

Annual Groundwater Compliance Monitoring Report

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

Prepared For:

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TABLE OF CONTENTS

1.0	INTR	ODUCTION	1
1.1	Ba	ckground	1
1.2		ope of Work	
2.0	SUB	SURFACE CONDITIONS	5
2.1	Go	ologic Setting	-
		Bothell Paint	
	2.1.2	Bothell Hertz	
	2.1.3	Bothell Landing	
2.2		drogeologic Setting	
	2.2.1	Bothell Paint	
	2.2.2	Bothell Hertz	
2	2.2.3	Bothell Landing	
3.0	FIEL	D METHODOLOGY	
3.1	80	mpling Location	-
		thell Paint Sampling Locationsthell Paint Sampling Locations	
		thell Hertz Sampling Locationsthell Hertz Sampling Locations	
		thell Landing Sampling Locations	
3.2		onitoring Well Sampling Methods	
3.3		rface Water Sampling Methods	
4.0		LYTICAL METHODS	
4.1	Bo	thell Paint Analytical Methods	ç
4.2		thell Hertz Analytical Methods	
4.3		thell Landing Analytical Methods	
4.4		poratory QA/QC Procedures	
5.0		JLTS	
5.1	Bo:	thell Paint Analytical Results	11
_	5.1.1	Petroleum	
_	5.1.2	Arsenic	
_	5.1.3	Surface Water	
5.2		thell Hertz Analytical Results	
	5.2.1	Petroleum	
5	5.2.2	Arsenic	12
5.3	Bo	thell Landing Analytical Results	13
5	5.3.1	Petroleum	13
5	5.3.2	Arsenic	13
5	5.3.2	PAHs	
6.0	DISC	USSION	14
7.0	LIMIT	FATIONS	16
8 N	PEE	PRENCES	17



FIGURES

Figure 1 - Vicinity Map

Figure 2 – Area Site Plan

Figure 3 – Bothell Paint – Site Plan

Figure 4 – Bothell Paint – Surface Water Sampling Locations

Figure 5 - Bothell Hertz - Site Plan

Figure 6 - Bothell Landing - Site Plan

TABLES

Table 1 – Bothell Paint Site - 2019 Compliance Groundwater Sampling

Table 2 - Bothell Hertz Site - 2019 Compliance Groundwater Sampling

Table 3 – Bothell Landing Site - 2019 Compliance Groundwater Sampling

Table 4 – Bothell Paint Site – 2019 Compliance Surface Water Sampling

ATTACHMENTS

Attachment A – Agreed Order Schedule of Deliverables for Bothell Paint, Bothell Hertz, Bothell Landing Attachment B – Ecology Approved Compliance Monitoring Plans for Bothell Paint, Bothell Hertz, Bothell Landing

Attachment C - Ecology Approved Compliance Monitoring Schedule for Bothell Paint, Bothell Hertz, Bothell Landing

Attachment D - Laboratory Analytical Reports



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 guarterly 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;
- o Diesel and Heavy-Oil Range Hydrocarbons by Method NWTPH-Dx/Dx Ext; and,
- o 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 polyaromatic 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 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.

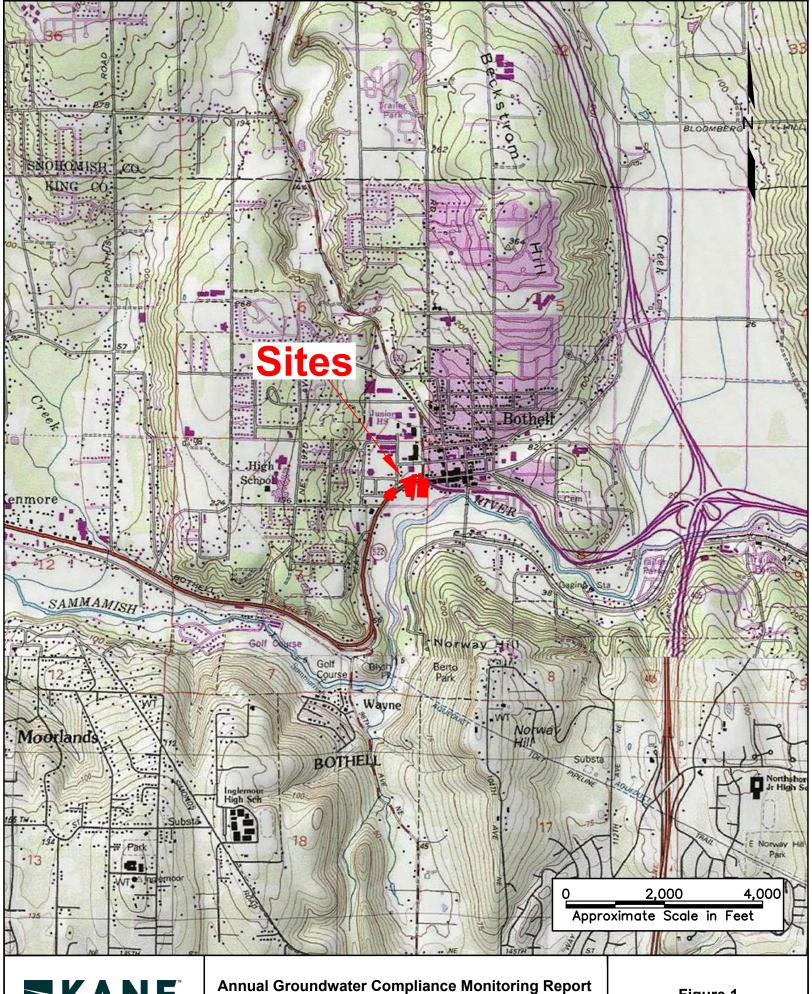
Our assessment of the property may change as new data become available, either from persons familiar with the site or during additional site studies, exploration or sampling. This report is intended for the exclusive use of the City of Bothell, and its designated assignees, for specific application to 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.

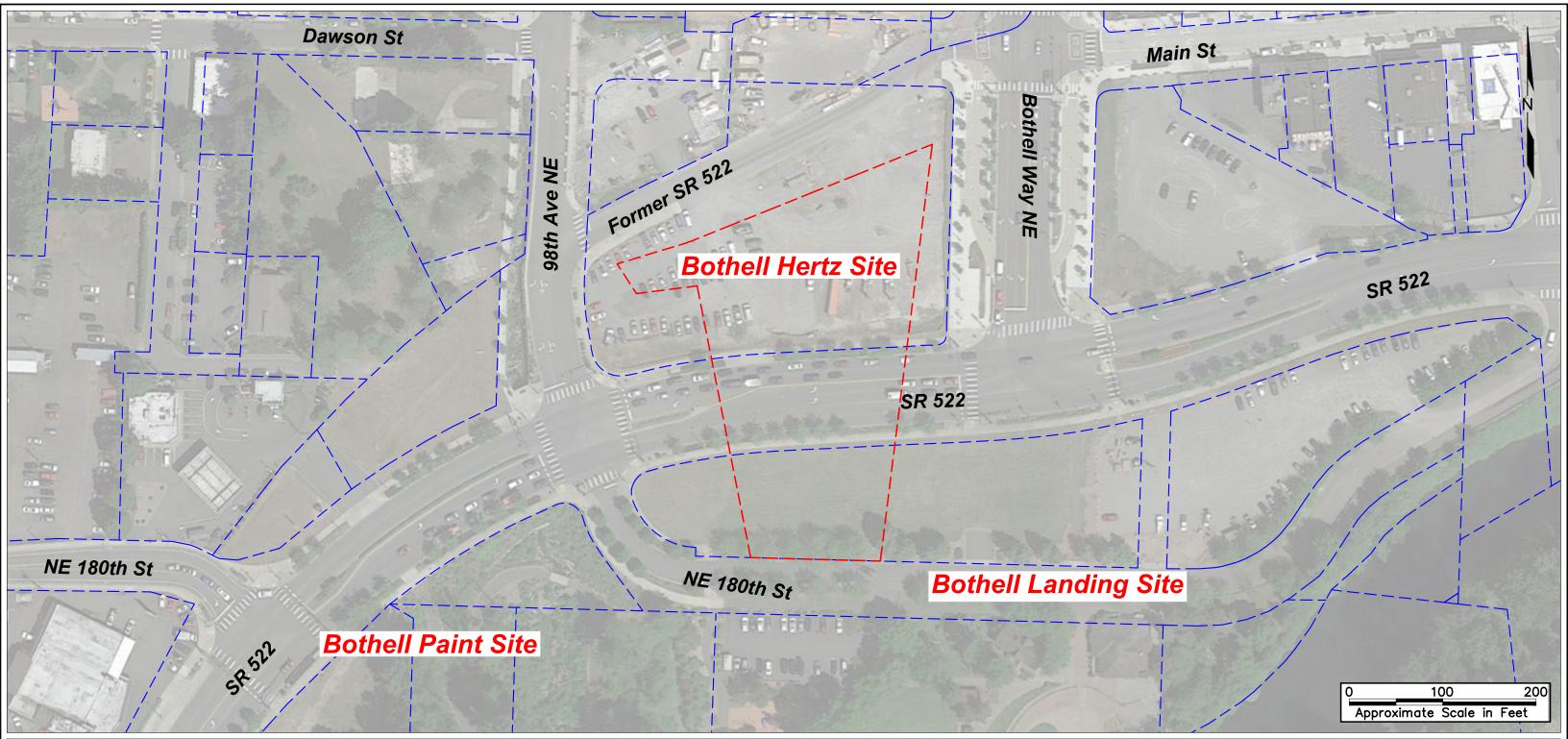
FIGURES



Project # 82302-13 - 15

Annual Groundwater Compliance Monitoring Repor Bothell Paint, Bothell Hertz, and Bothell Landing Sites Bothell, Washington

Figure 1
Vicinity Map



<u>LEGEND</u>

Approximate Location of King County parcel boundary

Approximate Location of Institutional Control Area



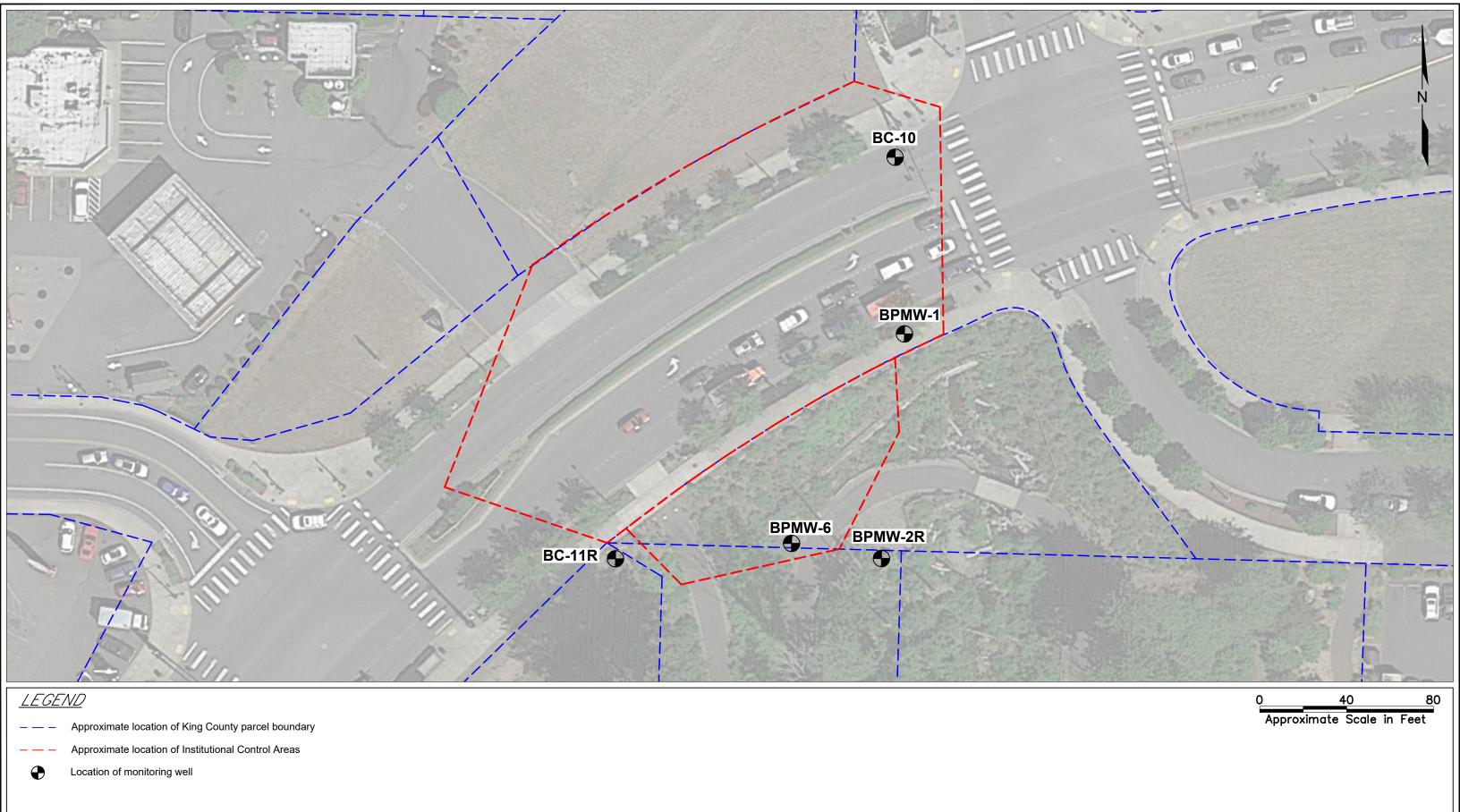
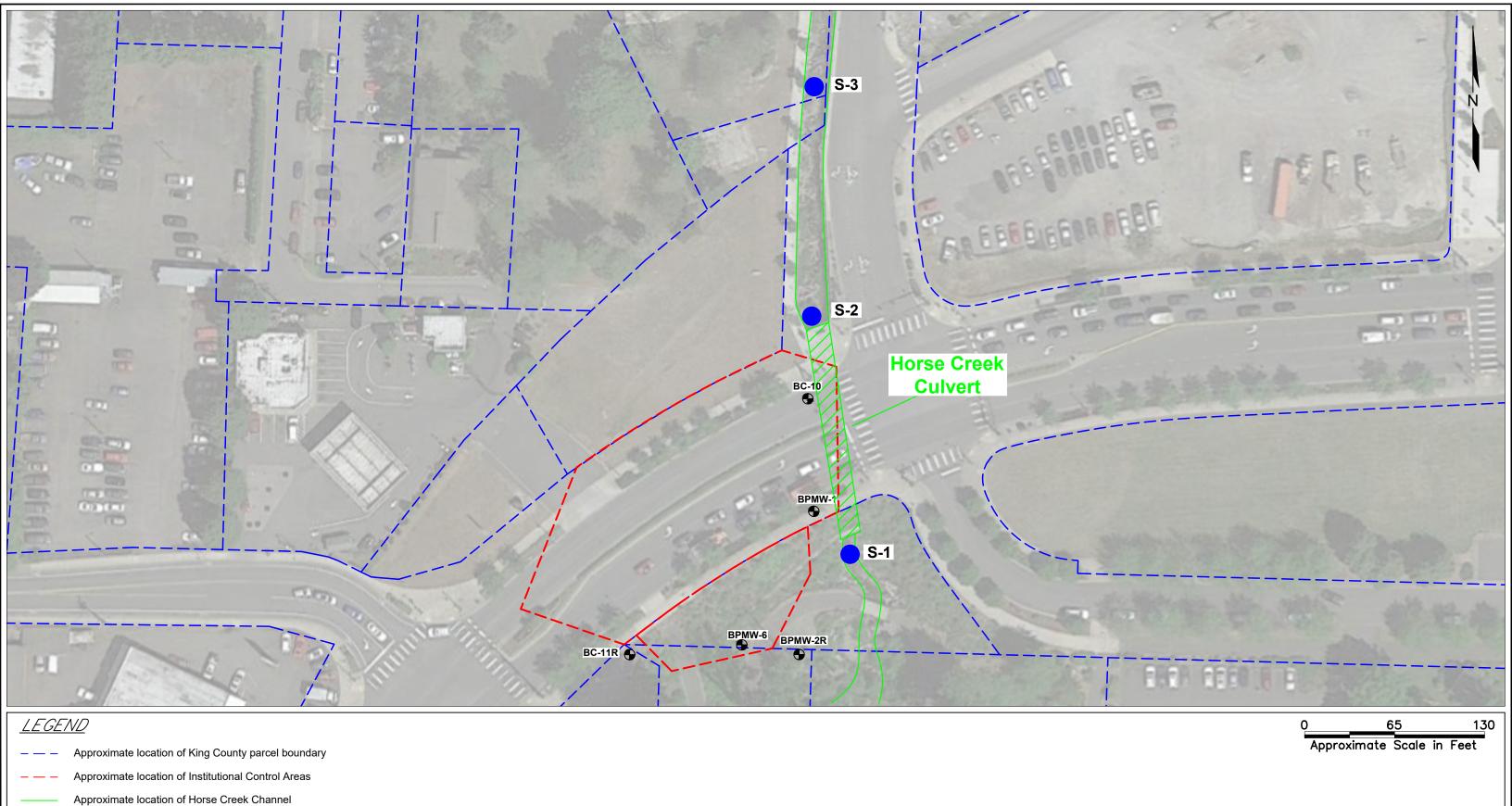




Figure 3
Bothell Paint - Site Plan



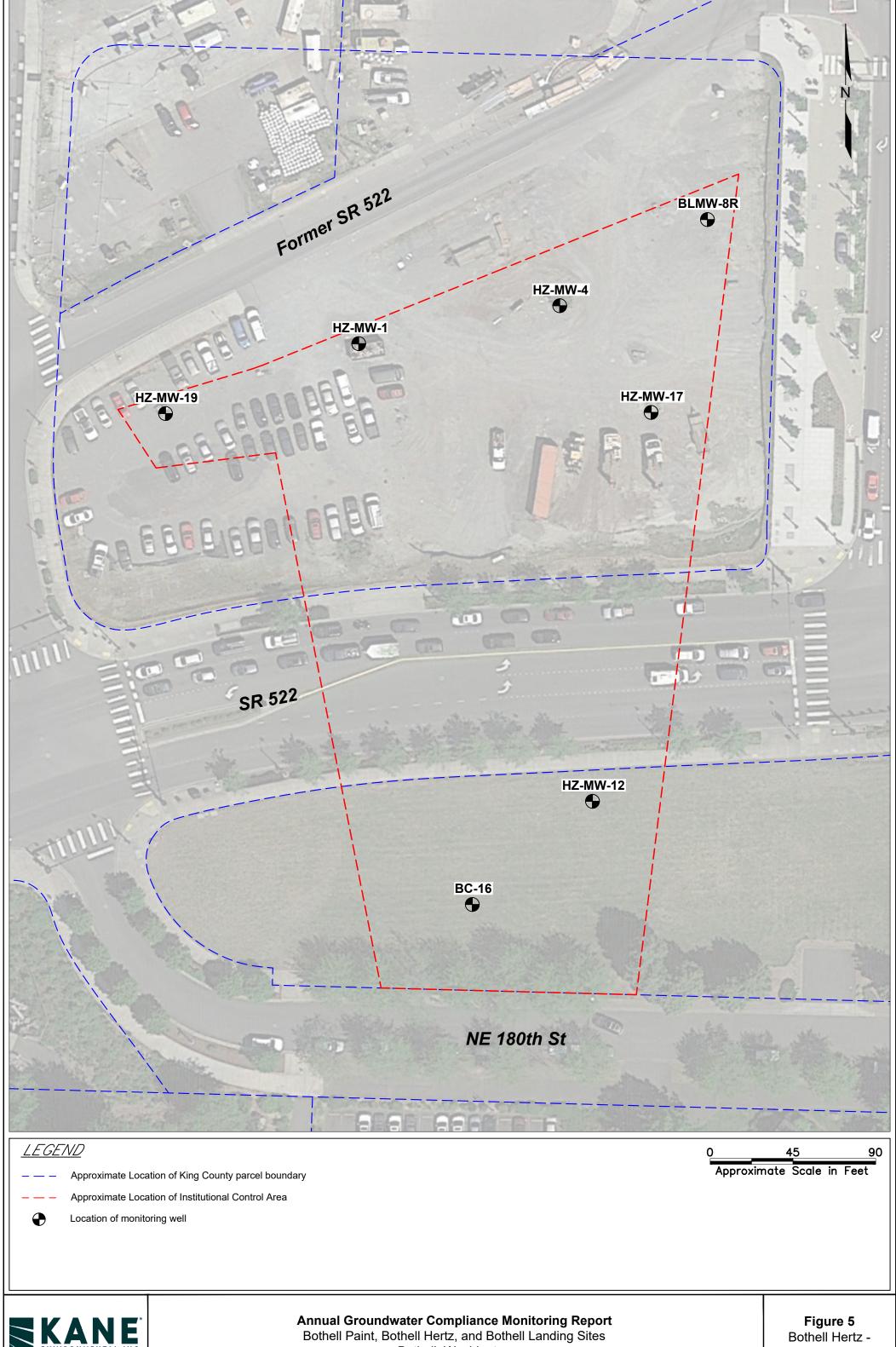


Location of monitoring well

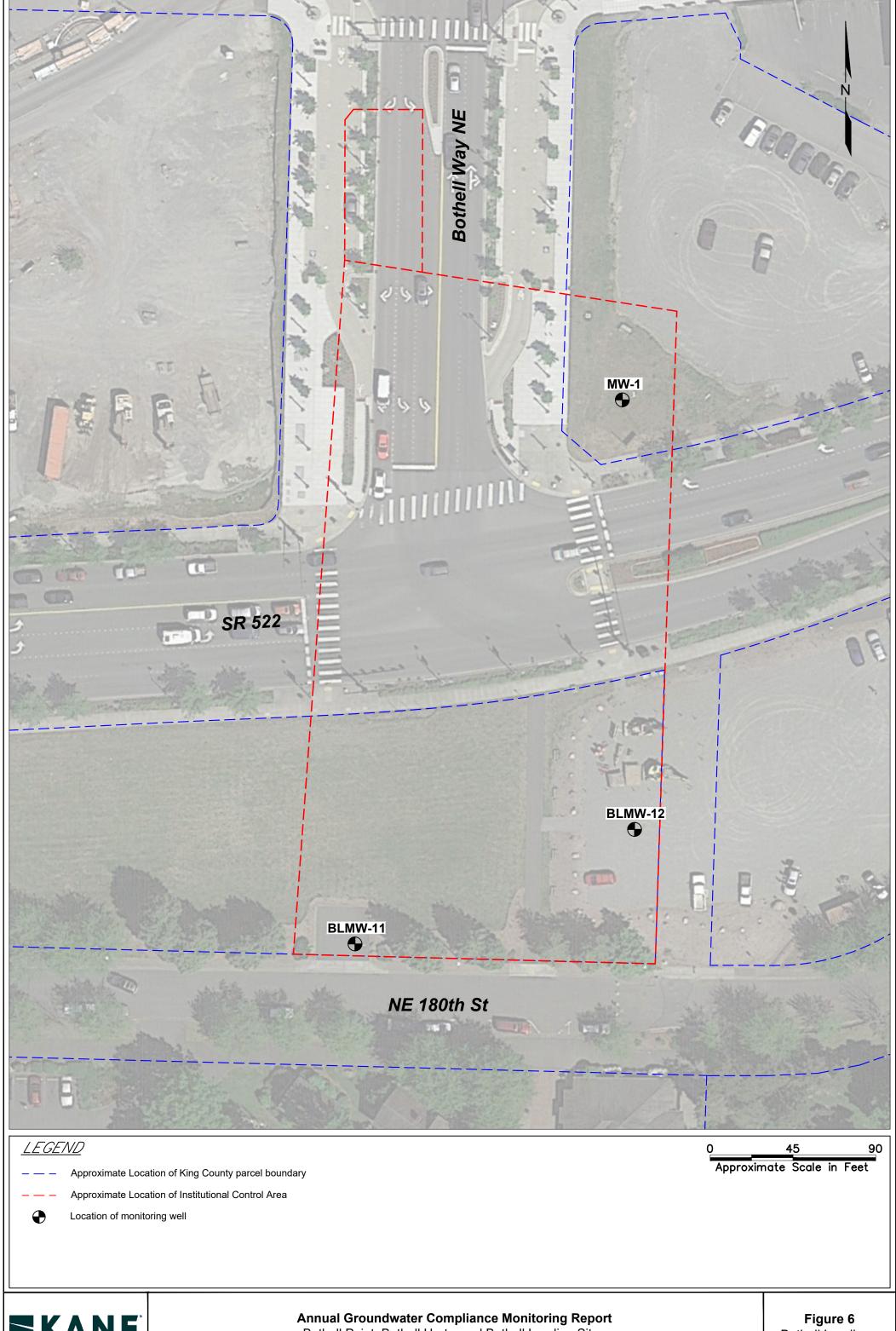
Approximate location of surface water sample

