

July 21, 2015

Mr. Roger Nye Washington Department of Ecology Northwest Regional Office 3190 160<sup>th</sup> Avenue SE Bellevue, Washington 98008

RE: Groundwater Characterization Report Alamo Manhattan Main Street 10505 Main Street Bellevue, Washington RGI Project No. RGI Project No. 2012-107K VCP Project No. NW2811

Dear Mr. Nye:

The Riley Group, Inc. (RGI) is pleased to present this *Groundwater Characterization Report* (GC Report) documenting activities associated with characterizing groundwater on the Alamo Manhattan Main Street project located at 10505 Main Street in Bellevue, Washington (herein referred to as the Property). The general vicinity of the Property is illustrated on Figure 1.

The Property is currently owned by Alamo Manhattan Bellevue, LLC and is enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP). The Property is identified by Ecology as the Alamo Manhattan Main Street project (VCP Project No. NW2811).

The purpose of the GC was to address Ecology's concern that further groundwater characterization was necessary for the Property. This concern was expressed to RGI on September 25, 2014 during a telephone conversation between Mr. Roger Nye of Ecology and Mr. Jerry Sawetz of RGI.

The GC was performed at the request of Alamo Manhattan Bellevue, LLC. The scope of work for this project was performed in general accordance with our *Groundwater Characterization Work Plan* dated October 30, 2014, which was submitted to Ecology for review and subsequent approval. The work was also performed in accordance with RGI's *Proposal for Services* dated October 3, 2014 and subsequent *Change Order No.* 1 dated December 1, 2014, which were authorized by Mr. Matt Segrest of Alamo Manhattan, LLC on October 6, 2014 and December 3, 2014, respectively.

Tacoma, Washington Phone 253.565.0552 Corporate Office 17522 Bothell Way Northeast Bothell, Washington 98011 Phone 425.415.0551 ◆Fax 425.415.0311 Kennewick, Washington Phone 509.586.4840

www.riley-group.com

#### **PROJECT BACKGROUND**

Several previous environmental investigations and remedial actions have been performed on the Property. The history of the Property and details pertaining to these investigations are documented in the *Remedial Action Report* (RA Report) dated June 13, 2014 by RGI. The RA Report was previously submitted to Ecology and the reader should refer to this report in its entirety for details pertaining to previous work performed on the Property.

### SCOPE OF WORK

The scope of work performed for this project included the following tasks:

- Obtained Right-Of-Way Permits No. 14 142579 TN and 15 102779 TE from the City of Bellevue.
- Performed public and private utility locating to identify the locations of utility lines prior to drilling.
- Advanced one boring to a depth of approximately 65 feet below ground surface (bgs) using standard hollow stem auger drilling techniques. This boring was completed as groundwater monitoring well MW-5.
- Retained the services of a licensed asphalt contractor to restore asphalt around the well on 105th Avenue SE after well installation.
- Retained the services of a licensed well surveyor to obtain top of casing elevations from the north side of casing of wells MW-5, RW-1 and RW-2 and generated groundwater elevation contours based on this data and depth to groundwater data.
- Purged, sampled and collected groundwater samples from each of the three wells under low flow conditions in December of 2014 and January and May of 2015. Analyzed groundwater samples for the contaminants of concern (COCs) as identified by RGI in its previous subsurface investigations and the remedial action.
- Compared analytical results from groundwater samples to MTCA Method A Cleanup Levels for Groundwater to determine if groundwater on the Property is in compliance with the MTCA regulation.
- Prepared this report presenting the findings and observations pertaining to the Groundwater Characterization.

# **REGULATORY ANALYSIS OF PROPERTY CONDITIONS UNDER MTCA**

In Washington State, the Model Toxics Control Act (MTCA, RCW 70.105D), mandates that site cleanups protect human health and the environment. The MTCA Cleanup Regulation (173-340 WAC) defines the approach for establishing cleanup



requirements for individual sites, including the establishment of cleanup standards and selection of cleanup actions.

Groundwater analytical laboratory data for this project were compared to the MTCA Method A Cleanup Levels for Ground Water. RGI's evaluation of groundwater analytical data obtained during this and previous investigations indicate that these groundwater cleanup levels are sufficient to demonstrate whether or not groundwater COCs were in compliance with the MTCA regulation on the Property.

It should be noted that MTCA Method A Cleanup Levels For Ground Water have not been established for a number of compounds. Washington Administrative Code (WAC) 173-340-700(5)(a) indicates that it is acceptable to use the Applicable or Relevant and Appropriate Requirements (ARARs) in conjunction with MTCA Method A Cleanup Levels For Ground Water when no MTCA Method A cleanup levels have been established for a given compound. MTCA Method A Cleanup Levels For Groundwater and/or ARARs have been established for all COCs in groundwater on the Property.

It should be noted that historical groundwater monitoring data indicated the presence of compounds that did not have a MTCA Method A Cleanup Level For Ground Water or ARAR available (for example, 2-butanone and acetone). However, none of these compounds were determined to be COCs for the Property.

The MTCA Method A Cleanup Levels for Ground Water and ARARs are summarized in Table 1. MTCA Method B Cleanup Levels For Ground Water are also included in Table 1 for reference purposes.

# GROUNDWATER MONITORING WELL INSTALLATION

The following section describes activities associated with the installation of MW5 and sampling of groundwater monitoring wells.

### Permitting & Road Closure

Prior to commencing with the subsurface investigation conducted in December of 2014, RGI obtained Right of Way Use Street Use Permit No. 14 142579 TN from the City of Bellevue. This permit was necessary to allow for drilling in the northbound lane of 105<sup>th</sup> Avenue Southeast (City of Bellevue Right-of-Way).

