo: 986211							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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	0.250						0		30	
Chlorobenzene	ND	1.00						0		30	
1,1,1,2-Tetrachloroethane	ND	1.00						0		30	
Ethylbenzene	ND	1.00						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	1.00						0		30	
Bromoform	ND	2.00						0		30	
1,1,2,2-Tetrachloroethane	ND	1.00						0		30	
Bromobenzene	ND	1.00						0		30	
2-Chlorotoluene	ND	1.00						0		30	
4-Chlorotoluene	ND	1.00						0		30	
1,2,3-Trichloropropane	ND	1.00						0		30	
1,2,4-Trichlorobenzene	ND	2.00						0		30	
1,3-Dichlorobenzene	ND	1.00						0		30	

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903230-001BDUP	SampType: DUP	Units: µg/L			Prep Date: 3/21/2019	RunNo: 50213					
Client ID: BATCH	Batch ID: 23914				Analysis Date: 3/22/2019	SeqNo: 986211					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	ND	1.00						0		30	
1,2-Dichlorobenzene	ND	1.00						0		30	
1,2-Dibromo-3-chloropropane	ND	1.00						0		30	
Hexachloro-1,3-butadiene	ND	4.00						0		30	
1,2,3-Trichlorobenzene	ND	4.00						0		30	
Surr: Dibromofluoromethane	25.2		25.00		101	45.4	152		0		
Surr: Toluene-d8	25.9		25.00		104	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	24.2		25.00		96.7	64.2	128		0		

NOTES:

Q - Indicates an analyte with a continuing calibration that does not meet established acceptance criteria

Sample ID: 1903253-002AMS	SampType: MS	Units: µg/L			Prep Date: 3/21/2019	RunNo: 50213					
Client ID: BATCH	Batch ID: 23914				Analysis Date: 3/22/2019	SeqNo: 986218					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane (CFC-12)	28.8	1.00	20.00	0	144	33.3	122				S
Chloromethane	19.5	2.00	20.00	0	97.4	39.7	143				
Vinyl chloride	24.1	0.200	20.00	0	121	41	165				
Bromomethane	48.5	1.00	20.00	0	243	31.5	135				S
Trichlorofluoromethane (CFC-11)	25.5	1.00	20.00	0	128	54.7	138				
Chloroethane	24.9	1.00	20.00	0	125	49.9	143				
1,1-Dichloroethene	24.7	1.00	20.00	0	124	51.6	164				
Methylene chloride	30.1	1.00	20.00	6.155	120	61.6	135				
trans-1,2-Dichloroethene	23.6	1.00	20.00	0	118	63.5	138				
1,1-Dichloroethane	23.8	1.00	20.00	0	119	55.7	151				
2,2-Dichloropropane	19.6	2.00	20.00	0	97.8	37.7	150				
cis-1,2-Dichloroethene	23.4	1.00	20.00	0.5933	114	60	154				
Chloroform	24.5	1.00	20.00	1.153	117	48.1	140				
1,1,1-Trichloroethane (TCA)	24.3	1.00	20.00	0	121	64.2	146				
1,1-Dichloropropene	24.2	1.00	20.00	0	121	73.8	136				
Carbon tetrachloride	24.3	1.00	20.00	0	122	62.7	146				

Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903253-002AMS	SampType: MS	Units: µg/L				Prep Date: 3/21/2019	RunNo: 50213				
Client ID: BATCH	Batch ID: 23914					Analysis Date: 3/22/2019	SeqNo: 986218				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane (EDC)	23.3	1.00	20.00	0.4049	115	63.4	137				
Benzene	23.8	1.00	20.00	0	119	65.4	138				
Trichloroethene (TCE)	23.8	0.500	20.00	0	119	60.4	134				
1,2-Dichloropropane	23.0	1.00	20.00	0	115	62.6	138				
Bromodichloromethane	23.1	1.00	20.00	0	116	59.4	139				
Dibromomethane	22.6	1.00	20.00	0	113	58.7	148				
cis-1,3-Dichloropropene	21.3	1.00	20.00	0	107	63.8	132				
Toluene	23.2	1.00	20.00	0	116	52	147				
trans-1,3-Dichloropropylene	20.5	1.00	20.00	0	102	57.7	125				
1,1,2-Trichloroethane	22.0	1.00	20.00	0	110	57.5	153				
1,3-Dichloropropane	21.7	1.00	20.00	0	109	54.1	157				
Tetrachloroethene (PCE)	22.0	1.00	20.00	0	110	50.3	133				
Dibromochloromethane	21.2	1.00	20.00	0	106	61.6	139				
1,2-Dibromoethane (EDB)	21.3	0.250	20.00	0	107	63.2	134				
Chlorobenzene	22.3	1.00	20.00	0	111	65.8	134				
1,1,1,2-Tetrachloroethane	21.5	1.00	20.00	0	108	65.4	135				
Ethylbenzene	24.0	1.00	20.00	0	120	64.5	136				
m,p-Xylene	44.8	1.00	40.00	0	112	63.3	135				
o-Xylene	21.8	1.00	20.00	0	109	64.8	150				
Bromoform	19.5	2.00	20.00	0	97.4	57.7	139				
1,1,1,2,2-Tetrachloroethane	21.0	1.00	20.00	0	105	59.8	146				
Bromobenzene	20.9	1.00	20.00	0	105	69.3	157				
2-Chlorotoluene	25.2	1.00	20.00	0	126	61.7	134				
4-Chlorotoluene	22.6	1.00	20.00	0	113	58.4	134				
1,2,3-Trichloropropane	21.2	1.00	20.00	0	106	62.4	129				
1,2,4-Trichlorobenzene	19.1	2.00	20.00	0	95.4	50.9	133				
1,3-Dichlorobenzene	22.0	1.00	20.00	0	110	58.2	128				
1,4-Dichlorobenzene	22.1	1.00	20.00	0	111	60.1	123				
1,2-Dichlorobenzene	21.6	1.00	20.00	0	108	65.4	133				
1,2-Dibromo-3-chloropropane	24.8	1.00	20.00	0	124	51.8	142				
Hexachloro-1,3-butadiene	19.8	4.00	20.00	0	99.2	58.1	130				

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903253-002AMS	SampType: MS	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: BATCH	Batch ID: 23914		Analysis Date: 3/22/2019	SeqNo: 986218							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,2,3-Trichlorobenzene	20.0	4.00	20.00	0	100	57	131				
Surr: Dibromofluoromethane	25.5		25.00		102	45.4	152				
Surr: Toluene-d8	26.0		25.00		104	40.1	139				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	64.2	128				

NOTES:

S - Outlying spike recovery(ies) observed.

Sample ID: 1903253-002AMSD	SampType: MSD	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: BATCH	Batch ID: 23914		Analysis Date: 3/22/2019	SeqNo: 986219							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Dichlorodifluoromethane (CFC-12)	27.6	1.00	20.00	0	138	33.3	122	28.82	4.20	30	S
Chloromethane	19.7	2.00	20.00	0	98.6	39.7	143	19.48	1.23	30	
Vinyl chloride	24.4	0.200	20.00	0	122	41	165	24.12	1.31	30	
Bromomethane	51.3	1.00	20.00	0	256	31.5	135	48.51	5.50	30	S
Trichlorofluoromethane (CFC-11)	25.0	1.00	20.00	0	125	54.7	138	25.54	2.02	30	
Chloroethane	25.1	1.00	20.00	0	125	49.9	143	24.91	0.611	30	
1,1-Dichloroethene	24.2	1.00	20.00	0	121	51.6	164	24.72	2.26	30	
Methylene chloride	33.7	1.00	20.00	6.155	138	61.6	135	30.14	11.0	30	S
trans-1,2-Dichloroethene	23.3	1.00	20.00	0	116	63.5	138	23.60	1.33	30	
1,1-Dichloroethane	23.4	1.00	20.00	0	117	55.7	151	23.81	1.91	30	
2,2-Dichloropropane	19.1	2.00	20.00	0	95.7	37.7	150	19.56	2.20	30	
cis-1,2-Dichloroethene	23.0	1.00	20.00	0.5933	112	60	154	23.36	1.49	30	
Chloroform	24.0	1.00	20.00	1.153	114	48.1	140	24.52	2.30	30	
1,1,1-Trichloroethane (TCA)	23.8	1.00	20.00	0	119	64.2	146	24.27	2.06	30	
1,1-Dichloropropene	24.0	1.00	20.00	0	120	73.8	136	24.23	1.12	30	
Carbon tetrachloride	23.9	1.00	20.00	0	119	62.7	146	24.32	1.80	30	
1,2-Dichloroethane (EDC)	23.0	1.00	20.00	0.4049	113	63.4	137	23.34	1.54	30	
Benzene	23.4	1.00	20.00	0	117	65.4	138	23.79	1.87	30	
Trichloroethene (TCE)	23.2	0.500	20.00	0	116	60.4	134	23.75	2.38	30	
1,2-Dichloropropane	22.6	1.00	20.00	0	113	62.6	138	22.98	1.65	30	

Work Order: 1903225
 CLIENT: Kane Environmental, Inc.
 Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903253-002AMSD	SampType: MSD	Units: µg/L				Prep Date: 3/21/2019	RunNo: 50213				
Client ID: BATCH	Batch ID: 23914					Analysis Date: 3/22/2019	SeqNo: 986219				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromodichloromethane	22.8	1.00	20.00	0	114	59.4	139	23.11	1.46	30	
Dibromomethane	22.1	1.00	20.00	0	111	58.7	148	22.64	2.30	30	
cis-1,3-Dichloropropene	21.2	1.00	20.00	0	106	63.8	132	21.33	0.765	30	
Toluene	23.2	1.00	20.00	0	116	52	147	23.20	0.0915	30	
trans-1,3-Dichloropropylene	20.5	1.00	20.00	0	103	57.7	125	20.47	0.340	30	
1,1,2-Trichloroethane	21.6	1.00	20.00	0	108	57.5	153	21.97	1.70	30	
1,3-Dichloropropane	21.5	1.00	20.00	0	107	54.1	157	21.75	1.16	30	
Tetrachloroethene (PCE)	22.0	1.00	20.00	0	110	50.3	133	22.00	0.152	30	
Dibromochloromethane	21.3	1.00	20.00	0	106	61.6	139	21.22	0.235	30	
1,2-Dibromoethane (EDB)	21.2	0.250	20.00	0	106	63.2	134	21.32	0.564	30	
Chlorobenzene	22.2	1.00	20.00	0	111	65.8	134	22.26	0.259	30	
1,1,1,2-Tetrachloroethane	21.2	1.00	20.00	0	106	65.4	135	21.53	1.62	30	
Ethylbenzene	23.8	1.00	20.00	0	119	64.5	136	24.00	0.677	30	
m,p-Xylene	45.1	1.00	40.00	0	113	63.3	135	44.75	0.688	30	
o-Xylene	22.1	1.00	20.00	0	110	64.8	150	21.77	1.31	30	
Bromoform	19.6	2.00	20.00	0	98.2	57.7	139	19.47	0.858	30	
1,1,1,2,2-Tetrachloroethane	21.0	1.00	20.00	0	105	59.8	146	20.97	0.0905	30	
Bromobenzene	21.0	1.00	20.00	0	105	69.3	157	20.93	0.296	30	
2-Chlorotoluene	25.2	1.00	20.00	0	126	61.7	134	25.22	0.00888	30	
4-Chlorotoluene	22.6	1.00	20.00	0	113	58.4	134	22.56	0.00882	30	
1,2,3-Trichloropropane	20.8	1.00	20.00	0	104	62.4	129	21.16	1.68	30	
1,2,4-Trichlorobenzene	19.6	2.00	20.00	0	98.1	50.9	133	19.08	2.76	30	
1,3-Dichlorobenzene	22.3	1.00	20.00	0	111	58.2	128	22.04	0.951	30	
1,4-Dichlorobenzene	22.3	1.00	20.00	0	111	60.1	123	22.14	0.682	30	
1,2-Dichlorobenzene	22.0	1.00	20.00	0	110	65.4	133	21.59	1.72	30	
1,2-Dibromo-3-chloropropane	28.1	1.00	20.00	0	140	51.8	142	24.83	12.3	30	
Hexachloro-1,3-butadiene	20.2	4.00	20.00	0	101	58.1	130	19.83	1.91	30	
1,2,3-Trichlorobenzene	20.1	4.00	20.00	0	101	57	131	20.02	0.557	30	
Surr: Dibromofluoromethane	25.4		25.00		102	45.4	152		0		
Surr: Toluene-d8	26.2		25.00		105	40.1	139		0		
Surr: 1-Bromo-4-fluorobenzene	25.8		25.00		103	64.2	128		0		



Work Order: 1903225
CLIENT: Kane Environmental, Inc.
Project: Bothell Paint

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903253-002AMSD	SampType: MSD	Units: µg/L	Prep Date: 3/21/2019	RunNo: 50213							
Client ID: BATCH	Batch ID: 23914	Analysis Date: 3/22/2019	SeqNo: 986219								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

S - Outlying spike recovery(ies) observed.

Client Name: KANE	Work Order Number: 1903225
Logged by: Brianna Barnes	Date Received: 3/15/2019 12:30:00 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 001C
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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	5.6
Sample	5.3
Temp Blank	2.1

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



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

Kane Environmental, Inc.
Jeff Jensen
4015 13th Ave W.
Seattle, WA 98103

RE: Hertz
Work Order Number: 1903045

March 12, 2019

Attention Jeff Jensen:

Fremont Analytical, Inc. received 4 sample(s) on 3/5/2019 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Gases by RSK-175
Dissolved Metals by EPA Method 200.8
Ion Chromatography by EPA Method 300.0
Total Metals by EPA Method 200.8
Total Alkalinity by SM 2320B

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,

Chelsea Ward
Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

CLIENT: Kane Environmental, Inc.
Project: Hertz
Work Order: 1903045

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1903045-001	HZ-MW-19:W	03/05/2019 12:20 PM	03/05/2019 6:07 PM
1903045-002	HZ-MW-1:W	03/05/2019 2:45 PM	03/05/2019 6:07 PM
1903045-003	HZ-MW-4:W	03/05/2019 3:43 PM	03/05/2019 6:07 PM
1903045-004	HZ-MW-17:W	03/05/2019 4:50 PM	03/05/2019 6:07 PM

CLIENT: Kane Environmental, Inc.

Project: Hertz

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: Kane Environmental, Inc.
Project: Hertz
Lab ID: 1903045-001
Client Sample ID: HZ-MW-19:W

Collection Date: 3/5/2019 12:20:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Dissolved Gases by RSK-175</u>						
				Batch ID: R49857	Analyst: AD	
Methane	0.0332	0.00863		mg/L	1	3/6/2019 3:37:00 PM
<u>Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.</u>						
				Batch ID: 23739	Analyst: DW	
Diesel (Fuel Oil)	ND	49.2		µg/L	1	3/9/2019 12:36:18 AM
Diesel Range Organics (C12-C24)	210	49.2		µg/L	1	3/9/2019 12:36:18 AM
Heavy Oil	ND	98.5		µg/L	1	3/9/2019 12:36:18 AM
Surr: 2-Fluorobiphenyl	92.4	50 - 150		%Rec	1	3/9/2019 12:36:18 AM
Surr: o-Terphenyl	93.2	50 - 150		%Rec	1	3/9/2019 12:36:18 AM
NOTES:						
DRO - Indicates the presence of unresolved compounds eluting from dodecane through tetracosane (~C12-C24).						
<u>Ion Chromatography by EPA Method 300.0</u>						
				Batch ID: 23738	Analyst: TN	
Nitrate (as N)	0.414	0.100	H	mg/L	1	3/7/2019 11:46:00 PM
Nitrate (as N)	0.429	0.100	*	mg/L	1	3/6/2019 9:43:00 PM
Sulfate	8.98	0.300		mg/L	1	3/7/2019 11:46:00 PM
NOTES:						
* - Flagged value is not within established control limits.						
<u>Dissolved Metals by EPA Method 200.8</u>						
				Batch ID: 23752	Analyst: WC	
Manganese	136	2.00		µg/L	1	3/8/2019 2:21:53 PM
<u>Total Alkalinity by SM 2320B</u>						
				Batch ID: R49913	Analyst: ME	
Alkalinity, Total (As CaCO3)	162	2.50		mg/L	1	3/7/2019 11:00:00 AM



Client: Kane Environmental, Inc.

Collection Date: 3/5/2019 2:45:00 PM

Project: Hertz

Lab ID: 1903045-002

Matrix: Groundwater

Client Sample ID: HZ-MW-1:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Metals by EPA Method 200.8

Batch ID: 23752 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 2:46:06 PM
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Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 4:31:02 PM
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Client: Kane Environmental, Inc.

Collection Date: 3/5/2019 3:43:00 PM

Project: Hertz

Lab ID: 1903045-003

Matrix: Groundwater

Client Sample ID: HZ-MW-4:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Metals by EPA Method 200.8

Batch ID: 23752 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 2:50:08 PM
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Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 4:35:04 PM
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Client: Kane Environmental, Inc.

Collection Date: 3/5/2019 4:50:00 PM

Project: Hertz

Lab ID: 1903045-004

Matrix: Groundwater

Client Sample ID: HZ-MW-17:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Metals by EPA Method 200.8

Batch ID: 23752 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 2:54:10 PM
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Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	2.96	1.75		µg/L	1	3/8/2019 4:39:06 PM
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Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Total Alkalinity by SM 2320B

Sample ID MB-R49913	SampType: MBLK	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49913							
Client ID: MBLKW	Batch ID: R49913		Analysis Date: 3/7/2019	SeqNo: 978793							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.50									

Sample ID LCS-R49913	SampType: LCS	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49913							
Client ID: LCSW	Batch ID: R49913		Analysis Date: 3/7/2019	SeqNo: 978794							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	101	2.50	100.0	0	101	80	120				

Sample ID 1903027-028BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49913							
Client ID: BATCH	Batch ID: R49913		Analysis Date: 3/7/2019	SeqNo: 978796							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	371	2.50						373.1	0.669	20	



Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID LCS-23719	SampType: LCS	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: LCSW	Batch ID: 23719		Analysis Date: 3/6/2019	SeqNo: 977978							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.443	0.100	0.7500	0	59.1	90	110				S*
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NOTES:
LCS serves as an initial calibration verification. Samples will be flagged with a *.

Sample ID MB-23719	SampType: MBLK	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: MBLKW	Batch ID: 23719		Analysis Date: 3/6/2019	SeqNo: 977979							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100									*
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NOTES:
* - Flagged value is not within established control limits.

Sample ID 1903055-015BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719		Analysis Date: 3/6/2019	SeqNo: 977981							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.411	0.100						0.4110	0	20	*
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NOTES:
* - Flagged value is not within established control limits.