Annual Groundwater Compliance Monitoring Report
Bothell Paint, Bothell Hertz, and Bothell Landing Sites
Bothell, Washington

Figure 4
Bothell Paint - Surface
Water Sample
Locations









TABLES

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

O. Sample 1D	Sample Date	Approximate Depth to	Diesel Rance	Heavy Oil Ran.	Total	Dissolled	⁷ Ota ₄	Dissolved	, he ho /	D_{isson}	⁷ Ofal	$D_{issoNlead}$	Total	Dissolved	Dissonled Man.	Semi. Voletile O'gen.	Volenie Ogenie Compou	Methane	Nitale (as Nitr.	Sulfate	Ferrous Iron	⁷ otal Alkalinity (5.5	OOEO 881 / HO	Dissolved Oxfac.	Oxidellon Redum	Condelling
		Feet Below Ground Surface	ug/L	ug/L	Ars ug	senic g/L		<u>lmium</u> g/L	Chron ug/			ead g/L		rcury g/L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	m∨	uS/cm
	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
DDMM OD M	5/20/2019	7.98*	<260	<420		-	-	-	-	-	-	-	-	-	60	-	-	0.66	0.055	<5.0	0.5	110	7.25	0.26	-120.9	235
BPMW-2R:W	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
	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
BPMW-6:W	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
DE WWW-O.W	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
BC-10.W	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
	3/7/2019	10.06	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	-	6.44	0.26	-4.8	467.4
BC-11R	5/20/2019	11.06	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	-	6.22	0.33	-45.7	461.9
DO TITO	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
	3/7/2019	12.56	-	-	12.9	4.83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	6.52	0.24	0.4	515.6
BPMW-1	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
	ecific Cleanup L		500	500		10																				
MTCA Method A	or Method B	Cleanup Level^	500	500	5	5.0	5	5.0	50)		15	2	2.0	(2,240)	Varies#	Varies#	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

Kane Environmental, Inc. Page 1 of 1

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

Samole 10	Semple Date	Approximate Depth to	Diesel Range	Heavy 0/1 Rang	⁷ ota ₄	oanossi di senic	/s _i O _i / Cao	Imium	lej ₀ , Chro	Dissolved mium	, Š	Dissolved ad	Merc Merc	ury ury	Dissoned Manne	Semi-Volettie Organic		_	Minale (as Mir.	Sulfate	Feltous Iton	Total Alkalinity	DH (1980)	Dissoned Oxin.	Oxidation	Conductivity	
		Ground Surface	ug/L	ug/L	u	g/L	и	g/L	ug	g/L	ug	ı/L	ug/	L	ug/L	ug/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mV	uS/cm	
	9/5/2019	6.5	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.18	5.59	152.5	149.3	
HZ-MW-1:W	5/21/2019	6.81	-	-	<3.3	<3.0	-	-	-	-	-		-	-	-	-	-	-	-	-	0.0	-	5.99	7	66.7	159.6	
112-10100-1.00	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	
	3/5/2019	5.8	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	6.27	0.24	133.6	486.1	
HZ-MW-4:W	5/21/2019	6.37	-	-	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	6.1	0.35	26.2	426.1	
112 11111 1111	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	
	3/6/2019	8.33	-	-	2.89	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	-	6.37	0.59	-66.9	1,063	
HZ-MW-12:W	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	
	3/5/2019	7.1	-	-	<1.75	<1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	6.76	0.13	-24.9	269.6	
HZ-MW-17:W	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	
	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	
HZ-MW-19:W	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	
	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	
BC-16:W	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	
	3/6/2019	7.72	<49.5	234	7.10		-	-	-	-	-	-	-	-	3,480	-	-	4.26	<0.100	1.7	2.5	348	6.74	0.31	-64.4	669.8	
BLMW-8R:W	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 10/11/2019	8.34 8.34	470 <270	1,000 720	8.10 27	6.50 16	-	-	-	-	-	-	-	-	2,700 2,600	-	-	3.30 1.9	<0.050 <0.050	<5.0 <5.0	2.0 1.5	340 370	6.36 6.97	0.06 0.07	-27.4 -90.5	746 776	
Cita Can							-	-	-	-	-	-	-	-	2,000	-	-	1.9	\0.050	\ 0.0	1.0	3/0	0.97	0.07	-90.5	110	
·	cific Cleanup I		500	500		10		- 0	_			-			(0.0.10)	Mari II	14	/			1		/		/		
MTCA Method A	or Method B	Cieanup Levei^	500	500	5	5.0		5.0	5	50	1	5	2.0)	(2,240)	Varies#	Varies#	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

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).

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

Kane Environmental, Inc. Page 1 of 1

Table 3 **Compliance Groundwater Sampling Bothell Landing Site** Bothell, Washington

Samole 1D	Samole Date	Approximate Depth to	Diesel Renz	Genics Heavy Oll C	Total	Dissolled	⁷ 069/	O isso h e ϕ	Total	Disson/eq	Today	Dissolved	7049/	Dissoured	Nephthalene	1. Mehymaphy.	- Methymaph	Other Semi-Volettie	Other Voletile Oroca	Ferrous Iron	. / Ha	Dissonleed Organ	Oxidation Reduction	Conductivity	
		Feet Below			Ar	senic	Cadn	ium	Chrom	nium	Lead	d	Mercu	,											
		Ground Surface	ug/L	ug/L	L	g/L	ug/	L	ug/l	L	ug/L	-	ug/L	u	ıg/L	ug/L	ug/L	ug/L	ug/L	mg/L		mg/L	mV	uS/cm	
	3/11/2019	5.85	<52.8	<106	<1.75	<1.75	-	=.	-	-	-	-	-	-	-	-	-	-	-	2.0	6.37	0.32	33.3	428.1	İ
MW-1:W	5/24/2019	6.38	<260	<420	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	6.05	0.39	-77.3	488.9	
10100-1.00	7/17/2019	7.05	<260	470	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0	6.26	0.19	5.9	586	1
	10/8/2019	6.72	<250	<400	<3.3	<3.0	-	_	-	-	-	-	-	-	-	-	-	-	-	2.0	6.49	0.04	-8.8	512	
	3/6/2019	5.02	<50.5	159	6.97	3.58	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	6.56	0.27	-49.1	388.8	
BL-MW-11:W	5/22/2019	8.31	<260	510	7.9	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	6.17	0.25	-82.2	404.7	
DE-WWV-11.VV	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	1
	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	1
BL-MW-12:W	5/22/2019	8.25	<260	<420	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	5.39	0.49	85.8	70.2	4
	7/22/2019	9.52	<260	790	16.0	14.0	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	5.91	0.04	84.8	500.3	4
	10/9/2019	9.6	<250	<400	<3.3	<3.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0	5.83	0.13	171.4	66.3	4
	ecific Cleanup I		500	500		10																			1
MTCA Method A	or Method B	Cleanup Level^	500	500		5.0	5.0)	50		15		2.0	1	160	(1.51)	32	Varies#	Varies#	n/a	n/a	n/a	n/a	n/a	1

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

Kane Environmental, Inc. Page 1 of 1

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

Sample 10	Sample Date	Diesel Range	Heavy Oil Ran	Gasoline Rance O	Voletile Organic Compourne	
		ug/L	ug/L	ug/L	ug/L	
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

Kane Environmental, Inc. Page 1 of 1



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

EXHIBIT D

Bothell Paint & Decorating Facility Schedule of Deliverables

Deliverables.	<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	90 days after 4 th quarter sampling
monitoring reports	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

Deliverables.	Due Date
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 granter 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	90 days after 4 th quarter sampling
monitoring reports	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	BPMW-6	Initial Round	Total petroleum hydrocarbons, diesel and oil
Compliance	BPMW-2R* BC-10		range (TPH-D, TPH-O)
			Nitrate, manganese (soluble), sulfate, methane, alkalinity
			Volatile Organic compounds (VOCs)
			Semivolatile Organic compounds (SVOCs)
	ē		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 hydroca	rbons – 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	Total petroleum hydrocarbons, diesel and oil range TPH-D, TPH-O, nitrate, manganese (soluble), sulfate, methane, alkalinity.
	To the state of th	BC-10 will be monitored for two quarters to confirm compliance, if results exceed cleanup levels, monitoring will be the same as other wells.	Field parameters: dissolved oxygen, redox potential, pH, conductivity, temperature, ferrous iron
Petroleum hydroca	rbons – Storm V	Vater	
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 V	Vater		
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	HZMW-19	Initial Round	Total petroleum hydrocarbons, diesel and oil
Compliance	BLMW-8		range (TPH-D, TPH-O)
	BC-16		
•	HZMW-1	·	Nitrate, manganese (soluble), sulfate,
	HZMW-4		methane, alkalinity
	HZMW-12		
	HZMW-17		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 hydroca	rbons – Groun	d 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.
Annual Cumud	Motor		Field parameters: dissolved oxygen, redox potential, pH, conductivity, temperature, ferrous iron
Arsenic – Ground V 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	
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 Naphohalene, 1-Methylnaphohalene, 2-Methylnaphohalene

Deliverables.	Due Date
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: <u>Cruz, Jerome (ECY)</u>
To: <u>Jeff Jensen; John Kane</u>

Cc: Nduta Mbuthia; 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 Mbuthia <Nduta.Mbuthia@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

<u>Jeff@kane-environmental.com</u> <u>www.kane-environmental.com</u>

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

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

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

To: John Kane < <u>ikane@kane-environmental.com</u>>

Cc: Nduta Mbuthia < Nduta.Mbuthia@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@ecv.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) < <u>JCRU461@ECY.WA.GOV</u>>

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

<<u>CWAN461@ECY.WA.GOV</u>>; Jeff Jensen <<u>Jeff@kane-environmental.com</u>>; John Kane <<u>jkane@kane-environmental.com</u>>

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.

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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

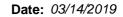
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

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. Work Order Sample Summary

Project: Paint Work Order: 1903087

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



Case Narrative

WO#: **1903087**Date: **3/14/2019**

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 & Acronyms

WO#: **1903087**

Date Reported: 3/14/2019

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



Work Order: 1903087 Date Reported: 3/14/2019

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	e Analyzed
Dissolved Gases by RSK-175				Batc	h ID:	R50033	Analyst: AD
Methane	0.651	0.0863	D	mg/L	10	3/14/2	019 12:36:00 PM
Diesel and Heavy Oil by NWTPH-I	Dx/Dx Ext.			Batc	h ID:	23765	Analyst: DW
Diesel (Fuel Oil)	ND	49.7		μg/L	1	3/13/2	019 1:30:58 AM
Diesel Range Organics (C12-C24)	122	49.7		μg/L	1	3/13/2	019 1:30:58 AM
Heavy Oil	219	99.4		μg/L	1	3/13/2	019 1:30:58 AM
Surr: 2-Fluorobiphenyl	79.5	50 - 150		%Rec	1	3/13/2	019 1:30:58 AM
Surr: o-Terphenyl	83.6	50 - 150		%Rec	1	3/13/2	019 1:30:58 AM
NOTES: DRO - Indicates the presence of unresolve Ion Chromatography by EPA Meth	·	uting from dod	ecane throu	_	,	C12-C24). 23719	Analyst: TN
Nitrate (as N)	ND	0.100		mg/L	1	3/8/20	19 9:59:00 PM
Sulfate	1.87	0.300		mg/L	1	3/8/20	19 9:59:00 PM
Dissolved Metals by EPA Method	200.8			Batc	h ID:	23798	Analyst: WC
Manganese	94.0	2.00		μg/L	1	3/13/2	019 3:03:20 PM
Total Alkalinity by SM 2320B				Batc	h ID:	R50025	Analyst: ME
Alkalinity, Total (As CaCO3)	117	2.50		mg/L	1	3/12/2	019 8:20:00 AM



Work Order: 1903087 Date Reported: 3/14/2019

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
Dissolved Gases by RSK-175				Bato	h ID: R	50033 Analyst: AD
Methane	2.25	0.173	D	mg/L	20	3/14/2019 1:25:00 PM
Diesel and Heavy Oil by NWTPH	I-Dx/Dx Ext.			Bato	h ID: 23	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
S - Outlying surrogate recovery(ies) obseffect.	served. A duplicate	analysis was p	erformed wi	th similar re	sults indic	cating a possible matrix
Ion Chromatography by EPA Me	ethod 300.0			Bato	h ID: 23	3777 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 excee	ds the linear working	ng range of the	instrument.			
Dissolved Metals by EPA Metho	od 200.8			Bato	h ID: 23	3798 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 20	0.8			Bato	h ID: 23	Analyst: WC
Arsenic	14.7	1.75		μg/L	1	3/8/2019 5:52:07 PM
Total Alkalinity by SM 2320B				Bato	h ID: R	50025 Analyst: ME
Alkalinity, Total (As CaCO3)	25.7	2.50		mg/L	1	3/12/2019 8:20:00 AM



Work Order: **1903087**Date Reported: **3/14/2019**

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
Dissolved Metals by EPA Method	200.8			Batch	n ID: 237	798 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/13/2019 3:23:26 PM
Total Metals by EPA Method 200.	<u>8</u>			Batch	n ID: 237	755 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/8/2019 5:56:09 PM



Work Order: **1903087**Date Reported: **3/14/2019**

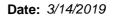
Client: Kane Environmental, Inc. Collection Date: 3/7/2019 3:03:00 PM

Project: Paint

Lab ID: 1903087-004 Matrix: Groundwater

Client Sample ID: BPMW-1:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method 2	200.8			Batch	n ID: 237	798 Analyst: WC
Arsenic	4.83	1.75		μg/L	1	3/13/2019 3:35:30 PM
Total Metals by EPA Method 200.8	1			Batch	n ID: 237	755 Analyst: WC
Arsenic	12.9	1.75		μg/L	1	3/8/2019 6:00:11 PM



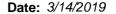


QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

CLIENT: Kane Enviro	onmental, Inc.				
Project: Paint					Total Alkalinity by SM 2320B
Sample ID MB-R50025	SampType: MBLK			Units: mg/L	Prep Date: 3/12/2019 RunNo: 50025
Client ID: MBLKW	Batch ID: R50025				Analysis Date: 3/12/2019 SeqNo: 981850
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-R50025	SampType: LCS			Units: mg/L	Prep Date: 3/12/2019 RunNo: 50025
Client ID: LCSW	Batch ID: R50025				Analysis Date: 3/12/2019 SeqNo: 981851
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	103	2.50	100.0	0	103 80 120
Sample ID 1903027-029BDUP	SampType: DUP			Units: mg/L	Prep Date: 3/12/2019 RunNo: 50025
Client ID: BATCH	Batch ID: R50025				Analysis Date: 3/12/2019 SeqNo: 981853
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	172	2.50			172.0 0 20
Sample ID 1903068-021BDUP	SampType: DUP			Units: mg/L	Prep Date: 3/12/2019 RunNo: 50025
Client ID: BATCH	Batch ID: R50025				Analysis Date: 3/12/2019 SeqNo: 981871
Analyte	Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Alkalinity, Total (As CaCO3)	132	2.50			132.7 0.258 20

Original Page 9 of 24





QC SUMMARY REPORT

%RPD

3.82

RPDLimit

20

Qual

CLIENT: Kane Environmental, Inc. Paint

Ion Chromatography by EPA Method 300.0

Sample ID LCS-23719	SampType: LCS			Units: mg/L		Prep Da	te: 3/6/201	9	RunNo: 49 8	374	
Client ID: LCSW	Batch ID: 23719					Analysis Da	te: 3/6/201	9	SeqNo: 977	7978	
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*

NOTES:

Project:

LCS serves as an initial calibration verification. Samples will be flagged with a *.

Sample ID MB-23719	SampType: MBLK			Units: mg/L		Prep Dat	te: 3/6/201	9	RunNo: 498	874	
Client ID: MBLKW	Batch ID: 23719					Analysis Dat	te: 3/6/201	9	SeqNo: 97	7979	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									*

NOTES:

^{* -} Flagged value is not within established control limits.

Sample ID 1903055-015BDUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/6/20 1	9	RunNo: 498	374	
Client ID: BATCH	Batch ID: 23719					Analysis Da	te: 3/6/20 1	9	SeqNo: 977	7981	
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	*

NOTES:

Analyte

Nitrate (as N)

^{* -} Flagged value is not within established control limits.

Sample ID 1903055-015BMS	SampType: MS			Units: mg/L		Prep Date	e: 3/6/2019	RunNo: 49874	
Client ID: BATCH	Batch ID: 23719					Analysis Date	e: 3/6/2019	SeqNo: 977982	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Va	I %RPD RPDLimit	Qual
Nitrate (as N)	1.18	0.100	0.7500	0.4110	103	80	120		
Sample ID 1903055-015BMSD	SampType: MSD			Units: mg/L		Prep Date	e: 3/6/2019	RunNo: 49874	
Client ID: BATCH	Batch ID: 23719					Analysis Date	e: 3/6/2019	SeqNo: 977983	

SPK value SPK Ref Val

0.7500

RL

0.100

Result

1.23

Page 10 of 24 Original

0.4110

%REC

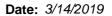
109

LowLimit HighLimit RPD Ref Val

120

1.181

80





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Paint

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 H	lighLimit RPD Ref Val	%RPD RPDLimit	Qual

Sample ID 1903055-016BDUP	SampType: DUP		Units: mg/L		Prep Dat	e: 3/6/201	9	RunNo: 49 8	374	
Client ID: BATCH	Batch ID: 23719				Analysis Da	te: 3/7/201	9	SeqNo: 977	7995	
Analyte	Result	RL	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N) NOTES:	1.39	0.200					1.398	0.574	20	D*

* - Flagged value is not within established control limits.

Sample ID 1903055-016BMS	SampType: MS			Units: mg/L		Prep Da	te: 3/6/201	9	RunNo: 49 8	374	
Client ID: BATCH	Batch ID: 23719					Analysis Da	te: 3/7/201	9	SeqNo: 977	7998	
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

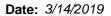
Sample ID LCS-23719	SampType: LCS			Units: mg/L		Prep Dat	te: 3/6/201	9	RunNo: 499	924	
Client ID: LCSW	Batch ID: 23719					Analysis Da	te: 3/8/201	9	SeqNo: 978	3987	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.687	0.100	0.7500	0	91.6	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	6/2019	RunNo: 499	24	
Client ID:	MBLKW	Batch ID: 23719			Α	nalysis Date: 3/8	8/2019	SeqNo: 978	988	
Analyte		Result	RL	SPK value SPK Ref Val	%REC	LowLimit HighL	imit RPD Ref Val	%RPD	RPDLimit	Qual

 Nitrate (as N)
 ND
 0.100

 Sulfate
 ND
 0.300

Original Page 11 of 24





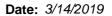
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Ion Chromatography by EPA Method 300.0

Project: Paint							Ion Ch	romatogra _l	phy by EP	A Method	.008 k
Sample ID 1903055-015BDUP	SampType: DUP			Units: mg/L		Prep Date	3/6/201	9	RunNo: 49	924	
Client ID: BATCH	Batch ID: 23719					Analysis Date	3/8/201	9	SeqNo: 97	8992	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	0.394	0.100						0.3940	0	20	Н
Sulfate	5.87	0.300						5.884	0.255	20	
Sample ID 1903055-015BMS	SampType: MS			Units: mg/L		Prep Date	: 3/6/201	9	RunNo: 49	924	
Client ID: BATCH	Batch ID: 23719					Analysis Date	3/8/201	9	SeqNo: 97	8993	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	1.04	0.100	0.7500	0.3940	86.0	80	120				Н
Sulfate	9.32	0.300	3.750	5.884	91.6	80	120				
Sample ID 1903055-015BMSD	SampType: MSD			Units: mg/L		Prep Date	: 3/6/201	9	RunNo: 49	924	
Client ID: BATCH	Batch ID: 23719					Analysis Date	3/8/201	9	SeqNo: 97	8994	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	Н
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	3/6/201	9	RunNo: 49	924	
Client ID: BATCH	Batch ID: 23719					Analysis Date	3/9/201	9	SeqNo: 97 9	9002	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/6/201	9	RunNo: 49	924	
Client ID: BATCH	Batch ID: 23719					Analysis Date	3/9/201	9	SeqNo: 97 9	9003	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	2.93	0.200	0.7500	1.368	209	80	120				DSH
<u> </u>										Doo	10 12 0

Original Page 12 of 24





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Ion Chromatography by EPA Method 300.0

Project: Paint					Ion Chromatography by EPA Me	hod 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 RPDL	mit Qual
Sulfate	14.3	0.600	3.750	6.830	199 80 120	DS
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 RPDL	mit Qual
Nitrate (as N)	ND	0.100				
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 RPDL	mit Qual
Nitrate (as N)	0.709	0.100	0.7500	0	94.5 90 110	
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 RPDL	mit Qual
Nitrate (as N)	ND	0.200			0	20 DH
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 RPDL	mit Qual
Nitrate (as N)	1.38	0.200	1.500	0	92.3 80 120	DH

Original Page 13 of 24

Date: 3/14/2019



Work Order: 1903087

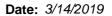
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Ion Chromatography by EPA Method 300.0

Project: F	Paint								IOII CII	iioiiiatogra	DITY DY LE	A MELITOR	1 300.
Sample ID 1903068-	-002BMSD	SampType:	MSD			Units: mg/L		Prep Da	ite: 3/11/2 0	019	RunNo: 499	986	
Client ID: BATCH		Batch ID:	23777					Analysis Da	ite: 3/12/20	019	SeqNo: 980	0781	
Analyte		R	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 Da	ite: 3/11/2 0	019	RunNo: 499	986	
Client ID: BATCH		Batch ID:	23777					Analysis Da	ite: 3/12/20	019	SeqNo: 980	0786	
Analyte		R	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 Da	ite: 3/11/2 0	019	RunNo: 499	986	
Client ID: BATCH		Batch ID:	23777					Analysis Da	ite: 3/12/20	019	SeqNo: 980	0789	
Analyte		R	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

Original Page 14 of 24





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Paint	Jimena, me.						Diss	solved Met	als by EP	A Method	200
Sample ID MB-23798	SampType: MBLK			Units: µg/L		Prep Date	3/13/201	9	RunNo: 50	016	
Client ID: MBLKW	Batch ID: 23798					Analysis Date	3/13/201	9	SeqNo: 98	1695	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	3/13/201	9	RunNo: 50	016	
Client ID: LCSW	Batch ID: 23798					Analysis Date	3/13/201	9	SeqNo: 98	1696	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/13/201	9	RunNo: 50	016	
Client ID: BPMW-2R:W	Batch ID: 23798					Analysis Date	3/13/201	9	SeqNo: 98	1698	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	3/13/201	9	RunNo: 50	016	
Client ID: BPMW-2R:W	Batch ID: 23798					Analysis Date	3/13/201	9	SeqNo: 98	1699	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/13/201	9	RunNo: 50	016	
Client ID: BPMW-2R:W	Batch ID: 23798					Analysis Date	3/13/201	9	SeqNo: 98	1700	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	520	1.75	500.0	0.9435	104	70	130	518.9	0.284	30	
Ariginal										Pac	ie 15

Page 15 of 24 Original

Date: 3/14/2019



Work Order: 1903087

QC SUMMARY REPORT

Kane Environmental, Inc. CLIENT:

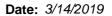
Dissolved Metals by EPA Method 200.8

Project:	Paint							Dis	solved Met	als by EP	A Method	200.8
Sample ID	1903087-001BMSD	SampType: MSD			Units: µg/L		Prep Da	te: 3/13/2 0)19	RunNo: 50 0		
Client ID: BPMW-2R:W Batch ID: 23798							Analysis Da	te: 3/13/2 0)19	SeqNo: 981	1700	
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	
Comple ID 1	MD 00700FD	Comp.Times MDLI/			l laite		D D.	0/40/00		Dunbles 500		

Sample ID	MB-23782FB	SampType: MBLK		Units: μg/L		Prep Date: 3/	/13/2019	RunNo: 500)16	
Client ID:	MBLKW	Batch ID: 23798				Analysis Date: 3/	/13/2019	SeqNo: 981	1706	
Analyte		Result	RL	SPK value SPK Ref Val	%REC	LowLimit HighL	Limit RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic ND 1.75 Manganese ND 2.00

Page 16 of 24 Original



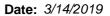


QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project:	Paint	,							Total Met	als by EP	A Method	3.00s b
	MB-23755	SampType: MBLK			Units: μg/L		Prep Date	3/8/201	9	RunNo: 49	935	
Client ID:	MBLKW	Batch ID: 23755			1-3		Analysis Date			SeqNo: 97	9307	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	1.75									
Sample ID	LCS-23755	SampType: LCS			Units: µg/L		Prep Date	3/8/201	9	RunNo: 49	935	
Client ID:	LCSW	Batch ID: 23755					Analysis Date	3/8/201	9	SeqNo: 97	9310	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	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	3/8/201	9	RunNo: 49	935	
Client ID:	BATCH	Batch ID: 23755					Analysis Date	3/8/201	9	SeqNo: 97	9312	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	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	3/8/201	9	RunNo: 49	935	
Client ID:	ВАТСН	Batch ID: 23755					Analysis Date	3/8/201	9	SeqNo: 97	9313	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	3/8/201	9	RunNo: 49	935	
Client ID:	ВАТСН	Batch ID: 23755					Analysis Date	3/8/201	9	SeqNo: 97	9314	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		579	1.75	500.0	3.704	115	70	130	568.7	1.83	30	

Page 17 of 24 Original





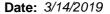
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

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

Sample ID MB-23765	SampType: MBLK			Units: µg/L		Prep Date	e: 3/11/2 0	119	RunNo: 499	977	
Client ID: MBLKW	Batch ID: 23765					Analysis Date	e: 3/12/20	119	SeqNo: 980	0531	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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	e: 3/11/2 0	119	RunNo: 499	977	
Client ID: LCSW	Batch ID: 23765					Analysis Date	e: 3/12/20	19	SeqNo: 980	0532	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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	e: 3/11/2 0	119	RunNo: 499	977	
Client ID: BATCH	Batch ID: 23765					Analysis Date	e: 3/12/2 0	19	SeqNo: 981	1126	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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	e: 3/11/2 0	119	RunNo: 499	977	
Client ID: BATCH	Batch ID: 23765					Analysis Date	e: 3/12/2 0	119	SeqNo: 981	1129	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Diesel (Fuel Oil)	6,850	50.1	1,001	5,757	109	65	135				Е
Surr: 2-Fluorobiphenyl	73.6		80.09		91.9	50	150				

Original Page 18 of 24





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Paint

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:

Project:

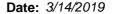
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID 1903076-001AMSD	SampType: MSD				Prep Da	te: 3/11/2 0	019	RunNo: 499	977		
Client ID: BATCH	Batch ID: 23765					Analysis Da	te: 3/12/2 0	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	Е
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 Dat	te: 3/11/2 0)19	RunNo: 49		
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		

Original Page 19 of 24





Sample ID LCS-R50033B

Client ID: LCSW

Analyte

Methane

SampType: LCS

Batch ID: R50033

Result

1,020

RL

0.00863

Project:

QC SUMMARY REPORT

RunNo: 50033

SeqNo: 982410

%RPD RPDLimit

Qual

CLIENT: Kane Environmental, Inc.