In addition, RGI obtained Right of Way Street Use Permit No. 15 102779 TE from the City of Bellevue. This permit allowed RGI to sample well MW5 from January 1, 2015 through January 31, 2016.

During each sampling event, RGI additionally provided signage and traffic control services necessary to close the northbound lane of 105th Avenue Southeast with assistance from the general contractor for the Main Street Apartments Development project (WG Clark). The lane closure was performed in accordance with the traffic control plan that was approved by the City of Bellevue as part of the issuance of the permits associated each sampling event. Copies of Permits 14 142579 TN and 15 102779 TE are included in Appendix A.



# Utility Locating

At least 48 hours prior to commencing with the subsurface investigation activities, RGI contacted One-Call, public locate service, to locate public underground utilities situated in the drilling location. In addition, RGI reviewed utility maps associated with the construction of the Main Street Apartments Development and retained the services of Applied Professional Services, Inc. (APS) to locate privately owned utilities.

## Hollow Stem Auger Drilling

On December 11, 2014, RGI retained the services of Holocene Drilling, Inc. to advance one boring to approximately 65 feet bgs using standard hollow stem auger (HSA) drilling techniques in the location indicated on Figures 2 through 5. Since soil contamination was not suspected to be present beneath the Right-of-Way, the boring was advanced directly to approximately 50 feet bgs at which point a decontaminated 18-inch long, steel split spoon sampler was inserted into the auger stem and driven through an 18-inch interval. Blow counts were recorded during sample collection. After driving the sampler a total of 18 inches or encountering refusal (i.e., >50 blows per 6-inch interval) the sampler was retrieved and the samples were removed from the split spoon sampler.

The soil conditions encountered during drilling were described using the Unified Soil Classification System (USCS) and subsurface conditions generally consisted of medium sand to approximately 60 feet bgs beneath which a silty sand layer was encountered to the maximum depth of exploration of 65 feet bgs. Groundwater was encountered at approximately 54.6 feet bgs at the time of drilling. Subsurface conditions encountered during drilling are described on the borelog presented in Appendix B.

# **Groundwater Monitoring Well Construction & Development**

The boring was completed as groundwater monitoring well MW-5 in accordance with the well construction standards found in Ecology Minimum Standards for Construction and Maintenance of Water Wells (Chapter 173-160 WAC).

MW-5 was constructed of 2-inch diameter, flush-threaded, Schedule 40 polyvinylchloride (PVC) well casing and screen. The well screen was placed between approximately 50 and 65 feet bgs in order to allow the water table to intersect the well screen throughout the normal annual fluctuations in water table elevation. Flush-threaded, Schedule 40 PVC blank was placed from the top of the screened interval to approximately 6 inches bgs. A 2-inch diameter, locking, watertight PVC well cap was used to secure the well.

A sand filter pack was placed in the annulus and extended to approximately 2-feet above the top of the screened interval. Hydrated bentonite chips were placed in the annular space immediately above the sand filter pack and extended to approximately one foot bgs.



The well was secured with flush-completion steel protective monument set in concrete which extended to approximately 6 inches below the grade of 105th Avenue Southeast. The area surrounding the monument was temporarily patched with cold mix asphalt to allow for vehicles to drive through the area overnight.

After installation, the well was developed using a combination of pumping and surging. Well development was terminated once the turbidity of the discharge water decreased to the satisfaction of RGI personnel. Approximately 10 wetted casing volumes were removed from MW5 during well development.

### Asphalt Restoration

Asphalt restoration was a requirement of the Right-of-Way Use permit obtained from the City of Bellevue and included in Appendix A. On December 12, 2014, RGI retained the services of Sutter Paving, Inc. to remove asphalt from an area approximately 1 foot beyond the outside diameter of the well monument. This asphalt along with the temporary asphalt patch were removed from the work area and disposed of in accordance with applicable regulations by Sutter Paving, Inc.

Asphalt restoration was performed by pouring approximately 6-inches of hot asphalt mix into the area surrounding the monument to match the existing grade and thickness of the asphalt currently present on 105th Avenue Southeast.

## Well Surveying & Groundwater Elevations.

RGI retained the services of Bush Roed & Hitchings, Inc, a licensed well surveyor, to survey the newly constructed off-Property groundwater monitoring well (MW-5) on 105th Avenue Southeast and the existing on-Property wells (RW-1 and RW-2) situated in the parking garage of the building, which was under construction at the time.

The top of casing (TOC) elevation on the north side of all well casings along with the surface elevation were surveyed to the North American Vertical Datum of 1988 (NAVD88). Horizontal and vertical locations were surveyed to an accuracy of  $\pm 0.01$  foot.

TOC elevations along with depth to groundwater data were used to generate groundwater elevation contours. TOC and groundwater elevation data are summarized in Table 1.

### **GROUNDWATER MONITORING WELL SAMPLING**

RGI collected groundwater samples from groundwater monitoring wells RW1, RW2, and MW5 on December 12, 2014, January 29, 2015, May 7, 2015.

RW1 and RW2 are located and completed inside the existing building's second level underground parking garage-on the southwest corner of the Property.

Off-Property well MW5 is located west of the Property within the northbound lane of the 105th Avenue Southeast street right-of-way.



It should be noted that wells RW1 and RW2 were installed and completed inside the lower level of the underground parking garage. Therefore, the depth to water measurements from these two wells are considerably less than those obtained from MW5, which was installed and completed at existing street grade.

## General Groundwater Sampling Methodology

During each sampling event, the water level in each well was measured using an electronic water level meter. The depth of water was measured relative to the northernmost point on the well casing. This measurement was subtracted from the surveyed top of casing (TOC) elevation to calculate the groundwater elevation.