Sample ID 1903055-015BMS	SampType: MS	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719		Analysis Date: 3/6/2019	SeqNo: 977982							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.18	0.100	0.7500	0.4110	103	80	120				
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Sample ID 1903055-015BMSD	SampType: MSD	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719		Analysis Date: 3/6/2019	SeqNo: 977983							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.23	0.100	0.7500	0.4110	109	80	120	1.181	3.82	20	
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Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID 1903055-015BMSD	SampType: MSD	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719		Analysis Date: 3/6/2019	SeqNo: 977983							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID 1903055-016BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719		Analysis Date: 3/7/2019	SeqNo: 977995							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.39	0.200						1.398	0.574	20	D*
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NOTES:

* - Flagged value is not within established control limits.

Sample ID 1903055-016BMS	SampType: MS	Units: mg/L	Prep Date: 3/6/2019	RunNo: 49874							
Client ID: BATCH	Batch ID: 23719		Analysis Date: 3/7/2019	SeqNo: 977998							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	2.98	0.200	1.500	1.398	105	80	120				D
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Sample ID MB-23738	SampType: MBLK	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49893							
Client ID: MBLKW	Batch ID: 23738		Analysis Date: 3/7/2019	SeqNo: 978395							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100									
Sulfate	ND	0.300									

Sample ID LCS-23738	SampType: LCS	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49893							
Client ID: LCSW	Batch ID: 23738		Analysis Date: 3/7/2019	SeqNo: 978396							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.700	0.100	0.7500	0	93.3	90	110				
Sulfate	3.49	0.300	3.750	0	93.1	90	110				

Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID 1903045-001BDUP	SampType: DUP	Units: mg/L			Prep Date: 3/7/2019	RunNo: 49893					
Client ID: HZ-MW-19:W	Batch ID: 23738				Analysis Date: 3/8/2019	SeqNo: 978398					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.420	0.100						0.4140	1.44	20	H
Sulfate	9.08	0.300						8.983	1.02	20	

Sample ID 1903045-001BMS	SampType: MS	Units: mg/L			Prep Date: 3/7/2019	RunNo: 49893					
Client ID: HZ-MW-19:W	Batch ID: 23738				Analysis Date: 3/8/2019	SeqNo: 978399					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.15	0.100	0.7500	0.4140	98.7	80	120				H
Sulfate	13.0	0.300	3.750	8.983	106	80	120				

Sample ID 1903045-001BMSD	SampType: MSD	Units: mg/L			Prep Date: 3/7/2019	RunNo: 49893					
Client ID: HZ-MW-19:W	Batch ID: 23738				Analysis Date: 3/8/2019	SeqNo: 978400					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.16	0.100	0.7500	0.4140	99.9	80	120	1.154	0.777	20	H
Sulfate	13.1	0.300	3.750	8.983	109	80	120	12.97	0.936	20	

Sample ID 1903068-021BDUP	SampType: DUP	Units: mg/L			Prep Date: 3/7/2019	RunNo: 49893					
Client ID: BATCH	Batch ID: 23738				Analysis Date: 3/8/2019	SeqNo: 978426					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100						0		20	
Sulfate	15.1	0.300						14.96	0.713	20	E

NOTES:

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

Work Order: 1903045
 CLIENT: Kane Environmental, Inc.
 Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID	1903068-021BMS	SampType:	MS	Units:	mg/L	Prep Date:	3/7/2019	RunNo:	49893		
Client ID:	BATCH	Batch ID:	23738			Analysis Date:	3/8/2019	SeqNo:	978403		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.718	0.100	0.7500	0	95.7	80	120				
Sulfate	18.9	0.300	3.750	14.96	104	80	120				E

NOTES:

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

Sample ID	LCS-23719	SampType:	LCS	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	LCSW	Batch ID:	23719			Analysis Date:	3/8/2019	SeqNo:	978987		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.687	0.100	0.7500	0	91.6	90	110				
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Sample ID	MB-23719	SampType:	MBLK	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	MBLKW	Batch ID:	23719			Analysis Date:	3/8/2019	SeqNo:	978988		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100									
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Sample ID	1903055-015BDUP	SampType:	DUP	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	BATCH	Batch ID:	23719			Analysis Date:	3/8/2019	SeqNo:	978992		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.394	0.100						0.3940	0	20	H
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Sample ID	1903055-015BMS	SampType:	MS	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49924		
Client ID:	BATCH	Batch ID:	23719			Analysis Date:	3/8/2019	SeqNo:	978993		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.04	0.100	0.7500	0.3940	86.0	80	120				H
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Date: 3/12/2019

Work Order: 1903045
 CLIENT: Kane Environmental, Inc.
 Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID 1903055-015BMSD	SampType: MSD	Units: mg/L			Prep Date: 3/6/2019	RunNo: 49924					
Client ID: BATCH	Batch ID: 23719				Analysis Date: 3/8/2019	SeqNo: 978994					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.09	0.100	0.7500	0.3940	92.4	80	120	1.039	4.52	20	H
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Sample ID 1903055-016BDUP	SampType: DUP	Units: mg/L			Prep Date: 3/6/2019	RunNo: 49924					
Client ID: BATCH	Batch ID: 23719				Analysis Date: 3/9/2019	SeqNo: 979002					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.37	0.200						1.368	0.146	20	DH
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Sample ID 1903055-016BMS	SampType: MS	Units: mg/L			Prep Date: 3/6/2019	RunNo: 49924					
Client ID: BATCH	Batch ID: 23719				Analysis Date: 3/9/2019	SeqNo: 979003					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	2.93	0.200	0.7500	1.368	209	80	120				DSH
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Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID MB-23752	SampType: MBLK	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: MBLKW	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978761					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75									
Manganese	ND	2.00									

Sample ID LCS-23752	SampType: LCS	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: LCSW	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978762					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	97.9	1.75	100.0	0	97.9	85	115				
Manganese	101	2.00	100.0	0	101	85	115				

Sample ID 1903045-001ADUP	SampType: DUP	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: HZ-MW-19:W	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978766					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75						0		30	
Manganese	138	2.00						135.9	1.91	30	

Sample ID 1903045-001AMS	SampType: MS	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: HZ-MW-19:W	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978767					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	508	1.75	500.0	0	102	70	130				
Manganese	630	2.00	500.0	135.9	98.8	70	130				

Sample ID 1903045-001AMSD	SampType: MSD	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: HZ-MW-19:W	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978768					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	537	1.75	500.0	0	107	70	130	508.1	5.47	30	
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Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID 1903045-001AMSD	SampType: MSD	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: HZ-MW-19:W	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978768					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	648	2.00	500.0	135.9	102	70	130	629.8	2.86	30	

Sample ID MB-23732FB	SampType: MBLK	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: MBLKW	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978785					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.75									
Manganese	ND	2.00									

NOTES:
 Filter Blank

Work Order: 1903045
 CLIENT: Kane Environmental, Inc.
 Project: Hertz

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID	MB-23755	SampType:	MBLK	Units:	µg/L	Prep Date:	3/8/2019	RunNo:	49935		
Client ID:	MBLKW	Batch ID:	23755			Analysis Date:	3/8/2019	SeqNo:	979307		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75

Sample ID	LCS-23755	SampType:	LCS	Units:	µg/L	Prep Date:	3/8/2019	RunNo:	49935		
Client ID:	LCSW	Batch ID:	23755			Analysis Date:	3/8/2019	SeqNo:	979310		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 103 1.75 100.0 0 103 85 115

Sample ID	1903074-001DDUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/8/2019	RunNo:	49935		
Client ID:	BATCH	Batch ID:	23755			Analysis Date:	3/8/2019	SeqNo:	979312		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 3.26 1.75 3.704 12.7 30

Sample ID	1903074-001DMS	SampType:	MS	Units:	µg/L	Prep Date:	3/8/2019	RunNo:	49935		
Client ID:	BATCH	Batch ID:	23755			Analysis Date:	3/8/2019	SeqNo:	979313		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 569 1.75 500.0 3.704 113 70 130

Sample ID	1903074-001DMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/8/2019	RunNo:	49935		
Client ID:	BATCH	Batch ID:	23755			Analysis Date:	3/8/2019	SeqNo:	979314		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 579 1.75 500.0 3.704 115 70 130 568.7 1.83 30

Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID MB-23739	SampType: MBLK	Units: µg/L	Prep Date: 3/7/2019	RunNo: 49925							
Client ID: MBLKW	Batch ID: 23739		Analysis Date: 3/8/2019	SeqNo: 979037							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	50.3									
Heavy Oil	ND	101									
Surr: 2-Fluorobiphenyl	78.5		80.49		97.5	50	150				
Surr: o-Terphenyl	84.0		80.49		104	50	150				

Sample ID LCS-23739	SampType: LCS	Units: µg/L	Prep Date: 3/7/2019	RunNo: 49925							
Client ID: LCSW	Batch ID: 23739		Analysis Date: 3/8/2019	SeqNo: 979038							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	736	49.9	998.1	0	73.8	65	135				
Surr: 2-Fluorobiphenyl	68.6		79.85		85.9	50	150				
Surr: o-Terphenyl	67.8		79.85		84.9	50	150				

Sample ID 1903036-001BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/7/2019	RunNo: 49925							
Client ID: BATCH	Batch ID: 23739		Analysis Date: 3/8/2019	SeqNo: 979046							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	53.6						0		30	
Heavy Oil	ND	107						0		30	
Surr: 2-Fluorobiphenyl	73.7		85.69		86.1	50	150		0		
Surr: o-Terphenyl	78.5		85.69		91.6	50	150		0		

Sample ID 1903036-001BMS	SampType: MS	Units: µg/L	Prep Date: 3/7/2019	RunNo: 49925							
Client ID: BATCH	Batch ID: 23739		Analysis Date: 3/8/2019	SeqNo: 979047							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	769	49.8	995.5	24.40	74.8	65	135				
Surr: 2-Fluorobiphenyl	72.2		79.64		90.7	50	150				
Surr: o-Terphenyl	67.5		79.64		84.8	50	150				

Work Order: 1903045
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID 1903036-001BMS	SampType: MS	Units: µg/L	Prep Date: 3/7/2019	RunNo: 49925							
Client ID: BATCH	Batch ID: 23739	Analysis Date: 3/8/2019	SeqNo: 979047								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID 1903036-001BMSD	SampType: MSD	Units: µg/L	Prep Date: 3/7/2019	RunNo: 49925							
Client ID: BATCH	Batch ID: 23739	Analysis Date: 3/8/2019	SeqNo: 979048								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	691	50.3	1,007	24.40	66.2	65	135	768.7	10.7	30	
Surr: 2-Fluorobiphenyl	66.9		80.54		83.1	50	150		0		
Surr: o-Terphenyl	63.4		80.54		78.7	50	150		0		

Work Order: 1903045
 CLIENT: Kane Environmental, Inc.
 Project: Hertz

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID	MB-R49857A	SampType:	MBLK	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49857			
Client ID:	MBLKW	Batch ID:	R49857			Analysis Date:	3/6/2019	SeqNo:	977539			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID	LCS-R49857A	SampType:	LCS	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49857			
Client ID:	LCSW	Batch ID:	R49857			Analysis Date:	3/6/2019	SeqNo:	977538			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 778 0.00863 1,000 0 77.8 70 130

Sample ID	1902354-001CREP	SampType:	REP	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49857			
Client ID:	BATCH	Batch ID:	R49857			Analysis Date:	3/6/2019	SeqNo:	977534			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 0.891 0.00863 0.9117 2.32 30 E

NOTES:

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

Sample ID	MB-R49857B	SampType:	MBLK	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49857			
Client ID:	MBLKW	Batch ID:	R49857			Analysis Date:	3/6/2019	SeqNo:	977540			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID	MB-R49857C	SampType:	MBLK	Units:	mg/L	Prep Date:	3/6/2019	RunNo:	49857			
Client ID:	MBLKW	Batch ID:	R49857			Analysis Date:	3/6/2019	SeqNo:	977541			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Client Name: **KANE**
 Logged by: **Clare Griggs**

Work Order Number: **1903045**
 Date Received: **3/5/2019 6:07:00 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:	<input type="text"/>	Date	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	2.1
Sample	1.9
Temp Blank	0.6

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



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

Kane Environmental, Inc.

Jeff Jensen
4015 13th Ave W.
Seattle, WA 98103

RE: Hertz

Work Order Number: 1903064

March 14, 2019

Attention Jeff Jensen:

Fremont Analytical, Inc. received 3 sample(s) on 3/6/2019 for the analyses presented in the following report.

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

Dissolved Gases by RSK-175

Dissolved Metals by EPA Method 200.8

Ion Chromatography by EPA Method 300.0

Total Metals by EPA Method 200.8

Total Alkalinity by SM 2320B

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,

Chelsea Ward
Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)

CLIENT: Kane Environmental, Inc.
Project: Hertz
Work Order: 1903064

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1903064-001	BL-MW-8R:W	03/06/2019 10:05 AM	03/06/2019 5:00 PM
1903064-002	BC-16:W	03/06/2019 12:20 PM	03/06/2019 5:00 PM
1903064-003	HZ-MW-12:W	03/06/2019 3:40 PM	03/06/2019 5:00 PM

CLIENT: Kane Environmental, Inc.

Project: Hertz

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: Kane Environmental, Inc.
Project: Hertz
Lab ID: 1903064-001
Client Sample ID: BL-MW-8R:W

Collection Date: 3/6/2019 10:05:00 AM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Dissolved Gases by RSK-175</u>						
						Batch ID: R50033 Analyst: AD
Methane	4.26	0.173	D	mg/L	20	3/14/2019 12:02:00 PM
<u>Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.</u>						
						Batch ID: 23765 Analyst: DW
Diesel (Fuel Oil)	ND	49.5		µg/L	1	3/12/2019 3:07:18 PM
Heavy Oil	234	99.0		µg/L	1	3/12/2019 3:07:18 PM
Surr: 2-Fluorobiphenyl	80.6	50 - 150		%Rec	1	3/12/2019 3:07:18 PM
Surr: o-Terphenyl	83.6	50 - 150		%Rec	1	3/12/2019 3:07:18 PM
<u>Ion Chromatography by EPA Method 300.0</u>						
						Batch ID: 23738 Analyst: TN
Nitrate (as N)	ND	0.100		mg/L	1	3/8/2019 8:15:00 AM
Sulfate	1.70	0.300		mg/L	1	3/8/2019 8:15:00 AM
<u>Dissolved Metals by EPA Method 200.8</u>						
						Batch ID: 23752 Analyst: WC
Manganese	3,480	20.0	D	µg/L	10	3/8/2019 6:04:14 PM
<u>Total Alkalinity by SM 2320B</u>						
						Batch ID: R49914 Analyst: ME
Alkalinity, Total (As CaCO3)	348	2.50		mg/L	1	3/8/2019 8:30:00 PM



Client: Kane Environmental, Inc.

Collection Date: 3/6/2019 12:20:00 PM

Project: Hertz

Lab ID: 1903064-002

Matrix: Groundwater

Client Sample ID: BC-16:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Gases by RSK-175

Batch ID: R50033 Analyst: AD

Methane	3.44	0.173	D	mg/L	20	3/14/2019 12:31:00 PM
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23765 Analyst: DW

Diesel (Fuel Oil)	ND	50.4		µg/L	1	3/12/2019 5:07:37 PM
Heavy Oil	179	101		µg/L	1	3/12/2019 5:07:37 PM
Surr: 2-Fluorobiphenyl	78.4	50 - 150		%Rec	1	3/12/2019 5:07:37 PM
Surr: o-Terphenyl	82.0	50 - 150		%Rec	1	3/12/2019 5:07:37 PM

Ion Chromatography by EPA Method 300.0

Batch ID: 23738 Analyst: TN

Nitrate (as N)	0.310	0.500	JD	mg/L	5	3/8/2019 1:42:00 AM
Sulfate	270	15.0	D	mg/L	50	3/12/2019 3:59:00 AM

NOTES:

Diluted due to matrix.

Dissolved Metals by EPA Method 200.8

Batch ID: 23752 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 3:38:33 PM
Manganese	3,760	20.0	D	µg/L	10	3/8/2019 6:08:16 PM

Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	2.56	1.75		µg/L	1	3/8/2019 4:47:10 PM
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Total Alkalinity by SM 2320B

Batch ID: R49914 Analyst: ME

Alkalinity, Total (As CaCO3)	371	2.50		mg/L	1	3/8/2019 8:30:00 PM
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Client: Kane Environmental, Inc.
Project: Hertz
Lab ID: 1903064-003
Client Sample ID: HZ-MW-12:W

Collection Date: 3/6/2019 3:40:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Dissolved Metals by EPA Method 200.8

Batch ID: 23752 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/8/2019 3:42:35 PM
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Total Metals by EPA Method 200.8

Batch ID: 23755 Analyst: WC

Arsenic	2.89	1.75		µg/L	1	3/8/2019 4:59:39 PM
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Work Order: 1903064
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID MB-23738	SampType: MBLK	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49893							
Client ID: MBLKW	Batch ID: 23738		Analysis Date: 3/7/2019	SeqNo: 978395							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100
Sulfate	ND	0.300

Sample ID LCS-23738	SampType: LCS	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49893							
Client ID: LCSW	Batch ID: 23738		Analysis Date: 3/7/2019	SeqNo: 978396							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.700	0.100	0.7500	0	93.3	90	110
Sulfate	3.49	0.300	3.750	0	93.1	90	110

Sample ID 1903045-001BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49893							
Client ID: BATCH	Batch ID: 23738		Analysis Date: 3/8/2019	SeqNo: 978398							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.420	0.100						0.4140	1.44	20	H
Sulfate	9.08	0.300						8.983	1.02	20	

Sample ID 1903045-001BMS	SampType: MS	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49893							
Client ID: BATCH	Batch ID: 23738		Analysis Date: 3/8/2019	SeqNo: 978399							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.15	0.100	0.7500	0.4140	98.7	80	120				H
Sulfate	13.0	0.300	3.750	8.983	106	80	120				

Sample ID 1903045-001BMSD	SampType: MSD	Units: mg/L	Prep Date: 3/7/2019	RunNo: 49893							
Client ID: BATCH	Batch ID: 23738		Analysis Date: 3/8/2019	SeqNo: 978400							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	1.16	0.100	0.7500	0.4140	99.9	80	120	1.154	0.777	20	H
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Work Order: 1903064
 CLIENT: Kane Environmental, Inc.
 Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID	1903045-001BMSD	SampType: MSD	Units: mg/L			Prep Date: 3/7/2019	RunNo: 49893				
Client ID:	BATCH	Batch ID: 23738				Analysis Date: 3/8/2019	SeqNo: 978400				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	13.1	0.300	3.750	8.983	109	80	120	12.97	0.936	20	
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Sample ID	1903068-021BDUP	SampType: DUP	Units: mg/L			Prep Date: 3/7/2019	RunNo: 49893				
Client ID:	BATCH	Batch ID: 23738				Analysis Date: 3/8/2019	SeqNo: 978426				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	ND	0.100						0		20	
Sulfate	15.1	0.300						14.96	0.713	20	E