Paint

Dissolved Gases by RSK-175

0115	MD DECCCO	O T	1451.14			11.26. **		D D. 1	0/40/5		D No		
Sample ID	MB-R50033A	SampType	: MBLK			Units: mg/L		Prep Date	3/13/20)19	RunNo: 50	033	
Client ID:	MBLKW	Batch ID:	R50033					Analysis Date	3/13/20)19	SeqNo: 98	1993	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane			ND	0.00863									
Sample ID	LCS-R50033A	SampType	: LCS			Units: mg/L		Prep Date	3/13/20)19	RunNo: 50	033	
Client ID:	LCSW	Batch ID:	R50033					Analysis Date	3/13/20)19	SeqNo: 98	1992	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/13/20)19	RunNo: 50	033	
Client ID:	BATCH	Batch ID:	R50033					Analysis Date	3/13/20)19	SeqNo: 98	1982	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane NOTES:			1.72	0.00863						1.446	17.6	30	E
E - Estim	nated value. The amount	exceeds the li	inear workii	ng range of	the instrument	•							
Sample ID	MB-R50033B	SampType	: MBLK			Units: mg/L		Prep Date	3/14/20)19	RunNo: 50	033	
Client ID:	MBLKW	Batch ID:	R50033					Analysis Date	3/14/20)19	SeqNo: 98	2411	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane			ND	0.00863									

Original Page 20 of 24

0

Units: mg/L

%REC

102

SPK value SPK Ref Val

1,000

Prep Date: 3/14/2019

LowLimit HighLimit RPD Ref Val

130

Analysis Date: 3/14/2019

70

Date: 3/14/2019



Work Order: 1903087

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Paint

Dissolved Gases by RSK-175

Sample ID 1903064-001DREP	SampType: REP			Units: mg/L		Prep Da	ite: 3/14/2 0)19	RunNo: 50	033	
Client ID: BATCH	Batch ID: R50033					Analysis Da	ite: 3/14/2 0	019	SeqNo: 98	2400	
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:

Project:

Original Page 21 of 24

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



Sample Log-In Check List

C	ient Name:	KANE				Work O				
Lo	gged by:	Brianna Ba	rnes			Date Re	ceived:	3/7/2019	4:07:00 PM	
Cha	in of Custo	ody								
	Is Chain of C	-	lete?			Yes	✓	No 🗌	Not Present	
	How was the					Clien	ı <u>t</u>			
<u>Log</u>								\Box		
3.	Coolers are p	resent?				Yes	\checkmark	No 🗀	NA 🗆	
4.	Shipping cont	tainer/cooler	in good condition	?		Yes	✓	No 🗌		
			shipping containe			Yes		No 🗌	Not Required 🗹	
٥.			ustody Seals not i						·	
6.	Was an atten	npt made to	cool the samples?	?		Yes	✓	No 🗌	NA \square	
								\Box		
7.	Were all item	s received a	t a temperature of	>0°C to 10	.0°C *	Yes	✓	No 🗀	NA \square	
8	Sample(s) in	proper conta	iner(s)?			Yes	✓	No 🗌		
			for indicated test(s)?		Yes		No 🗌		
_	Are samples					Yes	✓	No 🗌		
	Was preserva					Yes	✓	No 🗌	NA \square	
							HNO3	added to disso	lved metals volume.	
12.	Is there head	space in the	VOA vials?			Yes		No 🗸	NA \square	
13.	Did all sample	es containers	s arrive in good co	ondition(unb	roken)?	Yes	✓	No 🗌		
14.	Does paperw	ork match bo	ottle labels?			Yes	✓	No 🗌		
15	Are matrices	correctly ide	ntified on Chain o	f Custody2		Yes	✓	No 🗌		
			vere requested?	i Custody:		Yes	✓	No \square		
	Were all hold	-				Yes	✓	No \square		
17.	Word all floid	ing times as	e to be met.			100		но 🗀		
<u>Spe</u>	cial Handli	ing (if app	licable)							
18.	Was client no	tified of all d	iscrepancies with	this order?		Yes		No 🗌	NA 🗹	
	Person	Notified:			Date					
	By Who	m:			Via:	eMa	il 🗌 Pl	hone Fax	In Person	
	Regardi	ng:								
	Client In	structions:								
19.	Additional rer	narks:								
ltem	Information									
		Item #		Temp °C						
	Cooler			2.5						
	Sample			6.3						

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

3.0

Temp Blank

COC 1.2 - 2.22.17

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Page 1 of 2

COC 1.2 - 2.22.17

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Page 1 of 2



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: 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

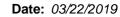
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward Project Manager

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





CLIENT: Kane Environmental, Inc. Work Order Sample Summary

Project: Bothell Paint Work Order: 1903225

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



Case Narrative

WO#: **1903225**Date: **3/22/2019**

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 & Acronyms

WO#: **1903225**

Date Reported: 3/22/2019

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



Work Order: **1903225**Date Reported: **3/22/2019**

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	- Da	ate Analyzed
Dissolved Gases by RSK-175				Batc	h 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 NWTF	PH-Dx/Dx Ext.			Batc	h 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 M	<u>/lethod 300.0</u>			Batc	h 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 Meth	od 200.8			Batc	h 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 2	200.8			Batc	h ID:	23889	Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/20	/2019 1:29:26 PM
Total Alkalinity by SM 2320B				Batc	h ID:	R50150	Analyst: ME
Alkalinity, Total (As CaCO3)	167	2.50		mg/L	1	3/18	/2019 9:30:00 AM



Work Order: **1903225**Date Reported: **3/22/2019**

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
Diesel and Heavy Oil by NWTPI	I-Dx/Dx Ext.			Batc	h 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				Batc	h 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	y EPA Method	8260C		Bato	h 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



Work Order: **1903225**Date Reported: **3/22/2019**

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
Volatile Organic Compounds b	y EPA Method	8260C		Batc	h ID: 23	914 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



Work Order: **1903225**Date Reported: **3/22/2019**

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
Diesel and Heavy Oil by NWTPh	H-Dx/Dx Ext.			Batc	h 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				Batc	h 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	y EPA Method	8260C		Batc	h 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



Work Order: **1903225**Date Reported: **3/22/2019**

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
Volatile Organic Compounds b	y EPA Method	1 8260C		Batc	h ID: 23	914 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:						

NOTES

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



Work Order: **1903225**Date Reported: **3/22/2019**

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
Diesel and Heavy Oil by NWTPH	I-Dx/Dx Ext.			Batc	h 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				Batc	h 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		Batc	h 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



Work Order: **1903225**Date Reported: **3/22/2019**

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	Result RL Qual			DF	Date Analyzed
Volatile Organic Compounds b	y EPA Method	8260C		Batc	h ID: 23	914 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

Alkalinity, Total (As CaCO3)

QC SUMMARY REPORT

1.23

388.3

20

CLIENT: Kane Environmental, Inc.

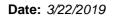
Total Alkalinity by SM 2320B

Project: Bothell Pair	nt					Tot	al 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

2.50

393

Original Page 12 of 36





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Ion Chromatography by EPA Method 300.0

Project: Bothell Pai	nt						Ion Ch	ıromatogra	phy by EP	A Method	300
Sample ID: MB-23831	SampType: MBLK			Units: mg/L		Prep Da	te: 3/14/2 0	019	RunNo: 50 0	091	
Client ID: MBLKW	Batch ID: 23831					Analysis Da	te: 3/15/2 0	019	SeqNo: 983	3211	
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 Da	te: 3/14/2 0	D19	RunNo: 50 0	D91	
Client ID: LCSW	Batch ID: 23831					Analysis Da	te: 3/15/2 0	019	SeqNo: 983	3201	
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 Da	te: 3/14/2 0	D19	RunNo: 500	D91	
Client ID: BATCH	Batch ID: 23831					Analysis Da	te: 3/15/2 0	019	SeqNo: 983	3205	
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 Da	te: 3/14/2 0	D19	RunNo: 50 0		
Client ID: BATCH	Batch ID: 23831					Analysis Da	te: 3/15/2 0	019	SeqNo: 983	3206	
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 Da	te: 3/14/2 0	D19	RunNo: 50 0	D91	
Client ID: BATCH	Batch ID: 23831					Analysis Da	te: 3/15/2 0	019	SeqNo: 983	3207	
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

Page 13 of 36



Work Order: 1903225

Project:

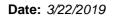
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc. **Bothell Paint**

Ion Chromatography by EPA Method 300.0

Sample ID: 1903196-001AMSD	SampType: MSD			Units: mg/L		Prep Da	ite: 3/14/20	119	RunNo: 500	91	
Client ID: BATCH	Batch ID: 23831					Analysis Da	ite: 3/15/20	119	SeqNo: 983	3207	
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

Page 14 of 36 Original





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Dissolved Metals by EPA Method 200.8

Project: Bothell Pain	nt						Dis	solved Me	tals by EP	A Metho	d 200
Sample ID: MB-23888	SampType: MBLK			Units: µg/L		Prep Date	3/20/20	19	RunNo: 50	174	
Client ID: MBLKW	Batch ID: 23888					Analysis Date	: 3/20/20	19	SeqNo: 98	5077	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/20/20	19	RunNo: 50	174	
Client ID: LCSW	Batch ID: 23888					Analysis Date	: 3/20/20	19	SeqNo: 98	5080	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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	e: 3/20/20	19	RunNo: 50	174	
Client ID: BATCH	Batch ID: 23888					Analysis Date	: 3/20/20	19	SeqNo: 98	5082	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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	e: 3/20/20	19	RunNo: 50	174	
Client ID: BATCH	Batch ID: 23888					Analysis Date	3/20/20	19	SeqNo: 98	5083	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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	e: 3/20/20	19	RunNo: 50	174	
Client ID: BATCH	Batch ID: 23888					Analysis Date	3/20/20	19	SeqNo: 98	5084	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Arsenic	472	1.75	500.0	0	94.4	70	130	482.5	2.16	30	
										Pa	ne 15

Original Page 15 of 36



Work Order: 1903225

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Dissolved Metals by EPA Method 200.8

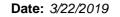
Sample ID: 1903105-023DMSD	SampType: MSD			Units: µg/L		Prep Da	te: 3/20/20	19	RunNo: 501	74	
Client ID: BATCH	Batch ID: 23888					Analysis Da	te: 3/20/20	119	SeqNo: 985	084	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	558	2.00	500.0	47.21	102	70	130	568.2	1.72	30	

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

 Arsenic
 ND
 1.75

 Manganese
 ND
 2.00

Original Page 16 of 36





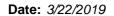
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Total Metals by EPA Method 200.8

Project: Bothell Pair	nt				Total Metals by EPA Method 200
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 Qua
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 Qua
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 Qua
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 Qua
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 Qua
Arsenic	563	1.75	500.0	3.036	112 70 130 548.9 2.45 30

Original Page 17 of 36





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Bothell Pair	nt						Diesel a	and Heavy	Oil by NW	TPH-Dx/I	Dx Ext
Sample ID: MB-23870	SampType: MBLK			Units: µg/L		Prep Date	e: 3/18/20	19	RunNo: 50 1	159	
Client ID: MBLKW	Batch ID: 23870					Analysis Date	e: 3/19/20	19	SeqNo: 984	1794	
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	e: 3/18/20	19	RunNo: 50 1	159	
Client ID: LCSW	Batch ID: 23870					Analysis Date	e: 3/19/20	19	SeqNo: 984	1858	
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	e: 3/18/20	19	RunNo: 50 1	159	
Client ID: BATCH	Batch ID: 23870					Analysis Date	e: 3/19/20	19	SeqNo: 984	1859	
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	e: 3/18/20	19	RunNo: 50 1	159	
Client ID: LCSW02	Batch ID: 23870					Analysis Date	e: 3/21/20	19	SeqNo: 985	5736	
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		

Page 18 of 36 Original



Work Order: 1903225

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

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

Sample ID: LCSD-23870	SampType: LCSD			Units: µg/L		Prep Da	te: 3/18/20	19	RunNo: 50 1	159	
Client ID: LCSW02	Batch ID: 23870					Analysis Da	te: 3/21/20	119	SeqNo: 985	5736	
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 Client ID: BATCH	SampType: DUP Batch ID: 23870	Units: µg/L				Prep Dat Analysis Dat	e: 3/18/20		RunNo: 50159 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		

Original Page 19 of 36



Work Order: 1903225

Ethane

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Dissolved Gases by RSK-175

Pro	ject:	Bothell	Paint

Sample ID: MB-R50238	SampType: MBLK			Units: mg/L		Prep Da	te: 3/22/2 0)19	RunNo: 502	238	
Client ID: MBLKW	Batch ID: R50238					Analysis Da	te: 3/22/20)19	SeqNo: 986	6737	
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									

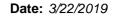
0.0162

ND

Sample ID: LCS-R50238	SampType: LCS			Units: mg/L		Prep Da	te: 3/22/20	119	RunNo: 502	238	
Client ID: LCSW	Batch ID: R50238					Analysis Da	te: 3/22/20	119	SeqNo: 986	736	
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	<u> </u>			
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: 502	:38
Client ID: BC-10:W	Batch ID: R50238			Analysis Date: 3/22/2019	SeqNo: 986	725
Analyte	Result	RL	SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Re	f Val %RPD	RPDLimit Qual
Methane	0.0998 0.	.00863		0.0	8718 13.5	30
Ethene	ND 0	0.0151			0	30
Ethane	ND 0	0.0162			0	30

Original Page 20 of 36





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Bothell Pair	nt								Gasoline	by NWT	PH-G
Sample ID: LCS-23914	SampType: LCS			Units: µg/L		Prep Date	: 3/21/20	19	RunNo: 502	212	
Client ID: LCSW	Batch ID: 23914					Analysis Date	e: 3/21/20	19	SeqNo: 986	5202	
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: LCSD-23914	SampType: LCSD			Units: µg/L		Prep Date	e: 3/21/20	19	RunNo: 502	212	
Client ID: LCSW02	Batch ID: 23914					Analysis Date	e: 3/21/20	19	SeqNo: 986	5203	
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	e: 3/21/20	19	RunNo: 502	212	
Client ID: MBLKW	Batch ID: 23914					Analysis Date	e: 3/21/20	19	SeqNo: 986	6204	
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	e: 3/21/20	19	RunNo: 502	212	
Client ID: S-1:W	Batch ID: 23914					Analysis Date	e: 3/21/20	19	SeqNo: 986	3195	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	50.0						0		30	
	ND	00.0									
Surr: Toluene-d8	25.1	00.0	25.00		101	65	135		0		

Page 21 of 36 Original



Work Order: 1903225

Project:

QC SUMMARY REPORT

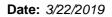
CLIENT: Kane Environmental, Inc.

Bothell Paint

Gasoline by NWTPH-Gx

,											
Sample ID: 1903230-001BDUP	SampType: DUP			Units: µg/L		Prep Da	te: 3/21/2 0)19	RunNo: 50212		
Client ID: BATCH	Batch ID: 23914					Analysis Da	te: 3/22/2 0)19	SeqNo: 986	6199	
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		

Original Page 22 of 36





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

Sample ID: LCS-23914	SampType: LCS			Units: µg/L		Prep Da	te: 3/21/20	19	RunNo: 502	213	
Client ID: LCSW	Batch ID: 23914					Analysis Da	te: 3/21/20	19	SeqNo: 986	6224	
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				

Original Page 23 of 36



Work Order: 1903225

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

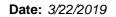
Sample ID: LCS-23914	SampType: LCS			Units: µg/L		Prep Da	te: 3/21/2 0	19	RunNo: 50 2	213	
Client ID: LCSW	Batch ID: 23914					Analysis Da	te: 3/21/2 0	19	SeqNo: 986	6224	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	20.4	1.00	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:											

NOTES:

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

MBLK		Units: µg/L		Prep Date: 3/21/2019	RunNo: 50213	
23914				Analysis Date: 3/21/2019	SeqNo: 986225	
sult RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
ND 1.00						
ND 2.00						Q
ND 0.200						
ND 1.00						
	ND 1.00 ND 2.00 ND 0.200	23914 sult RL SPK value ND 1.00 ND 2.00 ND 0.200	23914 sult RL SPK value SPK Ref Val ND 1.00 ND 2.00 ND 0.200	23914 sult RL SPK value SPK Ref Val %REC ND 1.00 ND 2.00 ND 0.200	Analysis Date: 3/21/2019 sult RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val ND 1.00 ND 2.00 ND 0.200	Analysis Date: 3/21/2019 SeqNo: 986225 sult RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit ND 1.00 ND 2.00 ND 0.200

Original Page 24 of 36





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

Sample ID: MB-23914	SampType: MBLK			Units: µg/L		Prep Da	ite: 3/21/20)19	RunNo: 502	213	
Client ID: MBLKW	Batch ID: 23914					Analysis Da	ite: 3/21/20)19	SeqNo: 986	6225	
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									

Original Page 25 of 36



Work Order: 1903225

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

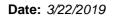
Volatile Organic Compounds by EPA Method 8260C

Sample ID: MB-23914	SampType: MBLK			Units: µg/L		Prep Date:	3/21/20	19	RunNo: 502	213	_
Client ID: MBLKW	Batch ID: 23914					Analysis Date:	3/21/20	19	SeqNo: 986	S225	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit	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 Da	te: 3/21/2 0	19	RunNo: 502	213	
Client ID: S-1:W	Batch ID: 23914					Analysis Da	te: 3/21/2 0	19	SeqNo: 986	6207	
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	

Original Page 26 of 36





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903225-002BDUP	SampType: DUP			Units: µg/L		Prep Da	ate: 3/21/20	19	RunNo: 502	213	
Client ID: S-1:W	Batch ID: 23914					Analysis Da	ate: 3/21/2 0	119	SeqNo: 986	6207	
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	
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Original Page 27 of 36



Work Order: 1903225

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

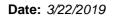
Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903225-002BDUP	SampType: DUP			Units: µg/L		Prep Da	te: 3/21/2 0)19	RunNo: 502	213	
Client ID: S-1:W	Batch ID: 23914					Analysis Da	te: 3/21/2 0	019	SeqNo: 986	6207	
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: 3/21/2	019	RunNo: 502	213	
Client ID: BATCH	Batch ID: 23914					Analysis Date: 3/22/2	019	SeqNo: 986	211	
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	

Page 28 of 36





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903230-001BDUP	SampType: DUP			Units: µg/L		Prep Da	ite: 3/21/20	19	RunNo: 502	213	
Client ID: BATCH	Batch ID: 23914					Analysis Da	ate: 3/22/2 0	119	SeqNo: 986	5211	
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	
										Por	1 29 n

Original Page 29 of 36



Work Order: 1903225

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

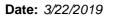
Sample ID: 1903230-001BDUP	SampType: DUP		Units: μg/L Prep Date: 3/21/2019 Analysis Date: 3/22/2019					19	RunNo: 50 2	213	
Client ID: BATCH	Batch ID: 23914					Analysis Da	te: 3/22/20	19	SeqNo: 986	6211	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	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 NOTES:	24.2		25.00		96.7	64.2	128		0		

Project:

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 Da	te: 3/21/201	9	RunNo: 502	13	
Client ID: BATCH	Batch ID: 23914					Analysis Da	te: 3/22/201	9	SeqNo: 986	218	
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				

Page 30 of 36 Original





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903253-002AMS	SampType: MS			Units: µg/L		Prep Da	te: 3/21/2 0	19	RunNo: 50213		
Client ID: BATCH	Batch ID: 23914					Analysis Date: 3/22/2019			SeqNo: 986	5218	
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				
1,1,2,2-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				

Original Page 31 of 36



Work Order: 1903225

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

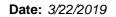
Sample ID: 1903253-002AMS	Batch ID: 23914			Units: µg/L		Prep Da	te: 3/21/20	RunNo: 50213				
Client ID: BATCH	Batch ID: 23914					Analysis Date: 3/22/2019				SeqNo: 986218		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
1,2,3-Trichlorobenzene	20.0	4.00	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:												

Project:

S - Outlying spike recovery(ies) observed.

Sample ID: 1903253-002AMSD	SampType: MSD			Units: μg/L		Prep Da	te: 3/21/2 0)19	RunNo: 50 2		
Client ID: BATCH	Batch ID: 23914				Analysis Date: 3/22/2019				SeqNo: 986	5219	
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	

Page 32 of 36 Original





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903253-002AMSD	SampType: MSD			Units: µg/L		Prep Da	te: 3/21/2 0	19	RunNo: 50213		
Client ID: BATCH	Batch ID: 23914					Analysis Da	te: 3/22/2 0	19	SeqNo: 986	6219	
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	
1,1,2,2-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		

Original Page 33 of 36



Work Order: 1903225

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Bothell Paint

Volatile Organic Compounds by EPA Method 8260C

Sample ID: 1903253-002AMSD

SampType: MSD Units: µg/L

SPK value SPK Ref Val

RL

Prep Date: 3/21/2019

RunNo: 50213

Result

Analysis Date: 3/22/2019

SeqNo: 986219

Client ID: BATCH

Batch ID: 23914

%REC LowLimit HighLimit RPD Ref Val

%RPD RPDLimit Qual

NOTES:

Analyte

Project:

S - Outlying spike recovery(ies) observed.