After collection of water level data, each well was purged using a submersible pump and dedicated tubing. Measurements of pH, temperature, and conductivity were recorded at each well using a Horiba and purging was considered when either three wetted casing volumes were purged from the well or when water quality parameters had stabilized.

After purging, groundwater samples were collected by transferring groundwater to laboratory supplied containers at a flow rate less than 100 milliliters/minute. Immediately after collection all samples were labeled and placed in an iced cooler and submitted to the laboratory under standard Chain of Custody protocols.

## May 7, 2015 Groundwater Sampling Event

On May 7, 2015, RGI sampled and monitored all three groundwater monitoring wells (RW1, RW2, and MW5).

During this sampling event, the depth to water measurements (beneath the northernmost portion of the TOC) were 26.49 feet in RW1, 29.68 feet in RW2, and 50.91 feet in MW5. The corresponding groundwater elevations for RW1, RW2, and MW5 were 52.29 feet, 49.78 feet, and 50.53 feet, respectively. Groundwater flow direction was determined to be to the northeast and groundwater elevations contours are presented on Figure 2

All three samples were submitted for analyses of gasoline-range TPH, diesel- and oilrange TPH (with silica gel cleanup), and VOCs during this sampling event.

### January 29, 2015 Groundwater Sampling Event

On January 29, 2015, RGI sampled and monitored all three groundwater monitoring wells (RW1, RW2, and MW5).

During this sampling event, the depth to water measurements (beneath the northernmost portion of the TOC) were 27.08 feet in RW1, 29.87 feet in RW2, and 51.31 feet in MW5. The corresponding groundwater elevations for RW1, RW2, and MW5 were 51.70 feet, 49.59 feet, and 50.13 feet, respectively. Groundwater flow direction was determined to be to the northeast and groundwater elevations contours are presented on Figure 3.



All three samples were submitted for analyses of gasoline-range TPH, diesel- and oilrange TPH (with and without silica gel cleanup), and VOCs during this sampling event.

# December 12, 2014 Groundwater Sampling Event

On December 12, 2014, RGI sampled and monitored all three groundwater monitoring wells (RW1, RW2, and MW5).

During this sampling event, the depth to water measurements (beneath the northernmost portion of the TOC) were 27.45 feet in RW1, 29.99 feet in RW2, and 51.59 feet in MW5. The corresponding groundwater elevations for RW1, RW2, and MW5 were 51.33 feet, 49.47 feet, and 49.85 feet, respectively. Groundwater flow direction was determined to be to the northeast and groundwater elevations contours are presented on Figure 4.

All three samples were submitted for analyses of gasoline-range TPH, diesel- and oilrange TPH (with and without silica gel cleanup), and VOCs during this sampling event.

## **Investigation Derived Waste**

Investigation derived waste (IDW) generated during groundwater development and sampling consisted of purge water. IDW was collected in a DOT-approved 55-gallon drum, which was removed from the Property on June 3, 2015 by Kleen Environmental Technologies and disposed of in accordance with applicable regulations.

## ANALYTICAL LABORATORY ANALYSIS

Groundwater samples collected during all three sampling events were submitted to an Friedman and Bruya, Inc., an Ecology-accredited third-party analytical laboratory, for the following laboratory analyses:

- ➢ VOCs using EPA Method 8260C.
- Sasoline-range total petroleum hydrocarbons (TPH) using Method NWTPH-Gx.
- Diesel- and oil-range TPH using Method NWTPH-Dx with and/or without silica gel cleanup (to remove naturally occurring organic material).

A copy of the analytical laboratory reports for all three sampling events and associated sample chain of custodies are included in the Appendix C.

# Analytical Results

The groundwater analytical results pertaining to all three groundwater sampling events are summarized in Table 1 and on Figure 5. A summary of laboratory results for each well location is presented below.

It should be noted that diesel- and oil-range TPH data analyzed using silica gel cleanup (to remove naturally occurring organic material) were considered representative for the Property based on the findings of previous subsurface investigations and the Remedial Action.



### RW1 Analytical Data

During the December 2014 sampling event, diesel-range TPH was detected at a concentration 1,200 micrograms/liter ( $\mu$ g), which exceeds the MTCA Method A Cleanup Level of 500  $\mu$ g/L for diesel-range TPH. This was the only time that a groundwater concentration exceeded a MTCA cleanup level in this well.

Groundwater analytical data obtained from this well during the two most recent sampling events (January and May of 2015) did not contain concentrations of COCs above MTCA Method A Cleanup Levels For Groundwater. Therefore, groundwater in this location is currently in compliance with the MTCA regulation.

### RW2 Analytical Data

No COCs were detected in groundwater at concentrations exceeding applicable MTCA Method A Cleanup Levels For Groundwater during any of the three groundwater sampling events. Therefore, groundwater in this location is currently in compliance with the MTCA regulation.

In addition, groundwater concentrations of COCs in this well have never exceeded applicable MTCA Method A Cleanup Levels For Groundwater since the installation of the well in November of 2013.

### MW5 Analytical Data

No COCs were detected in groundwater at concentrations exceeding MTCA Method A Cleanup Levels For Groundwater during any of the three groundwater sampling events since this well was installed in December of 2014. Therefore, groundwater in this location is currently in compliance with the MTCA regulation.

### CONCLUSIONS

The results of this Groundwater Characterization support the following conclusions:

- > The completed cleanup has met the substantive requirements of the MTCA regulation.
- Groundwater on the Property has been characterized and groundwater on the Property is currently in compliance with the MTCA regulation. In addition, no evidence of off-Property migration of contaminants was observed.
- The limited nature and extent of any residual groundwater contamination underlying the southwest portion of the Property no longer poses a threat to human health and the environment.