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

Sample ID	1903068-021BMS	SampType: MS	Units: mg/L			Prep Date: 3/7/2019	RunNo: 49893				
Client ID:	BATCH	Batch ID: 23738				Analysis Date: 3/8/2019	SeqNo: 978403				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate (as N)	0.718	0.100	0.7500	0	95.7	80	120				
Sulfate	18.9	0.300	3.750	14.96	104	80	120				E

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

Sample ID	LCS-23776	SampType: LCS	Units: mg/L			Prep Date: 3/11/2019	RunNo: 49967				
Client ID:	LCSW	Batch ID: 23776				Analysis Date: 3/11/2019	SeqNo: 980182				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	3.49	0.300	3.750	0	93.0	90	110				
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Sample ID	MB-23776	SampType: MBLK	Units: mg/L			Prep Date: 3/11/2019	RunNo: 49967				
Client ID:	MBLKW	Batch ID: 23776				Analysis Date: 3/11/2019	SeqNo: 980184				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	ND	0.300									
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Work Order: 1903064
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID MB-23776	SampType: MBLK	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49967							
Client ID: MBLKW	Batch ID: 23776		Analysis Date: 3/11/2019	SeqNo: 980184							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID 1903027-005BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49967							
Client ID: BATCH	Batch ID: 23776		Analysis Date: 3/11/2019	SeqNo: 980186							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	5.77	0.600						5.750	0.382	20	D
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Sample ID 1903027-005BMS	SampType: MS	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49967							
Client ID: BATCH	Batch ID: 23776		Analysis Date: 3/11/2019	SeqNo: 980187							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	10.7	0.600	7.500	5.750	65.9	80	120				DS
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NOTES:

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

Sample ID 1903027-005BMSD	SampType: MSD	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49967							
Client ID: BATCH	Batch ID: 23776		Analysis Date: 3/11/2019	SeqNo: 980188							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	10.9	0.600	7.500	5.750	68.9	80	120	10.69	2.05	20	DS
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NOTES:

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

Sample ID 1903027-019BDUP	SampType: DUP	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49967							
Client ID: BATCH	Batch ID: 23776		Analysis Date: 3/12/2019	SeqNo: 980204							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate	2.86	0.600						2.930	2.49	20	D
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Work Order: 1903064
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Ion Chromatography by EPA Method 300.0

Sample ID 1903027-019BMS	SampType: MS	Units: mg/L			Prep Date: 3/11/2019	RunNo: 49967					
Client ID: BATCH	Batch ID: 23776				Analysis Date: 3/12/2019	SeqNo: 980207					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	9.30	0.600	7.500	2.930	84.9	80	120				D



Date: 3/14/2019

Work Order: 1903064
 CLIENT: Kane Environmental, Inc.
 Project: Hertz

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID MB-23752	SampType: MBLK	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: MBLKW	Batch ID: 23752		Analysis Date: 3/8/2019	SeqNo: 978761							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75									
Manganese	ND	2.00									

Sample ID LCS-23752	SampType: LCS	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: LCSW	Batch ID: 23752		Analysis Date: 3/8/2019	SeqNo: 978762							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	97.9	1.75	100.0	0	97.9	85	115				
Manganese	101	2.00	100.0	0	101	85	115				

Sample ID 1903045-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: BATCH	Batch ID: 23752		Analysis Date: 3/8/2019	SeqNo: 978766							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75						0		30	
Manganese	138	2.00						135.9	1.91	30	

Sample ID 1903045-001AMS	SampType: MS	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: BATCH	Batch ID: 23752		Analysis Date: 3/8/2019	SeqNo: 978767							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	508	1.75	500.0	0	102	70	130				
Manganese	630	2.00	500.0	135.9	98.8	70	130				

Sample ID 1903045-001AMSD	SampType: MSD	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: BATCH	Batch ID: 23752		Analysis Date: 3/8/2019	SeqNo: 978768							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	537	1.75	500.0	0	107	70	130	508.1	5.47	30	
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Work Order: 1903064
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID 1903045-001AMSD	SampType: MSD	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: BATCH	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978768					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	648	2.00	500.0	135.9	102	70	130	629.8	2.86	30	

Sample ID MB-23732FB	SampType: MBLK	Units: µg/L			Prep Date: 3/8/2019	RunNo: 49911					
Client ID: MBLKW	Batch ID: 23752				Analysis Date: 3/8/2019	SeqNo: 978785					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.75									
Manganese	ND	2.00									

NOTES:
 Filter Blank

Work Order: 1903064
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID MB-23765	SampType: MBLK	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: MBLKW	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 980531					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	50.1									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	64.3		80.23		80.2	50	150				
Surr: o-Terphenyl	65.2		80.23		81.2	50	150				

Sample ID LCS-23765	SampType: LCS	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: LCSW	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 980532					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	729	50.3	1,006	0	72.5	65	135				
Surr: 2-Fluorobiphenyl	66.9		80.50		83.1	50	150				
Surr: o-Terphenyl	62.9		80.50		78.1	50	150				

Sample ID 1903064-001BDUP	SampType: DUP	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: BL-MW-8R:W	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 981126					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	54.1						0		30	
Heavy Oil	275	108						234.4	16.1	30	
Surr: 2-Fluorobiphenyl	61.4		86.61		70.9	50	150		0		
Surr: o-Terphenyl	70.7		86.61		81.7	50	150		0		

Sample ID 1903076-001AMS	SampType: MS	Units: µg/L			Prep Date: 3/11/2019	RunNo: 49977					
Client ID: BATCH	Batch ID: 23765				Analysis Date: 3/12/2019	SeqNo: 981129					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	6,850	50.1	1,001	5,757	109	65	135				E
Surr: 2-Fluorobiphenyl	73.6		80.09		91.9	50	150				
Surr: o-Terphenyl	72.2		80.09		90.1	50	150				

Work Order: 1903064
 CLIENT: Kane Environmental, Inc.
 Project: Hertz

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID	1903076-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977		
Client ID:	BATCH	Batch ID:	23765	Analysis Date:	3/12/2019	SeqNo:	981129				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

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

Sample ID	1903076-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977		
Client ID:	BATCH	Batch ID:	23765	Analysis Date:	3/12/2019	SeqNo:	981130				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	7,050	49.9	997.8	5,757	130	65	135	6,848	2.91	30	E
Surr: 2-Fluorobiphenyl	53.5		79.83		67.1	50	150		0		
Surr: o-Terphenyl	84.2		79.83		105	50	150		0		

NOTES:

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

Sample ID	1903086-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977		
Client ID:	BATCH	Batch ID:	23765	Analysis Date:	3/13/2019	SeqNo:	981143				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	49.8						0		30	
Heavy Oil	ND	99.6						0		30	
Surr: 2-Fluorobiphenyl	67.1		79.71		84.2	50	150		0		
Surr: o-Terphenyl	67.4		79.71		84.6	50	150		0		

Work Order: 1903064
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID	MB-R50033A	SampType:	MBLK	Units:	mg/L	Prep Date:	3/13/2019	RunNo:	50033			
Client ID:	MBLKW	Batch ID:	R50033			Analysis Date:	3/13/2019	SeqNo:	981993			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID	LCS-R50033A	SampType:	LCS	Units:	mg/L	Prep Date:	3/13/2019	RunNo:	50033			
Client ID:	LCSW	Batch ID:	R50033			Analysis Date:	3/13/2019	SeqNo:	981992			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1,040 0.00863 1,000 0 104 70 130

Sample ID	1903064-001DREP	SampType:	REP	Units:	mg/L	Prep Date:	3/13/2019	RunNo:	50033			
Client ID:	BL-MW-8R:W	Batch ID:	R50033			Analysis Date:	3/13/2019	SeqNo:	981982			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1.72 0.00863 1.446 17.6 30 E

NOTES:

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

Sample ID	MB-R50033B	SampType:	MBLK	Units:	mg/L	Prep Date:	3/14/2019	RunNo:	50033			
Client ID:	MBLKW	Batch ID:	R50033			Analysis Date:	3/14/2019	SeqNo:	982411			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID	LCS-R50033B	SampType:	LCS	Units:	mg/L	Prep Date:	3/14/2019	RunNo:	50033			
Client ID:	LCSW	Batch ID:	R50033			Analysis Date:	3/14/2019	SeqNo:	982410			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Methane 1,020 0.00863 1,000 0 102 70 130



Work Order: 1903064
CLIENT: Kane Environmental, Inc.
Project: Hertz

QC SUMMARY REPORT
Dissolved Gases by RSK-175

Sample ID	1903064-001DREP	SampType:	REP	Units:	mg/L	Prep Date:	3/14/2019	RunNo:	50033		
Client ID:	BL-MW-8R:W	Batch ID:	R50033			Analysis Date:	3/14/2019	SeqNo:	982400		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	4.44	0.173						4.260	4.14	30	DE

NOTES:

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

Client Name: **KANE**
 Logged by: **Clare Griggs**

 Work Order Number: **1903064**
 Date Received: **3/6/2019 5:00:00 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
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

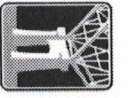
Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	2.5
Sample	4.7

* 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: 3/11/19 Page: 1 of: 1

Laboratory Project No (Internal): 19030004

Client: FANE ENVIRONMENTAL

Address: 4015 13th Ave N

City, State, Zip: Seattle, WA 98119

Telephone: (206) 691 0470

Fax:

Project Name: H142

Project No: B2302-15

Collected by: Bb

Location: Boothell

Report to (PM): JFF JUNKIN

PM Email: JFF@FANE-ENVIRONMENTAL.COM

Special Remarks:

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes												Comments	
				VOCs (EPA 8260 / 624)	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	PAHs (EPA 8270 / 625)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (8011)	Metals	Organics			
1 BLMN-8R:W	3/10	1005	GNW														MN's lab filter SAC
2 BC-10:W	3/10	1220	GNW				X										Diss-MN's TSD AS's lab filter
3 HZ-MN-12:W	3/10	1540	GNW														AS's lab filter
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 RCR-8 Priority Pollutants TAL Individual: Ag As B Ba Be Ca Cd Co Cr Cu Fe Hg K M_n (Mn) Mo Na Ni Pb Sb Se Sr Sn 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 [Signature] Date/Time 03/10/19 1700

Received [Signature] Date/Time 3/16/19 1700

Same Day Next Day 2 Day 3 Day Standard

Turn-around Time: (specify)



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

Kane Environmental, Inc.
Jeff Jensen
4015 13th Ave W.
Seattle, WA 98103

RE: Landing
Work Order Number: 1903065

March 14, 2019

Attention Jeff Jensen:

Fremont Analytical, Inc. received 1 sample(s) on 3/6/2019 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Metals by EPA Method 200.8
Total Metals by EPA Method 200.8

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,

A handwritten signature in black ink, appearing to read "Chelsea Ward", written in a cursive style.

Chelsea Ward
Project Manager

DoD/ELAP Certification #L17-135, ISO/IEC 17025:2005
ORELAP Certification: WA 100009-007 (NELAP Recognized)



CLIENT: Kane Environmental, Inc.
Project: Landing
Work Order: 1903065

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1903065-001	BL-MW-11:W	03/06/2019 2:25 PM	03/06/2019 5:00 PM

CLIENT: Kane Environmental, Inc.

Project: Landing

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: Kane Environmental, Inc.
Project: Landing
Lab ID: 1903065-001
Client Sample ID: BL-MW-11:W

Collection Date: 3/6/2019 2:25:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<u>Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.</u>					Batch ID: 23765	Analyst: DW
Diesel (Fuel Oil)	ND	50.5		µg/L	1	3/12/2019 8:05:49 PM
Heavy Oil	159	101		µg/L	1	3/12/2019 8:05:49 PM
Surr: 2-Fluorobiphenyl	83.0	50 - 150		%Rec	1	3/12/2019 8:05:49 PM
Surr: o-Terphenyl	88.0	50 - 150		%Rec	1	3/12/2019 8:05:49 PM
<u>Dissolved Metals by EPA Method 200.8</u>					Batch ID: 23752	Analyst: WC
Arsenic	3.58	1.75		µg/L	1	3/8/2019 3:46:37 PM
<u>Total Metals by EPA Method 200.8</u>					Batch ID: 23755	Analyst: WC
Arsenic	6.97	1.75		µg/L	1	3/8/2019 5:03:41 PM



Work Order: 1903065
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID MB-23752	SampType: MBLK	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: MBLKW	Batch ID: 23752	Analysis Date: 3/8/2019	SeqNo: 978761								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75

Sample ID LCS-23752	SampType: LCS	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: LCSW	Batch ID: 23752	Analysis Date: 3/8/2019	SeqNo: 978762								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 97.9 1.75 100.0 0 97.9 85 115

Sample ID 1903045-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: BATCH	Batch ID: 23752	Analysis Date: 3/8/2019	SeqNo: 978766								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75 0 30

Sample ID 1903045-001AMS	SampType: MS	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: BATCH	Batch ID: 23752	Analysis Date: 3/8/2019	SeqNo: 978767								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 508 1.75 500.0 0 102 70 130

Sample ID 1903045-001AMSD	SampType: MSD	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: BATCH	Batch ID: 23752	Analysis Date: 3/8/2019	SeqNo: 978768								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 537 1.75 500.0 0 107 70 130 508.1 5.47 30



Work Order: 1903065
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID MB-23732FB	SampType: MBLK	Units: µg/L	Prep Date: 3/8/2019	RunNo: 49911							
Client ID: MBLKW	Batch ID: 23752	Analysis Date: 3/8/2019	SeqNo: 978785								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75

NOTES:
Filter Blank

Work Order: 1903065
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID MB-23765	SampType: MBLK	Units: µg/L	Prep Date: 3/11/2019	RunNo: 49977							
Client ID: MBLKW	Batch ID: 23765		Analysis Date: 3/12/2019	SeqNo: 980531							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	50.1									
Heavy Oil	ND	100									
Surr: 2-Fluorobiphenyl	64.3		80.23		80.2	50	150				
Surr: o-Terphenyl	65.2		80.23		81.2	50	150				

Sample ID LCS-23765	SampType: LCS	Units: µg/L	Prep Date: 3/11/2019	RunNo: 49977							
Client ID: LCSW	Batch ID: 23765		Analysis Date: 3/12/2019	SeqNo: 980532							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	729	50.3	1,006	0	72.5	65	135				
Surr: 2-Fluorobiphenyl	66.9		80.50		83.1	50	150				
Surr: o-Terphenyl	62.9		80.50		78.1	50	150				

Sample ID 1903064-001BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/11/2019	RunNo: 49977							
Client ID: BATCH	Batch ID: 23765		Analysis Date: 3/12/2019	SeqNo: 981126							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	54.1						0		30	
Heavy Oil	275	108						234.4	16.1	30	
Surr: 2-Fluorobiphenyl	61.4		86.61		70.9	50	150		0		
Surr: o-Terphenyl	70.7		86.61		81.7	50	150		0		

Sample ID 1903076-001AMS	SampType: MS	Units: µg/L	Prep Date: 3/11/2019	RunNo: 49977							
Client ID: BATCH	Batch ID: 23765		Analysis Date: 3/12/2019	SeqNo: 981129							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	6,850	50.1	1,001	5,757	109	65	135				E
Surr: 2-Fluorobiphenyl	73.6		80.09		91.9	50	150				
Surr: o-Terphenyl	72.2		80.09		90.1	50	150				

Work Order: 1903065
 CLIENT: Kane Environmental, Inc.
 Project: Landing

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID	1903076-001AMS	SampType:	MS	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977				
Client ID:	BATCH	Batch ID:	23765			Analysis Date:	3/12/2019	SeqNo:	981129				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

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

Sample ID	1903076-001AMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977				
Client ID:	BATCH	Batch ID:	23765			Analysis Date:	3/12/2019	SeqNo:	981130				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)		7,050		49.9	997.8	5,757	130	65	135	6,848	2.91	30	E
Surr: 2-Fluorobiphenyl		53.5			79.83		67.1	50	150		0		
Surr: o-Terphenyl		84.2			79.83		105	50	150		0		

NOTES:

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

Sample ID	1903086-001ADUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/11/2019	RunNo:	49977				
Client ID:	BATCH	Batch ID:	23765			Analysis Date:	3/13/2019	SeqNo:	981143				
Analyte		Result		RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)		ND		49.8						0		30	
Heavy Oil		ND		99.6						0		30	
Surr: 2-Fluorobiphenyl		67.1			79.71		84.2	50	150		0		
Surr: o-Terphenyl		67.4			79.71		84.6	50	150		0		

Client Name: **KANE**
 Logged by: **Clare Griggs**

 Work Order Number: **1903065**
 Date Received: **3/6/2019 5:00:00 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
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:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	2.5
Sample	4.7

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



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

Chain of Custody Record & Laboratory Services Agreement

Date: 3/10/19 Page: 1 of: 1

Project Name: Landing

Project No: 02202-14

Collected by: BSN

Location: Bornell

Report To (PM): JEFF HUXEN

PM Email: KK@KANE-ENVIRONMENTAL.COM

Laboratory Project No (Internal): 1903005

Special Remarks:

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 - SIM)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) Dissolved (D)	Anions (IC)***	EDB (801.1)	Comments
1 BL-MW-11: W	3/10	1425	GW														LAB FILTER
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 Ar As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn 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 MMW Date/Time 03/10/19 1700

Received [Signature] Date/Time 3/6/19 1700

Relinquished X Date/Time _____

Received X Date/Time _____

Turn-around Time: Standard 3 Day 2 Day Next Day Same Day (specify) _____



Kane Environmental, Inc.
Jeff Jensen
4015 13th Ave W.
Seattle, WA 98103

RE: Landing
Work Order Number: 1903152

March 18, 2019

Attention Jeff Jensen:

Fremont Analytical, Inc. received 2 sample(s) on 3/11/2019 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Dissolved Metals by EPA Method 200.8
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Total Metals by EPA Method 200.8

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,

Chelsea Ward
Project Manager



Date: 03/18/2019

CLIENT: Kane Environmental, Inc.
Project: Landing
Work Order: 1903152

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1903152-001	BL-MW-12:W	03/11/2019 12:10 PM	03/11/2019 3:20 PM
1903152-002	MW-1:W	03/11/2019 1:50 PM	03/11/2019 3:20 PM

CLIENT: Kane Environmental, Inc.