Page 34 of 36 Original



Sample Log-In Check List

С	lient Name:	KANE	Work Order Numb	er: 1903225		
Lo	ogged by:	Brianna Barnes	Date Received:	3/15/2019	9 12:30:00 PM	
Cha	in of Cust	ody				
		ustody complete?	Yes 🗸	No 🗌	Not Present	
2.	How was the	sample delivered?	Client			
Log	ı İn					
_	Coolers are p	present?	Yes 🗸	No 🗌	NA 🗆	
4.	Shipping con	tainer/cooler in good condition?	Yes 🗹	No 🗌		
5.		s present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗆	Not Required 🗹	
6.	Was an atten	npt made to cool the samples?	Yes 🗸	No 🗌	NA 🗌	
7.	Were all item	s 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 sar	nple volume for indicated test(s)?	Yes 🗸	No \square		
10.	Are samples	properly preserved?	Yes 🗸	No 🗌		
11.	Was preserva	ative added to bottles?	Yes 🗹	No 🗌	NA \square	
					INO3 added to 001C	
		space in the VOA vials?	Yes 🗆	No 🗹	NA L	
	•	es containers arrive in good condition(unbroken)?	Yes 🗹	No 🗆		
14.	Does paperw	ork match bottle labels?	Yes 🗹	No 📙		
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🗸	No \square		
16.	Is it clear wha	at analyses were requested?	Yes 🗸	No \square		
17.	Were all hold	ing times able to be met?	Yes 🗹	No \square		
Spe	ecial Handl	ing (if applicable)				
18.	Was client no	otified of all discrepancies with this order?	Yes	No 🗌	NA 🗹	
	Person	Notified: Date:				
	By Who	m: Via:	eMail Pho	one 🗌 Fax	☐ In Person	
	Regardi	ng:				
	Client Ir	nstructions:				
19.	Additional rer	marks:				

Item Information

Item #	Temp ⁰C
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

	Sallie Day (specify)				×								×
-			Date/Time	0	Received			me	Date/Time			Relinquished	77 :
7 6	○ Next Day	S/19 (28)	3/13	r tett	Ž,	1226	12	15/19	3/	+		2	×
,	1 2 2 3	57	Date/Time	01	Received			me	Date/Time			Relinquished	77
	7 Pav	THE PARTY COUNTY OF THE SECOND					ement.	this Agre	each of the terms on the front and backside of this Agreement	the front and	e terms on t	each of th	4000
	nent to 3 Day	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	bove and that I	of the Client named a	ıalytical on behalf	Fremont Ar	ment with	his Agree	to enter into t	authorized t	t that I am	I represer	
				Nitrate+Nitrite	phate Fluoride	de O-Phosphate	Bromide	Sulfate	Chloride	te Nitrite	r cle): Nitrate	***Anions (Circle):	* :
100	X Standard	Sb Se Sr Sn Ti Tl U V Zn	РЬ	Individual: Ag Al (As)B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg (Mn) Mo Na Ni	B Ba Be Ca Cd Co	ial: Ag Al(As)		nts TAL	Priority Pollutants	RCRA-8	**Metals (Circle): MTCA-5	**Metals (Circ	. *
	Turn-around Time:	Storm Water, WW = Waste Water	GW = Ground Water, SW =	W = Water, DW = Drinking Water, GW = G	Solid, W=Water, DW	S = Soil, SD = Sediment, SL = Solid,	= Soil, SD = S	roduct, S =	O = Other, P = Product,		*Matrix: A = Air, AQ = Aqueous, B = Bulk,	Matrix: A = A	: *
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	As + Ma	Lab Gite	× ×	9			GW	Sign	3/15/19		M:03	BC-11	1
	Comments	1.7. C. C	\$\partial \frac{\partial \frac	744, (24 82-76 0 88 7/4 (10)	1/2 Cliffe R	\$\\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	Sample Type (Matrix)*	Sample	Sample Date		la e	Sample Name	
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_	ient Disposal by lab (after 30 days)	Sample Disposal: Return to client		Jensen		Report To (PM):		76	691-0476		(206)	Telephone:	-
	+ dissolved	As - lotal +		WA	8. m. 11	Location:	-	VA 98119	WA	Seathe,		City, State, Zip:	_
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200				- 13	8	Project No:		4	6 7 7 7 6	されて	Cone C	Client:	$\overline{}$
6 of		Special Remarks:				Project Name:	52-7178	Fax: 206-352-7178					
36	003225	Laboratory Project No (internal):	of:	Page:	8/15/19	Date:	1 98103 52-3790	Seattle, WA 98103 Tel: 206-352-3790	E	GIIIO	3		
	s Agreement	Laboratory Services Agreement	20	Chain of Custody Record	ain of Cu	Ch	t Ave N.	3600 Fremont Ave N	360				

COC 1.2 - 2.22.17



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

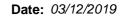
All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

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. Work Order Sample Summary

Project: Hertz Work Order: 1903045

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



Case Narrative

WO#: **1903045**Date: **3/12/2019**

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 & Acronyms

WO#: **1903045**

Date Reported: 3/12/2019

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



Work Order: **1903045**Date Reported: **3/12/2019**

Client: Kane Environmental, Inc. Collection Date: 3/5/2019 12:20:00 PM

Project: Hertz

Lab ID: 1903045-001 Matrix: Groundwater

Client Sample ID: HZ-MW-19:W

Client Sample ID: HZ-MW-19:W Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batc	h ID:	R49857 Analyst: AD
Methane	0.0332	0.00863		mg/L	1	3/6/2019 3:37:00 PM
Diesel and Heavy Oil by NWTPH	-Dx/Dx Ext.			Batc	h 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
on Chromatography by EPA Me	thod 300.0			Batc	h ID:	23738 Analyst: TN
Nitrate (as N)	0.414	0.100	Н	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:				J		
* - Flagged value is not within establishe	d control limits.					
Dissolved Metals by EPA Metho	d 200.8			Batc	h ID:	23752 Analyst: WC
Manganese	136	2.00		μg/L	1	3/8/2019 2:21:53 PM
Total Alkalinity by SM 2320B				Batc	h ID:	R49913 Analyst: ME
Alkalinity, Total (As CaCO3)	162	2.50		mg/L	1	3/7/2019 11:00:00 AM



Work Order: **1903045**Date Reported: **3/12/2019**

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
Dissolved Metals by EPA Method 2	200.8			Batch	n ID: 237	52 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/8/2019 2:46:06 PM
Total Metals by EPA Method 200.8	3			Batch	n ID: 237	55 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/8/2019 4:31:02 PM



Work Order: **1903045**Date Reported: **3/12/2019**

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
Dissolved Metals by EPA Method 2	200.8			Batch	n ID: 237	752 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/8/2019 2:50:08 PM
Total Metals by EPA Method 200.8	3			Batch	n ID: 237	755 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/8/2019 4:35:04 PM



Work Order: **1903045**Date Reported: **3/12/2019**

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
Dissolved Metals by EPA Method	1 200.8			Batch	n ID: 237	752 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/8/2019 2:54:10 PM
Total Metals by EPA Method 200	<u>).8</u>			Batch	n ID: 237	755 Analyst: WC
Arsenic	2.96	1.75		μg/L	1	3/8/2019 4:39:06 PM

Date: 3/12/2019



Work Order: 1903045

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

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

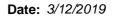
Sample ID LCS-R49913	SampType: LCS			Units: mg/L		Prep Da	te: 3/7/201	9	RunNo: 49 9	913	
Client ID: LCSW	Batch ID: R49913					Analysis Da	te: 3/7/201	9	SeqNo: 978	3794	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
All II : T : 1 (A O OOO)	404	0.50	400.0	•	404		400				

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:	ВАТСН	Batch ID: R49913				Analysis Date:	3/7/2019	SeqNo: 978796	
Analyte		Result	RL	SPK value SPK Ref Val	%REC	LowLimit Hig	ghLimit RPD Ref Val	%RPD RPDLimit	Qual

Alkalinity, Total (As CaCO3) 371 2.50 373.1 0.669 20

Original Page 9 of 22





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

Ion Chromatography by EPA Method 300.0

Sample ID LCS-23719	SampType: LCS			Units: mg/L		Prep Da	te: 3/6/201	19	RunNo: 498	374	
Client ID: LCSW	Batch ID: 23719					Analysis Da	te: 3/6/201	19	SeqNo: 977	7978	
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*

NOTES:

Project:

LCS serves as an initial calibration verification. Samples will be flagged with a *.

Sample ID MB-23719	SampType: MBLK			Units: mg/L		Prep Da	te: 3/6/201	9	RunNo: 498	874	
Client ID: MBLKW	Batch ID: 23719					Analysis Da	te: 3/6/201	9	SeqNo: 97	7979	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100							_		*

NOTES:

^{* -} Flagged value is not within established control limits.

Sample ID 1903055-015BDUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/6/20 1	9	RunNo: 49 8	874	
Client ID: BATCH	Batch ID: 23719					Analysis Da	te: 3/6/20 1	9	SeqNo: 97	7981	
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	*

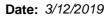
NOTES:

^{* -} Flagged value is not within established control limits.

Sample ID 1903055-015BMS	SampType: MS			Units: mg/L		Prep Dat	te: 3/6/201	9	RunNo: 498	374	
Client ID: BATCH	Batch ID: 23719					Analysis Da	te: 3/6/201	9	SeqNo: 97 7	7982	
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				

Sample ID 1903055-015BMSD	SampType: MSD			Units: mg/L		Prep Dat	e: 3/6/201	9	RunNo: 498	374	
Client ID: BATCH	Batch ID: 23719					Analysis Dat	te: 3/6/201	9	SeqNo: 977	7983	
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	

Original Page 10 of 22





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Ion Chromatography by EPA Method 300.0

Project:	Hertz					lo	on Chromatograp	ohy by EPA Method	d 300.0
Sample ID	1903055-015BMSD	SampType: MSD			Units: mg/L	Prep Date:	3/6/2019	RunNo: 49874	
Client ID:	ВАТСН	Batch ID: 23719				Analysis Date:	3/6/2019	SeqNo: 977983	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit Hig	hLimit RPD Ref Val	%RPD RPDLimit	Qual
Sample ID	1903055-016BDUP	SampType: DUP			Units: mg/L	Prep Date:	3/6/2019	RunNo: 49874	
Client ID.	DATCH	Datab ID: 22740				Analysis Date:	2/7/2040	Coallo: 07700F	

Sample ID	1903055-016BDUP	SampType: DUP			Units: mg/L		Prep Da	te: 3/6/201	9	RunNo: 498	374	
Client ID:	ВАТСН	Batch ID: 23719					Analysis Da	te: 3/7/201	9	SeqNo: 977	7995	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N	1)	1.39	0.200						1.398	0.574	20	D*

^{* -} Flagged value is not within established control limits.

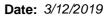
Sample ID 1903055-016BMS	SampType: MS			Units: mg/L		Prep Da	te: 3/6/201	9	RunNo: 498	374	
Client ID: BATCH	Batch ID: 23719					Analysis Da	te: 3/7/201	9	SeqNo: 977	7998	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	2.98	0.200	1.500	1.398	105	80	120				D

Sample ID MB-23738	SampType: MBLK		Units: mg/L		Prep Date: 3/7/2019	RunNo: 49893
Client ID: MBLKW	Batch ID: 23738			Ar	nalysis Date: 3/7/2019	SeqNo: 978395
Analyte	Result	RL	SPK value SPK Ref Val	%REC L	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Nitrata (as NI)	ND	0.100				

Nitrate (as N)	ND	0.100
Sulfate	ND	0.300

Sample ID LCS-23738	SampType: LCS			Units: mg/L		Prep Dat	te: 3/7/201	9	RunNo: 49 8	393	
Client ID: LCSW	Batch ID: 23738					Analysis Da	te: 3/7/201	9	SeqNo: 978	3396	
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				

Page 11 of 22 Original





QC SUMMARY REPORT

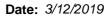
CLIENT: Kane Environmental, Inc.

Ion Chromatography by EPA Method 300.0

Hertz							ion cn	romatograp	Jily Dy Li	A MELITO	a 300.
1903045-001BDUP	SampType: DUP			Units: mg/L		Prep Date	3/7/201	9	RunNo: 49	893	
HZ-MW-19:W	Batch ID: 23738					Analysis Date	3/8/201	9	SeqNo: 97	8398	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
l)	0.420	0.100						0.4140	1.44	20	Н
	9.08	0.300						8.983	1.02	20	
1903045-001BMS	SampType: MS			Units: mg/L		Prep Date	: 3/7/201	9	RunNo: 49	893	
HZ-MW-19:W	Batch ID: 23738					Analysis Date	3/8/201	9	SeqNo: 97	8399	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1)	1.15	0.100	0.7500	0.4140	98.7	80	120				Н
	13.0	0.300	3.750	8.983	106	80	120				
1903045-001BMSD	SampType: MSD			Units: mg/L		Prep Date	: 3/7/201	9	RunNo: 49	893	
HZ-MW-19:W	Batch ID: 23738					Analysis Date	3/8/201	9	SeqNo: 97	8400	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1)	1.16	0.100	0.7500	0.4140	99.9	80	120	1.154	0.777	20	Н
	13.1	0.300	3.750	8.983	109	80	120	12.97	0.936	20	
1903068-021BDUP	SampType: DUP			Units: mg/L		Prep Date	: 3/7/201	9	RunNo: 49	393	
ВАТСН	Batch ID: 23738					Analysis Date	3/8/201	9	SeqNo: 97	8426	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1)	ND	0.100						0		20	
	15.1	0.300						14.96	0.713	20	Е
	1903045-001BDUP HZ-MW-19:W 1903045-001BMS HZ-MW-19:W 1903045-001BMSD HZ-MW-19:W	SampType: DUP	1903045-001BDUP	1903045-001BDUP	1903045-001BDUP		1903045-001BDUP SampType: DUP Duits: mg/L Prep Date	1903045-001BDUP SampType: DUP Batch ID: 23738 Result RL SPK value SPK Ref Val %REC LowLimit HighLimit		1903045-001BDUP SampType: DUP Units: mg/L	Prep Date: 3/7/2019 RunNo: 49893 Result RL SPK value SPK Ref Val WREC LowLimit HighLimit RPD Ref Val WRPD RPDLimit Republic 3/7/2019 RunNo: 49893 Result RL SPK value SPK Ref Val WREC LowLimit HighLimit RPD Ref Val WRPD RPDLimit Republic
NOTES:

Original Page 12 of 22

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





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Hertz							Ion Chi	romatogra	phy by EP	A Method	d 300
Sample ID 1903068-021BMS	SampType: MS			Units: mg/L		Prep Dat	e: 3/7/201	9	RunNo: 49 8	893	
Client ID: BATCH	Batch ID: 23738					Analysis Dat	e: 3/8/201	9	SeqNo: 978	8403	
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 NOTES: E - Estimated value. The amou	18.9 nt exceeds the linear worki	0.300	3.750 the instrument	14.96 t.	104	80	120				E
Sample ID LCS-23719	SampType: LCS			Units: mg/L		Prep Dat	e: 3/6/201	9	RunNo: 499	924	
Client ID: LCSW	Batch ID: 23719			_		Analysis Dat	e: 3/8/201	9	SeqNo: 978	8987	
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				
Sample ID MB-23719	SampType: MBLK			Units: mg/L		Prep Dat	e: 3/6/201	9	RunNo: 499	924	
Client ID: MBLKW	Batch ID: 23719					Analysis Dat	e: 3/8/201	9	SeqNo: 978	8988	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)	ND	0.100									
Sample ID 1903055-015BDUP	SampType: DUP			Units: mg/L		Prep Dat	e: 3/6/201	9	RunNo: 499	924	
Client ID: BATCH	Batch ID: 23719					Analysis Dat	e: 3/8/201	9	SeqNo: 978	8992	
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	Н
Sample ID 1903055-015BMS	SampType: MS			Units: mg/L		Prep Dat	e: 3/6/201	9	RunNo: 499	924	
Client ID: BATCH	Batch ID: 23719					Analysis Dat	e: 3/8/201	9	SeqNo: 978	8993	
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				Н

Page 13 of 22 Original

Date: 3/12/2019



Work Order: 1903045

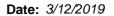
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Ion Chromatography by EPA Method 300.0

Project:	Hertz						ion	Chromatogra	ony by EPA	wethod	300.
Sample ID 19030	055-015BMSD	SampType: MSD			Units: mg/L		Prep Date: 3/	6/2019	RunNo: 4992	4	
Client ID: BATC	СН	Batch ID: 23719					Analysis Date: 3/	8/2019	SeqNo: 9789	94	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighL	imit 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	Н
Sample ID 19030	055-016BDUP	SampType: DUP			Units: mg/L		Prep Date: 3/	6/2019	RunNo: 4992	4	
Client ID: BATC	СН	Batch ID: 23719					Analysis Date: 3/9	9/2019	SeqNo: 9790	02	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighL	imit RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)		1.37	0.200					1.368	0.146	20	DH
Sample ID 19030	055-016BMS	SampType: MS			Units: mg/L		Prep Date: 3/	6/2019	RunNo: 4992	4	
Client ID: BATC	СН	Batch ID: 23719					Analysis Date: 3/9	9/2019	SeqNo: 9790	03	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighL	imit RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N)		2.93	0.200	0.7500	1.368	209	80	120			DSH

Original Page 14 of 22





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Hertz	Jimental, mc.						Dis	solved Met	als by EP	A Method	d 200
Sample ID MB-23752	SampType: MBLK			Units: µg/L		Prep Date	3/8/2019)	RunNo: 49	911	
Client ID: MBLKW	Batch ID: 23752					Analysis Date	3/8/2019)	SeqNo: 97	8761	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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: 49	911	
Client ID: LCSW	Batch ID: 23752					Analysis Date	3/8/2019)	SeqNo: 97	8762	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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: 49	911	
Client ID: HZ-MW-19:W	Batch ID: 23752					Analysis Date	3/8/2019)	SeqNo: 97	8766	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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: 49	911	
Client ID: HZ-MW-19:W	Batch ID: 23752					Analysis Date	3/8/2019)	SeqNo: 97	8767	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
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: 49	911	
Client ID: HZ-MW-19:W	Batch ID: 23752					Analysis Date	3/8/2019)	SeqNo: 97	8768	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Arsenic	537	1.75	500.0	0	107	70	130	508.1	5.47	30	
Original										Pac	ne 15

Page 15 of 22 Original

Date: 3/12/2019



Work Order: 1903045

Project:

QC SUMMARY REPORT

Qual

CLIENT: Kane Environmental, Inc.

Hertz

Dissolved Metals by EPA Method 200.8

Sample ID 1903045-001AMSD	SampType: MSD			Units: µg/L		Prep Date:	3/8/201	9	RunNo: 49	911
Client ID: HZ-MW-19:W	Batch ID: 23752					Analysis Date:	3/8/201	9	SeqNo: 978	3768
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit	RPD Ref Val	%RPD	RPDLimit

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

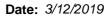
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

 Arsenic
 ND
 1.75

 Manganese
 ND
 2.00

NOTES: Filter Blank

Original Page 16 of 22



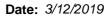


QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project:	Hertz	,							Total Met	als by EP	A Method	d 200.8
Sample ID	MB-23755	SampType: MBLK			Units: µg/L		Prep Date:	3/8/201	9	RunNo: 49	935	
Client ID:	MBLKW	Batch ID: 23755					Analysis Date	3/8/2019	9	SeqNo: 97	9307	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	1.75									
Sample ID	LCS-23755	SampType: LCS			Units: µg/L		Prep Date:	3/8/201	9	RunNo: 49	935	
Client ID:	LCSW	Batch ID: 23755					Analysis Date	3/8/201	9	SeqNo: 97	9310	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	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:	3/8/201	9	RunNo: 49	935	
Client ID:	ВАТСН	Batch ID: 23755					Analysis Date	3/8/201	9	SeqNo: 97	9312	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	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	9	RunNo: 49	935	
Client ID:	ВАТСН	Batch ID: 23755					Analysis Date	3/8/201	9	SeqNo: 97	9313	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	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:	3/8/201	9	RunNo: 49	935	
Client ID:	ВАТСН	Batch ID: 23755					Analysis Date	3/8/2019	9	SeqNo: 97	9314	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		579	1.75	500.0	3.704	115	70	130	568.7	1.83	30	

Page 17 of 22 Original





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Hertz							Diesel a	and Heavy	Oil by NW	TPH-Dx/I	Dx Ex
Sample ID MB-23739	SampType: MBLK			Units: µg/L		Prep Da	te: 3/7/201	9	RunNo: 49 9)25	
Client ID: MBLKW	Batch ID: 23739					Analysis Da	te: 3/8/201	9	SeqNo: 979	0037	
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 Da	te: 3/7/201	9	RunNo: 499	925	
Client ID: LCSW	Batch ID: 23739					Analysis Da	te: 3/8/201	9	SeqNo: 979	0038	
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 Da	te: 3/7/201	9	RunNo: 499	925	
Client ID: BATCH	Batch ID: 23739					Analysis Da	te: 3/8/201	9	SeqNo: 979	0046	
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 Da	te: 3/7/201	9	RunNo: 499	925	
Client ID: BATCH	Batch ID: 23739					Analysis Da	te: 3/8/201	9	SeqNo: 979	0047	
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				

Page 18 of 22 Original

Date: 3/12/2019



Work Order: 1903045

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

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

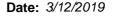
 Sample ID
 1903036-001BMS
 SampType: MS
 Units: μg/L
 Prep Date: 3/7/2019
 RunNo: 49925

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 Client ID: BATCH	SampType: MSD Batch ID: 23739			Units: µg/L		Prep Da Analysis Da	te: 3/7/201		RunNo: 499 SegNo: 979		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit		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		

Original Page 19 of 22





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

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 Da	te: 3/6/201	9	RunNo: 498	357	
Client ID: LCSW	Batch ID: R49857					Analysis Da	te: 3/6/201	9	SeqNo: 97	7538	
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 1902354-001CR	EP 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 R	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 F	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	P	Prep Date:	3/6/2019	RunNo: 49	857	
Client ID: MBLKW	Batch ID: R49857			Anal	lysis Date:	3/6/2019	SeqNo: 97	7541	
Analyte	Result F	٦L	SPK value SPK Ref Val	%REC Lov	wLimit Hig	hLimit RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Original Page 20 of 22



Sample Log-In Check List

Client Name: KANE	Work Order Numl	ber: 1903045	
Logged by: Clare Griggs	Date Received:	3/5/2019 6	6:07:00 PM
Chain of Custody			
1. Is Chain of Custody complete?	Yes 🗹	No \square	Not Present
2. How was the sample delivered?	<u>Client</u>		
<u>Log In</u>			
3. Coolers are present?	Yes 🗸	No 🗌	NA \square
	🗖	\Box	
4. Shipping container/cooler in good condition?	Yes 🔽	No 🗀	
Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes \square	No 📙	Not Required 🗹
6. Was an attempt made to cool the samples?	Yes 🗸	No 🗌	NA \square
7. Were all items received at a temperature of >0°C to 10.0°C*	Yes 🗸	No \square	NA \square
8. Sample(s) in proper container(s)?	Yes 🗸	No 🗌	
9. Sufficient sample volume for indicated test(s)?	Yes 🗹	No \square	
10. Are samples properly preserved?	Yes 🗸	No 🗌	
11. Was preservative added to bottles?	Yes	No 🗸	NA \square
12. Is there headspace in the VOA vials?	Yes	No 🗸	NA 🗌
13. Did all samples containers arrive in good condition(unbroken)?	Yes 🗸	No 🗌	
14. Does paperwork match bottle labels?	Yes 🗸	No 🗌	
15. Are matrices correctly identified on Chain of Custody?	Yes 🗸	No 🗌	
16. Is it clear what analyses were requested?	Yes 🗸	No 🗌	
17. Were all holding times able to be met?	Yes 🗹	No 🗌	
Special Handling (if applicable)			
18. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹
Person Notified: Date			
By Whom: Via:	,	one Fax [In Person
Regarding:			
Client Instructions:			
19. Additional remarks:			
Item Information			

Item #	Temp ºC
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

COC 1.2 - 2.22.17



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:

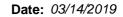
- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

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





CLIENT: Kane Environmental, Inc. Work Order Sample Summary

Project: Hertz Work Order: 1903064

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



Case Narrative

WO#: **1903064**Date: **3/14/2019**

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 & Acronyms

WO#: 1903064

Date Reported: 3/14/2019

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



Work Order: **1903064**Date Reported: **3/14/2019**

Client: Kane Environmental, Inc. Collection Date: 3/6/2019 10:05:00 AM

Project: Hertz

Lab ID: 1903064-001 Matrix: Groundwater

Client Sample ID: BL-MW-8R:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Gases by RSK-175				Batc	h ID: R5	50033 Analyst: AD
Methane	4.26	0.173	D	mg/L	20	3/14/2019 12:02:00 PM
Diesel and Heavy Oil by NWTPH-	Dx/Dx Ext.			Batc	h ID: 23	765 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
Ion Chromatography by EPA Met	hod 300.0			Batc	h ID: 23	738 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
Dissolved Metals by EPA Method	200.8			Batc	h ID: 23	752 Analyst: WC
Manganese	3,480	20.0	D	μg/L	10	3/8/2019 6:04:14 PM
Total Alkalinity by SM 2320B				Batc	h ID: R4	9914 Analyst: ME
Alkalinity, Total (As CaCO3)	348	2.50		mg/L	1	3/8/2019 8:30:00 PM



Work Order: **1903064**Date Reported: **3/14/2019**

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
Dissolved Gases by RSK-175				Batc	h ID: R5	0033 Analyst: AD
Methane	3.44	0.173	D	mg/L	20	3/14/2019 12:31:00 PM
Diesel and Heavy Oil by NWTP	H-Dx/Dx Ext.			Batc	h ID: 23	765 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 M	ethod 300.0			Batc	h ID: 23	738 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 Metho	od 200.8			Batc	h ID: 23	752 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 2	<u>8.00</u>			Batc	h ID: 23	755 Analyst: WC
Arsenic	2.56	1.75		μg/L	1	3/8/2019 4:47:10 PM
Total Alkalinity by SM 2320B				Batc	h ID: R4	9914 Analyst: ME
Alkalinity, Total (As CaCO3)	371	2.50		mg/L	1	3/8/2019 8:30:00 PM



Work Order: **1903064**Date Reported: **3/14/2019**

Client: Kane Environmental, Inc. Collection Date: 3/6/2019 3:40:00 PM

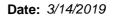
Project: Hertz

Lab ID: 1903064-003 Matrix: Groundwater

Client Sample ID: HZ-MW-12:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Dissolved Metals by EPA Method 2	00.8			Batch	n ID: 237	752 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/8/2019 3:42:35 PM
Total Metals by EPA Method 200.8				Batch	n ID: 237	755 Analyst: WC
Arsenic	2.89	1.75		μg/L	1	3/8/2019 4:59:39 PM

Original





Alkalinity, Total (As CaCO3)

182

2.50

QC SUMMARY REPORT

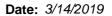
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182.4

CLIENT: Kane Environmental, Inc.