Based on the findings and conclusions presented in this *Groundwater Characterization Report* and the previously submitted *Remedial Action Report*, RGI and Alamo Manhattan Bellevue, LLC respectfully request that Ecology grant an Unrestricted No Further Action (NFA) determination for the Property.



#### LIMITATIONS

This report is the property of RGI, Alamo Manhattan Bellevue, LLC and their authorized representatives and was prepared in a manner consistent with the level of skill and care ordinarily exercised by members of the profession currently practicing in the same locality and under similar conditions. This report is intended for specific application to the Property located at 10505 Main Street in Bellevue, Washington. No other warranty, expressed or implied, is made.

The analyses and recommendations presented in this report are based upon data obtained from our review of available information at the time of preparing this report, our soil excavation on the Property, or other noted data sources. Conditional changes may occur through time by natural or human-made process on this or adjacent properties. Additional changes may occur in legislative standards, which may or may not be applicable to this report. These changes, beyond RGI's control, may render this report invalid, partially or wholly. If variations appear evident, RGI should be requested to reevaluate the recommendations in this report.



If you have any questions, or need additional information, please contact us at (425) 415-0551.

Sincerely,

THE RILEY GROUP, INC.



Jerry Sawetz Senior Environmental Scientist

Paul D. Riley, LG, LHG Principal

Report DistributionMr. Roger Nye Washington Department of Ecology Northwest<br/>Regional Office (hard copy and PDF)<br/>Mr. Matt Segrest, Alamo Manhattan Bellevue, LLC (PDF)<br/>Mr. Dave McGregor, Alamo Manhattan Bellevue, LLC (PDF)

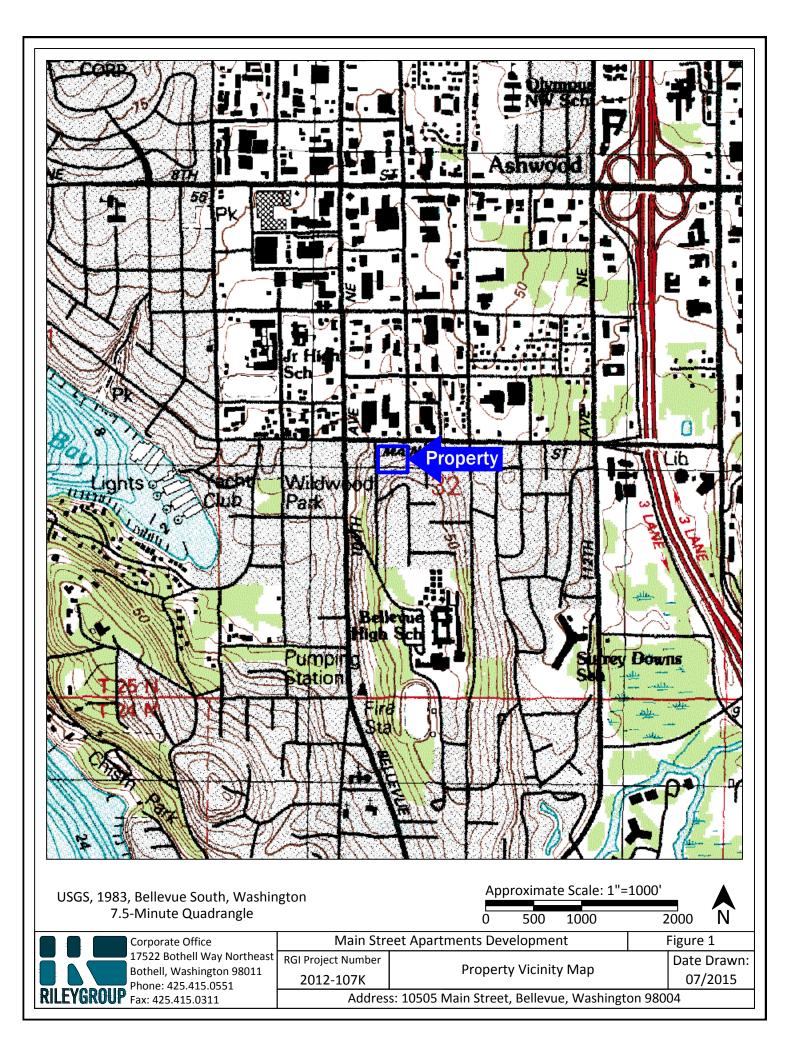
Attachments: Figure 1. Property Vicinity Map