Project: Landing

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: Kane Environmental, Inc.
Project: Landing
Lab ID: 1903152-001
Client Sample ID: BL-MW-12:W

Collection Date: 3/11/2019 12:10:00 PM
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23833 Analyst: DW

Diesel (Fuel Oil)	ND	53.1		µg/L	1	3/15/2019 10:09:40 PM
Heavy Oil	114	106		µg/L	1	3/15/2019 10:09:40 PM
Surr: 2-Fluorobiphenyl	96.7	50 - 150		%Rec	1	3/15/2019 10:09:40 PM
Surr: o-Terphenyl	99.1	50 - 150		%Rec	1	3/15/2019 10:09:40 PM

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Batch ID: 23804 Analyst: SB

Naphthalene	ND	0.100		µg/L	1	3/14/2019 4:45:08 PM
2-Methylnaphthalene	ND	0.100		µg/L	1	3/14/2019 4:45:08 PM
1-Methylnaphthalene	ND	0.100		µg/L	1	3/14/2019 4:45:08 PM
Surr: 2-Fluorobiphenyl	100	44.2 - 171		%Rec	1	3/14/2019 4:45:08 PM
Surr: Terphenyl-d14	66.7	17.6 - 136		%Rec	1	3/14/2019 4:45:08 PM

Dissolved Metals by EPA Method 200.8

Batch ID: 23836 Analyst: WC

Arsenic	3.60	1.75		µg/L	1	3/15/2019 11:47:25 AM
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Total Metals by EPA Method 200.8

Batch ID: 23800 Analyst: WC

Arsenic	17.7	1.75		µg/L	1	3/13/2019 5:28:13 PM
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Client: Kane Environmental, Inc.

Collection Date: 3/11/2019 1:50:00 PM

Project: Landing

Lab ID: 1903152-002

Matrix: Groundwater

Client Sample ID: MW-1:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 23833 Analyst: DW

Diesel (Fuel Oil)	ND	52.8		µg/L	1	3/15/2019 10:39:21 PM
Heavy Oil	ND	106		µg/L	1	3/15/2019 10:39:21 PM
Surr: 2-Fluorobiphenyl	96.4	50 - 150		%Rec	1	3/15/2019 10:39:21 PM
Surr: o-Terphenyl	104	50 - 150		%Rec	1	3/15/2019 10:39:21 PM

Dissolved Metals by EPA Method 200.8

Batch ID: 23836 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/15/2019 12:13:37 PM
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Total Metals by EPA Method 200.8

Batch ID: 23800 Analyst: WC

Arsenic	ND	1.75		µg/L	1	3/13/2019 5:32:14 PM
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Work Order: 1903152
 CLIENT: Kane Environmental, Inc.
 Project: Landing

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID	MB-23836	SampType:	MBLK	Units:	µg/L	Prep Date:	3/15/2019	RunNo:	50074		
Client ID:	MBLKW	Batch ID:	23836	Analysis Date:	3/15/2019	SeqNo:	982908				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75

Sample ID	LCS-23836	SampType:	LCS	Units:	µg/L	Prep Date:	3/15/2019	RunNo:	50074		
Client ID:	LCSW	Batch ID:	23836	Analysis Date:	3/15/2019	SeqNo:	982909				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 98.6 1.75 100.0 0 98.6 85 115

Sample ID	1903152-001CDUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/15/2019	RunNo:	50074		
Client ID:	BL-MW-12:W	Batch ID:	23836	Analysis Date:	3/15/2019	SeqNo:	982913				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 3.22 1.75 3.600 11.3 30

Sample ID	1903152-001CMS	SampType:	MS	Units:	µg/L	Prep Date:	3/15/2019	RunNo:	50074		
Client ID:	BL-MW-12:W	Batch ID:	23836	Analysis Date:	3/15/2019	SeqNo:	982914				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 510 1.75 500.0 3.600 101 70 130

Sample ID	1903152-001CMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/15/2019	RunNo:	50074		
Client ID:	BL-MW-12:W	Batch ID:	23836	Analysis Date:	3/15/2019	SeqNo:	982915				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 506 1.75 500.0 3.600 100 70 130 509.7 0.745 30

Work Order: 1903152
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Dissolved Metals by EPA Method 200.8

Sample ID	MB-23821FB	SampType:	MBLK	Units:	µg/L	Prep Date:	3/15/2019	RunNo:	50074		
Client ID:	MBLKW	Batch ID:	23836	Analysis Date:	3/15/2019	SeqNo:	982938				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.75									
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NOTES:
 Filter Blank

Work Order: 1903152
 CLIENT: Kane Environmental, Inc.
 Project: Landing

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID	MB-23800	SampType:	MBLK	Units:	µg/L	Prep Date:	3/13/2019	RunNo:	50035		
Client ID:	MBLKW	Batch ID:	23800	Analysis Date:	3/13/2019	SeqNo:	982071				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75

Sample ID	LCS-23800	SampType:	LCS	Units:	µg/L	Prep Date:	3/13/2019	RunNo:	50035		
Client ID:	LCSW	Batch ID:	23800	Analysis Date:	3/13/2019	SeqNo:	982072				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 98.5 1.75 100.0 0 98.5 85 115

Sample ID	1903137-001DDUP	SampType:	DUP	Units:	µg/L	Prep Date:	3/13/2019	RunNo:	50035		
Client ID:	BATCH	Batch ID:	23800	Analysis Date:	3/13/2019	SeqNo:	982074				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 3.05 1.75 3.127 2.51 30

Sample ID	1903137-001DMS	SampType:	MS	Units:	µg/L	Prep Date:	3/13/2019	RunNo:	50035		
Client ID:	BATCH	Batch ID:	23800	Analysis Date:	3/13/2019	SeqNo:	982075				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 573 1.75 500.0 3.127 114 70 130

Sample ID	1903137-001DMSD	SampType:	MSD	Units:	µg/L	Prep Date:	3/13/2019	RunNo:	50035		
Client ID:	BATCH	Batch ID:	23800	Analysis Date:	3/13/2019	SeqNo:	982076				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic 566 1.75 500.0 3.127 113 70 130 573.4 1.26 30

Work Order: 1903152
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID MB-23833	SampType: MBLK	Units: µg/L	Prep Date: 3/14/2019	RunNo: 50085							
Client ID: MBLKW	Batch ID: 23833		Analysis Date: 3/15/2019	SeqNo: 983077							
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	99.9									
Surr: 2-Fluorobiphenyl	68.7		79.89		86.0	50	150				
Surr: o-Terphenyl	75.9		79.89		95.0	50	150				

Sample ID LCS-23833	SampType: LCS	Units: µg/L	Prep Date: 3/14/2019	RunNo: 50085							
Client ID: LCSW	Batch ID: 23833		Analysis Date: 3/15/2019	SeqNo: 983078							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	702	50.2	1,004	0	70.0	65	135				
Surr: 2-Fluorobiphenyl	75.6		80.31		94.1	50	150				
Surr: o-Terphenyl	70.0		80.31		87.2	50	150				

Sample ID LCSD-23833	SampType: LCSD	Units: µg/L	Prep Date: 3/14/2019	RunNo: 50085							
Client ID: LCSW02	Batch ID: 23833		Analysis Date: 3/15/2019	SeqNo: 983109							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	653	50.0	1,000	0	65.3	65	135	702.3	7.23	30	
Surr: 2-Fluorobiphenyl	77.6		80.00		97.0	50	150		0		
Surr: o-Terphenyl	72.1		80.00		90.2	50	150		0		

Sample ID 1903181-001BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/14/2019	RunNo: 50085							
Client ID: BATCH	Batch ID: 23833		Analysis Date: 3/15/2019	SeqNo: 983451							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	6,830	49.5						5,808	16.1	30	E
Heavy Oil	ND	99.1						0		30	
Surr: 2-Fluorobiphenyl	85.8		79.28		108	50	150		0		
Surr: o-Terphenyl	60.1		79.28		75.8	50	150		0		

Work Order: 1903152
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID 1903181-001BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/14/2019	RunNo: 50085							
Client ID: BATCH	Batch ID: 23833		Analysis Date: 3/15/2019	SeqNo: 983451							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:

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

Sample ID 1903211-002BDUP	SampType: DUP	Units: µg/L	Prep Date: 3/14/2019	RunNo: 50085							
Client ID: BATCH	Batch ID: 23833		Analysis Date: 3/15/2019	SeqNo: 983459							
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	ND	100						0		30	
Surr: 2-Fluorobiphenyl	78.2		80.30		97.4	50	150		0		
Surr: o-Terphenyl	83.7		80.30		104	50	150		0		

Work Order: 1903152
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID MB-23804	SampType: MBLK	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50068					
Client ID: MBLKW	Batch ID: 23804				Analysis Date: 3/14/2019	SeqNo: 982829					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.0998									
2-Methylnaphthalene	ND	0.0998									
1-Methylnaphthalene	ND	0.0998									
Surr: 2-Fluorobiphenyl	1.66		1.996		83.2	44.2	171				
Surr: Terphenyl-d14	1.69		1.996		84.6	17.6	136				

Sample ID LCS-23804	SampType: LCS	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50068					
Client ID: LCSW	Batch ID: 23804				Analysis Date: 3/14/2019	SeqNo: 982830					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.84	0.100	4.016	0	95.6	30.4	113				
2-Methylnaphthalene	4.04	0.100	4.016	0	101	33.2	126				
1-Methylnaphthalene	4.10	0.100	4.016	0	102	30.2	119				
Surr: 2-Fluorobiphenyl	1.95		2.008		96.9	44.2	171				
Surr: Terphenyl-d14	1.67		2.008		83.3	17.6	136				

Sample ID LCS-23804	SampType: LCS	Units: µg/L			Prep Date: 3/13/2019	RunNo: 50068					
Client ID: LCSW02	Batch ID: 23804				Analysis Date: 3/14/2019	SeqNo: 982831					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	3.73	0.100	4.004	0	93.0	30.4	113	3.840	3.02	30	
2-Methylnaphthalene	3.98	0.100	4.004	0	99.3	33.2	126	4.043	1.66	30	
1-Methylnaphthalene	4.02	0.100	4.004	0	100	30.2	119	4.100	2.06	30	
Surr: 2-Fluorobiphenyl	1.98		2.002		98.9	44.2	171		0	0	
Surr: Terphenyl-d14	1.62		2.002		80.7	17.6	136		0	0	

Work Order: 1903152
CLIENT: Kane Environmental, Inc.
Project: Landing

QC SUMMARY REPORT
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID 1903125-001CDUP	SampType: DUP		Units: µg/L	Prep Date: 3/13/2019	RunNo: 50068						
Client ID: BATCH	Batch ID: 23804			Analysis Date: 3/14/2019	SeqNo: 982833						
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	0.100						0		30	
2-Methylnaphthalene	ND	0.100						0		30	
1-Methylnaphthalene	ND	0.100						0		30	
Surr: 2-Fluorobiphenyl	1.88		2.004		93.6	44.2	171		0		
Surr: Terphenyl-d14	1.14		2.004		56.7	17.6	136		0		

Client Name: **KANE**
 Logged by: **Clare Griggs**

Work Order Number: **1903152**
 Date Received: **3/11/2019 3:20:00 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:	<input type="text"/>	Date	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	8.4
Sample	9.2
Temp Blank	7.2

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



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

Chain of Custody Record & Laboratory Services Agreement

Date: 3/11/19 Page: 1 of 1

Project Name: Landing

Project No: 82302-14

Collected by: B6

Location: RDTM11

Report To (PM): Jeff Jensen

PM Email: Jeff@kane-environmental.com

Laboratory Project No (Internal): 1903152

Special Remarks:
NAPHTHALENE
1-METHYLNAPHTHALENE
2-METHYLNAPHTHALENE

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

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	Analytes												Comments		
				VOCs (EPA 8260 / 624)	GY/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)	
1 BL- MN-12:1N	3/11	12:10	GN				X											LAB FILTER
2 MN-1:1N	3/11	13:50	GW				X											LAB FILTER
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 As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn 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
<i>[Signature]</i>	3/11/19 15:20	<i>[Signature]</i>	3/11/19 15:20
Retinquished	Date/Time	Received	Date/Time
X		X	



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 30, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-13.3
Laboratory Reference No. 1905-267

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on May 20, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 30, 2019
Samples Submitted: May 20, 2019
Laboratory Reference: 1905-267
Project: 82302-13.3

Case Narrative

Samples were collected on May 20, 2019 and received by the laboratory on May 20, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	05-267-02					
Diesel Range Organics	ND	0.26	NWTPH-Dx	5-28-19	5-28-19	
Lube Oil Range Organics	ND	0.42	NWTPH-Dx	5-28-19	5-28-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	82	50-150				
Client ID:	BPMW-6:W					
Laboratory ID:	05-267-03					
Diesel Range Organics	ND	0.27	NWTPH-Dx	5-30-19	5-30-19	
Lube Oil Range Organics	0.50	0.43	NWTPH-Dx	5-30-19	5-30-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	72	50-150				



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	5-28-19	5-28-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	5-28-19	5-28-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>84</i>	<i>50-150</i>				
Laboratory ID:	MB0530W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	5-30-19	5-30-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	5-30-19	5-30-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>92</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-277-04							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	U1,M1
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				<i>88</i>	<i>83</i>	<i>50-150</i>		
Laboratory ID:	SB0530W1							
	ORIG	DUP						
Diesel Range	0.907	0.872	NA	NA	NA	NA	4	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				<i>105</i>	<i>99</i>	<i>50-150</i>		



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-11R:W					
Laboratory ID:	05-267-01					
Arsenic	ND	3.0	EPA 200.8	5-20-19	5-29-19	
Client ID:	BPMW-2R:W					
Laboratory ID:	05-267-02					
Manganese	60	10	EPA 200.8	5-20-19	5-29-19	
Client ID:	BPMW-6:W					
Laboratory ID:	05-267-03					
Arsenic	8.4	3.0	EPA 200.8	5-20-19	5-29-19	
Manganese	26	10	EPA 200.8	5-20-19	5-29-19	



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0520F1					
Arsenic	ND	3.0	EPA 200.8	5-20-19	5-29-19	
Manganese	ND	10	EPA 200.8	5-20-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	
Manganese	4610	4700	NA	NA	NA	2	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20
Manganese	8520	8280	4000	4000	4610	98	92	75-125	3	20



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-11R:W					
Laboratory ID:	05-267-01					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	

Client ID:	BPMW-6:W					
Laboratory ID:	05-267-03					
Arsenic	9.3	3.3	EPA 200.8	5-29-19	5-29-19	



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0529WM1					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-277-01							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	05-277-01									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	123	122	111	111	ND	111	110	75-125	1	20



Date of Report: May 30, 2019
Samples Submitted: May 20, 2019
Laboratory Reference: 1905-267
Project: 82302-13.3

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	05-267-02					
Methane	660	100	RSK 175	5-28-19	5-28-19	

Client ID:	BPMW-6:W					
Laboratory ID:	05-267-03					
Methane	1800	500	RSK 175	5-28-19	5-28-19	



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Methane	ND	1.0	RSK 175	5-28-19	5-28-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0528W1										
	SB	SBD	SB	SBD		SB	SBD				
Methane	4.12	4.32	4.42	4.42	N/A	93	98	75-125	5	25	



Date of Report: May 30, 2019
Samples Submitted: May 20, 2019
Laboratory Reference: 1905-267
Project: 82302-13.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	05-267-02					
Sulfate	ND	5.0	ASTM D516-11	5-22-19	5-22-19	

Client ID:	BPMW-6:W					
Laboratory ID:	05-267-03					
Sulfate	ND	5.0	ASTM D516-11	5-22-19	5-22-19	



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0522W1					
Sulfate	ND	5.0	ASTM D516-11	5-22-19	5-22-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-267-02							
	ORIG	DUP						
Sulfate	ND	ND	NA	NA	NA	NA	10	

MATRIX SPIKE								
Laboratory ID:	05-267-02							
	MS	MS		MS				
Sulfate	13.1	10.0	ND	131	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0522W1							
	SB	SB		SB				
Sulfate	9.93	10.0	NA	99	89-113	NA	NA	



Date of Report: May 30, 2019
Samples Submitted: May 20, 2019
Laboratory Reference: 1905-267
Project: 82302-13.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	05-267-02					
Nitrate	0.055	0.050	EPA 353.2	5-21-19	5-21-19	

Client ID:	BPMW-6:W					
Laboratory ID:	05-267-03					
Nitrate	25	0.50	EPA 353.2	5-21-19	5-21-19	



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**NITRATE (as Nitrogen)
 EPA 353.2
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0521W1					
Nitrate	ND	0.050	EPA 353.2	5-21-19	5-21-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-267-02							
	ORIG	DUP						
Nitrate	0.0548	0.0863	NA	NA	NA	45	13	C

MATRIX SPIKE								
Laboratory ID:	05-267-02							
	MS	MS		MS				
Nitrate	2.17	2.00	0.0548	106	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0521W1							
	SB	SB		SB				
Nitrate	2.07	2.00	NA	104	90-125	NA	NA	



Date of Report: May 30, 2019
Samples Submitted: May 20, 2019
Laboratory Reference: 1905-267
Project: 82302-13.3

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	05-267-02					
Total Alkalinity	110	2.0	SM 2320B	5-21-19	5-21-19	

Client ID:	BPMW-6:W					
Laboratory ID:	05-267-03					
Total Alkalinity	44	2.0	SM 2320B	5-21-19	5-21-19	



Date of Report: May 30, 2019
 Samples Submitted: May 20, 2019
 Laboratory Reference: 1905-267
 Project: 82302-13.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0521W1					
Total Alkalinity	ND	2.0	SM 2320B	5-21-19	5-21-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-267-02							
	ORIG	DUP						
Total Alkalinity	114	112	NA	NA	NA	2	10	

SPIKE BLANK								
Laboratory ID:	SB0521W1							
	SB	SB		SB				
Total Alkalinity	90.0	100	NA	90	88-110	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





Onsite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request
(in working days)
(Check One)

Laboratory Number: **05-267**

Company: Kane Environmental
Project Number: 82302-13.3
Project Name: Botwell Paint
Project Manager: Jeff Jensen

Sampled by: Jeff Kane - Environmental, Inc

Standard (7 Days) (TPH analysis 5 Days)

Other (other)

Number of Containers

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Metals dissolved Mn	Total Metals As.	TCLP Metals	HEM (oil and grease) 1664A	Dissolved As	methane	sulfate	Nitrate	Alkalinity	
1	BC-11R:W	5/20	1559	GW															X			X					
2	BPMW-2R:W	5/20	1235	GW			X												X				X	X	X	X	X
3	BPMW-U:W	5/20	1440	GW			X												X			X	X	X	X	X	X