CLIENT	. Rane Livin	onnental, inc.				T-(-1 All	Harter bar OM 0000D
Project:	Hertz					I Otal Alka	llinity by SM 2320B
Sample ID	MB-R49914	SampType: MBLK			Units: mg/L	Prep Date: 3/8/2019 RunNo	: 49914
Client ID:	MBLKW	Batch ID: R49914				Analysis Date: 3/8/2019 SeqNo	: 978806
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %F	RPD RPDLimit Qual
Alkalinity, 7	Total (As CaCO3)	ND	2.50				
Sample ID	LCS-R49914	SampType: LCS			Units: mg/L	Prep Date: 3/8/2019 RunNo	: 49914
Client ID:	LCSW	Batch ID: R49914				Analysis Date: 3/8/2019 SeqNo	978807
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %F	RPD RPDLimit Qual
Alkalinity,	Total (As CaCO3)	101	2.50	100.0	0	101 80 120	
Sample ID	1903055-011BDUP	SampType: DUP			Units: mg/L	Prep Date: 3/8/2019 RunNo	: 49914
Client ID:	ВАТСН	Batch ID: R49914				Analysis Date: 3/8/2019 SeqNo	978809
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %F	RPD RPDLimit Qual
Alkalinity, 7	Total (As CaCO3)	396	2.50			393.1 0.	615 20
Sample ID	1903055-028BDUP	SampType: DUP			Units: mg/L	Prep Date: 3/8/2019 RunNo	: 49914
Client ID:	ВАТСН	Batch ID: R49914				Analysis Date: 3/8/2019 SeqNo	978824
Analyte		Result	RL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %F	RPD RPDLimit Qual

Original Page 8 of 21



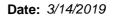


QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

·						Ion Ch	romatograp	ohy by EP	A Method	300.0
SampType: MBLK			Units: mg/L		Prep Date	e: 3/7/201	9	RunNo: 49	893	
Batch ID: 23738					Analysis Date	e: 3/7/201	9	SeqNo: 97	8395	
Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
ND ND	0.100 0.300									
SampType: LCS			Units: mg/L		Prep Date	e: 3/7/201	9	RunNo: 49	893	
Batch ID: 23738					Analysis Date	e: 3/7/201	9	SeqNo: 97	8396	
Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
0.700 3.49	0.100 0.300	0.7500 3.750	0 0	93.3 93.1	90 90	110 110				
UP SampType: DUP			Units: mg/L		Prep Date	e: 3/7/201	9	RunNo: 49	893	
Batch ID: 23738					Analysis Date	e: 3/8/201	9	SeqNo: 97	8398	
Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
0.420	0.100						0.4140	1.44	20	Н
9.08	0.300						8.983	1.02	20	
S SampType: MS			Units: mg/L		Prep Date	e: 3/7/201	9	RunNo: 49	893	
Batch ID: 23738			_		Analysis Date	e: 3/8/201	9	SeqNo: 97	8399	
Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1.15	0.100	0.7500	0.4140	98.7	80	120				Н
13.0	0.300	3.750	8.983	106	80	120				
SD SampType: MSD			Units: mg/L		Prep Date	e: 3/7/201	9	RunNo: 49	893	
Batch ID: 23738			_		Analysis Date	e: 3/8/201	9	SeqNo: 97	8400	
Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1.16	0.100	0.7500	0.4140	99.9	80	120	1.154	0.777	20	Н
	Batch ID: 23738 Result ND ND SampType: LCS Batch ID: 23738 Result 0.700 3.49 UP SampType: DUP Batch ID: 23738 Result 0.420 9.08 S SampType: MS Batch ID: 23738 Result 1.15 13.0 SD SampType: MSD Batch ID: 23738 Result	Batch ID: 23738 Result RL	Result RL SPK value ND	Batch ID: 23738 Result RL SPK value SPK Ref Val	Result RL SPK value SPK Ref Val %REC	Batch D: 23738	SampType: MBLK Batch ID: 23738 Result RL SPK value SPK Ref Val SPK Ref V	SampType: MBLK Batch ID: 23738 Result RL SPK value SPK Ref Val SPK Ref V	SampType: MBLK Batch ID: 23738 Result RL SPK value SPK Ref Val SPK Ref V	Batch ID: 23738

Page 9 of 21 Original





Sulfate

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

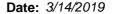
Ion Chromatography by EPA Method 300.0

Project:	Hertz							Ion Ch	romatogra _l	phy by EP	A Method	d 300.0
Sample ID	1903045-001BMSD	SampType: MSD			Units: mg/L		Prep Date:	3/7/201	9	RunNo: 49 8	893	
Client ID:	BATCH	Batch ID: 23738					Analysis Date:	3/8/201	9	SeqNo: 978	8400	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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:	3/7/201	9	RunNo: 498	893	
Client ID:	ВАТСН	Batch ID: 23738					Analysis Date:	3/8/201	9	SeqNo: 97 8	8426	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N Sulfate NOTES:	N)	ND 15.1	0.100 0.300						0 14.96	0.713	20 20	E
	nated value. The amou	nt exceeds the linear worki	ng range of	the instrument	t.							
Sample ID	1903068-021BMS	SampType: MS			Units: mg/L		Prep Date:	3/7/201	9	RunNo: 498	893	
Client ID:	BATCH	Batch ID: 23738					Analysis Date:	3/8/201	9	SeqNo: 978	8403	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate (as N Sulfate NOTES: E - Estim	•	0.718 18.9 nt exceeds the linear worki	0.100 0.300 ng range of	0.7500 3.750 the instrument	0 14.96 t.	95.7 104	80 80	120 120				E
Sample ID	LCS-23776	SampType: LCS			Units: mg/L		Prep Date:	3/11/20	19	RunNo: 499	967	
Client ID:		Batch ID: 23776			•		Analysis Date:			SeqNo: 980	0182	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
0.16.4			0.000	3.750	0	93.0	90	110				
Sulfate		3.49	0.300	3.730	· ·	00.0						
Sulfate Sample ID	MB-23776	3.49 SampType: MBLK	0.300	3.730	Units: mg/L		Prep Date:		19	RunNo: 499	967	
Sample ID	MB-23776 MBLKW		0.300	3.730				3/11/20		RunNo: 49 9 SeqNo: 98 0		

Original Page 10 of 21

ND

0.300





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

Ion Chromatography by EPA Method 300.0

Sample ID MB-23776	SampType: MBLK	Units: mg/L	Prep Date: 3/11/2019	RunNo: 49967
	Samp Type. WIBLK	Offits. Hig/L	Fiep Date. 3/11/2019	Nullino. 4990

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: 499	967	
Client ID: BATCH	Batch ID: 23776				Analysis Date: 3	/11/2019	SeqNo: 980	0186	
Analyte	Result	RL	SPK value SPK Ref Val	%REC	LowLimit High	Limit RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	5.77	0.600				5.750	0.382	20	D

Sample ID 1	903027-005BMS	SampType: MS			Units: mg/L		Prep Dat	e: 3/11/20	19	RunNo: 49 9	967	
Client ID:	ВАТСН	Batch ID: 23776					Analysis Dat	te: 3/11/20	19	SeqNo: 980	0187	
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

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 Da	te: 3/11/2 0)19	RunNo: 499	967	
Client ID: BATCH	Batch ID: 23776					Analysis Da	te: 3/11/20)19	SeqNo: 980	0188	
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

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 Da	te: 3/11/2 0	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

Original Page 11 of 21

Date: 3/14/2019



Work Order: 1903064

Project:

QC SUMMARY REPORT

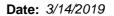
CLIENT: Kane Environmental, Inc.

Hertz

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)19	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				

Original Page 12 of 21





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Hertz	minerital, inc.						Dis	solved Met	tals by EP	A Method	1 200
Sample ID MB-23752	SampType: MBLK			Units: µg/L		Prep Date	e: 3/8/201 9	9	RunNo: 49	911	
Client ID: MBLKW	Batch ID: 23752					Analysis Date	e: 3/8/201 9	9	SeqNo: 97	8761	
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	e: 3/8/2019	9	RunNo: 49	911	
Client ID: LCSW	Batch ID: 23752					Analysis Date	e: 3/8/2019	9	SeqNo: 97	8762	
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	e: 3/8/2019	9	RunNo: 49	911	
Client ID: BATCH	Batch ID: 23752					Analysis Date	e: 3/8/2019	9	SeqNo: 97	8766	
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	e: 3/8/2019	9	RunNo: 49	911	
Client ID: BATCH	Batch ID: 23752					Analysis Date	e: 3/8/2019	9	SeqNo: 97	8767	
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	e: 3/8/2019	9	RunNo: 49	911	
Client ID: BATCH	Batch ID: 23752					Analysis Date	e: 3/8/2019	9	SeqNo: 97	8768	
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	
Ariginal										Pac	ne 13 o

Page 13 of 21 Original

Date: 3/14/2019



Work Order: 1903064

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

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

SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Analyte Result Qual 648 2.00 500.0 135.9 102 70 130 629.8 2.86 30 Manganese

 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

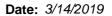
 Analyste
 Result
 Result
 RESUNT SPK value
 SPK Ref Val
 %REC
 LowLimit
 HighLimit
 RPD Ref Val
 %RPD
 RPDLimit
 Qual

 Arsenic
 ND
 1.75

 Manganese
 ND
 2.00

NOTES: Filter Blank

Original Page 14 of 21



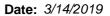


QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

CLILITI. Ranc Livin	orinterital, inc.				T (18 (ED 18 (100
Project: Hertz					Total Metals by EPA Method 20
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 Qu
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 Qu
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 Qu
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 Qu
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 Qu
Arsenic	579	1.75	500.0	3.704	115 70 130 568.7 1.83 30

Page 15 of 21 Original





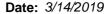
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

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

Project: Hertz							Diesel a	and Heavy	Oil by NW	TPH-Dx/I	Эх Ех
Sample ID MB-23765	SampType: MBLK			Units: µg/L		Prep Date	3/11/20	19	RunNo: 499	977	
Client ID: MBLKW	Batch ID: 23765					Analysis Date	: 3/12/20	19	SeqNo: 980)531	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/11/20	19	RunNo: 499	977	
Client ID: LCSW	Batch ID: 23765					Analysis Date	: 3/12/20	19	SeqNo: 980)532	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/11/20	19	RunNo: 499	977	
Client ID: BL-MW-8R:W	Batch ID: 23765					Analysis Date	: 3/12/20	19	SeqNo: 98	1126	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	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	: 3/11/20	19	RunNo: 499	977	
Client ID: BATCH	Batch ID: 23765					Analysis Date	: 3/12/20	19	SeqNo: 98	1129	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	6,850	50.1	1,001	5,757	109	65	135				Е
Diesel (Fuel Oil) Surr: 2-Fluorobiphenyl	6,850 73.6	50.1	1,001 80.09	5,757	109 91.9	65 50	135 150				E

Original Page 16 of 21





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

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:

Project:

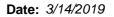
E - Estimated value. The amount exceeds the linear working range of the instrument.

Sample ID 1903076-001AMSD	SampType: MSD			Units: µg/L		Prep Da	te: 3/11/2 0	019	RunNo: 499	977	
Client ID: BATCH	Batch ID: 23765			Analysis Date: 3/12/2019 Se						1130	
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	Е
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: 499				
Client ID: BATCH	Batch ID: 23765				Analysis Date: 3/13/2019				SeqNo: 98	1143	
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		

Original Page 17 of 21





Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

Dissolved Gases by RSK-175

Sample ID	MB-R50033A	SampType: MBLK		Un	its: mg/L	Prep Date:	3/13/2019	RunNo: 500	033	
Client ID:	MBLKW	Batch ID: R50033				Analysis Date:	3/13/2019	SeqNo: 98	1993	
Analyte		Result	RL	SPK value SPK Re	ef Val %REC	C LowLimit F	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual

Methane ND 0.00863

Sample ID LCS-R50033A	SampType: LCS	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		Ur	nits: mg/L	Prep Da	te: 3/13/2 0	019	RunNo: 50 0	033	
Client ID: BL-MW-8R:W	Batch ID: R50033				Analysis Da	te: 3/13/2 0	019	SeqNo: 98	1982	
Analyte	Result	RL	SPK value SPK R	ef Val %REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methane	1.72	0.00863					1.446	17.6	30	Е

NOTES:

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

Sample ID MB-R50033B	SampType: MBLK			Units: mg/L		Prep Da	te: 3/14/2 0)19	RunNo: 50 0	033	
Client ID: MBLKW	Batch ID: R50033					Analysis Da	te: 3/14/2 0)19	SeqNo: 982	2411	
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 Da	te: 3/14/20	119	RunNo: 500	033	
Client ID: LCSW	Batch ID: R50033					Analysis Da	te: 3/14/20	119	SeqNo: 982	2410	
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				

Original Page 18 of 21

Date: 3/14/2019



Work Order: 1903064

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Hertz

Dissolved Gases by RSK-175

%RPD RPDLimit

Qual

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	Ana	alysis Date:	3/14/2019	SeqNo: 982400

SPK value SPK Ref Val

Methane 4.44 0.173 4.260 4.14 30 DE

%REC LowLimit HighLimit RPD Ref Val

NOTES:

Analyte

Project:

Result

RL

Page 19 of 21 Original

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



Sample Log-In Check List

C	ient Name:	KANE		Work O	rder Nun	nber: 1903064		
Lo	ogged by:	Clare Grig	gs	Date Re	ceived:	3/6/2019	5:00:00 PM	
<u>Cha</u>	in of Cust	<u>ody</u>						
1.	Is Chain of C	ustody comp	olete?	Yes	✓	No 🗌	Not Present	
2.	How was the	sample deliv	vered?	Clien	<u>ıt</u>			
<u>Log</u>	In							
_	Coolers are p	resent?		Yes	✓	No 🗌	na 🗆	
0.								
4.	Shipping con	tainer/cooler	in good condition?	Yes	✓	No 🗌		
5.			shipping container/cooler? ustody Seals not intact)	Yes		No 🗌	Not Required 🗹	
6.	Was an atten	npt made to	cool the samples?	Yes	✓	No 🗌	NA 🗌	
7.	Were all item	s received a	t a temperature of >0°C to 10.0°C*	Yes	✓	No 🗌	na 🗆	
8.	Sample(s) in	proper conta	ainer(s)?	Yes	✓	No \square		
9.	Sufficient sar	nple volume	for indicated test(s)?	Yes	✓	No 🗌		
10.	Are samples	properly pre	served?	Yes	✓	No 🗌		
11.	Was preserva	ative added	to bottles?	Yes	✓	No 🗌	NA 🗆	
12	Is there head	space in the	VOA vials?	Yes		No 🗸	HNO3 NA 🗌	
			s arrive in good condition(unbroken)		✓	No 🗌		
	Does paperw				✓	No \square		
15.	Are matrices	correctly ide	ntified on Chain of Custody?	Yes	✓	No 🗌		
16.	Is it clear wha	at analyses v	vere requested?	Yes	✓	No 🗌		
17.	Were all hold	ing times ab	le to be met?	Yes	✓	No 🗌		
Spe	cial Handl	ing (if app	olicable)					
18.	Was client no	otified of all o	liscrepancies with this order?	Yes		No 🗆	NA 🗹	
	Person	Notified:		Date				
	By Who	m:	\	/ia: 🗌 eMa	il 🗌 P	hone Fax	☐ In Person	
	Regardi	ng:						
	Client Ir	structions:						
19.	Additional rer	marks:						L
<u>lte</u> m	Information							
		Item #	Temp °C					

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

2.5

4.7

Cooler

Sample

Page 21 of 21

Page 1 of 2

COC 1.2 - 2.22.17



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,

Chelsea Ward Project Manager



Date: 03/14/2019

CLIENT: Kane Environmental, Inc. Work Order Sample Summary

Project: Landing Work Order: 1903065

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



Case Narrative

WO#: **1903065**Date: **3/14/2019**

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 & Acronyms

WO#: 1903065

Date Reported: 3/14/2019

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



Analytical Report

Work Order: **1903065**Date Reported: **3/14/2019**

Client: Kane Environmental, Inc. Collection Date: 3/6/2019 2:25:00 PM

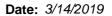
Project: Landing

Lab ID: 1903065-001 Matrix: Groundwater

Client Sample ID: BL-MW-11:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NWTP	H-Dx/Dx Ext.			Batc	h 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
Dissolved Metals by EPA Meth	od 200.8			Batc	h ID:	23752 Analyst: WC
Arsenic	3.58	1.75		μg/L	1	3/8/2019 3:46:37 PM
Total Metals by EPA Method 2	00.8			Batc	h ID:	23755 Analyst: WC
Arsenic	6.97	1.75		μg/L	1	3/8/2019 5:03:41 PM

Original





QC SUMMARY REPORT

: Kane Enviro	onmental, Inc.										
Landing							Dis	ssolved Met	tals by EP	A Method	1 200.8
MB-23752	SampType: MBLK			Units: µg/L		Prep Dat	e: 3/8/20	19	RunNo: 49	911	
MBLKW	Batch ID: 23752					Analysis Dat	te: 3/8/20	19	SeqNo: 97 8	3761	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	ND	1.75									
LCS-23752	SampType: LCS			Units: µg/L		Prep Dat	e: 3/8/20	19	RunNo: 499	911	
LCSW	Batch ID: 23752					Analysis Dat	te: 3/8/20	19	SeqNo: 978	3762	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	97.9	1.75	100.0	0	97.9	85	115				
1903045-001ADUP	SampType: DUP			Units: µg/L		Prep Dat	te: 3/8/20	19	RunNo: 49	911	
BATCH	Batch ID: 23752					Analysis Dat	te: 3/8/20	19	SeqNo: 978	3766	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	ND	1.75						0		30	
1903045-001AMS	SampType: MS			Units: µg/L		Prep Dat	e: 3/8/20	19	RunNo: 49	911	
BATCH	Batch ID: 23752					Analysis Dat	te: 3/8/20	19	SeqNo: 978	3767	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	508	1.75	500.0	0	102	70	130				
1903045-001AMSD	SampType: MSD			Units: µg/L		Prep Dat	te: 3/8/20	19	RunNo: 49	911	
ВАТСН	Batch ID: 23752					Analysis Dat	te: 3/8/20	19	SeqNo: 978	3768	
	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	537	1.75	500.0	0	107	70	130	508.1	5.47	30	
	Landing MB-23752 MBLKW LCS-23752 LCSW 1903045-001ADUP BATCH 1903045-001AMS BATCH	Landing MB-23752 SampType: MBLK MBLKW Batch ID: 23752 Result ND LCS-23752 SampType: LCS LCSW Batch ID: 23752 Result 97.9 1903045-001ADUP SampType: DUP BATCH Batch ID: 23752 Result ND 1903045-001AMS SampType: MS BATCH Batch ID: 23752 Result 508 1903045-001AMSD SampType: MSD BATCH Batch ID: 23752 Result SampType: MSD BATCH Batch ID: 23752 Result SampType: MSD BATCH Batch ID: 23752 Result SampType: MSD	Landing MB-23752 SampType: MBLK MBLKW Batch ID: 23752 Result RL ND 1.75 LCS-23752 SampType: LCS Batch ID: 23752 Result RL 1903045-001ADUP SampType: DUP Batch ID: 23752 Result RL BATCH Batch ID: 23752 Result RL BATCH Batch ID: 23752 Result RL 1903045-001AMSD Batch ID: 23752 Result RL 1903045-001AMSD SampType: MSD Batch ID: 23752 Result RL BATCH Batch ID: 23752 Result RL	Landing MB-23752 SampType: MBLK MBLKW Batch ID: 23752 Result RL SPK value ND 1.75 LCS-23752 SampType: LCS LCSW Batch ID: 23752 Result RL SPK value 97.9 1.75 100.0 1903045-001ADUP SampType: DUP Batch ID: 23752 Result RL SPK value 1903045-001AMS SampType: MS Batch ID: 23752 Result RL SPK value 1903045-001AMSD SampType: MSD Batch ID: 23752 Result RL SPK value 1903045-001AMSD SampType: MSD Batch ID: 23752 Result RL SPK value BATCH Batch ID: 23752 Result RL SPK value	Landing MB-23752 SampType: MBLK Units: μg/L MBLKW Batch ID: 23752 Result RL SPK value SPK Ref Val LCS-23752 SampType: LCS Units: μg/L LCSW Batch ID: 23752 Units: μg/L Result RL SPK value SPK Ref Val 1903045-001ADUP SampType: DUP Units: μg/L BATCH Result RL SPK value SPK Ref Val 1903045-001AMS SampType: MS SPK value SPK Ref Val 1903045-001AMS Batch ID: 23752 Result RL SPK value SPK Ref Val 1903045-001AMSD SampType: MSD SPK value SPK Ref Val 1903045-001AMSD SampType: MSD Units: μg/L BATCH Result REsult REsult REsult SPK value SPK Ref Val 1903045-001AMSD SampType: MSD Units: μg/L BATCH Result <	MB-23752 SampType: MBLK Batch ID: 23752 Result RL SPK value SPK Ref Val %REC	MB-23752 SampType: MBLK Units: μg/L Prep Dat Analysis Dat Analysi	MB-23752 SampType: MBLK SPK value SPK Ref Val Prep Date: 3/8/20 SampType: MBLK SPK value SPK Ref Val SPK Ref	MB-23752 SampType: MBLK MBLK Units: μg/L Prep Date: 3/8/2019 Analysis Date: 3/8/20	MB-23752 SampType: MBLK MBLK MBLK MBLK MBLK MBLKW Batch ID: 23752 SampType: MBLK MBLKW Batch ID: 23752 Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RD Ref Val %RPD	MB-23752 SampType: MBLK SPK value SPK Ref Val S