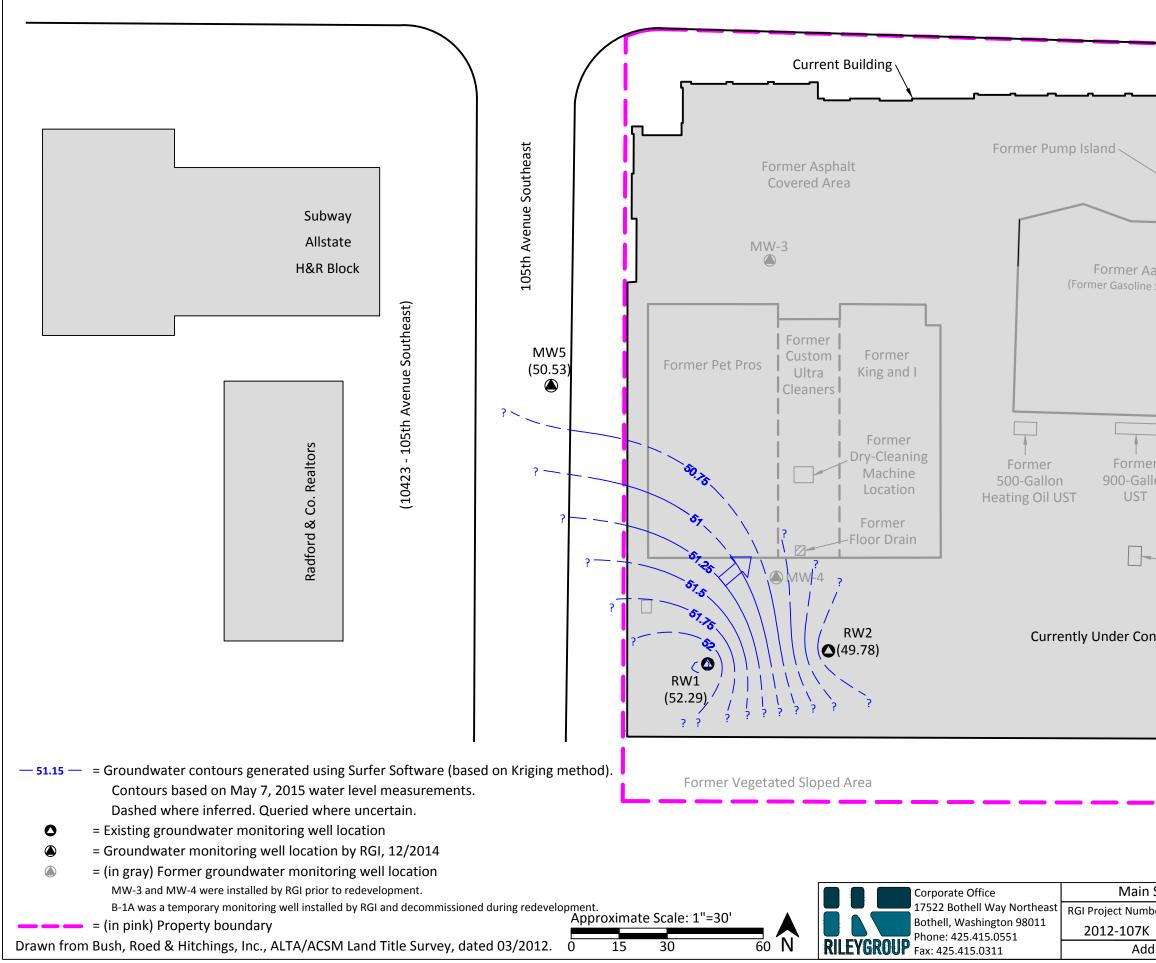
Figure 2. May 2015 Groundwater Elevation Contours Figure 3. January 2015 Groundwater Elevation Contours Figure 4. December 2014 Groundwater Elevation Contours Figure 5. Summary of Current and Historical Groundwater Analytical Data

Table 1. Summary of Current and Historical Groundwater Analytical Data

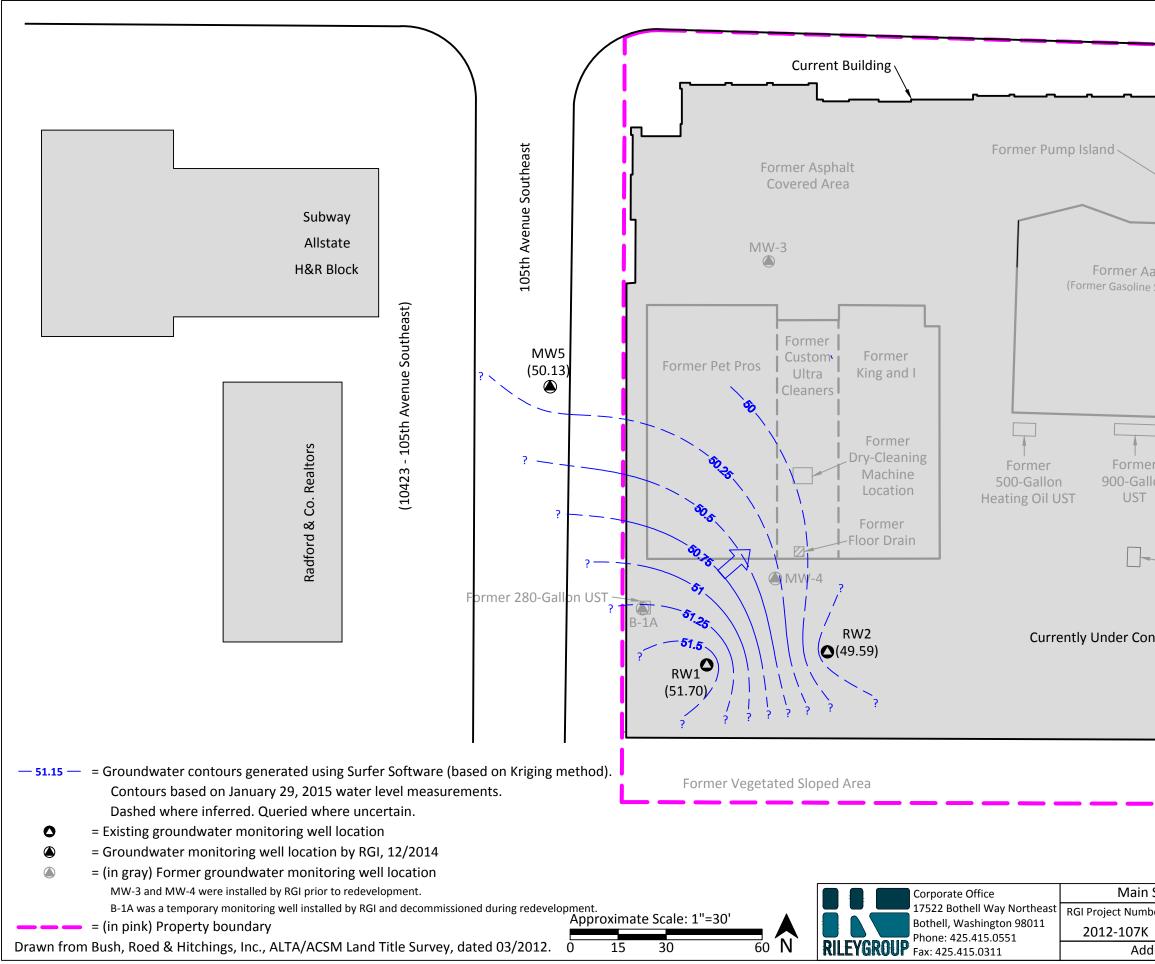
Appendix A. Copies of Permits 14 142579 TN and 15 102779 TE Appendix B. Borelog of MW5 Appendix C. Analytical Laboratory Reports