Signature

Company

Date

Time

Comments/Special Instructions

Relinquished		Kane Environmental	5/20	17:10	LAB FILTER
Received		OSE	5/20/13	17:16	
Relinquished					
Received					
Relinquished					
Received					
Relinquished					
Received					
Relinquished					
Reviewed/Date		Reviewed/Date			

Data Package: Standard Level III Level IV

Chromatograms with final report Electronic Data Deliverables (EDDs)



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 4, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-13.3
Laboratory Reference No. 1905-319

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on May 23, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 4, 2019
Samples Submitted: May 23, 2019
Laboratory Reference: 1905-319
Project: 82302-13.3

Case Narrative

Samples were collected on May 23, 2019 and received by the laboratory on May 23, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	5-30-19	5-31-19	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	5-30-19	5-31-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>88</i>	<i>50-150</i>				



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0530W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	5-30-19	5-30-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	5-30-19	5-30-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>92</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range Organics	0.450	0.419	NA	NA	NA	NA	7	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				97	78	50-150		



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Arsenic	ND	3.0	EPA 200.8	5-23-19	5-29-19	
Manganese	150	10	EPA 200.8	5-23-19	5-29-19	
Client ID:	BP-MW-1:W					
Laboratory ID:	05-319-02					
Arsenic	11	3.0	EPA 200.8	5-23-19	5-29-19	



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523F1					
Arsenic	ND	3.0	EPA 200.8	5-23-19	5-29-19	
Manganese	ND	10	EPA 200.8	5-23-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	
Manganese	4610	4700	NA	NA	NA	2	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20
Manganese	8520	8280	4000	4000	4610	98	92	75-125	3	20



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Client ID:	BP-MW-1:W					
Laboratory ID:	05-319-02					
Arsenic	22	3.3	EPA 200.8	5-31-19	5-31-19	



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	128	130	111	111	ND	116	117	75-125	1	20



Date of Report: June 4, 2019
Samples Submitted: May 23, 2019
Laboratory Reference: 1905-319
Project: 82302-13.3

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Methane	230	30	RSK 175	6-3-19	6-3-19	



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0603W1					
Methane	ND	1.0	RSK 175	6-3-19	6-3-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-123-01										
	MS	MSD	MS	MSD		MS	MSD				
Methane	9.41	9.08	4.42	4.42	4.20	118	110	75-125	4	25	
Ethane	7.79	7.34	8.32	8.32	ND	94	88	75-125	6	25	
Ethene	5.79	6.37	7.77	7.77	ND	75	82	75-125	10	25	



Date of Report: June 4, 2019
Samples Submitted: May 23, 2019
Laboratory Reference: 1905-319
Project: 82302-13.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Sulfate	6.0	5.0	ASTM D516-11	5-28-19	5-28-19	



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Sulfate	ND	5.0	ASTM D516-11	5-28-19	5-28-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-331-02							
	ORIG	DUP						
Sulfate	23.7	25.1	NA	NA	NA	6	10	

MATRIX SPIKE								
Laboratory ID:	05-331-02							
	MS	MS		MS				
Sulfate	48.5	20.0	23.7	124	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0528W1							
	SB	SB		SB				
Sulfate	8.99	10.0	NA	90	89-113	NA	NA	



Date of Report: June 4, 2019
Samples Submitted: May 23, 2019
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Project: 82302-13.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Nitrate	ND	0.050	EPA 353.2	5-23-19	5-23-19	



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

**NITRATE (as Nitrogen)
 EPA 353.2
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523W1					
Nitrate	ND	0.050	EPA 353.2	5-23-19	5-23-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Nitrate	0.274	0.302	NA	NA	NA	10	13	

MATRIX SPIKE								
Laboratory ID:	05-307-02							
	MS	MS		MS				
Nitrate	2.38	2.00	0.274	105	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0523W1							
	SB	SB		SB				
Nitrate	2.18	2.00	NA	109	90-125	NA	NA	



Date of Report: June 4, 2019
Samples Submitted: May 23, 2019
Laboratory Reference: 1905-319
Project: 82302-13.3

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Total Alkalinity	160	2.0	SM 2320B	5-30-19	5-30-19	



Date of Report: June 4, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-319
 Project: 82302-13.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0530W1					
Total Alkalinity	ND	2.0	SM 2320B	5-30-19	5-30-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-319-01							
	ORIG	DUP						
Total Alkalinity	160	160	NA	NA	NA	0	10	

SPIKE BLANK								
Laboratory ID:	SB0530W1							
	SB	SB		SB				
Total Alkalinity	92.0	100	NA	92	88-109	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 30, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15.3
Laboratory Reference No. 1905-281

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on May 21, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: May 30, 2019
Samples Submitted: May 21, 2019
Laboratory Reference: 1905-281
Project: 82302-15.3

Case Narrative

Samples were collected on May 21, 2019 and received by the laboratory on May 21, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	05-281-02					
Diesel Range Organics	0.41	0.26	NWTPH-Dx	5-28-19	5-28-19	
Lube Oil Range Organics	ND	0.42	NWTPH-Dx	5-28-19	5-28-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>84</i>	<i>50-150</i>				
Client ID:	BLMW-8R:W					
Laboratory ID:	05-281-04					
Diesel Range Organics	0.40	0.27	NWTPH-Dx	5-28-19	5-28-19	
Lube Oil Range Organics	0.72	0.42	NWTPH-Dx	5-28-19	5-28-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>85</i>	<i>50-150</i>				



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	5-28-19	5-28-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	5-28-19	5-28-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>84</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	SB0528W1							
	ORIG	DUP						
Diesel Fuel #2	0.820	0.730	NA	NA	NA	NA	12	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				106	93	50-150		



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-1:W					
Laboratory ID:	05-281-01					
Arsenic	ND	3.0	EPA 200.8	5-21-19	5-29-19	
Client ID:	HZ-MW-19:W					
Laboratory ID:	05-281-02					
Arsenic	ND	3.0	EPA 200.8	5-21-19	5-29-19	
Manganese	720	50	EPA 200.8	5-21-19	5-29-19	
Client ID:	HZ-MW-4:W					
Laboratory ID:	05-281-03					
Arsenic	ND	3.0	EPA 200.8	5-21-19	5-29-19	
Client ID:	BLMW-8R:W					
Laboratory ID:	05-281-04					
Arsenic	5.6	3.0	EPA 200.8	5-21-19	5-29-19	
Manganese	2400	250	EPA 200.8	5-21-19	5-29-19	



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0521F1					
Arsenic	ND	3.0	EPA 200.8	5-21-19	5-29-19	
Manganese	ND	10	EPA 200.8	5-21-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	
Manganese	4610	4700	NA	NA	NA	2	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20
Manganese	8520	8280	4000	4000	4610	98	92	75-125	3	20



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-1:W					
Laboratory ID:	05-281-01					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	
Client ID:	HZ-MW-19:W					
Laboratory ID:	05-281-02					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	
Client ID:	HZ-MW-4:W					
Laboratory ID:	05-281-03					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	
Client ID:	BLMW-8R:W					
Laboratory ID:	05-281-04					
Arsenic	7.1	3.3	EPA 200.8	5-29-19	5-29-19	



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0529WM1					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-277-01							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	05-277-01									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	123	122	111	111	ND	111	110	75-125	1	20



Date of Report: May 30, 2019
Samples Submitted: May 21, 2019
Laboratory Reference: 1905-281
Project: 82302-15.3

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	05-281-02					
Methane	110	20	RSK 175	5-28-19	5-28-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	05-281-04					
Methane	2900	500	RSK 175	5-28-19	5-28-19	



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Methane	ND	1.0	RSK 175	5-28-19	5-28-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0528W1										
	SB	SBD	SB	SBD		SB	SBD				
Methane	4.12	4.32	4.42	4.42	N/A	93	98	75-125	5	25	



Date of Report: May 30, 2019
Samples Submitted: May 21, 2019
Laboratory Reference: 1905-281
Project: 82302-15.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	05-281-02					
Sulfate	17	5.0	ASTM D516-11	5-22-19	5-22-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	05-281-04					
Sulfate	ND	5.0	ASTM D516-11	5-22-19	5-22-19	



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0522W1					
Sulfate	ND	5.0	ASTM D516-11	5-22-19	5-22-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-267-02							
	ORIG	DUP						
Sulfate	ND	ND	NA	NA	NA	NA	10	

MATRIX SPIKE								
Laboratory ID:	05-267-02							
	MS	MS		MS				
Sulfate	13.1	10.0	ND	131	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0522W1							
	SB	SB		SB				
Sulfate	9.93	10.0	NA	99	89-113	NA	NA	



Date of Report: May 30, 2019
Samples Submitted: May 21, 2019
Laboratory Reference: 1905-281
Project: 82302-15.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	05-281-02					
Nitrate	0.14	0.050	EPA 353.2	5-21-19	5-21-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	05-281-04					
Nitrate	0.14	0.050	EPA 353.2	5-21-19	5-21-19	



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**NITRATE (as Nitrogen)
 EPA 353.2
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0521W1					
Nitrate	ND	0.050	EPA 353.2	5-21-19	5-21-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-267-02							
	ORIG	DUP						
Nitrate	0.0548	0.0863	NA	NA	NA	45	13	C

MATRIX SPIKE								
Laboratory ID:	05-267-02							
	MS	MS		MS				
Nitrate	2.17	2.00	0.0548	106	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0521W1							
	SB	SB		SB				
Nitrate	2.07	2.00	NA	104	90-125	NA	NA	



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**TOTAL ALKALINITY
 SM 2320B**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	05-281-02					
Total Alkalinity	180	2.0	SM 2320B	5-23-19	5-23-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	05-281-04					
Total Alkalinity	310	2.0	SM 2320B	5-23-19	5-23-19	



Date of Report: May 30, 2019
 Samples Submitted: May 21, 2019
 Laboratory Reference: 1905-281
 Project: 82302-15.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523W1					
Total Alkalinity	ND	2.0	SM 2320B	5-23-19	5-23-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Total Alkalinity	508	502	NA	NA	NA	1	10	

SPIKE BLANK								
Laboratory ID:	SB0523W1							
	SB	SB		SB				
Total Alkalinity	92.0	100	NA	92	88-109	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 4, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15.3
Laboratory Reference No. 1905-307

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on May 22, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 4, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-307
June 482302-15.3

Case Narrative

Samples were collected on May 22, 2019 and received by the laboratory on May 22, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Diesel Range Organics	ND	0.26	NWTPH-Dx	5-30-19	5-31-19	
Lube Oil Range Organics	0.45	0.41	NWTPH-Dx	5-30-19	5-31-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>97</i>	<i>50-150</i>				



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0530W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	5-30-19	5-30-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	5-30-19	5-30-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>92</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range Organics	0.450	0.419	NA	NA	NA	NA	7	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				97	78	50-150		



Date of Report: June 4, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-307
June 482302-15.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-12:W					
Laboratory ID:	05-307-01					
Arsenic	4.2	3.3	EPA 200.8	5-31-19	5-31-19	
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	128	130	111	111	ND	116	117	75-125	1	20



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-12:W					
Laboratory ID:	05-307-01					
Arsenic	3.2	3.0	EPA 200.8	5-22-19	5-29-19	
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Arsenic	ND	3.0	EPA 200.8	5-22-19	5-29-19	
Manganese	4600	500	EPA 200.8	5-22-19	5-29-19	



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0522F1					
Arsenic	ND	3.0	EPA 200.8	5-22-19	5-29-19	
Manganese	ND	10	EPA 200.8	5-22-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	
Manganese	4610	4700	NA	NA	NA	2	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20
Manganese	8520	8280	4000	4000	4610	98	92	75-125	3	20



Date of Report: June 4, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-307
June 482302-15.3

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Methane	2100	300	RSK 175	6-3-19	6-3-19	



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0603W1					
Methane	ND	1.0	RSK 175	6-3-19	6-3-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-123-01										
	MS	MSD	MS	MSD		MS	MSD				
Methane	9.41	9.08	4.42	4.42	4.20	118	110	75-125	4	25	
Ethane	7.79	7.34	8.32	8.32	ND	94	88	75-125	6	25	
Ethene	5.79	6.37	7.77	7.77	ND	75	82	75-125	10	25	



Date of Report: June 4, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-307
June 482302-15.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Sulfate	260	100	ASTM D516-11	5-28-19	5-28-19	



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Sulfate	ND	5.0	ASTM D516-11	5-28-19	5-28-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-331-02							
	ORIG	DUP						
Sulfate	23.7	25.1	NA	NA	NA	6	10	

MATRIX SPIKE								
Laboratory ID:	05-331-02							
	MS	MS		MS				
Sulfate	48.5	20.0	23.7	124	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0528W1							
	SB	SB		SB				
Sulfate	8.99	10.0	NA	90	89-113	NA	NA	



Date of Report: June 4, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-307
June 482302-15.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Nitrate	0.27	0.050	EPA 353.2	5-23-19	5-23-19	



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523W1					
Nitrate	ND	0.050	EPA 353.2	5-23-19	5-23-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Nitrate	0.274	0.302	NA	NA	NA	10	13	

MATRIX SPIKE								
Laboratory ID:	05-307-02							
	MS	MS		MS				
Nitrate	2.38	2.00	0.274	105	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0523W1							
	SB	SB		SB				
Nitrate	2.18	2.00	NA	109	90-125	NA	NA	



Date of Report: June 4, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-307
June 482302-15.3

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Total Alkalinity	510	2.0	SM 2320B	5-23-19	5-23-19	



Date of Report: June 4, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-307
 June 482302-15.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523W1					
Total Alkalinity	ND	2.0	SM 2320B	5-23-19	5-23-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Total Alkalinity	508	502	NA	NA	NA	1	10	

SPIKE BLANK								
Laboratory ID:	SB0523W1							
	SB	SB		SB				
Total Alkalinity	92.0	100	NA	92	88-109	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





Onsite Environmental Inc.
 Analytical Laboratory Testing Services
 14648 NE 95th Street • Redmond, WA 98052
 Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request
 (in working days)
 (Check One)

Same Day 1 Day

2 Days 3 Days

Standard (7 Days)

(other) _____

Laboratory Number: **05-307**

Company: Wave Environmental
 Project Number: 82302-15.3
 Project Name: botwell HWT2
 Project Manager: Jeff Jensen
 Sampled by: Jeff Jensen → Bella Graves
Jeff Jensen - Environmental. com

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	H2 - MW-12:W	5/22	1200	GW	2
2	BC-10:W	5/22	1255	GW	13

Lab ID	Date	Time	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (<input type="checkbox"/> Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	dissolved Mn	methane	sulfate	nitrate	% Moisture	alkalinity
1	5/22	1200	GW	2															X	X							
2	5/22	1255	GW	13				X												X	X						

Signature	Company	Date	Time	Comments/Special Instructions
	Wave Env.	5/22	1200	lab filter
	Wave Env.	5/22	1255	BC-10:W → QC extra volume

Received _____
 Relinquished _____
 Received _____
 Relinquished _____
 Received _____
 Relinquished _____
 Reviewed/Date _____

Reviewed/Date _____

Data Package: Standard Level III Level IV

Chromatograms with final report Electronic Data Deliverables (EDDs)



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 3, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15.3
Laboratory Reference No. 1905-320

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on May 23, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 3, 2019
Samples Submitted: May 23, 2019
Laboratory Reference: 1905-320
Project: 82302-15.3

Case Narrative

Samples were collected on May 23, 2019 and received by the laboratory on May 23, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: June 3, 2019
Samples Submitted: May 23, 2019
Laboratory Reference: 1905-320
Project: 82302-15.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	H2-MW-17:W					
Laboratory ID:	05-320-01					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	



Date of Report: June 3, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-320
 Project: 82302-15.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	128	130	111	111	ND	116	117	75-125	1	20



Date of Report: June 3, 2019
Samples Submitted: May 23, 2019
Laboratory Reference: 1905-320
Project: 82302-15.3

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	H2-MW-17:W					
Laboratory ID:	05-320-01					
Arsenic	ND	3.0	EPA 200.8	5-23-19	5-29-19	



Date of Report: June 3, 2019
 Samples Submitted: May 23, 2019
 Laboratory Reference: 1905-320
 Project: 82302-15.3

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523F1					
Arsenic	ND	3.0	EPA 200.8	5-23-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

Analyte	MS	MSD	MS	MSD	MS	MSD	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES										
Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 3, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-14.3
Laboratory Reference No. 1905-306

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on May 22, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 3, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-306
Project: 82302-14.3

Case Narrative

Samples were collected on May 22, 2019 and received by the laboratory on May 22, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: June 3, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-306
 Project: 82302-14.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-11:W					
Laboratory ID:	05-306-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	6-3-19	6-3-19	
Lube Oil Range Organics	0.51	0.41	NWTPH-Dx	6-3-19	6-3-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	79	50-150				

Client ID:	BLMW-12:W					
Laboratory ID:	05-306-02					
Diesel Range Organics	ND	0.26	NWTPH-Dx	6-3-19	6-3-19	
Lube Oil Range Organics	ND	0.42	NWTPH-Dx	6-3-19	6-3-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	81	50-150				



Date of Report: June 3, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-306
 Project: 82302-14.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0603W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	6-3-19	6-3-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	6-3-19	6-3-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	87	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	SB0603W1							
	ORIG	DUP						
Diesel Fuel #2	0.898	0.867	NA	NA	NA	NA	4	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				88	89	50-150		



Date of Report: June 3, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-306
Project: 82302-14.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-11:W					
Laboratory ID:	05-306-01					
Arsenic	7.9	3.3	EPA 200.8	5-29-19	5-29-19	

Client ID:	BLMW-12:W					
Laboratory ID:	05-306-02					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	



Date of Report: June 3, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-306
 Project: 82302-14.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0529WM1					
Arsenic	ND	3.3	EPA 200.8	5-29-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-277-01							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	05-277-01									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	123	122	111	111	ND	111	110	75-125	1	20



Date of Report: June 3, 2019
Samples Submitted: May 22, 2019
Laboratory Reference: 1905-306
Project: 82302-14.3

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-11:W					
Laboratory ID:	05-306-01					
Arsenic	7.6	3.0	EPA 200.8	5-22-19	5-29-19	
Client ID:	BLMW-12:W					
Laboratory ID:	05-306-02					
Arsenic	ND	3.0	EPA 200.8	5-22-19	5-29-19	



Date of Report: June 3, 2019
 Samples Submitted: May 22, 2019
 Laboratory Reference: 1905-306
 Project: 82302-14.3

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0522F1					
Arsenic	ND	3.0	EPA 200.8	5-22-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 4, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15.3
Laboratory Reference No. 1905-330

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on May 24, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: June 4, 2019
Samples Submitted: May 24, 2019
Laboratory Reference: 1905-330
Project: 82302-15.3