Page 6 of 12 Original

Date: 3/14/2019



Work Order: 1903065

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc. Landing

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

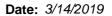
%REC LowLimit HighLimit RPD Ref Val Result SPK value SPK Ref Val %RPD RPDLimit Qual Analyte RL

Arsenic ND 1.75

NOTES: Filter Blank

Project:

Page 7 of 12 Original



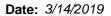


QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project:	Landing	,							Total Met	als by EP	A Method	200.8
Sample ID	MB-23755	SampType: MBLK			Units: µg/L		Prep Date:	3/8/2019		RunNo: 49	935	
Client ID:	MBLKW	Batch ID: 23755					Analysis Date:	3/8/2019		SeqNo: 97 9	9307	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit F	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: 49	935	
Client ID:	LCSW	Batch ID: 23755					Analysis Date:	3/8/2019		SeqNo: 97	9310	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit F	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: 49	935	
Client ID:	ВАТСН	Batch ID: 23755					Analysis Date:	3/8/2019		SeqNo: 97	9312	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit F	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: 49	935	
Client ID:	ВАТСН	Batch ID: 23755					Analysis Date:	3/8/2019		SeqNo: 97	9313	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit F	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: 49	935	
Client ID:	BATCH	Batch ID: 23755					Analysis Date:	3/8/2019		SeqNo: 97 9	9314	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		579	1.75	500.0	3.704	115	70	130	568.7	1.83	30	_

Page 8 of 12 Original





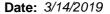
QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

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

Project: Landing							Diesel a	nd Heavy	Oil by NW	TPH-Dx/I	Dx Ex
Sample ID MB-23765	SampType: MBLK			Units: µg/L		Prep Date	: 3/11/20 ²	19	RunNo: 499	977	
Client ID: MBLKW	Batch ID: 23765					Analysis Date	: 3/12/20 ²	19	SeqNo: 980)531	
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	e: 3/11/20 ⁻	19	RunNo: 49	977	
Client ID: LCSW	Batch ID: 23765					Analysis Date	: 3/12/20 ⁴	19	SeqNo: 980	0532	
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	e: 3/11/20 ⁴	19	RunNo: 49	977	
Client ID: BATCH	Batch ID: 23765					Analysis Date	: 3/12/20 ⁴	19	SeqNo: 98	1126	
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	e: 3/11/20 ²	19	RunNo: 49	977	
Client ID: BATCH	Batch ID: 23765					Analysis Date	: 3/12/20 ⁻	19	SeqNo: 98	1129	
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				Е
Surr: 2-Fluorobiphenyl	73.6		80.09		91.9	50	150				
• • · · · · · · · · · · · · · · · · · ·											

Original Page 9 of 12





QC SUMMARY REPORT

Kane Environmental, Inc. CLIENT: Landing

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

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

NOTES:

Project:

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

Sample ID 1903076-001AMSD	SampType: MSD	e: MSD Units: μg/L Prep Date: 3/11/2019			RunNo: 499							
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	Е	
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 Dat	te: 3/11/2 0)19	RunNo: 49	977	
Client ID: BATCH	Batch ID: 23765					Analysis Da	te: 3/13/20)19	SeqNo: 98	1143	
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		

Page 10 of 12 Original



Sample Log-In Check List

C	lient Name:	KANE		Work O	rder Num	nber: 1903065		
Lo	ogged by:	Clare Grig	gs	Date Re	ceived:	3/6/2019	5:00:00 PM	
<u>Cha</u>	in of Cust	ody						
1.	Is Chain of C	ustody comp	plete?	Yes	✓	No 🗌	Not Present	
2.	How was the	sample deliv	vered?	Clien	<u>ıt</u>			
<u>Log</u>	ln .							
_	Coolers are p	resent?		Yes	✓	No 🗌	NA 🗆	
0.	,							
4.	Shipping con	tainer/cooler	in good condition?	Yes	✓	No 🗌		
5.			n shipping container/cooler? ustody Seals not intact)	Yes		No \square	Not Required 🗹	
6.	Was an atten	npt made to	cool the samples?	Yes	✓	No 🗌	NA \square	
7.	Were all item	s received a	t a temperature of >0°C to 10.0°C*	Yes	✓	No 🗆	NA \square	
8.	Sample(s) in	proper conta	ainer(s)?	Yes	✓	No 🗌		
9.	Sufficient sar	mple volume	for indicated test(s)?	Yes	✓	No 🗌		
10.	Are samples	properly pre	served?	Yes	✓	No 🗌		
11.	Was preserva	ative added	to bottles?	Yes	✓	No 🗌	NA 🗌	
10	Is there head	snace in the	VOA vials?	Yes		No 🗹	HNO3 NA \Box	
			s arrive in good condition(unbroken)		✓	No 🗆	NA L	
	Does paperw					No \square		
14.	Восо рароги	on materia	otto labolo:	100		110		
15.	Are matrices	correctly ide	entified on Chain of Custody?	Yes	✓	No 🗌		
16.	Is it clear wha	at analyses v	vere requested?	Yes	✓	No 🗌		
17.	Were all hold	ling times ab	le to be met?	Yes	✓	No 🗌		
Spe	cial Handl	ing (if apı	olicable)					
			discrepancies with this order?	Yes		No 🗌	NA 🗹	
	Person	Notified:		ate				
	By Who			′ia: ☐ eMa	il \square P	hone Fax	In Person	
	Regardi					ا ٠٠٠ ا		
	_	structions:						
19.	Additional rer	marks:						
ltem	Information							
		Item #	Temp °C					

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

2.5

4.7

Cooler

Sample

www.fremontanalytical.com

COC 1.2 - 2.22.17



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: 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

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



Date: 03/18/2019

CLIENT: Kane Environmental, Inc. Work Order Sample Summary

Project: Landing Work Order: 1903152

 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



Case Narrative

WO#: **1903152**Date: **3/18/2019**

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 & Acronyms

WO#: 1903152

Date Reported: 3/18/2019

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



Analytical Report

Work Order: 1903152
Date Reported: 3/18/2019

Client: Kane Environmental, Inc. Collection Date: 3/11/2019 12:10:00 PM

Project: Landing

Lab ID: 1903152-001 Matrix: Groundwater

Client Sample ID: BL-MW-12:W

Analyses	Result	RL	Qual	Units	DF	Date Ana	llyzed
Diesel and Heavy Oil by NWTPH-Dx	d/Dx Ext.			Batc	h ID:	23833 Anal	yst: 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	A Method 8	8270 (SIM)		Batc	h ID:	23804 Anal	yst: SB
Naphthalene	ND	0.100		μg/L	1	3/14/2019 4:4	15:08 PM
2-Methylnaphthalene	ND	0.100		μg/L	1	3/14/2019 4:4	15:08 PM
1-Methylnaphthalene	ND	0.100		μg/L	1	3/14/2019 4:4	15:08 PM
Surr: 2-Fluorobiphenyl	100	44.2 - 171		%Rec	1	3/14/2019 4:4	15:08 PM
Surr: Terphenyl-d14	66.7	17.6 - 136		%Rec	1	3/14/2019 4:4	15:08 PM
Dissolved Metals by EPA Method 2	8.00			Batc	h ID:	23836 Anal	yst: WC
Arsenic	3.60	1.75		μg/L	1	3/15/2019 11	:47:25 AM
Total Metals by EPA Method 200.8				Batc	h ID:	23800 Anal	yst: WC
Arsenic	17.7	1.75		μg/L	1	3/13/2019 5:2	28:13 PM

Original



Analytical Report

Work Order: **1903152**Date Reported: **3/18/2019**

Client: Kane Environmental, Inc. Collection Date: 3/11/2019 1:50:00 PM

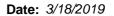
Project: Landing

Lab ID: 1903152-002 Matrix: Groundwater

Client Sample ID: MW-1:W

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Diesel and Heavy Oil by NW	ΓΡΗ-Dx/Dx Ext.			Batc	h 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 Me	thod 200.8			Batc	h ID:	23836 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/15/2019 12:13:37 PM
Total Metals by EPA Method	<u>I 200.8</u>			Batc	h ID:	23800 Analyst: WC
Arsenic	ND	1.75		μg/L	1	3/13/2019 5:32:14 PM

Original





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Landing	ommental, me.				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
7.456.116		0	000.0	0.000	

Page 7 of 15 Original

Date: 3/18/2019



Work Order: 1903152

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc. Landing

Dissolved Metals by EPA Method 200.8

Sample ID MB-23821FB SampType: MBLK Units: µg/L RunNo: 50074 Prep Date: 3/15/2019

Client ID: MBLKW Batch ID: 23836 Analysis Date: 3/15/2019 SeqNo: 982938

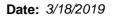
%REC LowLimit HighLimit RPD Ref Val Result SPK value SPK Ref Val %RPD RPDLimit Qual Analyte RL

Arsenic ND 1.75

NOTES: Filter Blank

Project:

Page 8 of 15 Original



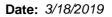


QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

	orimental, inc.						Total M	letals by EPA Method	4 200 8
Project: Landing							i otai W	etals by LI A Method	200.0
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 H	lighLimit RPD Ref Va	al %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 H	lighLimit RPD Ref Va	al %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 H	lighLimit RPD Ref Va	al %RPD RPDLimit	Qual
Arsenic	3.05	1.75					3.127	7 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 H	lighLimit RPD Ref Va	al %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 H	lighLimit RPD Ref Va	al %RPD RPDLimit	Qual
Arsenic	566	1.75	500.0	3.127	113	70	130 573.4	4 1.26 30	

Page 9 of 15 Original





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

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

Sample ID MB-23833	CompType: MDLV			Lipitor		Dron Data	. 2/4 4/00	110	RunNo: 50 0	10 <i>E</i>	
•	SampType: MBLK			Units: µg/L			e: 3/14/20				
Client ID: MBLKW	Batch ID: 23833					Analysis Date	e: 3/15/2 0	19	SeqNo: 983	3077	
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	e: 3/14/2 0	19	RunNo: 500	085	
Client ID: LCSW	Batch ID: 23833					Analysis Date	e: 3/15/2 0	19	SeqNo: 983	3078	
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	e: 3/14/20	19	RunNo: 500	D85	
Client ID: LCSW02	Batch ID: 23833					Analysis Date	e: 3/15/2 0	19	SeqNo: 983	3109	
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	e: 3/14/20	19	RunNo: 50 0	D85	
Client ID: BATCH	Batch ID: 23833					Analysis Date	e: 3/15/2 0	19	SeqNo: 983	3451	
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	Е
Heavy Oil	ND	99.1						0		30	
Surr: 2-Fluorobiphenyl	85.8		79.28		108	50	150		0		
Guil. 2 i luolobipilonyi	00.0										

Original Page 10 of 15

Date: 3/18/2019



Work Order: 1903152

QC SUMMARY REPORT

Kane Environmental, Inc. CLIENT: Landing

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

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

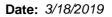
NOTES:

Project:

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

Sample ID 1903211-002BDUP	SampType: DUP			Units: µg/L		Prep Dat	te: 3/14/2 0	119	RunNo: 50 0	085	
Client ID: BATCH	Batch ID: 23833					Analysis Da	te: 3/15/20	119	SeqNo: 983	3459	
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		

Page 11 of 15 Original





QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc.

Project: Landing	vironinientai, inc.				Po	lyaromati	ic Hydro	ocarbons b	y EPA Met	hod 8270	0 (SIN
Sample ID MB-23804	SampType: MBLK			Units: µg/L		Prep Date	e: 3/13/20	19	RunNo: 500	068	
Client ID: MBLKW	Batch ID: 23804					Analysis Date	e: 3/14/20	19	SeqNo: 982	2829	
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	e: 3/13/20	19	RunNo: 500	068	
Client ID: LCSW	Batch ID: 23804					Analysis Date	e: 3/14/20	19	SeqNo: 982	2830	
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 LCSD-23804	SampType: LCSD			Units: µg/L		Prep Date	e: 3/13/20	19	RunNo: 50 0	D68	
Client ID: LCSW02	Batch ID: 23804					Analysis Date	e: 3/14/20	19	SeqNo: 982	2831	
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	

Page 12 of 15 Original

Date: 3/18/2019



Work Order: 1903152

Project:

QC SUMMARY REPORT

CLIENT: Kane Environmental, Inc. Landing

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID 1903125-001CDUP	SampType: DUP			Units: µg/L		Prep Da	te: 3/13/2 0	019	RunNo: 50	068	
Client ID: BATCH	Batch ID: 23804					Analysis Da	te: 3/14/2 0)19	SeqNo: 98	2833	
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		

Page 13 of 15 Original



Sample Log-In Check List

С	lient Name:	KANE	Work Order Numb	er: 1903152		
Lo	ogged by:	Clare Griggs	Date Received:	3/11/2019	3:20:00 PM	
Cha	in of Cust	ody				
1.	Is Chain of C	ustody complete?	Yes 🗸	No 🗌	Not Present	
2.	How was the	sample delivered?	Client			
Log	ı In					
_	Coolers are p	present?	Yes 🗸	No 🗌	NA \square	
4	Shipping con	tainer/cooler in good condition?	Yes 🗸	No 🗌		
5.	Custody Seal	ls present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗌	Not Required 🗹	
6.	Was an atten	npt made to cool the samples?	Yes 🗸	No \square	NA \square	
7.	Were all item	s 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 sar	mple volume for indicated test(s)?	Yes 🗸	No \square		
10.	Are samples	properly preserved?	Yes 🗸	No \square		
11.	Was preserva	ative added to bottles?	Yes	No 🗸	NA 🗆	
12.	Is there head	space in the VOA vials?	Yes	No 🗌	NA 🗸	
13.	Did all sample	es containers arrive in good condition(unbroken)?	Yes 🗸	No 🗌		
14.	Does paperw	ork match bottle labels?	Yes 🗹	No 🗌		
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🗹	No 🗌		
16.	Is it clear wha	at analyses were requested?	Yes 🗸	No 🗌		
17.	Were all hold	ling times able to be met?	Yes 🗸	No 🗌		
Spe	cial Handl	ing (if applicable)				
18.	Was client no	otified of all discrepancies with this order?	Yes	No \square	NA 🗸	
	Person	Notified: Dat	te			
	By Who	m: Via	ı: eMail Pho	one Fax	In Person	
	Regardi	ng:				
	_	nstructions:				
19.	Additional rer	r				
	Information					

Item #	Temp ⁰C
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

Semiph Name (200) WA Collect 1- Product 1- Select 1- Semiph Name (200) WA Collect 1- Product 1- Select 1- Semiph Name (200) WA Collect 1- Product 1- Select		36	3600 Fremont Ave N.	Chain of Custody Record & Laboratory Services Agreement	ratory Services Agreement
Project No. 1997 Sections: LAND MAGE Section From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections From Many Mage 1997 Sections Many Mage 1997 Sections Many Mage 1997 Sections Many Mage 1997 Sections Many Many Many Many Many Many Many Many			206-352-3790	Page:	ct No (internal): 190557
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Collected by: BO 2 - NUTY MAPTH ALENCY Comments Collected by: BO Collected by:	client: Famo Environmy	Mtal		Project No: 87202 - 14	
Location: DOTMAI Report to [PM]: XFR	Address: 4015 13m AVT V	2		collected by: 66	
Sample S	City, State, Zip: SCATTICA WA (9819		Location: BOTMII	Service of the servic
maple Name Sample Sample Sample Sample Sample Tree Note: Tree Note: Tree Note: No	Telephone: (200) 691 04	of the		1	
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Anions (Circle): Mirate Mirite Chloride Sulface Bromide O-Phosphare Flouride Office terms on the front and backside of this Agreement with Fremont Analytical on behalf of the terms on the front and backside of this Agreement. Date/Time Date/Time Received Application of the Charge of the Chirale Sulface Date/Time Received Date/Time Received Application of the Charge of t	Sample Name			\ \(\sigma \) \(Comments
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Tacks: A=Air, AQ=Aqueous, B=Bulk, O=Other, P=Product, S=Soil, SD=Sediment, SL=Soild, W=Water, DW=Drinking Water, GW=Ground Water, SW=Storn Water, Ww=Water Water Metals (Gircle): Mirate Nitrite Chloride Sulfate Bromide O=Phosphate Fluoride Nitrage-MyGre and that I have verified Client's agreement to guels of the terms on the front and backside of this Agreement. Agrical	2 MN-1:N	8		×	Wap 4 HCV
atrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, St = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water water (Girde): Mitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrage-Mydde 1 represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Cylent named above and that I have verified Client's agreement to Date/Time 2 March Cylent named above and that I have verified Client's agreement to Date/Time Received Cylent named above and that I have verified Client's agreement to Date/Time Received Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Date/Time Cylent named above and that I have verified Client's agreement to Cylent's agreem	3 Days The Tense State For				
atrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water Anions (Gircle): Mitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrage+Might I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Crient named above and that I have verified Client's agreement to Date/Time Date/Time Received Date/Time Received Date/Time Substitute Choride Sulfate Bromide O-Phosphate Fluoride O-Pho	4				
atrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, St = Soild, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water Metals (Circle): Mitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrage-Nygéte I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Cylent named above and that I have verified Client's agreement to Date/Time Date/Time Date/Time Date/Time Date/Time Critical Sulfate Stories Agreement Sulfate Bromide O-Phosphate Fluoride Nitrage-Nygéte Analytical on behalf of the Cylent named above and that I have verified Client's agreement to Date/Time Received Date/Time Sulfate Bromide O-Phosphate Fluoride Nitrage-Nygéte Analytical on behalf of the Cylent named above and that I have verified Client's agreement to Date/Time Sulfate Bromide O-Phosphate Fluoride Nitrage-Nygéte Analytical on behalf of the Cylent named above and that I have verified Client's agreement to Date/Time Sulfate Bromide O-Phosphate Fluoride Nitrage-Nygéte Analytical on behalf of the Cylent named above and that I have verified Client's agreement to Date/Time	5	100			
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atrix: A=Air, AQ=Aqueous, B=Bulk, O=Other, P=Product, S=Soil, SD=Sediment, SL=Solid, W=Water, DW=Drinking Water, GW=Ground Water, SW=Storm Water, WW=Waste Water Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Ti U V Zn Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nijoke 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 Date/Time All As B Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Ti U V Zn Province Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nijoke O-Phosphate Fluo	00	2			
atrix: 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 Wetals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag A As B Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl U V Zn Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite Trepresent 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 Cach of the terms on the front and backside of this Agreement. Date/Time Date/Time Date/Time S Notate Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water,	9	7	- 1		
Wetals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag All As) B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Ti U V Zn Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrage-Nijoste 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 cach of the terms on the front and backside of this Agreement. Date/Time Date/Time Date/Time Date/Time Sar	B = Bulk,) = Other, P = Produ	ıct, S=Soil, SD	= Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = S	
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. Date/Time	Nitrate Nitrite			BE LA CO CO CO LE HE N ME MIN MO NA NI PO	26 St 3H H H O V ZH
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Chochy	Relinquished X	Date/Time			Same Day

COC 1.2 - 2.22.17



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,

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	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	
Surrogate:	Percent Recovery	Control Limits	•		•	
o-Terphenyl	72	50-150				

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

Matrix: Water Units: mg/L (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	84	50-150				
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	
Surrogate:	Percent Recovery	Control Limits		•		
a Tamahamul	00	E0 1E0				

o-Terphenyl 92 50-150

					Source	Perce		Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recov	ery/	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	05-27	77-04									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		NA	١	NA	NA	NA	U1,M1
Lube Oil Range	ND	ND	NA	NA		NA	١	NA	NA	NA	
Surrogate:											
o-Terphenyl						88	83	50-150			
Laboratory ID:	SB05	30W1									
	ORIG	DUP									
Diesel Range	0.907	0.872	NA	NA		NA	١	NA	4	NA	
Lube Oil Range	ND	ND	NA	NA		NA	١	NA	NA	NA	
Surrogate: o-Terphenyl						105	99	50-150			

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

Project: 82302-13.3

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
Manganese	4610	4700	NA	NA			NA	NA	2	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

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

Analyte	Res	sult	Spike	e Level	Source Result		rcent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-27	77-01									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-27	77-01									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	123	122	111	111	ND	111	110	75-125	1	20	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED GASES RSK 175 QUALITY CONTROL

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

Analyte	Re	sult	Spike	Level	Source Result		rcent covery	Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB05	28W1									
	SB	SBD	SB	SBD		SB	SBD		•	•	
Methane	4.12	4.32	4.42	4.42	N/A	93	98	75-125	5	25	

SULFATE **ASTM D516-11**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

SULFATE ASTM D516-11 QUALITY CONTROL

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK	nesun	I QL	Wethou	Trepareu	Anaryzeu	i iags
Laboratory ID:	MB0522W1					
Sulfate	ND	5.0	ASTM D516-11	5-22-19	5-22-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	05-26	67-02							
	ORIG	DUP							
Sulfate	ND	ND	NA	NA	NA	NA	NA	10	
MATRIX SPIKE									
Laboratory ID:	05-26	67-02							
	M	IS	MS		MS				
Sulfate	13	3.1	10.0	ND	131	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB05	22W1							
	S	В	SB		SB		•		
Sulfate	9.9	93	10.0	NA	99	89-113	NA	NA	

NITRATE (as Nitrogen) **EPA** 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0521W1					
Nitrate	ND	0.050	FPA 353.2	5-21-19	5-21-19	

			Source	Percent	Recovery		RPD	
Analyte	Result	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE								
Laboratory ID:	05-267-02							
	ORIG DUP							
Nitrate	0.0548 0.0863	NA	NA	NA	NA	45	13	С
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	

TOTAL ALKALINITY SM 2320B

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0521W1					
Total Alkalinity	ND	2.0	SM 2320B	5-21-19	5-21-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	05-26	67-02							
	ORIG	DUP							
Total Alkalinity	114	112	NA	NA	NA	NA	2	10	
SPIKE BLANK									
Laboratory ID:	SB05	21W1							
	S	В	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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature	<u></u>			9			3 BPMW-U:N	2 BPMW-ZR:W	1 BC-117:W	Lab ID Sample Identification	Sampled by: JEAR Faire - Ch Vivoninantal, Um	Project Manager: JERF JENSCIN	BOTWELL PAINT	82302 - 13,3	company: Kare Environmental	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
						K	Cc							5/10	5/20	2/20	Date Sampled	<i>3</i>		X Stand	2 Days	Same Day		(i)
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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.