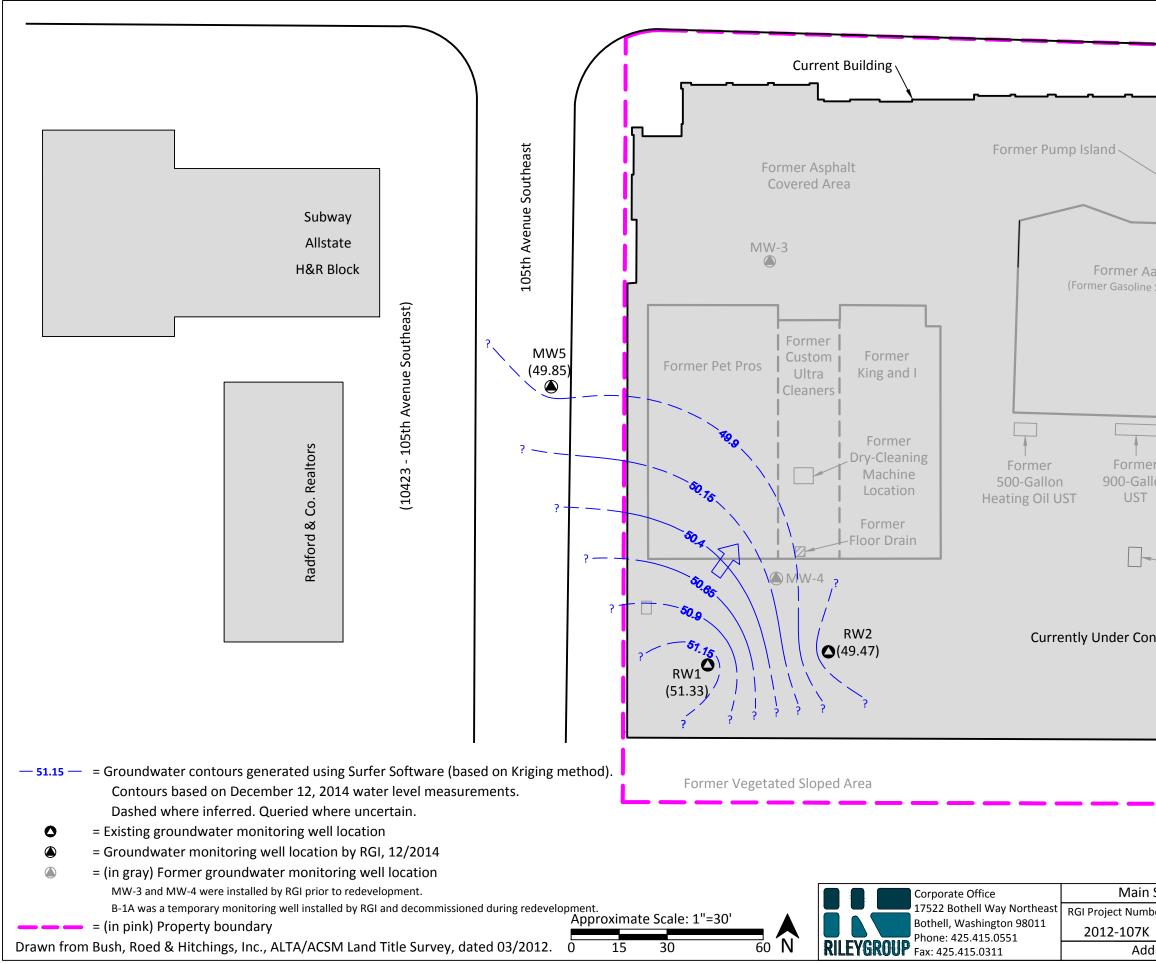




aron Brothers Art & Framing Service Station and Auto Repair Facility)	
r Former 660-Gallon UST	
- Former Oil-Water Separator	
istruction	
Street Apartments Development	Figure 2
May 2015 Groundwater Elevation Contou	Date Drawn:
	07/2015
ress: 10505 Main Street, Bellevue, Washington	98004



aron Brothers Art & Framing Service Station and Auto Repair Facility)	
]	
r Former 660-Gallon UST	
- Former Oil-Water Separator	
istruction	
Street Apartments Development	Figure 3
er January 2015 Groundwater Elevation Contours	Date Drawn: 07/2015
ress: 10505 Main Street, Bellevue, Washington 980	



aron Brothers Art & Framing Service Station and Auto Repair Facility)	
r Former 660-Gallon UST	
- Former Oil-Water Separator	
nstruction	
Street Apartments Development Fi	igure 4
	Date Drawn: 07/2015
ress: 10505 Main Street, Bellevue, Washington 9800	