Case Narrative

Samples were collected on May 24, 2019 and received by the laboratory on May 24, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: June 4, 2019
 Samples Submitted: May 24, 2019
 Laboratory Reference: 1905-330
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	05-330-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	6-3-19	6-3-19	
Lube Oil Range Organics	ND	0.42	NWTPH-Dx	6-3-19	6-3-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>87</i>	<i>50-150</i>				



Date of Report: June 4, 2019
 Samples Submitted: May 24, 2019
 Laboratory Reference: 1905-330
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0603W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	6-3-19	6-3-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	6-3-19	6-3-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>87</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-330-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				<i>87</i>	<i>87</i>	<i>50-150</i>		



Date of Report: June 4, 2019
Samples Submitted: May 24, 2019
Laboratory Reference: 1905-330
Project: 82302-15.3

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	05-330-01					
Arsenic	ND	3.0	EPA 200.8	5-24-19	5-29-19	



Date of Report: June 4, 2019
 Samples Submitted: May 24, 2019
 Laboratory Reference: 1905-330
 Project: 82302-15.3

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0524F1					
Arsenic	ND	3.0	EPA 200.8	5-24-19	5-29-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	MS	MSD	MS	MSD	MS	MSD	RPD	RPD Limit		
Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20



Date of Report: June 4, 2019
Samples Submitted: May 24, 2019
Laboratory Reference: 1905-330
Project: 82302-15.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	05-330-01					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	



Date of Report: June 4, 2019
 Samples Submitted: May 24, 2019
 Laboratory Reference: 1905-330
 Project: 82302-15.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	05-307-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags		
MATRIX SPIKES										
Laboratory ID:	05-307-02									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	128	130	111	111	ND	116	117	75-125	1	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 30, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-13.3
Laboratory Reference No. 1907-208

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 18, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 30, 2019
Samples Submitted: July 18, 2019
Laboratory Reference: 1907-208
Project: 82302-13.3

Case Narrative

Samples were collected on July 18, 2019 and received by the laboratory on July 18, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	07-208-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	7-22-19	7-24-19	
Lube Oil Range Organics	ND	0.42	NWTPH-Dx	7-22-19	7-24-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>89</i>	<i>50-150</i>				

Client ID:	BPMW-6:W					
Laboratory ID:	07-208-02					
Diesel Range Organics	ND	0.30	NWTPH-Dx	7-22-19	7-24-19	
Lube Oil Range Organics	ND	0.49	NWTPH-Dx	7-22-19	7-24-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>82</i>	<i>50-150</i>				



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0722W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	7-22-19	7-23-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	7-22-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	86	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	SB0722W1							
	ORIG	DUP						
Diesel Fuel #2	1.00	0.873	NA	NA	NA	NA	14	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				89	86	50-150		



Date of Report: July 30, 2019
Samples Submitted: July 18, 2019
Laboratory Reference: 1907-208
Project: 82302-13.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	07-208-01					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	

Client ID:	BPMW-6:W					
Laboratory ID:	07-208-02					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-208-01							
	ORIG	DUP						
Sulfate	ND	ND	NA	NA	NA	NA	10	

MATRIX SPIKE								
Laboratory ID:	07-208-01							
	MS	MS		MS				
Sulfate	11.8	10.0	ND	118	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0723W1							
	SB	SB		SB				
Sulfate	10.2	10.0	NA	102	89-113	NA	NA	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	07-208-01					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	

Client ID:	BPMW-6:W					
Laboratory ID:	07-208-02					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719W1					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-169-02							
	ORIG	DUP						
Nitrate	ND	ND	NA	NA	NA	NA	13	

MATRIX SPIKE								
Laboratory ID:	07-169-02							
	MS	MS		MS				
Nitrate	2.14	2.00	ND	107	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0719W1							
	SB	SB		SB				
Nitrate	1.97	2.00	NA	99	90-125	NA	NA	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	07-208-01					
Manganese	92	10	EPA 200.8	7-18-19	7-24-19	

Client ID:	BPMW-6:W					
Laboratory ID:	07-208-02					
Arsenic	38	3.0	EPA 200.8	7-18-19	7-24-19	
Manganese	130	10	EPA 200.8	7-18-19	7-24-19	

Client ID:	BC-11R:W					
Laboratory ID:	07-208-03					
Arsenic	ND	3.0	EPA 200.8	7-18-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0718F1					
Arsenic	ND	3.0	EPA 200.8	7-18-19	7-24-19	
Manganese	ND	10	EPA 200.8	7-18-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Arsenic	14.1	13.5	NA	NA	NA	NA	5	20
Manganese	5340	5130	NA	NA	NA	NA	4	20

MATRIX SPIKES

Laboratory ID:	07-243-01									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20
Manganese	9310	9870	4000	4000	5340	99	113	75-125	6	20



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-6:W					
Laboratory ID:	07-208-02					
Arsenic	44	3.3	EPA 200.8	7-25-19	7-25-19	

Client ID:	BC-11R:W					
Laboratory ID:	07-208-03					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-114-07							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	07-114-07									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20



Date of Report: July 30, 2019
Samples Submitted: July 18, 2019
Laboratory Reference: 1907-208
Project: 82302-13.3

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	07-208-01					
Methane	1200	200	RSK 175	7-24-19	7-24-19	

Client ID:	BPMW-6:W					
Laboratory ID:	07-208-02					
Methane	5900	1000	RSK 175	7-24-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Methane	ND	1.0	RSK 175	7-24-19	7-24-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-123-01										
	MS	MSD	MS	MSD		MS	MSD				
Methane	9.41	9.08	4.42	4.42	4.20	118	110	75-125	4	25	
Ethane	7.79	7.34	8.32	8.32	ND	94	88	75-125	6	25	
Ethene	5.79	6.37	7.77	7.77	ND	75	82	75-125	10	25	

SPIKE BLANKS

Laboratory ID:	SB										
	SB	SBD	SB	SBD		SB	SBD				
Methane	4.01	4.60	4.42	4.42	N/A	91	104	75-125	14	25	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

TOTAL ALKALINITY
SM 2320B

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	07-208-01					
Total Alkalinity	110	2.0	SM 2320B	7-24-19	7-24-19	
Client ID:	BPMW-6:W					
Laboratory ID:	07-208-02					
Total Alkalinity	120	2.0	SM 2320B	7-24-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 18, 2019
 Laboratory Reference: 1907-208
 Project: 82302-13.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Total Alkalinity	ND	2.0	SM 2320B	7-24-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-208-01							
	ORIG	DUP						
Total Alkalinity	110	114	NA	NA	NA	NA	4	10

SPIKE BLANK

Laboratory ID:	SB0724W1							
	SB	SB		SB				
Total Alkalinity	94.0	100	NA	94	88-110	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 26, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-13.3
Laboratory Reference No. 1907-227

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 19, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 26, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-227
Project: 82302-13.3

Case Narrative

Samples were collected on July 19, 2019 and received by the laboratory on July 19, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: July 26, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-227
Project: 82302-13.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-1:W					
Laboratory ID:	07-227-01					
Arsenic	14	3.3	EPA 200.8	7-25-19	7-25-19	



Date of Report: July 26, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-227
 Project: 82302-13.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-114-07							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	07-114-07									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20



Date of Report: July 26, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-227
Project: 82302-13.3

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-1:W					
Laboratory ID:	07-227-01					
Arsenic	12	3.0	EPA 200.8	7-19-19	7-24-19	



Date of Report: July 26, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-227
 Project: 82302-13.3

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719F1					
Arsenic	ND	3.0	EPA 200.8	7-19-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags		
MATRIX SPIKES										
Laboratory ID:	07-243-01									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20

DUPLICATE

Laboratory ID:	07-243-01									
	ORIG	DUP								
Arsenic	14.1	13.5	NA	NA		NA	NA	5	20	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 29, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15.3
Laboratory Reference No. 1907-169

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 16, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal stroke extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 29, 2019
Samples Submitted: July 16, 2019
Laboratory Reference: 1907-169
Project: 82302-15.3

Case Narrative

Samples were collected on July 16, 2019 and received by the laboratory on July 16, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Nitrate (as Nitrogen) EPA 353.2 Analysis

The reported Nitrate results are a calculated value based on the subtraction of Nitrite from the Nitrate plus Nitrite result. The Nitrite analysis, which has a 48-hour holding time, was performed within the holding time. Immediately after this analysis, an aliquot of each sample was preserved with concentrated sulfuric acid and stored at 4 degrees C. The preserved samples were then analyzed within the maximum 28-day holding time for the Nitrate plus Nitrite analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	07-169-02					
Diesel Range Organics	ND	0.26	NWTPH-Dx	7-17-19	7-17-19	
Lube Oil Range Organics	ND	0.42	NWTPH-Dx	7-17-19	7-17-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	79	50-150				



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	7-17-19	7-17-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	7-17-19	7-17-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	60	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	SB0717W1							
	ORIG	DUP						
Diesel Fuel #2	0.953	0.873	NA	NA	NA	NA	9	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				83	79	50-150		



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-1:W					
Laboratory ID:	07-169-01					
Arsenic	ND	3.0	EPA 200.8	7-16-19	7-17-19	

Client ID:	HZ-MW-19:W					
Laboratory ID:	07-169-02					
Arsenic	ND	3.0	EPA 200.8	7-16-19	7-17-19	
Manganese	850	50	EPA 200.8	7-16-19	7-17-19	

Client ID:	HZ-MW-4:W					
Laboratory ID:	07-169-03					
Arsenic	ND	3.0	EPA 200.8	7-16-19	7-17-19	



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0716F1					
Arsenic	ND	3.0	EPA 200.8	7-16-19	7-17-19	
Manganese	ND	10	EPA 200.8	7-16-19	7-17-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-169-03							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	
Manganese	95.2	86.4	NA	NA	NA	10	20	

MATRIX SPIKES

Laboratory ID:	07-169-03									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	79.6	77.0	80.0	80.0	ND	100	96	75-125	3	20
Manganese	169	165	80.0	80.0	95.2	92	88	75-125	2	20



Date of Report: July 29, 2019
Samples Submitted: July 16, 2019
Laboratory Reference: 1907-169
Project: 82302-15.3

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	07-169-02					
Total Alkalinity	210	2.0	SM 2320B	7-18-19	7-18-19	



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0718W1					
Total Alkalinity	ND	2.0	SM 2320B	7-18-19	7-18-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-188-01							
	ORIG	DUP						
Total Alkalinity	340	348	NA	NA	NA	2	10	

SPIKE BLANK								
Laboratory ID:	SB0718W1							
	SB	SB		SB				
Total Alkalinity	96.0	100	NA	96	88-110	NA	NA	



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-1:W					
Laboratory ID:	07-169-01					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-17-19	

Client ID:	HZ-MW-19:W					
Laboratory ID:	07-169-02					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-17-19	

Client ID:	HZ-MW-4:W					
Laboratory ID:	07-169-03					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-17-19	



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717WH1					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-17-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-114-15							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	07-114-15									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	101	105	100	100	ND	101	105	75-125	4	20



Date of Report: July 29, 2019
Samples Submitted: July 16, 2019
Laboratory Reference: 1907-169
Project: 82302-15.3

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	07-169-02					
Methane	35	6.0	RSK 175	7-23-19	7-23-19	



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Methane	ND	1.0	RSK 175	7-23-19	7-23-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-123-01										
	MS	MSD	MS	MSD		MS	MSD				
Methane	9.41	9.08	4.42	4.42	4.20	118	110	75-125	4	25	
Ethane	7.79	7.34	8.32	8.32	ND	94	88	75-125	6	25	
Ethene	5.79	6.37	7.77	7.77	ND	75	82	75-125	10	25	



Date of Report: July 29, 2019
Samples Submitted: July 16, 2019
Laboratory Reference: 1907-169
Project: 82302-15.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	07-169-02					
Sulfate	44	10	ASTM D516-11	7-17-19	7-17-19	



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717W1					
Sulfate	ND	5.0	ASTM D516-11	7-17-19	7-17-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-170-01							
	ORIG	DUP						
Sulfate	23.2	21.7	NA	NA	NA	7	10	

MATRIX SPIKE								
Laboratory ID:	07-170-01							
	MS	MS		MS				
Sulfate	40.5	20.0	23.2	87	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0717W1							
	SB	SB		SB				
Sulfate	9.76	10.0	NA	98	89-113	NA	NA	



Date of Report: July 29, 2019
Samples Submitted: July 16, 2019
Laboratory Reference: 1907-169
Project: 82302-15.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	07-169-02					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	



Date of Report: July 29, 2019
 Samples Submitted: July 16, 2019
 Laboratory Reference: 1907-169
 Project: 82302-15.3

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719W1					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-169-02							
	ORIG	DUP						
Nitrate	ND	ND	NA	NA	NA	NA	13	

MATRIX SPIKE								
Laboratory ID:	07-169-02							
	MS	MS		MS				
Nitrate	2.14	2.00	ND	107	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0719W1							
	SB	SB		SB				
Nitrate	1.97	2.00	NA	99	90-125	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 29, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15.3
Laboratory Reference No. 1907-188

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 17, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 29, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-188
Project: 82302-15.3

Case Narrative

Samples were collected on July 17, 2019 and received by the laboratory on July 17, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Nitrite EPA 353.2 Analysis:

The reported Nitrate results are a calculated value based on the subtraction of Nitrite from the Nitrate plus Nitrite result. The Nitrite analysis, which has a 48-hour holding time, was performed within the holding time. Immediately after this analysis, an aliquot of each sample was preserved with concentrated sulfuric acid and stored at 4 degrees C. The preserved samples were then analyzed within the maximum 28-day holding time for the Nitrate plus Nitrite analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Diesel Range Organics	0.47	0.26	NWTPH-Dx	7-22-19	7-23-19	N
Lube Oil Range Organics	1.0	0.42	NWTPH-Dx	7-22-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	86	50-150				



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0722W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	7-22-19	7-23-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	7-22-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	86	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-179-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				84	78	50-150		



Date of Report: July 29, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-188
Project: 82302-15.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-208-01							
	ORIG	DUP						
Sulfate	ND	ND	NA	NA	NA	NA	10	

MATRIX SPIKE								
Laboratory ID:	07-208-01							
	MS	MS		MS				
Sulfate	11.8	10.0	ND	118	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0723W1							
	SB	SB		SB				
Sulfate	10.2	10.0	NA	102	89-113	NA	NA	



Date of Report: July 29, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-188
Project: 82302-15.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719W1					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-169-02							
	ORIG	DUP						
Nitrate	ND	ND	NA	NA	NA	NA	13	

MATRIX SPIKE								
Laboratory ID:	07-169-02							
	MS	MS		MS				
Nitrate	2.14	2.00	ND	107	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0719W1							
	SB	SB		SB				
Nitrate	1.97	2.00	NA	99	90-125	NA	NA	



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Arsenic	6.5	3.0	EPA 200.8	7-17-19	7-24-19	
Manganese	2700	10	EPA 200.8	7-17-19	7-24-19	
Client ID:	HZ-MW-17:W					
Laboratory ID:	07-188-02					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-24-19	



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717F1					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-24-19	
Manganese	ND	10	EPA 200.8	7-17-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Arsenic	14.1	13.5	NA	NA	NA	5	20	
Manganese	5340	5130	NA	NA	NA	4	20	

MATRIX SPIKES

Laboratory ID:	MS	MSD	MS	MSD	MS	MSD	RPD	RPD Limit	Flags	
07-243-01										
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20
Manganese	9310	9870	4000	4000	5340	99	113	75-125	6	20



Date of Report: July 29, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-188
Project: 82302-15.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Arsenic	8.1	3.3	EPA 200.8	7-25-19	7-25-19	

Client ID:	HZ-MW-17:W					
Laboratory ID:	07-188-02					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-114-07							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

Analyte	MS	MSD	MS	MSD	MS	MSD	RPD	RPD Limit	Flags	
MATRIX SPIKES										
Laboratory ID:	07-114-07									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	134	119	111	111	ND	121	107	75-125	12	20



Date of Report: July 29, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-188
Project: 82302-15.3

DISSOLVED METHANE
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Methane	3300	500	RSK 175	7-23-19	7-23-19	



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

**DISSOLVED METHANE
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Methane	ND	1.0	RSK 175	7-23-19	7-23-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits		RPD	RPD Limit	Flags
MATRIX SPIKES												
Laboratory ID:	01-123-01											
	MS	MSD	MS	MSD		MS	MSD					
Methane	9.41	9.08	4.42	4.42	4.20	118	110	75-125	4	25		
Ethane	7.79	7.34	8.32	8.32	ND	94	88	75-125	6	25		
Ethene	5.79	6.37	7.77	7.77	ND	75	82	75-125	10	25		



Date of Report: July 29, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-188
Project: 82302-15.3

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Total Alkalinity	340	2.0	SM 2320B	7-18-19	7-18-19	



Date of Report: July 29, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-188
 Project: 82302-15.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0718W1					
Total Alkalinity	ND	2.0	SM 2320B	7-18-19	7-18-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-188-01							
	ORIG	DUP						
Total Alkalinity	340	348	NA	NA	NA	2	10	

SPIKE BLANK								
Laboratory ID:	SB0718W1							
	SB	SB		SB				
Total Alkalinity	96.0	100	NA	96	88-110	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 30, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15.3
Laboratory Reference No. 1907-228

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 19, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 30, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-228
Project: 82302-15.3

Case Narrative

Samples were collected on July 19, 2019 and received by the laboratory on July 19, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Nitrate EPA 353.2 Analysis:

The reported Nitrate results are a calculated value based on the subtraction of Nitrite from the Nitrate plus Nitrite result. The Nitrite analysis, which has a 48-hour holding time, was performed within the holding time. Immediately after this analysis, an aliquot of each sample was preserved with concentrated sulfuric acid and stored at 4 degrees C. The preserved samples were then analyzed within the maximum 28-day holding time for the Nitrate plus Nitrite analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Diesel Range Organics	ND	0.26	NWTPH-Dx	7-23-19	7-24-19	
Lube Oil Range Organics	0.54	0.42	NWTPH-Dx	7-23-19	7-24-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	91	50-150				



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	7-23-19	7-23-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	7-23-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>76</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range Organics	0.791	0.588	NA	NA	NA	NA	29	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				<i>91</i>	<i>91</i>	<i>50-150</i>		



Date of Report: July 30, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-228
Project: 82302-15.3

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Sulfate	160	50	ASTM D516-11	7-23-19	7-23-19	



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-208-01							
	ORIG	DUP						
Sulfate	ND	ND	NA	NA	NA	NA	10	

MATRIX SPIKE								
Laboratory ID:	07-208-01							
	MS	MS		MS				
Sulfate	11.8	10.0	ND	118	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0723W1							
	SB	SB		SB				
Sulfate	10.2	10.0	NA	102	89-113	NA	NA	



Date of Report: July 30, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-228
Project: 82302-15.3