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Matrix: Water Units: mg/L (ppm)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				

o-Terphenyl 88 50-150

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	92	50-150				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	05-30	07-02								
	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	
Surrogate:										
o-Terphenyl						<i>97 78</i>	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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
Manganese	4610	4700	NA	NA		l	NA	NA	2	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Res	sult	Spike	Level	Source Result		rcent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-30	7-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-30	7-02									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	128	130	111	111	ND	116	117	75-125	1	20	•

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	BC-10:W					
Laboratory ID:	05-319-01					
Methane	230	30	RSK 175	6-3-19	6-3-19	

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0603W1					
Methane	ND	1.0	RSK 175	6-3-19	6-3-19	

Analyte	Re	sult	Spike	Level	Source Result	_	rcent overy	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-1	23-01									
	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	

SULFATE **ASTM D516-11**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

SULFATE **ASTM D516-11 QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Sulfate	ND	5.0	ASTM D516-11	5-28-19	5-28-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE	ne.	Suit	Spike Level	nesuit	necovery	Lillits	пги	Lilling	ı ıays
Laboratory ID:	05-33	31-02							
	ORIG	DUP							
Sulfate	23.7	25.1	NA	NA	NA	NA	6	10	
MATRIX SPIKE									
Laboratory ID:	05-33	31-02							
	N	1S	MS		MS				
Sulfate	48	3.5	20.0	23.7	124	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB05	28W1							
	S	B	SB		SB				
Sulfate	8.	99	10.0	NA	90	89-113	NA	NA	

NITRATE (as Nitrogen) **EPA** 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523W1					
Nitrate	ND	0.050	FPA 353 2	5-23-19	5-23-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	05-30)7-02							
	ORIG	DUP							
Nitrate	0.274	0.302	NA	NA	NA	NA	10	13	
MATRIX SPIKE									
Laboratory ID:	05-30)7-02							
	М	S	MS		MS				
Nitrate	2.3	38	2.00	0.274	105	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB05	23W1							
	S	В	SB		SB		•		
Nitrate	2.	18	2.00	NA	109	90-125	NA	NA	·

TOTAL ALKALINITY SM 2320B

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0530W1					
Total Alkalinity	ND	2.0	SM 2320B	5-30-19	5-30-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	05-31	19-01							
	ORIG	DUP							
Total Alkalinity	160	160	NA	NA	NA	NA	0	10	
SPIKE BLANK									
Laboratory ID:	SB05	30W1							
	S	В	SB		SB				
Total Alkalinity 92.0		2.0	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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received Marcy Cisou	Relinquished (A)	Signature	7				-1	2 BP-NW-1:W	1 &C-10: W	Lab ID Sample Identification	ISOBELLA GLANCS	Jeff Jensen	HISCRE Bothell Paint	\$2302-13.3	Kane Environmental, Inc.	14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Reviewed/Date					R) Kane Environmental	Company						5/23 1440 GW 2	1150 GW	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days)	2 Days 3 Days	Same Day 1 Day	(in working days)
				-	S103/19 1506	5/23/19	Date Time							X	NWTF NWTF NWTF Volatil	PH-HCI PH-Gx/PH-Gx PH-Dx (es 826	BTEX Acid OC Volatile	/ SG Cless 82600			Laboratory Number:
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐	Data Package: Standard ☐ Level III ☐ Level IV ☐					Tab Sites	Comments/Special Instructions						× ×	× × × ×	(with I PAHs PCBs Organ Organ Chlori Total TCLP HEM I S I	ow-levelesses and several seve	phorus F Acid Her Metals Metals	w-level) icides 8 Pesticides rbicides AIS 1664A	8151A SO (V	ed v	05-318



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,

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	84	50-150				
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	
Surrogate:	Percent Recovery	Control Limits			•	
o-Terphenyl	85	50-150				

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	84	50-150				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	SB05	28W1								
	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	
Surrogate:										
o-Terphenyl						106 93	50-150			

DISSOLVED METALS EPA 200.8

5 (1-1)				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Red	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
Manganese	4610	4700	NA	NA			NA	NA	2	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	•

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB0529WM1					
Arsenic	ND	3 3	EPA 200 8	5-29-19	5-29-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-27	77-01									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		ľ	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-27	77-01									
	MS	MSD	MS	MSD		MS	MSD	•			
Arsenic	123	122	111	111	ND	111	110	75-125	1	20	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED GASES RSK 175 QUALITY CONTROL

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

Analyte	Re	sult	Spike	Level	Source Result	_	rcent	Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB05	528W1									
	SB	SBD	SB	SBD		SB	SBD				
Methane	4.12	4.32	4.42	4.42	N/A	93	98	75-125	5	25	

SULFATE **ASTM D516-11**

			Date	Date	
Result	PQL	Method	Prepared	Analyzed	Flags
HZ-MW-19:W					
05-281-02					
17	5.0	ASTM D516-11	5-22-19	5-22-19	
BI MW-8R:W					
05-281-04					
ND	5.0	ASTM D516-11	5-22-19	5-22-19	
	HZ-MW-19:W 05-281-02 17 BLMW-8R:W 05-281-04	HZ-MW-19:W 05-281-02 17 5.0 BLMW-8R:W 05-281-04	HZ-MW-19:W 05-281-02 17 5.0 ASTM D516-11 BLMW-8R:W 05-281-04	Result PQL Method Prepared HZ-MW-19:W 05-281-02 ASTM D516-11 5-22-19 17 5.0 ASTM D516-11 5-22-19 BLMW-8R:W 05-281-04	Result PQL Method Prepared Analyzed HZ-MW-19:W 05-281-02 5.0 ASTM D516-11 5-22-19 5-22-19 BLMW-8R:W 05-281-04 05-281-04 05-281-04 05-281-04

SULFATE **ASTM D516-11 QUALITY CONTROL**

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

				Source	Percent	Recovery		RPD		
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags	
DUPLICATE										
Laboratory ID:	05-26	67-02								
	ORIG	DUP								
Sulfate	ND	ND	NA	NA	NA	NA	NA	10		
MATRIX SPIKE										
Laboratory ID:	05-26	67-02								
	М	S	MS		MS					
Sulfate	13	3.1	10.0	ND	131	73-134	NA	NA		
SPIKE BLANK										
Laboratory ID:	SB05	22W1								
	S	В	SB		SB					
Sulfate	9.9	93	10.0	NA	99	89-113	NA	NA		

NITRATE (as Nitrogen) **EPA** 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0521W1					
Nitrate	ND	0.050	FPA 353 2	5-21-19	5-21-19	

			Source	Percent	Recovery		RPD	
Analyte	Result	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE								
Laboratory ID:	05-267-02							
	ORIG DUP							
Nitrate	0.0548 0.0863	NA	NA	NA	NA	45	13	С
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	

TOTAL ALKALINITY SM 2320B

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	20	SM 2320B	5-23-19	5-23-19	

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523W1					
Total Alkalinity	ND	2.0	SM 2320B	5-23-19	5-23-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	05-30	07-02							
	ORIG	DUP							
Total Alkalinity	508	502	NA	NA	NA	NA	1	10	
SPIKE BLANK									
Laboratory ID:	SB05	23W1							
	S	В	SB		SB				
Total Alkalinity	92	2.0	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



AVA OnSite Environmental Inc.

Chain of Custody

	JETAE KANZ-ENVIVON MENTAL - COM	Jeff Jenstn	BOTNELL HWTZ	Project Number: 8736 アドラ	Kane Environmental	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052			
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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,

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	97	50-150				

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	92	50-150				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	05-30	07-02								
	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	
Surrogate:										
o-Terphenyl						<i>97 78</i>	50-150			

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	128	130	111	111	ND	116	117	75-125	1	20	

June 482302-15.3

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK					7,200	90
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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
Manganese	4610	4700	NA	NA			NA	NA	2	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	05-307-02					
Methane	2100	300	RSK 175	6-3-19	6-3-19	

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0603W1					
Methane	ND	1.0	RSK 175	6-3-19	6-3-19	

Analyte	Re	sult	Spike	Level	Source Result	_	rcent overy	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-1	23-01									
	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	

SULFATE **ASTM D516-11**

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	

SULFATE **ASTM D516-11 QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0528W1					
Sulfate	ND	5.0	ASTM D516-11	5-28-19	5-28-19	

				Source	Percent	Recovery		RPD	
Analyte	Result		Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	05-331-0	2							
	ORIG D	UP							
Sulfate	23.7 2	5.1	NA	NA	NA	NA	6	10	
MATRIX SPIKE									
Laboratory ID:	05-331-0	2							
MS			MS		MS				
Sulfate	48.5		20.0	23.7	124	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB0528W	/1							
	SB		SB	•	SB		•	•	•
Sulfate	8.99		10.0	NA	90	89-113	NA	NA	•

NITRATE (as Nitrogen) **EPA** 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523W1					
Nitrate	ND	0.050	EPA 353.2	5-23-19	5-23-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	05-30	07-02							
	ORIG	DUP							
Nitrate	0.274	0.302	NA	NA	NA	NA	10	13	
MATRIX SPIKE									
Laboratory ID:	05-30	07-02							
MS		IS	MS		MS				
Nitrate	2.38		2.00	0.274	105	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB05	23W1							
	S	В	SB		SB				
Nitrate	2.	18	2.00	NA	109	90-125	NA	NA	

TOTAL ALKALINITY SM 2320B

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water

Units: mg CaCO3/L

Analyte	Result	PQL	Method	Prepared	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:	05-30	07-02							
	ORIG	DUP							
Total Alkalinity	508	502	NA	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.

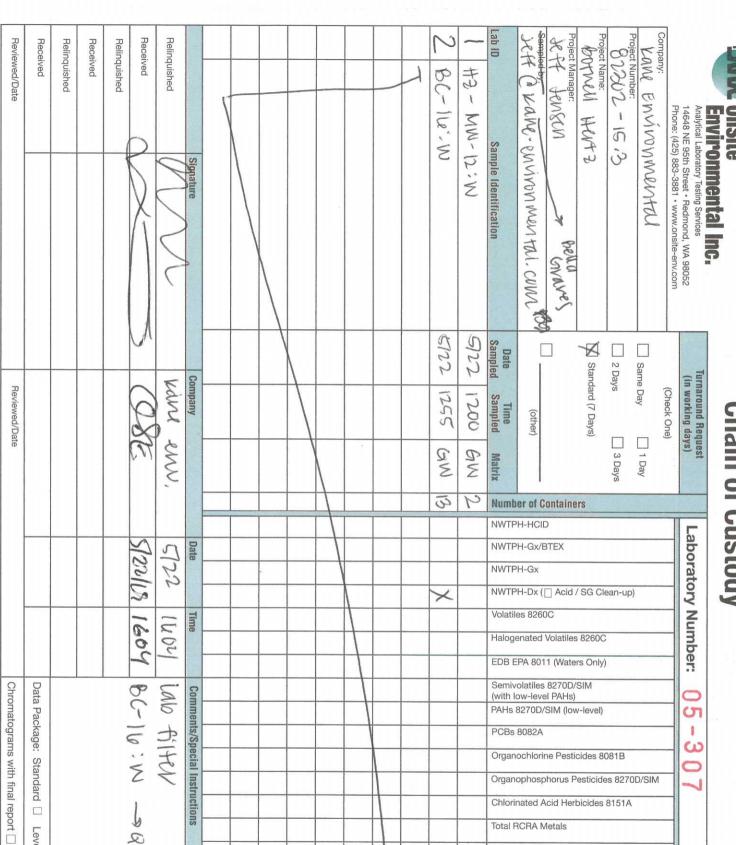
7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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Level IV

Electronic Data Deliverables (EDDs)

Chain of Custody

Page 9

Organophosphorus Pesticides 8270D/SIM

total As

dissolved As

Chlorinated Acid Herbicides 8151A

Total RCRA Metals

Total MTCA Metals

HEM (oil and grease) 1664A

dissolved Mn

% Moisture al Kalinity

methane

Sulfate

nitrate

TCLP Metals

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X

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X



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.

David Baumeister Project Manager

Enclosures



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.

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0523F1					
Arsenic	ND	3.0	EPA 200.8	5-23-19	5-29-19	

Analyte	Res	sult	Snike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE	1100	Juit	Оріко	LOVOI	Hoodit	1100	overy	Lilling	111.15		riugo
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature							1	1 HZ-MW-17	Lab ID Sample Identification	ISALULA SYAVE	Jeff Jensen	Project Name:	Project Number: 82302 - 15. 3	Kane Environmental, inc	Phone: (425) 883-3881 • www.onsite-env.com	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, W.
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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.

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	81	50-150				

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	87	50-150				

					Source	Perc	ent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Reco	very	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	SB06	03W1									
	ORIG	DUP									
Diesel Fuel #2	0.898	0.867	NA	NA		N	A	NA	4	NA	_
Lube Oil Range	ND	ND	NA	NA		N.	Α	NA	NA	NA	
Surrogate:											_
o-Terphenyl						88	89	50-150			

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	•

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0529WM1					
Arsenic	ND	3.3	FPA 200 8	5-29-19	5-29-19	

Analyte	Res	sult	Spike	Level	Source Result	_	cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-27	77-01									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		N	۱A	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-27	77-01									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	123	122	111	111	ND	111	110	75-125	1	20	

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	•

DISSOLVED ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0522F1					
Arsenic	ND	3.0	EPA 200.8	5-22-19	5-29-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE			•								
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



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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,

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	87	50-150				

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				·
o-Terphenyl	87	50-150				

Analyte	Res	sult	Spike	Level	Source Result	Pero Reco		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-33	30-01									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		N/	Ą	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Surrogate:											
o-Terphenyl						87	87	50-150			

Date of Report: June 4, 2019 Samples Submitted: May 24, 2019 Laboratory Reference: 1905-330

Project: 82302-15.3

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

DISSOLVED ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0524F1					
Arsenic	ND	3.0	FPA 200.8	5-24-19	5-29-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							· · · · · ·				- 11.9
Laboratory ID:	05-30	7-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		l	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-30	7-02									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	85.2	85.0	80.0	80.0	ND	107	106	75-125	0	20	•

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531WM1					
Arsenic	ND	3.3	EPA 200.8	5-31-19	5-31-19	

Analyte	Res	sult	Snike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE	1.00		Opino		Hoodit						- lugo
Laboratory ID:	05-30	07-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	05-30	07-02									
	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

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Chromatograms with final report Electronic Data Deliverables (EDDs)	Chro			Reviewed/Date	Re	Date	Reviewed/Date
Data Package: Standard ☐ Level III ☐ Level IV ☐	Data						Received
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			T	(Check One)	(C)	Phone: (425) 883-3881 • www.onsite-env.com	
0000	ACHINCI.	מטטומנטוץ		(in working days)	(In w	14648 NF 95th Street • Redmond, WA 98052	



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.

David Baumeister Project Manager

Enclosures



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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	89	50-150				
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	
Surrogate:	Percent Recovery	Control Limits	•	•		

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	86	50-150				

					Source	Percer	nt	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recove	ery	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	SB07	22W1									
	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	
Surrogate:											
o-Terphenyl						89	86	50-150			

SULFATE **ASTM D516-11**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

SULFATE ASTM D516-11 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	07-20	08-01							
	ORIG	DUP							
Sulfate	ND	ND	NA	NA	NA	NA	NA	10	
MATRIX SPIKE									
Laboratory ID:	07-20	08-01							
	M	IS	MS		MS				
Sulfate	11	.8	10.0	ND	118	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB07	23W1							
	S	В	SB		SB				
Sulfate	10).2	10.0	NA	102	89-113	NA	NA	•

NITRATE (as Nitrogen) **EPA** 353.2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	BPMW-2R:W	I QL	Wethou	rrepared	Anaryzeu	i iags
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	

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	Flags
Analyte	Result	PQL	Method	Prepared	Analyzed	
METHOD BLANK						
Laboratory ID:	MB0719W1					
Nitrate	ND	0.050	FPA 353 2	7-22-19	7-22-19	

	•			Source Result	Percent Recovery	Recovery Limits		RPD Limit	Flags
Analyte			Spike Level				RPD		
DUPLICATE									
Laboratory ID:	07-169-02								
	ORIG	DUP							
Nitrate	ND	ND	NA	NA	NA	NA	NA	13	
MATRIX SPIKE									
Laboratory ID:	07-169-02								
	M	IS	MS		MS				
Nitrate	2.14		2.00	ND	107	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB07	19W1							
	S	В	SB		SB		•	•	•
Nitrate	1.97		2.00	NA	99	90-125	NA	NA	

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	•

DISSOLVED METALS EPA 200.8 QUALITY COMTROL

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	

A I . I .			0.11		Source		rcent	Recovery	DDD	RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	covery	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	07-24	43-01									
	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:	07-24	43-01									
	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	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-13.3

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-1	14-07									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-1	14-07									
	MS	MSD	MS	MSD		MS	MSD	•			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB0724W1					
Methane	ND	1.0	RSK 175	7-24-19	7-24-19	

Analyte	Re	sult	Spike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES			- Op.iii				,				
Laboratory ID:	01-1	23-01									
•	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:	5	SB									
	SB	SBD	SB	SBD		SB	SBD				
Methane	4.01	4.60	4.42	4.42	N/A	91	104	75-125	14	25	

TOTAL ALKALINITY SM 2320B

Matrix: Water Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Total Alkalinity	ND	2.0	SM 2320B	7-24-19	7-24-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE			•						
Laboratory ID:	07-20	08-01							
	ORIG	DUP							
Total Alkalinity	110	114	NA	NA	NA	NA	4	10	
SPIKE BLANK									
Laboratory ID:	SB07	24W1							
	S	В	SB		SB				
Total Alkalinity	94	1.0	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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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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,

David Baumeister Project Manager

Enclosures



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.

Project: 82302-13.3

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

Project: 82302-13.3

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	FPA 200 8	7-25-19	7-25-19	

Analyte	Res	sult	Spike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-11	14-07									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		ľ	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-11	14-07									
	MS	MSD	MS	MSD		MS	MSD	_			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20	

Project: 82302-13.3

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

Project: 82302-13.3

DISSOLVED ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719F1					
Arsenic	ND	3.0	FPA 200 8	7-19-19	7-24-19	

Analyte	Res	sult	Spike	Level	Source Result		rcent covery	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	07-24	43-01									
	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:	07-24	43-01									
	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

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	Fane Envivonmental Project Number: 82302-13.3 Project Name: British Paint	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052 Phone: (425) 883-3881 • www.onsite-env.com
Date Date Date	Same Day 2 Days Standard (II.
Company Company Company Company RANA RANDY WANDA Number of Containers NWTPH-HCID	Same Day 2 Days Standard (7 Days)	(Check One)
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		oora
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□ % Moisture		201



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,

David Baumeister Project Manager

Enclosures



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.

Project: 82302-15.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	79	50-150				

Project: 82302-15.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	60	50-150				

					Source	Perd	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Reco	very	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	SB07	17W1									
	ORIG	DUP									
Diesel Fuel #2	0.953	0.873	NA	NA		N	Α	NA	9	NA	_
Lube Oil Range	ND	ND	NA	NA		N	Α	NA	NA	NA	
Surrogate:											
o-Terphenyl						83	79	50-150			

Project: 82302-15.3

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	•

Project: 82302-15.3

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

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	

					Source	Pei	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	07-16	69-03									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
Manganese	95.2	86.4	NA	NA		1	NA	NA	10	20	
MATRIX SPIKES											
Laboratory ID:	07-16	69-03									
	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	

Project: 82302-15.3

TOTAL ALKALINITY SM 2320B

Matrix: Water
Units: mg CaCO3/L

Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

TOTAL ALKALINITY SM 2320B QUALITY CONTROL

Matrix: Water
Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0718W1					
Total Alkalinity	ND	2.0	SM 2320B	7-18-19	7-18-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	07-18	38-01							
	ORIG	DUP							
Total Alkalinity	340	348	NA	NA	NA	NA	2	10	
SPIKE BLANK									
Laboratory ID:	SB07	18W1							
	S	В	SB	•	SB				•
Total Alkalinity	96	6.0	100	NA	96	88-110	NA	NA	

Project: 82302-15.3

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB0717WH1					
Arsenic	ND	3.0	EPA 200.8	7-17-19	7-17-19	

Analyte	Res	sult	Spike	Level	Source Result		cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-1	14-15									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		١	NΑ	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-1	14-15									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	101	105	100	100	ND	101	105	75-125	4	20	

Project: 82302-15.3

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Methane	ND	1.0	RSK 175	7-23-19	7-23-19	_

			Source Spike Level Result			rcent	Recovery		Flores		
Analyte	Re	Result		Spike Level		Recovery		Limits	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	

Project: 82302-15.3

SULFATE ASTM D516-11

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

SULFATE ASTM D516-11 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717W1					
Sulfate	ND	5.0	ASTM D516-11	7-17-19	7-17-19	

Analyte	Re	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags	
DUPLICATE		<u> </u>	орию дотог	rtooun	110001019				· iugo	
Laboratory ID:	07-17	70-01								
	ORIG	DUP								
Sulfate	23.2	21.7	NA	NA	NA	NA	7	10		
MATRIX SPIKE										
Laboratory ID:	07-170-01									
	N	IS	MS		MS					
Sulfate	40).5	20.0	23.2	87	73-134	NA	NA		
SPIKE BLANK										
Laboratory ID:	SB07	17W1								
	S	В	SB		SB					
Sulfate	9.	76	10.0	NA	98	89-113	NA	NA		

Project: 82302-15.3

NITRATE (as Nitrogen) EPA 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

NITRATE (as Nitrogen) EPA 353.2 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719W1					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	

	_	r.	• " • •	Source	Percent	Recovery		RPD		
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags	
DUPLICATE										
Laboratory ID:	07-16	69-02								
	ORIG	DUP								
Nitrate	ND	ND	NA	NA	NA	NA	NA	13		
MATRIX SPIKE										
Laboratory ID:	07-16	69-02								
	M	IS	MS		MS					
Nitrate	2.	14	2.00	ND	107	90-127	NA	NA		
SPIKE BLANK										
Laboratory ID:	SB07	19W1								
-	S	В	SB		SB					
Nitrate	1.9	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

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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,

David Baumeister Project Manager

Enclosures



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.

Project: 82302-15.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	86	50-150				

Project: 82302-15.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				_
o-Terphenyl	86	50-150				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	07-17	' 9-01								
	ORIG	DUP								
Diesel Range	ND	ND	NA	NA		NA	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						84 78	50-150			

Project: 82302-15.3

SULFATE ASTM D516-11

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

SULFATE ASTM D516-11 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	07-20	08-01							
	ORIG	DUP							
Sulfate	ND	ND	NA	NA	NA	NA	NA	10	
MATRIX SPIKE									
Laboratory ID:	07-20	08-01							
	M	IS	MS		MS				
Sulfate	11	.8	10.0	ND	118	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB07	23W1							
	S	В	SB		SB				
Sulfate	10).2	10.0	NA	102	89-113	NA	NA	

Project: 82302-15.3

NITRATE (as Nitrogen) EPA 353.2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	B1MW-8R:W	1 & L	Wethou	Терагеа	Analyzeu	i iags
Laboratory ID:	07-188-01					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	

Project: 82302-15.3

NITRATE (as Nitrogen) EPA 353.2 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719W1					
Nitrate	ND	0.050	EPA 353.2	7-22-19	7-22-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	07-16	69-02							
	ORIG	DUP							
Nitrate	ND	ND	NA	NA	NA	NA	NA	13	
MATRIX SPIKE									
Laboratory ID:	07-16	69-02							
	М	S	MS		MS				
Nitrate	2.	14	2.00	ND	107	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB07	19W1							
	S	В	SB		SB				
Nitrate	1.9	97	2.00	NA	99	90-125	NA	NA	

Project: 82302-15.3

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	•

Project: 82302-15.3

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	Res	sult	Snike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE	ive.	Suit	Орікс	Levei	Nesun	IXC	overy	Lillits	INI D	Liiiit	i iags
Laboratory ID:	07-24	13 ₋ ∩1									
Laboratory ID.	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:	07-24	43-01									
	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	

Project: 82302-15.3

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	FPA 200.8	7-25-19	7-25-19	

Analyte	Res	sult	Spike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-11	14-07									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		ľ	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-11	14-07									
	MS	MSD	MS	MSD		MS	MSD	_			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20	

Project: 82302-15.3

DISSOLVED METHANE RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	B1MW-8R:W					
Laboratory ID:	07-188-01					
Methane	3300	500	RSK 175	7-23-19	7-23-19	

Project: 82302-15.3

DISSOLVED METHANE RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Methane	ND	1.0	RSK 175	7-23-19	7-23-19	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
MATRIX SPIKES											
Laboratory ID:	01-1	23-01									
	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	

Project: 82302-15.3

TOTAL ALKALINITY SM 2320B

Matrix: Water

Units: mg CaCO3/L

Analyte	Result	PQL	Method	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	

Project: 82302-15.3

TOTAL ALKALINITY SM 2320B QUALITY CONTROL

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB0718W1					
Total Alkalinity	ND	2.0	SM 2320B	7-18-19	7-18-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	07-18	38-01							
	ORIG	DUP							
Total Alkalinity	340	348	NA	NA	NA	NA	2	10	
SPIKE BLANK									
Laboratory ID:	SB07	18W1							
_	S	В	SB		SB		•		
Total Alkalinity	96	6.0	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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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,

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	91	50-150				

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	76	50-150				

					Source	Perc	ent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Reco	very	Limits	RPD	Limit	Flags
DUPLICATE											_
Laboratory ID:	07-24	13-01									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Lube Oil Range Organics	0.791	0.588	NA	NA		N	Α	NA	29	NA	
Surrogate:											
o-Terphenyl						91	91	50-150			

SULFATE **ASTM D516-11**

Analyte	Result	PQL	Method	Date Prepared	Date Analvzed	Flags
Client ID:	BC-16:W					
Laboratory ID:	07-228-02					
Sulfate	160	50	ASTM D516-11	7-23-19	7-23-19	

SULFATE ASTM D516-11 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0723W1					
Sulfate	ND	5.0	ASTM D516-11	7-23-19	7-23-19	

Analysta	Dog	sult	Cuilea Laval	Source	Percent	Recovery Limits	RPD	RPD Limit	Elege
Analyte	nes	suit	Spike Level	Result	Recovery	Limits	חרט	LIIIII	Flags
DUPLICATE									
Laboratory ID:	07-20	08-01							
	ORIG	DUP							
Sulfate	ND	ND	NA	NA	NA	NA	NA	10	
MATRIX SPIKE									
Laboratory ID:	07-20	08-01							
	M	IS	MS		MS				
Sulfate	11	.8	10.0	ND	118	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB07	23W1							
	S	В	SB		SB				
Sulfate	10).2	10.0	NA	102	89-113	NA	NA	

NITRATE (as Nitrogen) **EPA** 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Nitrate	ND	0.050	FPA 353 2	7-24-19	7-24-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	07-2	59-01							
	ORIG	DUP							
Nitrate	ND	ND	NA	NA	NA	NA	NA	13	
MATRIX SPIKE									
Laboratory ID:	07-2	59-01							
	N	1S	MS		MS				
Nitrate	2.	03	2.00	ND	102	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB07	24W1							
	S	B	SB		SB			•	
Nitrate	2.	07	2.00	NA	104	90-125	NA	NA	

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Red	covery	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	07-24	43-01									
	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:	07-24	43-01									
	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	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15.3

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Res	Result				rcent	Recovery Limits	RPD	RPD Limit	Flags	
DUPLICATE											
Laboratory ID:	07-114-07										
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-1	14-07									
	MS	MSD	MS	MSD		MS	MSD	•			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
Client ID:	BC-16:W					_
Laboratory ID:	07-228-02					
Methane	8900	1000	RSK 175	7-24-19	7-24-19	_

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB0724W1					
Methane	ND	1.0	RSK 175	7-24-19	7-24-19	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Re	sult	Spike Level		Result	Rec	overy	Limits	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:	SB07	'24W1									
	SB	SBD	SB	SBD		SB	SBD				
Methane	4.01	4.60	4.42	4.42	N/A	91	104	75-125	14	25	

TOTAL ALKALINITY SM 2320B

Matrix: Water Units: mg CaCO3/L

Analyte	Result	PQL	Method	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	

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0724W1					
Total Alkalinity	ND	2.0	SM 2320B	7-24-19	7-24-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	07-20	08-01							
	ORIG	DUP							_
Total Alkalinity	110	114	NA	NA	NA	NA	4	10	
SPIKE BLANK									
Laboratory ID:	SB07	24W1							
	S	В	SB		SB				
Total Alkalinity	94	1.0	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

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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,

David Baumeister Project Manager

Enclosures



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.