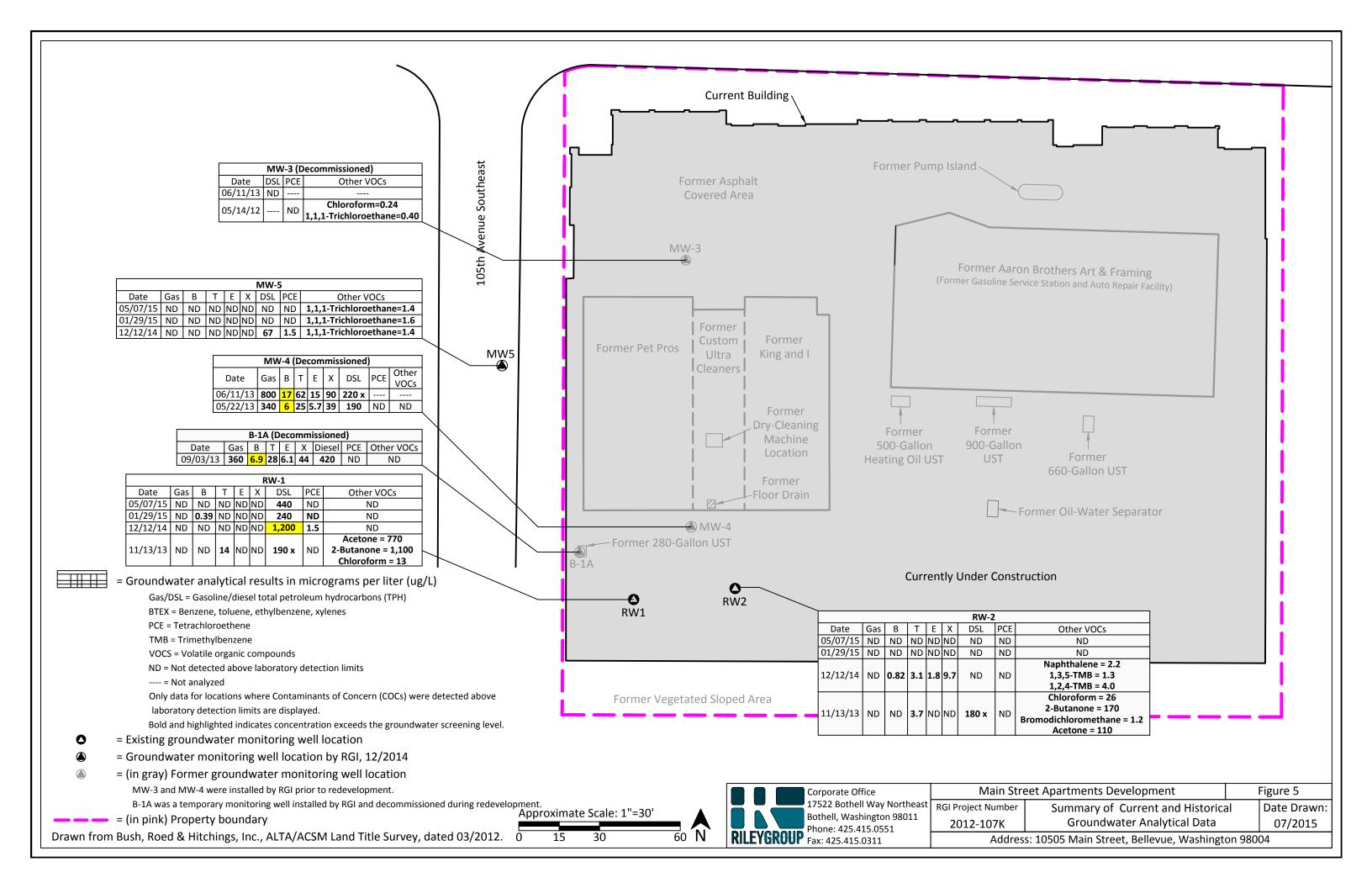


Table 1. Sum	mary of C	urrent an	d Historical	Groundwate	r Analytica	Data																
Main Street	Apartmen	ts Develo	pment																			
10505 Main	Street, Bel	levue, W	ashington 9	8004																		
The Riley Gro	oup, Inc. P	roject No	. 2012-107k	K																		
Sample	Sample	TOC Elevation	Depth to	Groundwater Elevation	Gas TPH		BTE	X		Diesel TPH	Oil TPH	Diesel TPH	Oil TPH	Total	PCE	1,1,1-	2-	Acetone	Bromo- dichloro-	Chloro-	VOCs Incuded in the Method A TPH	Other VOCs
Number	Date	(feet)	Water (feet)	(feet)	645	В	т	Е	Х		silica gel		ilica gel	Naphthalenes <sup>2</sup>	. 02	TCA	Butanone	/	methane	form	Cleanup Level <sup>7</sup>	
									Cur	rent Grou	Indwater I	Vonitor	ing Well D	ata				<u>.</u>			•	
RW1, Screened	from approx	imate eleva	ation of 58.3' t	o 43.3', Total we	ell length 35.5	ı																
RW1	05/07/15	78.78	26.49	52.29	ND<100	ND<0.35	ND<1	ND<1	ND<2			440	ND<250	ND<1	ND<1	ND<1	ND<10	ND<10	ND<1	ND<1	ND	ND
RW1	01/29/15	78.78	27.08	51.7	ND<100	0.39	ND<1	ND<1	ND<2	2,800x	540x	240	ND<250	ND<1	ND<1	ND<1	ND<10	ND<10	ND<1	ND<1	ND	ND
RW1	12/12/14	78.78	27.45	51.33	ND<100	ND<0.35	ND<1	ND<1	ND<2	4,400x	840x	1,200	ND<250	ND<1	1.5	ND<1	ND<10	ND<10	ND<1	ND<1	ND	ND
RW1	11/13/13	78.78	27.57*	51.21	ND<100	ND<0.35	14	ND<1	ND<2	190 x	ND<250			ND<1	ND<1	ND<1	1,100	770	ND<1	13	ND	ND
RW2, Screened	from approx	imate eleva	ation of 57.2' t	o 42.2', Total we	ell length 37.3	1																
RW2	05/07/15	79.46	29.68	49.78	ND<100	ND<0.35	ND<1	ND<1	ND<2			ND<50	ND<250	ND<1	ND<1	ND<1	ND<10	ND<10	ND<1	ND<1	ND	ND
RW2	01/29/15	79.46	29.87	49.59	ND<100	ND<0.35	ND<1	ND<1	ND<2	2,000x	360x	ND<50	ND<250	ND<1	ND<1	ND<1	ND<10	ND<10	ND<1	ND<1	ND	ND
RW2	12/12/14	79.46	29.99	49.47	ND<100	0.82	3.1	1.8	9.7	1,400x	ND<250	ND<50	ND<250	2.2	ND<1	ND<1	<10	<10	<1	<1	1,3,5-TMB = 1.3 1,2,4-TMB = 4.0	ND
RW2	11/13/13	79.46	30.68*	48.78	ND<100	ND<0.35	3.7	ND<1	ND<2	180 x	ND<250			ND<1	ND<1	ND<1	170	110	1.2	26 <sup>8</sup>	ND	ND
MW5, Screened	d from appro	ximate elev	ation of 51.4'	to 36.4', Total w	ell length 65'																	
MW5	05/07/15	101.44	50.91	50.53	ND<100	ND<0.35	ND<1	ND<1	ND<2			ND<50	ND<250	ND<1	ND<1	1.4	ND<10	ND<10	ND<1	ND<1	ND	ND
MW5	01/29/15	101.44	51.31	50.13	ND<100	ND<0.35	ND<1	ND<1	ND<2	ND<50	ND<250	ND<50	ND<250	ND<1	ND<1	1.6	ND<10	ND<10	ND<1	ND<1	ND	ND
MW5	12/12/14	101.44	51.59	49.85	<100	ND<0.35	ND<1	ND<1	ND<2	230x	ND<250	67	ND<250	ND<1	ND<1	1.4	ND<10	ND<10	ND<1	ND<1	ND	ND
									Histo	orical Gro	undwater	Monito	ring Well	Data								