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Nitrate	ND	0.050	EPA 353.2	7-24-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Nitrate	ND	0.050	EPA 353.2	7-24-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-259-01							
	ORIG	DUP						
Nitrate	ND	ND	NA	NA	NA	NA	13	

MATRIX SPIKE								
Laboratory ID:	07-259-01							
	MS	MS		MS				
Nitrate	2.03	2.00	ND	102	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB0724W1							
	SB	SB		SB				
Nitrate	2.07	2.00	NA	104	90-125	NA	NA	



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-12:W					
Laboratory ID:	07-228-01					
Arsenic	3.9	3.0	EPA 200.8	7-19-19	7-24-19	
Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Arsenic	ND	3.0	EPA 200.8	7-19-19	7-24-19	
Manganese	4800	10	EPA 200.8	7-19-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719F1					
Arsenic	ND	3.0	EPA 200.8	7-19-19	7-24-19	
Manganese	ND	10	EPA 200.8	7-19-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Arsenic	14.1	13.5	NA	NA	NA	NA	5	20
Manganese	5340	5130	NA	NA	NA	NA	4	20

MATRIX SPIKES

Laboratory ID:	07-243-01									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20
Manganese	9310	9870	4000	4000	5340	99	113	75-125	6	20



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-12:W					
Laboratory ID:	07-228-01					
Arsenic	4.6	3.3	EPA 200.8	7-25-19	7-25-19	

Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-114-07							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	07-114-07									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20



Date of Report: July 30, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-228
Project: 82302-15.3

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Methane	8900	1000	RSK 175	7-24-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Methane	ND	1.0	RSK 175	7-24-19	7-24-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-123-01										
	MS	MSD	MS	MSD		MS	MSD				
Methane	9.41	9.08	4.42	4.42	4.20	118	110	75-125	4	25	
Ethane	7.79	7.34	8.32	8.32	ND	94	88	75-125	6	25	
Ethene	5.79	6.37	7.77	7.77	ND	75	82	75-125	10	25	

SPIKE BLANKS

Laboratory ID:	SB0724W1										
	SB	SBD	SB	SBD		SB	SBD				
Methane	4.01	4.60	4.42	4.42	N/A	91	104	75-125	14	25	



Date of Report: July 30, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-228
Project: 82302-15.3

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Total Alkalinity	560	2.0	SM 2320B	7-24-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-228
 Project: 82302-15.3

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Total Alkalinity	ND	2.0	SM 2320B	7-24-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-208-01							
	ORIG	DUP						
Total Alkalinity	110	114	NA	NA	NA	NA	4	10

SPIKE BLANK

Laboratory ID:	SB0724W1							
	SB	SB		SB				
Total Alkalinity	94.0	100	NA	94	88-110	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 26, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-14.3
Laboratory Reference No. 1907-189

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 17, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 26, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-189
Project: 82302-14.3

Case Narrative

Samples were collected on July 17, 2019 and received by the laboratory on July 17, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: July 26, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-189
 Project: 82302-14.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	07-189-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	7-22-19	7-23-19	
Lube Oil Range Organics	0.47	0.42	NWTPH-Dx	7-22-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>82</i>	<i>50-150</i>				



Date of Report: July 26, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-189
 Project: 82302-14.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0722W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	7-22-19	7-23-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	7-22-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	86	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-179-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				84	78	50-150		



Date of Report: July 26, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-189
Project: 82302-14.3

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	07-189-01					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-24-19	



Date of Report: July 26, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-189
 Project: 82302-14.3

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717F1					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Arsenic	14.1	13.5	NA	NA	NA	NA	5	20

MATRIX SPIKES

Laboratory ID:	07-243-01									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20



Date of Report: July 26, 2019
Samples Submitted: July 17, 2019
Laboratory Reference: 1907-189
Project: 82302-14.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	07-189-01					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	



Date of Report: July 26, 2019
 Samples Submitted: July 17, 2019
 Laboratory Reference: 1907-189
 Project: 82302-14.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-114-07							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	MS	MSD	MS	MSD	MS	MSD	RPD	RPD Limit		
Laboratory ID:	07-114-07									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	134	119	111	111	ND	121	107	75-125	12	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





Onsite Environmental Inc.
 Analytical Laboratory Testing Services
 14648 NE 95th Street • Redmond, WA 98052
 Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request
(in working days)
(Check One)

Same Day 1 Day

2 Days 3 Days

Standard (7 Days)

(other) _____

Laboratory Number: **07-189**

07-189

Company: **Kane Environmental**
 Project Number: **82302-14.3**
 Project Name: **Bathell Landing**
 Project Manager: **Jeff Jensen**
 Sampled by: **Bella Graves**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	MW-1: W	7/17	1345	GW	4

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (<input type="checkbox"/> Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	% Moisture		
1	MW-1: W	7/17	1345	GW	4				X																

Received/Date	Signature	Company	Date	Time	Comments/Special Instructions
Received	<i>[Signature]</i>	Kane Environmental	7/17	1532	lab filter
Relinquished	<i>[Signature]</i>	OSE	7/17/19	1532	
Received					
Relinquished					
Received					
Relinquished					
Received					
Relinquished					
Reviewed/Date					

Data Package: Standard Level III Level IV
 Chromatograms with final report Electronic Data Deliverables (EDDs)



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 26, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-14.3
Laboratory Reference No. 1907-226

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 19, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: July 26, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-226
Project: 82302-14.3

Case Narrative

Samples were collected on July 19, 2019 and received by the laboratory on July 19, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: July 26, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-226
 Project: 82302-14.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-11:W					
Laboratory ID:	07-226-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	7-23-19	7-24-19	
Lube Oil Range Organics	ND	0.42	NWTPH-Dx	7-23-19	7-24-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	81	50-150				



Date of Report: July 26, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-226
 Project: 82302-14.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	7-23-19	7-23-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	7-23-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	76	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range Organics	0.791	0.588	NA	NA	NA	NA	29	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				91	91	50-150		



Date of Report: July 26, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-226
Project: 82302-14.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-11:W					
Laboratory ID:	07-226-01					
Arsenic	27	3.3	EPA 200.8	7-25-19	7-25-19	



Date of Report: July 26, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-226
 Project: 82302-14.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-114-07							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	07-114-07									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20



Date of Report: July 26, 2019
Samples Submitted: July 19, 2019
Laboratory Reference: 1907-226
Project: 82302-14.3

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-11:W					
Laboratory ID:	07-226-01					
Arsenic	21	3.0	EPA 200.8	7-19-19	7-24-19	



Date of Report: July 26, 2019
 Samples Submitted: July 19, 2019
 Laboratory Reference: 1907-226
 Project: 82302-14.3

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719F1					
Arsenic	ND	3.0	EPA 200.8	7-19-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Arsenic	14.1	13.5	NA	NA	NA	NA	5	20

MATRIX SPIKES

Laboratory ID:	MS	MSD	MS	MSD	MS	MSD	RPD	RPD Limit	Flags	
	07-243-01									
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 30, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-14.3
Laboratory Reference No. 1907-243

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on July 22, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



Date of Report: July 30, 2019
Samples Submitted: July 22, 2019
Laboratory Reference: 1907-243
Project: 82302-14.3

Case Narrative

Samples were collected on July 22, 2019 and received by the laboratory on July 22, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: July 30, 2019
 Samples Submitted: July 22, 2019
 Laboratory Reference: 1907-243
 Project: 82302-14.3

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-12:W					
Laboratory ID:	07-243-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	7-23-19	7-24-19	
Lube Oil Range Organics	0.79	0.42	NWTPH-Dx	7-23-19	7-24-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>91</i>	<i>50-150</i>				



Date of Report: July 30, 2019
 Samples Submitted: July 22, 2019
 Laboratory Reference: 1907-243
 Project: 82302-14.3

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	7-23-19	7-23-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	7-23-19	7-23-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	76	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range Organics	0.791	0.588	NA	NA	NA	NA	29	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				91	91	50-150		



Date of Report: July 30, 2019
Samples Submitted: July 22, 2019
Laboratory Reference: 1907-243
Project: 82302-14.3

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-12:W					
Laboratory ID:	07-243-01					
Arsenic	16	3.3	EPA 200.8	7-25-19	7-25-19	



Date of Report: July 30, 2019
 Samples Submitted: July 22, 2019
 Laboratory Reference: 1907-243
 Project: 82302-14.3

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM2					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Arsenic	15.9	14.5	NA	NA	NA	NA	9	20

MATRIX SPIKES

Laboratory ID:	07-243-01									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	146	139	111	111	15.9	117	111	75-125	5	20



Date of Report: July 30, 2019
Samples Submitted: July 22, 2019
Laboratory Reference: 1907-243
Project: 82302-14.3

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BLMW-12:W					
Laboratory ID:	07-243-01					
Arsenic	14	3.0	EPA 200.8	7-22-19	7-24-19	



Date of Report: July 30, 2019
 Samples Submitted: July 22, 2019
 Laboratory Reference: 1907-243
 Project: 82302-14.3

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0722F1					
Arsenic	ND	3.0	EPA 200.8	7-22-19	7-24-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	07-243-01							
	ORIG	DUP						
Arsenic	14.1	13.5	NA	NA	NA	NA	5	20

Analyte	MS	MSD	MS	MSD	MS	MSD	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES										
Laboratory ID:	07-243-01									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





Onsite Environmental Inc.

Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request (In working days)

(Check One)

Same Day 1 Day

2 Days 3 Days

Standard (7 Days)

_____ (other)

Laboratory Number: 07-243

Company: **KANE ENVIRONMENTAL**

Project Number: **82302-14,3**

Project Name: **Bottnell Landfill**

Project Manager: **Jeff Fungim**

Sampled by: **Bella Cervantes**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	81MW-12:W	7/22	1255	GW	6

Analysis	Result
NWTPH-HCID	
NWTPH-Gx/BTEX	
NWTPH-Gx	
NWTPH-Dx (<input type="checkbox"/> Acid / SG Clean-up)	X
Volatiles 8260C	
Halogenated Volatiles 8260C	
EDB EPA 8011 (Waters Only)	
Semivolatiles 8270D/SIM (with low-level PAHs)	
PAHs 8270D/SIM (low-level)	
PCBs 8082A	
Organochlorine Pesticides 8081B	
Organophosphorus Pesticides 8270D/SIM	
Chlorinated Acid Herbicides 8151A	
Total RCRA Metals	
Total MTCA Metals	
TCLP Metals	
HEM (oil and grease) 1664A	
X Total As	
X Dissolved As	
% Moisture	

Signature	Company	Date	Time	Comments/Special Instructions
	KANE ENVIRONMENTAL	7/22	1546	LAB FILTER
	OCSE	7/22/18	1540	81MW-12:W = QC - EXTRA VOLUME
Received				
Relinquished				
Received				
Relinquished				
Received				
Relinquished				
Reviewed/Date	Reviewed/Date			

Data Package: Standard Level III Level IV

Chromatograms with final report Electronic Data Deliverables (EDDs)



**OnSite
Environmental Inc.**

14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 18, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-13
Laboratory Reference No. 1910-145

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on October 10, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody,
and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 18, 2019
Samples Submitted: October 10, 2019
Laboratory Reference: 1910-145
Project: 82302-13

Case Narrative

Samples were collected on October 10, 2019 and received by the laboratory on October 10, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	10-145-01					
Diesel Range Organics	ND	0.26	NWTPH-Dx	10-14-19	10-14-19	
Lube Oil Range Organics	ND	0.41	NWTPH-Dx	10-14-19	10-14-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	94	50-150				

Client ID:	BPMW-6:W					
Laboratory ID:	10-145-02					
Diesel Range Organics	ND	0.29	NWTPH-Dx	10-15-19	10-16-19	
Lube Oil Range Organics	0.74	0.46	NWTPH-Dx	10-15-19	10-16-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	57	50-150				



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1014W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	10-14-19	10-14-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	10-14-19	10-14-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	93	50-150				
Laboratory ID:	MB1015W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	10-15-19	10-16-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	10-15-19	10-16-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	75	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	SB1014W1							
	ORIG	DUP						
Diesel Fuel #2	1.06	0.863	NA	NA	NA	NA	20	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				109	87	50-150		
Laboratory ID:	10-149-01							
	ORIG	DUP						
Diesel Range Organics	0.758	0.441	NA	NA	NA	NA	53	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				92	100	50-150		



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

SULFATE
ASTM D516-11

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	10-145-01					
Sulfate	ND	5.0	ASTM D516-11	10-14-19	10-14-19	

Client ID:	BPMW-6:W					
Laboratory ID:	10-145-02					
Sulfate	ND	5.0	ASTM D516-11	10-14-19	10-14-19	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1014W1					
Sulfate	ND	5.0	ASTM D516-11	10-14-19	10-14-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-144-03							
	ORIG	DUP						
Sulfate	7.37	7.74	NA	NA	NA	NA	5	10

MATRIX SPIKE								
Laboratory ID:	10-144-03							
	MS	MS		MS				
Sulfate	18.3	10.0	7.37	109	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB1014W1							
	SB	SB		SB				
Sulfate	9.81	10.0	NA	98	89-113	NA	NA	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	10-145-01					
Nitrate	ND	0.050	EPA 353.2	10-16-19	10-16-19	

Client ID:	BPMW-6:W					
Laboratory ID:	10-145-02					
Nitrate	9.1	0.25	EPA 353.2	10-16-19	10-16-19	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**NITRATE (as Nitrogen)
 EPA 353.2
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1016W1					
Nitrate	ND	0.050	EPA 353.2	10-16-19	10-16-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-144-03							
	ORIG	DUP						
Nitrate	1.69	1.69	NA	NA	NA	0	13	

MATRIX SPIKE								
Laboratory ID:	10-144-03							
	MS	MS		MS				
Nitrate	3.83	2.00	1.69	107	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB1016W1							
	SB	SB		SB				
Nitrate	2.08	2.00	NA	104	90-125	NA	NA	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	10-145-01					
Manganese	120	10	EPA 200.8	10-10-19	10-11-19	

Client ID:	BPMW-6:W					
Laboratory ID:	10-145-02					
Arsenic	5.8	3.0	EPA 200.8	10-10-19	10-11-19	
Manganese	190	50	EPA 200.8	10-10-19	10-11-19	

Client ID:	BC-11R:W					
Laboratory ID:	10-145-03					
Arsenic	ND	3.0	EPA 200.8	10-10-19	10-11-19	

Client ID:	BPMW-1:W					
Laboratory ID:	10-145-04					
Arsenic	15	3.0	EPA 200.8	10-10-19	10-11-19	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010F1					
Arsenic	ND	3.0	EPA 200.8	10-10-19	10-11-19	
Manganese	ND	10	EPA 200.8	10-10-19	10-11-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	10-088-02									
	ORIG	DUP								
Arsenic	4.58	5.94	NA	NA		NA	NA	26	20	
Manganese	22.8	24.0	NA	NA		NA	NA	5	20	

MATRIX SPIKES

Laboratory ID:	10-088-01									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	92.6	92.6	80.0	80.0	4.58	110	110	75-125	0	20
Manganese	102	100	80.0	80.0	22.8	99	97	75-125	2	20



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-6:W					
Laboratory ID:	10-145-02					
Arsenic	9.1	3.3	EPA 200.8	10-11-19	10-11-19	
Client ID:	BC-11R:W					
Laboratory ID:	10-145-03					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	
Client ID:	BPMW-1:W					
Laboratory ID:	10-145-04					
Arsenic	17	3.3	EPA 200.8	10-11-19	10-11-19	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011WM1					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-241-05							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	09-241-05									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	132	123	111	111	ND	119	111	75-125	7	20



Date of Report: October 18, 2019
Samples Submitted: October 10, 2019
Laboratory Reference: 1910-145
Project: 82302-13

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	10-145-01					
Methane	900	10	RSK 175	10-17-19	10-17-19	

Client ID:	BPMW-6:W					
Laboratory ID:	10-145-02					
Methane	4400	50	RSK 175	10-17-19	10-17-19	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1017W1					
Methane	ND	1.0	RSK 175	10-17-19	10-17-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-144-03										
	MS	MSD	MS	MSD		MS	MSD				
Methane	21.46	21.89	22.11	22.11	ND	97	99	75-125	2	25	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**TOTAL ALKALINITY
 SM 2320B**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W					
Laboratory ID:	10-145-01					
Total Alkalinity	110	2.0	SM 2320B	10-15-19	10-15-19	
Client ID:	BPMW-6:W					
Laboratory ID:	10-145-02					
Total Alkalinity	110	2.0	SM 2320B	10-15-19	10-15-19	



Date of Report: October 18, 2019
 Samples Submitted: October 10, 2019
 Laboratory Reference: 1910-145
 Project: 82302-13

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1015W1					
Total Alkalinity	ND	2.0	SM 2320B	10-15-19	10-15-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-145-01							
	ORIG	DUP						
Total Alkalinity	114	114	NA	NA	NA	NA	0	10

SPIKE BLANK								
Laboratory ID:	SB1015W1							
	SB	SB		SB				
Total Alkalinity	92.0	100	NA	92	88-110	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





**OnSite
Environmental Inc.**

14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 16, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15
Laboratory Reference No. 1910-122

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on October 9, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 16, 2019
Samples Submitted: October 9, 2019
Laboratory Reference: 1910-122
Project: 82302-15

Case Narrative

Samples were collected on October 9, 2019 and received by the laboratory on October 9, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: October 16, 2019
Samples Submitted: October 9, 2019
Laboratory Reference: 1910-122
Project: 82302-15

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-12:W					
Laboratory ID:	10-122-01					
Arsenic	3.8	3.0	EPA 200.8	10-9-19	10-11-19	



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-122
 Project: 82302-15

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1009F1					
Arsenic	ND	3.0	EPA 200.8	10-9-19	10-11-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-088-02							
	ORIG	DUP						
Arsenic	4.58	5.94	NA	NA	NA	26	20	C

MATRIX SPIKES

Laboratory ID:	10-088-02									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	92.6	92.6	80.0	80.0	4.58	110	110	75-125	0	20



Date of Report: October 16, 2019
Samples Submitted: October 9, 2019
Laboratory Reference: 1910-122
Project: 82302-15

TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-12:W					
Laboratory ID:	10-122-01					
Arsenic	4.4	3.3	EPA 200.8	10-11-19	10-11-19	



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-122
 Project: 82302-15

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011WM1					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-241-05							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	09-241-05									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	132	123	111	111	ND	119	111	75-125	7	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
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- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in diesel range are impacting lube oil range results.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
- Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 22, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15
Laboratory Reference No. 1910-155

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on October 11, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 22, 2019
Samples Submitted: October 11, 2019
Laboratory Reference: 1910-155
Project: 82302-15