Project: 82302-14.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

Analyte	Result	PQL	Method	Date Prepared	Date Analvzed	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	82	50-150				

Project: 82302-14.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	86	50-150				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										_
Laboratory ID:	07-17	' 9-01								
	ORIG	DUP								
Diesel Range	ND	ND	NA	NA		NA	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		NA	NA	NA	NA	
Surrogate:										
o-Terphenyl						84 78	50-150			

Project: 82302-14.3

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	_

Project: 82302-14.3

DISSOLVED ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0717F1					
Arsenic	ND	3.0	FPA 200.8	7-17-19	7-24-19	

Analyte	Res	sult	Spike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-24	13-01									
	ORIG	DUP									
Arsenic	14.1	13.5	NA	NA			NA	NA	5	20	
MATRIX SPIKES											
Laboratory ID:	07-24	13-01									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	93.6	97.2	80.0	80.0	14.1	99	104	75-125	4	20	

Project: 82302-14.3

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-14.3

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	FPA 200 8	7-25-19	7-25-19	

Analyte	Res	sult	Spike	e Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-11	14-07									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-11	14-07									
	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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Reviewed/Date

Chromatograms with final report $\ \square$ Electronic Data Deliverables (EDDs) $\ \square$

Data Package: Standard

Level III

Level IV

Received Relinquished



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,

David Baumeister Project Manager

Enclosures



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.

Project: 82302-14.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	81	50-150				

Project: 82302-14.3

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

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	
Surrogate:	Percent Recovery	Control Limits			•	_
o-Terphenvl	76	50-150				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	07-24	13-01								
	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	
Surrogate:										
o-Terphenyl						91 91	50-150			

Project: 82302-14.3

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-14.3

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0725WM1					
Arsenic	ND	3.3	FPA 200 8	7-25-19	7-25-19	

Analyte	Res	sult	Spike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-11	14-07									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-11	14-07									
	MS	MSD	MS	MSD		MS	MSD	_			
Arsenic	134	119	111	111	ND	121	107	75-125	12	20	

Project: 82302-14.3

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-14.3

DISSOLVED ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0719F1					
Arsenic	ND	3.0	FPA 200 8	7-19-19	7-24-19	

Analyte	Pos	sult	Snika	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
	Nesuit		Эріке	Level	Nesuit	Nec	overy	Lillits	RFD	Lillin	riays
DUPLICATE											
Laboratory ID:	07-24	43-01									
	ORIG	DUP									
Arsenic	14.1	13.5	NA	NA			NA	NA	5	20	
MATRIX SPIKES											
Laboratory ID:	07-24	43-01									
	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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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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,

David Baumeister Project Manager

Enclosures



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.

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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	91	50-150				

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	76	50-150				

					Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE										
Laboratory ID:	07-24	43-01								
	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	
Surrogate:										
o-Terphenyl						91 91	50-150			

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB0725WM2					
Arsenic	ND	3.3	EPA 200.8	7-25-19	7-25-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-24	13-01									
	ORIG	DUP									
Arsenic	15.9	14.5	NA	NA		ľ	NA	NA	9	20	
MATRIX SPIKES											
Laboratory ID:	07-24	13-01									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	146	139	111	111	15.9	117	111	75-125	5	20	•

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0722F1					
Arsenic	ND	3.0	EPA 200.8	7-22-19	7-24-19	•

Analyte	Res	sult	Spike	Level	Source Result		rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE							<u>, </u>				
Laboratory ID:	07-24	13-01									
	ORIG	DUP									
Arsenic	14.1	13.5	NA	NA			NA	NA	5	20	
MATRIX SPIKES											
Laboratory ID:	07-24	13-01									
	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

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Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signature						+	1 BIMW-12:W	Lab ID Sample Identification	BEWA GIVENES	Froject Manager: FLAT FLMSVM	BOTMUL LAN DING	87307-14,3	Fame Environmental		Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date				<	380)	Kare Environmental	Company							MP 5521 276	Date Time Sampled Sampled Matrix	(other)		Standard (7 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	(in working days)
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Chromatograms with final report ☐ Electronic Data	Data Package: Standard Level III Level IV				SHO BUMM-12: M = QC - EXTYA	not titen	Comments/Special Instructions								EDB E Semiv (with I PAHs PCBs Organ Organ Chlori Total I TCLP	rolatiles ow-level 8270D/ 88270D/ 8082A 8082A sochloric ophospinated // WTCA I Metals (oil and	a 8270D el PAHs /SIM (lo ne Pest bhorus I Acid He Wetals Wetals		081B es 8270 8151A			nber: 01-243
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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



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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	94	50-150				
011 . ID	DD1111/ 0 11/					
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	
Surrogate:	Percent Recovery	Control Limits				_
o-Terphenyl	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)

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	75	50-150				

o-Terphenyl 75 50-150

					Source	Perc	ent	Recovery		RPD	
Analyte	Re	sult	Spike	Level	Result	Reco	very	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	SB10	14W1									
	ORIG	DUP									
Diesel Fuel #2	1.06	0.863	NA	NA		N	A	NA	20	NA	
Lube Oil Range	ND	ND	NA	NA		N.	Α	NA	NA	NA	
Surrogate:											
o-Terphenyl						109	87	50-150			
Laboratory ID:	10-1	49-01									
	ORIG	DUP									
Diesel Range Organics	0.758	0.441	NA	NA		N	A	NA	53	NA	
Lube Oil Range	ND	ND	NA	NA		N	Α	NA	NA	NA	
Surrogate: o-Terphenyl						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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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

				Date	Date	Flags
Analyte	Result	PQL	Method	Prepared	Analyzed	
METHOD BLANK						
Laboratory ID:	MB1014W1					
Sulfate	ND	5.0	ASTM D516-11	10-14-19	10-14-19	

				Source	Percent	Recovery		RPD	
Analyte	Result		Spike Level	Result	Recovery	Limits	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:	SB1014	4W1							
	SB	•	SB	•	SB		•	•	
Sulfate	9.81		10.0	NA	98	89-113	NA	NA	

NITRATE (as Nitrogen) **EPA** 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	FPA 353 2	10-16-19	10-16-19	<u> </u>

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1016W1					
Nitrate	ND	0.050	EPA 353.2	10-16-19	10-16-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	ult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	10-14	4-03							
	ORIG	DUP							
Nitrate	1.69	1.69	NA	NA	NA	NA	0	13	
MATRIX SPIKE									
Laboratory ID:	10-14	4-03							
	M	S	MS		MS				
Nitrate	3.8	33	2.00	1.69	107	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB101	16W1							
	SE	3	SB	•	SB		•		
Nitrate	2.0	18	2.00	NA	104	90-125	NA	NA	

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-08	38-02									
	ORIG	DUP									
Arsenic	4.58	5.94	NA	NA		ı	NA	NA	26	20	
Manganese	22.8	24.0	NA	NA		I	NA	NA	5	20	
MATRIX SPIKES											
Laboratory ID:	10-08	38-01									
	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	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011WM1					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	_

Analyte	Res	sult	Spike	e Level	Source Result	_	cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											_
Laboratory ID:	09-24	41-05									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NΑ	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	09-24	41-05									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	132	123	111	111	ND	119	111	75-125	7	20	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1017W1					
Methane	ND	1.0	RSK 175	10-17-19	10-17-19	

Analyte	Re	sult	Spike	Level	Source Result	_	rcent covery	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-1	44-03									
	MS	MSD	MS	MSD	•	MS	MSD		•	•	
Methane	21.46	21.89	22.11	22.11	ND	97	99	75-125	2	25	

TOTAL ALKALINITY SM 2320B

Matrix: Water Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	20	SM 2320B	10-15-19	10-15-19	

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1015W1					
Total Alkalinity	ND	2.0	SM 2320B	10-15-19	10-15-19	

Analyte	Res	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE		opino zovo:	Hoodit	110001019		2		····go	
Laboratory ID:	10-14	45-01							
<u> </u>	ORIG	DUP							
Total Alkalinity	114	114	NA	NA	NA	NA	0	10	
SPIKE BLANK									
Laboratory ID:	SB10	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.

7 -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

ing Services Turnaround Request
ing Services Turnaround Request Laboratory Number: 10-1/5

Reviewed/Date	Received	Relinquished	Received	Relinquished	Received	Relinquished	Signaphre				7	4 BPMW-1:W	S BC-IRIN	2 BPMW - 6:W	1 BPMW-2R:W	Lab ID Sample Identification	Sampled by: BULLA ENVOLVES	Project Manager: Fifth HWSUN	Fother Point	87307-13	Fane Environmental		14648 NE 95th Street • Redmond, WA 98052
Reviewed/Date					A SO	kang Envi	Company					SACI 6/10/101	10/10/19 1225	Shot 6/1/100	5860 William	Date Time Sampled Sampled	(other)		Standard (7 Days)	2 Days	Same Day	(Check One)	(in working days)
ate						kang Envivonmental						Sw 7	5 m 5	-a	8 N 8		per of C	Contains	ers	3 Days	1 Day		
					> til 6/01/01	09111 biloilon	Date Time							×	×	NWTF Volatil Halog	PH-Dx (les 8260 enated	☐ Acid	/ SG Cl))		Laboratory Number:
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐	Data Package: Standard ☐ Level III ☐ Level IV ☐				\$20	*lab filter	Comments/Special Instructions	1 85				× ×	× ×	××××××××××××××××××××××××××××××××××××××	× × ×	Semin (with I PAHs PCBs Organ Organ Chlori Total I I I I I I I I I I I I I I I I I I I	volatiles ow-leve 8270D/ 8082A nochlori nophosp inated A RCRA M MTCA M	s 8270D, el PAHs, el	w-level) icides 8 Pesticides rbicides	081B es 8270 8151A			er: 10 - 145



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



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.

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1009F1					
Arsenic	ND	3.0	EPA 200.8	10-9-19	10-11-19	

Analyte	Res	sult	Spike	Level	Source Result	_	cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											_
Laboratory ID:	10-08	38-02									
	ORIG	DUP									
Arsenic	4.58	5.94	NA	NA		١	NΑ	NA	26	20	С
MATRIX SPIKES											
Laboratory ID:	10-08	38-02									
	MS	MSD	MS	MSD		MS	MSD	•			
Arsenic	92.6	92.6	80.0	80.0	4.58	110	110	75-125	0	20	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011WM1					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	

Analyte	Res	sult	Spike	Level	Source Result	_	cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											_
Laboratory ID:	09-24	41-05									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NΑ	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	09-24	41-05									
	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.
- 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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



Environmental Inc. Analytical Laboratory Testing Services 14648 NE 95th Street · Redmond, WA 98

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Reviewed/Date					SA	rains maving some	Company /						10/9/19 1426 GW 2			ontaine	Standard (7 Days)	2 Days 3 Days	Same Day 1 Day	(Check One)	Turnaround Request
					109/19 1519	10/9/19	Date Time							NWTP NWTP Volatile	H-Dx ([es 8260 enated	Acid	/ SG Cle s 8260C rs Only)				Laboratory Number:
Chromatograms with final report \square Electronic Data Deliverables (EDDs) \square	Data Package: Standard ☐ Level III ☐ Level IV ☐					lab title	Comments/Special Instructions	600					×	(with lot PAHs and PA	ow-leve 8270D/s 8082A ochlorir ophosp nated A RCRA M MTCA M Metals oil and s	horus F cid Her letals	v-level) cides 86 'esticides bicides	es 8270	D/SIM		10-122



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,

David Baumeister Project Manager

Enclosures



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.

Project: 82302-15

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	81	50-150				
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	
•						

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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	93	50-150				

Analyte	Res	sult	Spike	Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	SB10	14W1								
	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	
Surrogate:						100 97	E0 1E0			•

o-Terphenyl 109 87 50-150

SULFATE **ASTM D516-11**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

SULFATE **ASTM D516-11 QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1017W1					
Sulfate	ND	5.0	ASTM D516-11	10-17-19	10-17-19	

Analyte	Por	sult	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Elogo
	nes	Suit	Spike Level	nesuit	necovery	LIIIIIIS	NPU	LIIIII	Flags
DUPLICATE									
Laboratory ID:	10-18	38-01							
	ORIG	DUP							
Sulfate	ND	ND	NA	NA	NA	NA	NA	10	
MATRIX SPIKE									
Laboratory ID:	10-18	38-01							
	M	IS	MS		MS				
Sulfate	11	.0	10.0	ND	110	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB10	17W1							
	S	В	SB		SB				
Sulfate	9.	42	10.0	NA	94	89-113	NA	NA	

NITRATE (as Nitrogen) **EPA** 353.2

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

NITRATE (as Nitrogen) **EPA** 353.2 **QUALITY CONTROL**

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1016W1					
Nitrate	ND	0.050	EPA 353.2	10-16-19	10-16-19	

A 1 . 1 .	D !!			Source	Percent	Recovery	-	RPD	
Analyte	Result		Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	10-144-0	3							
	ORIG D	UP							
Nitrate	1.69 1.	69	NA	NA	NA	NA	0	13	
MATRIX SPIKE									
Laboratory ID:	10-144-0	3							
	MS		MS		MS				
Nitrate	3.83		2.00	1.69	107	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB1016W	' 1							
	SB		SB		SB				
Nitrate	2.08		2.00	NA	104	90-125	NA	NA	

Project: 82302-15

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike Level		Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-216-02										
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
Manganese	840	830	NA	NA		1	NA	NA	1	20	
MATRIX SPIKES											
Laboratory ID:	10-2	16-02									
	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	

Project: 82302-15

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1015WM1					
Arsenic	ND	3.3	EPA 200.8	10-15-19	10-15-19	

Analyte	Res	sult	Spike	Level	Source Result	_	cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											_
Laboratory ID:	10-17	74-01									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		١	۱A	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	10-17	74-01									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	125	125	111	111	ND	112	113	75-125	0	20	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date		
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags	
METHOD BLANK							
Laboratory ID:	MB1021W1						
Methane	ND	1.0	RSK 175	10-21-19	10-21-19		

					Source	Pe	rcent	Recovery		RPD	
Analyte	Result		Spike Level		Result	Recovery		Limits	RPD	Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-1	44-03									
	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	

TOTAL ALKALINITY SM 2320B

Matrix: Water Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

Project: 82302-15

TOTAL ALKALINITY SM 2320B QUALITY CONTROL

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB1015W1					
Total Alkalinity	ND	2.0	SM 2320B	10-15-19	10-15-19	

				Source	Percent	Recovery		RPD		
Analyte	Result		Spike Level	Result	Recovery	Limits	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.

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ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





Chain of Custody

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ne Pest bhorus I Acid He Metals	Acid	ontain	Project Manager: FCH FMSM
) w-level) ricides 8 Pesticid rbicides	/ SG CI	Standard (7 Days)	3)
081B es 8270	· · · · · ·	2 Days 3 Days	Project Number: 87302-15
		Same Day 1 Day	company: Fane Environmental
		(Check One)	
10-155	Laboratory Number:	Turnaround Request (in working days)	Analytical Laboratory Testing Services 14648 NE 95th Street • Redmond, WA 98052
0000			



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,

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	90	50-150				

Project: 82302-15

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	103	50-150				

					Source	Perce	ent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Recov	ery	Limits	RPD	Limit	Flags
DUPLICATE											_
Laboratory ID:	10-21	16-02									
	ORIG	DUP									
Diesel Range Organics	0.341	ND	NA	NA		NA		NA	NA	NA	
Lube Oil Range Organics	0.945	ND	NA	NA		NA	ı	NA	NA	NA	
Surrogate:											
o-Terphenyl						90	97	50-150			

SULFATE **ASTM D516-11**

Matrix: Water Units: mg/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

SULFATE **ASTM D516-11 QUALITY CONTROL**

Matrix: Water Units: mg/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018W1					
Sulfate	ND	5.0	ASTM D516-11	10-18-19	10-18-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	10-2	16-02							
	ORIG	DUP							
Sulfate	48.3	45.8	NA	NA	NA	NA	5	10	
MATRIX SPIKE									
Laboratory ID:	10-2	16-02							
	M	IS	MS		MS				
Sulfate	96	6.8	50.0	48.3	97	73-134	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB10	18W1							
	S	В	SB		SB				
Sulfate	10).8	10.0	NA	108	89-113	NA	NA	•

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		metriou	Tropurou	Anaryzou	i lugo
Laboratory ID:	10-216-02					
Nitrate	ND	0.050	EPA 353.2	10-21-19	10-21-19	

Project: 82302-15

NITRATE (as Nitrogen) EPA 353.2 QUALITY CONTROL

Matrix: Water Units: mg/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1021W1					
Nitrate	ND	0.050	EPA 353.2	10-21-19	10-21-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	10-2	16-02							
	ORIG	DUP							
Nitrate	ND	ND	NA	NA	NA	NA	NA	13	
MATRIX SPIKE									
Laboratory ID:	10-2	16-02							
	M	IS	MS		MS				
Nitrate	2.:	20	2.00	ND	110	90-127	NA	NA	
SPIKE BLANK									
Laboratory ID:	SB10	21W1							
	S	В	SB		SB		•	•	
Nitrate	2.	19	2.00	NA	110	90-125	NA	NA	

DISSOLVED METALS EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED METALS EPA 200.8 QUALITY CONTROL

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	

					Source	Pe	rcent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Rec	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-21	16-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA			NA AV	NA	NA	20	
Manganese	840	830	NA	NA			NA	NA	1	20	
MATRIX SPIKES											
Laboratory ID:	10-21	16-02									
	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	

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	FPA 200.8	10-18-19	10-18-19	

Project: 82302-15

TOTAL ARSENIC EPA 200.8 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018WM1					
Arsenic	ND	3.3	EPA 200.8	10-18-19	10-18-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-2	16-02									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		ı	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	10-2	16-02									
	MS	MSD	MS	MSD		MS	MSD	•			
Arsenic	108	112	111	111	ND	97	101	75-125	3	20	

DISSOLVED GASES RSK 175

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	

DISSOLVED GASES RSK 175 QUALITY CONTROL

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1022W1					
Methane	ND	1.0	RSK 175	10-22-19	10-22-19	

Analyte	Re	sult	Spike	Level	Source Result		rcent covery	Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	10-2	16-02									
	MS	MSD	MS	MSD		MS	MSD				
Methane	32.1	32.3	22.1	22.1	18.3	62	63	75-125	1	25	Α

TOTAL ALKALINITY SM 2320B

Matrix: Water

Units: mg CaCO3/L

Analyte	Result	PQL	Method	Prepared	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	_

TOTAL ALKALINITY SM 2320B **QUALITY CONTROL**

Matrix: Water

Units: mg CaCO3/L

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						_
Laboratory ID:	MB1022W1					
Total Alkalinity	ND	2.0	SM 2320B	10-22-19	10-22-19	

				Source	Percent	Recovery		RPD	
Analyte	Res	sult	Spike Level	Result	Recovery	Limits	RPD	Limit	Flags
DUPLICATE									
Laboratory ID:	10-2	16-02							
	ORIG	DUP							
Total Alkalinity	188	188	NA	NA	NA	NA	0	10	
SPIKE BLANK									
Laboratory ID:	SB10	22W1							
	S	В	SB	•	SB		•	•	•
Total Alkalinity	92	2.0	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.

7 -

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,

David Baumeister Project Manager

Enclosures



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.

DIESEL AND HEAVY OIL RANGE ORGANICS NWTPH-Dx

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	83	50-150				
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 ND	0.40	NWTPH-Dx	10-10-19	10-11-19	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	91	50-150				
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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	105	50-150				

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

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Elage
	nesuit	FQL	Wethou	Fiepaieu	Allalyzeu	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	
Surrogate:	Percent Recovery	Control Limits				
o-Terphenyl	93	50-150				

					Source	Per	cent	Recovery		RPD	
Analyte	Res	sult	Spike	Level	Result	Reco	overy	Limits	RPD	Limit	Flags
DUPLICATE											
Laboratory ID:	10-12	23-01									
	ORIG	DUP									
Diesel Range	ND	ND	NA	NA		N	Α	NA	NA	NA	
Lube Oil Range	ND	ND	NA	NA		N	A	NA	NA	NA	
Surrogate:											
o-Terphenyl						96	126	50-150			

TOTAL ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011WM1					
Arsenic	ND	3.3	EPA 200.8	10-11-19	10-11-19	

Analyte	Res	sult	Spike	Level	Source Result	_	rcent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-24	41-05									
	ORIG	DUP									
Arsenic	ND	ND	NA	NA		1	NA	NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	09-24	41-05									
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	132	123	111	111	ND	119	111	75-125	7	20	

DISSOLVED ARSENIC EPA 200.8

				Date	Date	
Analyte	Result	PQL	Method	Prepared	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

				Date	Date	
Analyte	Result	PQL	Method	Prepared	Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1009F1					
Arsenic	ND	3.0	EPA 200.8	10-9-19	10-11-19	

Analyte	Res	sult	Spike	Level	Source Result	_	cent overy	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											_
Laboratory ID:	10-08	38-02									
	ORIG	DUP									
Arsenic	4.58	5.94	NA	NA		١	NΑ	NA	26	20	С
MATRIX SPIKES											
Laboratory ID:	10-08	38-02									
	MS	MSD	MS	MSD		MS	MSD	•			
Arsenic	92.6	92.6	80.0	80.0	4.58	110	110	75-125	0	20	



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PQL - Practical Quantitation Limit

RPD - Relative Percent Difference





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PAHS PCBS Organ Organ Chlor Total Total TCLF HEM Arta	Halog EDB Semi	NWTF	Num	×	Date Sampled	Sample Identification	Lab ID
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