Case Narrative

Samples were collected on October 11, 2019 and received by the laboratory on October 11, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	10-155-01					
Diesel Range Organics	ND	0.27	NWTPH-Dx	10-14-19	10-14-19	
Lube Oil Range Organics	ND	0.44	NWTPH-Dx	10-14-19	10-14-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>81</i>	<i>50-150</i>				

Client ID:	BLMW-8R:W					
Laboratory ID:	10-155-02					
Diesel Range Organics	ND	0.27	NWTPH-Dx	10-14-19	10-14-19	
Lube Oil Range Organics	0.72	0.42	NWTPH-Dx	10-14-19	10-14-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>90</i>	<i>50-150</i>				



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1014W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	10-14-19	10-14-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	10-14-19	10-14-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	93	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	SB1014W1							
	ORIG	DUP						
Diesel Fuel #2	1.06	0.863	NA	NA	NA	NA	20	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				109	87	50-150		



Date of Report: October 22, 2019
Samples Submitted: October 11, 2019
Laboratory Reference: 1910-155
Project: 82302-15

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	10-155-01					
Sulfate	61	25	ASTM D516-11	10-17-19	10-17-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	10-155-02					
Sulfate	ND	5.0	ASTM D516-11	10-17-19	10-17-19	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1017W1					
Sulfate	ND	5.0	ASTM D516-11	10-17-19	10-17-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-188-01							
	ORIG	DUP						
Sulfate	ND	ND	NA	NA	NA	NA	10	

MATRIX SPIKE								
Laboratory ID:	10-188-01							
	MS	MS		MS				
Sulfate	11.0	10.0	ND	110	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB1017W1							
	SB	SB		SB				
Sulfate	9.42	10.0	NA	94	89-113	NA	NA	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	10-155-01					
Nitrate	ND	0.050	EPA 353.2	10-16-19	10-16-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	10-155-02					
Nitrate	ND	0.050	EPA 353.2	10-16-19	10-16-19	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1016W1					
Nitrate	ND	0.050	EPA 353.2	10-16-19	10-16-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-144-03							
	ORIG	DUP						
Nitrate	1.69	1.69	NA	NA	NA	0	13	

MATRIX SPIKE								
Laboratory ID:	10-144-03							
	MS	MS		MS				
Nitrate	3.83	2.00	1.69	107	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB1016W1							
	SB	SB		SB				
Nitrate	2.08	2.00	NA	104	90-125	NA	NA	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	10-155-01					
Arsenic	ND	3.0	EPA 200.8	10-11-19	10-18-19	
Manganese	3900	250	EPA 200.8	10-11-19	10-18-19	
Client ID:	BLMW-8R:W					
Laboratory ID:	10-155-02					
Arsenic	16	3.0	EPA 200.8	10-11-19	10-18-19	
Manganese	2600	250	EPA 200.8	10-11-19	10-18-19	
Client ID:	HZ-MW-17:W					
Laboratory ID:	10-155-03					
Arsenic	ND	3.0	EPA 200.8	10-11-19	10-18-19	
Client ID:	HZ-MW-4:W					
Laboratory ID:	10-155-04					
Arsenic	ND	3.0	EPA 200.8	10-11-19	10-18-19	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011F1					
Arsenic	ND	3.0	EPA 200.8	10-11-19	10-18-19	
Manganese	ND	10	EPA 200.8	10-11-19	10-18-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	10-216-02									
	ORIG	DUP								
Arsenic	ND	ND	NA	NA		NA	NA	NA	20	
Manganese	840	830	NA	NA		NA	NA	1	20	

MATRIX SPIKES

Laboratory ID:	10-216-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	81.2	77.6	80.0	80.0	ND	102	97	75-125	5	20
Manganese	1770	1760	1000	1000	840	93	92	75-125	1	20



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	10-155-01					
Arsenic	ND	3.3	EPA 200.8	10-15-19	10-16-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	10-155-02					
Arsenic	27	3.3	EPA 200.8	10-15-19	10-16-19	

Client ID:	HZ-MW-17:W					
Laboratory ID:	10-155-03					
Arsenic	ND	3.3	EPA 200.8	10-15-19	10-16-19	

Client ID:	HZ-MW-4:W					
Laboratory ID:	10-155-04					
Arsenic	ND	3.3	EPA 200.8	10-15-19	10-16-19	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1015WM1					
Arsenic	ND	3.3	EPA 200.8	10-15-19	10-15-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-174-01							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	10-174-01									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	125	125	111	111	ND	112	113	75-125	0	20



Date of Report: October 22, 2019
Samples Submitted: October 11, 2019
Laboratory Reference: 1910-155
Project: 82302-15

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	10-155-01					
Methane	6000	100	RSK 175	10-21-19	10-21-19	

Client ID:	BLMW-8R:W					
Laboratory ID:	10-155-02					
Methane	1900	20	RSK 175	10-21-19	10-21-19	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1021W1					
Methane	ND	1.0	RSK 175	10-21-19	10-21-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-144-03										
	MS	MSD	MS	MSD		MS	MSD				
Methane	21.46	21.89	22.11	22.11	ND	97	99	75-125	2	25	
Ethane	40.85	41.34	41.59	41.59	ND	98	99	75-125	1	25	
Ethene	39.05	41.83	38.83	38.83	ND	101	108	75-125	7	25	



Date of Report: October 22, 2019
Samples Submitted: October 11, 2019
Laboratory Reference: 1910-155
Project: 82302-15

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	10-155-01					
Total Alkalinity	520	2.0	SM 2320B	10-15-19	10-15-19	
Client ID:	BLMW-8R:W					
Laboratory ID:	10-155-02					
Total Alkalinity	370	2.0	SM 2320B	10-15-19	10-15-19	



Date of Report: October 22, 2019
 Samples Submitted: October 11, 2019
 Laboratory Reference: 1910-155
 Project: 82302-15

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1015W1					
Total Alkalinity	ND	2.0	SM 2320B	10-15-19	10-15-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-145-01							
	ORIG	DUP						
Total Alkalinity	114	114	NA	NA	NA	NA	0	10

SPIKE BLANK								
Laboratory ID:	SB1015W1							
	SB	SB		SB				
Total Alkalinity	92.0	100	NA	92	88-110	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 23, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-15
Laboratory Reference No. 1910-216

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on October 16, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 23, 2019
Samples Submitted: October 16, 2019
Laboratory Reference: 1910-216
Project: 82302-15

Case Narrative

Samples were collected on October 16, 2019 and received by the laboratory on October 16, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Nitrate (as Nitrogen) EPA 353.2 Analysis

The reported Nitrate results are a calculated value based on the subtraction of Nitrite from the Nitrate plus Nitrite result. The Nitrite analysis, which has a 48-hour holding time, was performed within the holding time. Immediately after this analysis, an aliquot of each sample was preserved with concentrated sulfuric acid and stored at 4 degrees C. The preserved samples were then analyzed within the maximum 28-day holding time for the Nitrate plus Nitrite analysis.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	10-216-02					
Diesel Range Organics	0.34	0.27	NWTPH-Dx	10-18-19	10-18-19	
Lube Oil Range Organics	0.95	0.43	NWTPH-Dx	10-18-19	10-18-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>90</i>	<i>50-150</i>				



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	10-18-19	10-18-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	10-18-19	10-18-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>103</i>	<i>50-150</i>				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-216-02							
	ORIG	DUP						
Diesel Range Organics	0.341	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range Organics	0.945	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				<i>90</i>	<i>97</i>	<i>50-150</i>		



Date of Report: October 23, 2019
Samples Submitted: October 16, 2019
Laboratory Reference: 1910-216
Project: 82302-15

SULFATE
ASTM D516-11

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	10-216-02					
Sulfate	48	25	ASTM D516-11	10-18-19	10-18-19	



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

**SULFATE
 ASTM D516-11
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018W1					
Sulfate	ND	5.0	ASTM D516-11	10-18-19	10-18-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-216-02							
	ORIG	DUP						
Sulfate	48.3	45.8	NA	NA	NA	5	10	

MATRIX SPIKE								
Laboratory ID:	10-216-02							
	MS	MS		MS				
Sulfate	96.8	50.0	48.3	97	73-134	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB1018W1							
	SB	SB		SB				
Sulfate	10.8	10.0	NA	108	89-113	NA	NA	



Date of Report: October 23, 2019
Samples Submitted: October 16, 2019
Laboratory Reference: 1910-216
Project: 82302-15

NITRATE (as Nitrogen)
EPA 353.2

Matrix: Water
Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	10-216-02					
Nitrate	ND	0.050	EPA 353.2	10-21-19	10-21-19	



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

NITRATE (as Nitrogen)
EPA 353.2
QUALITY CONTROL

Matrix: Water
 Units: mg/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1021W1					
Nitrate	ND	0.050	EPA 353.2	10-21-19	10-21-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-216-02							
	ORIG	DUP						
Nitrate	ND	ND	NA	NA	NA	NA	13	

MATRIX SPIKE								
Laboratory ID:	10-216-02							
	MS	MS		MS				
Nitrate	2.20	2.00	ND	110	90-127	NA	NA	

SPIKE BLANK								
Laboratory ID:	SB1021W1							
	SB	SB		SB				
Nitrate	2.19	2.00	NA	110	90-125	NA	NA	



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

DISSOLVED METALS
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-1:W					
Laboratory ID:	10-216-01					
Arsenic	ND	3.0	EPA 200.8	10-16-19	10-18-19	

Client ID:	HZ-MW-19:W					
Laboratory ID:	10-216-02					
Arsenic	ND	3.0	EPA 200.8	10-16-19	10-18-19	
Manganese	840	130	EPA 200.8	10-16-19	10-18-19	



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

**DISSOLVED METALS
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1016F1					
Arsenic	ND	3.0	EPA 200.8	10-16-19	10-18-19	
Manganese	ND	10	EPA 200.8	10-16-19	10-18-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-216-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	
Manganese	840	830	NA	NA	NA	1	20	

MATRIX SPIKES

Laboratory ID:	10-216-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	81.2	77.6	80.0	80.0	ND	102	97	75-125	5	20
Manganese	1770	1760	1000	1000	840	93	92	75-125	1	20



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-1:W					
Laboratory ID:	10-216-01					
Arsenic	ND	3.3	EPA 200.8	10-18-19	10-18-19	

Client ID:	HZ-MW-19:W					
Laboratory ID:	10-216-02					
Arsenic	ND	3.3	EPA 200.8	10-18-19	10-18-19	



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018WM1					
Arsenic	ND	3.3	EPA 200.8	10-18-19	10-18-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-216-02							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	10-216-02									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	108	112	111	111	ND	97	101	75-125	3	20



Date of Report: October 23, 2019
Samples Submitted: October 16, 2019
Laboratory Reference: 1910-216
Project: 82302-15

DISSOLVED GASES
RSK 175

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	10-216-02					
Methane	18	1.0	RSK 175	10-22-19	10-22-19	



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

**DISSOLVED GASES
 RSK 175
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1022W1					
Methane	ND	1.0	RSK 175	10-22-19	10-22-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-216-02										
	MS	MSD	MS	MSD		MS	MSD				
Methane	32.1	32.3	22.1	22.1	18.3	62	63	75-125	1	25	A



Date of Report: October 23, 2019
Samples Submitted: October 16, 2019
Laboratory Reference: 1910-216
Project: 82302-15

TOTAL ALKALINITY
SM 2320B

Matrix: Water
Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	HZ-MW-19:W					
Laboratory ID:	10-216-02					
Total Alkalinity	190	2.0	SM 2320B	10-22-19	10-22-19	



Date of Report: October 23, 2019
 Samples Submitted: October 16, 2019
 Laboratory Reference: 1910-216
 Project: 82302-15

**TOTAL ALKALINITY
 SM 2320B
 QUALITY CONTROL**

Matrix: Water
 Units: mg CaCO₃/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1022W1					
Total Alkalinity	ND	2.0	SM 2320B	10-22-19	10-22-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-216-02							
	ORIG	DUP						
Total Alkalinity	188	188	NA	NA	NA	NA	0	10

SPIKE BLANK								
Laboratory ID:	SB1022W1							
	SB	SB		SB				
Total Alkalinity	92.0	100	NA	92	88-110	NA	NA	





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 16, 2019

Jeff Jensen
Kane Environmental, Inc.
4015 13th Avenue West
Seattle, WA 98119

Re: Analytical Data for Project 82302-14
Laboratory Reference No. 1910-121

Dear Jeff:

Enclosed are the analytical results and associated quality control data for samples submitted on October 9, 2019.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister
Project Manager

Enclosures



OnSite Environmental, Inc. 14648 NE 95th Street, Redmond, WA 98052 (425) 883-3881

This report pertains to the samples analyzed in accordance with the chain of custody, and is intended only for the use of the individual or company to whom it is addressed.

Date of Report: October 16, 2019
Samples Submitted: October 9, 2019
Laboratory Reference: 1910-121
Project: 82302-14

Case Narrative

Samples were collected on October 8 and 9, 2019 and received by the laboratory on October 9, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-121
 Project: 82302-14

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	10-121-01					
Diesel Range Organics	ND	0.25	NWTPH-Dx	10-10-19	10-11-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	10-10-19	10-11-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>83</i>	<i>50-150</i>				

Client ID:	BLMW-12:W					
Laboratory ID:	10-121-02					
Diesel Range Organics	ND	0.25	NWTPH-Dx	10-10-19	10-11-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	10-10-19	10-11-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>91</i>	<i>50-150</i>				

Client ID:	BLMW-11:W					
Laboratory ID:	10-121-03					
Diesel Range Organics	ND	0.26	NWTPH-Dx	10-10-19	10-11-19	
Lube Oil Range Organics	0.45	0.41	NWTPH-Dx	10-10-19	10-11-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	<i>105</i>	<i>50-150</i>				



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-121
 Project: 82302-14

**DIESEL AND HEAVY OIL RANGE ORGANICS
 NWTPH-Dx
 QUALITY CONTROL**

Matrix: Water
 Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010W1					
Diesel Range Organics	ND	0.25	NWTPH-Dx	10-10-19	10-11-19	
Lube Oil Range Organics	ND	0.40	NWTPH-Dx	10-10-19	10-11-19	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>o-Terphenyl</i>	93	50-150				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	10-123-01							
	ORIG	DUP						
Diesel Range	ND	ND	NA	NA	NA	NA	NA	NA
Lube Oil Range	ND	ND	NA	NA	NA	NA	NA	NA
<i>Surrogate:</i>								
<i>o-Terphenyl</i>				96	126	50-150		



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-121
 Project: 82302-14

TOTAL ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	10-121-01					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	

Client ID:	BLMW-12:W					
Laboratory ID:	10-121-02					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	

Client ID:	BLMW-11:W					
Laboratory ID:	10-121-03					
Arsenic	30	3.3	EPA 200.8	10-11-19	10-11-19	



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-121
 Project: 82302-14

**TOTAL ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011WM1					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	09-241-05							
	ORIG	DUP						
Arsenic	ND	ND	NA	NA	NA	NA	20	

MATRIX SPIKES

Laboratory ID:	09-241-05									
	MS	MSD	MS	MSD		MS	MSD			
Arsenic	132	123	111	111	ND	119	111	75-125	7	20



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-121
 Project: 82302-14

DISSOLVED ARSENIC
EPA 200.8

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	MW-1:W					
Laboratory ID:	10-121-01					
Arsenic	ND	3.0	EPA 200.8	10-9-19	10-11-19	

Client ID:	BLMW-12:W					
Laboratory ID:	10-121-02					
Arsenic	ND	3.0	EPA 200.8	10-9-19	10-11-19	

Client ID:	BLMW-11:W					
Laboratory ID:	10-121-03					
Arsenic	24	3.0	EPA 200.8	10-9-19	10-11-19	



Date of Report: October 16, 2019
 Samples Submitted: October 9, 2019
 Laboratory Reference: 1910-121
 Project: 82302-14

**DISSOLVED ARSENIC
 EPA 200.8
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1009F1					
Arsenic	ND	3.0	EPA 200.8	10-9-19	10-11-19	

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags	
DUPLICATE									
Laboratory ID:	10-088-02								
	ORIG	DUP							
Arsenic	4.58	5.94	NA	NA	NA	NA	26	20	C

MATRIX SPIKES

Laboratory ID:	10-088-02									
	MS	MSD	MS	MSD	MS	MSD				
Arsenic	92.6	92.6	80.0	80.0	4.58	110	110	75-125	0	20





Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
 - B - The analyte indicated was also found in the blank sample.
 - C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
 - E - The value reported exceeds the quantitation range and is an estimate.
 - F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
 - H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
 - I - Compound recovery is outside of the control limits.
 - J - The value reported was below the practical quantitation limit. The value is an estimate.
 - K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
 - L - The RPD is outside of the control limits.
 - M - Hydrocarbons in the gasoline range are impacting the diesel range result.
 - M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
 - N - Hydrocarbons in the lube oil range are impacting the diesel range result.
 - N1 - Hydrocarbons in diesel range are impacting lube oil range results.
 - O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
 - P - The RPD of the detected concentrations between the two columns is greater than 40.
 - Q - Surrogate recovery is outside of the control limits.
 - S - Surrogate recovery data is not available due to the necessary dilution of the sample.
 - T - The sample chromatogram is not similar to a typical _____.
 - U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
 - U1 - The practical quantitation limit is elevated due to interferences present in the sample.
 - V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
 - W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
 - X - Sample extract treated with a mercury cleanup procedure.
 - X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.
 - Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.
 - Z -
- ND - Not Detected at PQL
 PQL - Practical Quantitation Limit
 RPD - Relative Percent Difference





Onsite Environmental Inc.
 Analytical Laboratory / Testing Services
 14648 NE 95th Street • Redmond, WA 98052
 Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Turnaround Request
 (in working days)
 (Check One)

Same Day 1 Day

2 Days 3 Days

Standard (7 Days)

_____ (other)

Laboratory Number: **10-121**

10-121

Company: **Kane Environmental**
 Project Number: **82362-14**
 Project Name: **Bohwall Landing**
 Project Manager: **JEFF JENSEN**
 Sampled by: **Bella Graves**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers
1	MW-1:IN	10/8/19	1255	GNW	4
2	BLMN-12:IN	10/9/19	1135	GNW	4
3	BLMN-11:IN	10/9/19	1255	GNW	4

Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (<input type="checkbox"/> Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total As	dissoved As	% Moisture
4				<input checked="" type="checkbox"/>														<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4				<input checked="" type="checkbox"/>														<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
4				<input checked="" type="checkbox"/>														<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Signature	Company	Date	Time	Comments/Special Instructions
	Kane Environmental	10/9/19	1512	LAB FILTER
	OSE	10/9/19	1512	

Relinquished

Received

Relinquished

Received

Relinquished

Received

Reviewed/Date

Reviewed/Date

Reviewed/Date

Data Package: Standard Level III Level IV

Chromatograms with final report Electronic Data Deliverables (EDDs)