B1A (Decommis	ssioned) Scre	ened from	approximate e	elevation of 57' t	o 47', Total w	ell length !	50'															
UST1-B1A-W	09/03/13	~97	43.5	~53.5	360	6.9	28	6.1	44	5,200 x	1,000 x	420	ND<300	2.3	ND<1	ND<1	ND<10	ND<10	ND<1	ND<1	ND	ND
MW3 (Decomm	nissioned), Sc	reened froi	m approximate	e elevation of 52	.41' to 37.41',	, Total wel	l length	60'														
MW-3	06/11/13	97.41	43.44	53.97	ND<100	ND<1	ND<1	ND<1	ND<3			ND<50	ND<250									
MW-3	05/22/13	97.41	43.1	54.31																		
MW-3	05/14/12	97.41	50.51	46.90											ND<0.20	0.40			ND<0.20	0.24		ND
MW4 (Decomm	nissioned), Sc	reened froi	m approximate	e elevation of 55	.29' to 45.29'	, Total wel	l length	53'														
MW4	06/11/13	98.29	42.06	56.23	800	17	62	15	90			220 x	ND<250									
MW4	05/22/13	98.29	43.51	54.78	340	6	25	5.7	39	7,900 x	1,300 x	190	ND<250		ND<1	ND<1						ND
Crossedurator	М		od A Cleanup L ound Water	evels.	800/1,000 <sup>1</sup>	5	1,000	700	1,000	500	500	500	500	160	5	200					Not Applicable	Analyte Specific
Groundwater Screening	ARAR S		deral Primary ant Level (MC			5	1,000	700	10,000						5	200			80	80	Not Applicable	Analyte Specific
Levels	М		od B Cleanup L ound Water	evels		<b>0.8</b> <sup>4</sup>										<b>16,000</b> <sup>5</sup>	4,800 <sup>5</sup>	<b>7,200</b> ⁵	<b>7.06</b> <sup>4,6</sup>	14.1 <sup>4,6</sup>	Not Applicable	Analyte Specific
Samples collect	Samples collected by RGI field staff using a submersible pump under low flow conditions.																					
	Unless otherwise noted, all analytical results are given in micrograms per liter (ug/L), equivalent to parts per billion (ppb).																					
_		-		determined used																		
BTEX (benzene, Diesel and Oil-R		-		letermined using					leanun													
Dieser and Oil-N		u u		it ist method N			iout sill		icunup.													

Table 1 Continued. Summary of Current and Historical Groundwater Analytical Data Main Street Apartments Development 10505 Main Street, Bellevue, Washington 98004 The Riley Group, Inc. Project No. 2012-107K Silica gel = Sample extract is passed through a silica gel column prior to analysis. The silica gel column removes natural occurring biogenic material that can interfere with the TPH result when present. PCE (tetrachloroethene), 1,1,1-TCA (1,1,1-trichloroethane), 2-butanone, acetone, bromodichloromethane, chloroform, TMB (Trimethylbenzene), and other VOCs (volatile organic compounds) determined using EPA Test Method 8260C. ND = Not detected above noted analytical detection limit. NVE = No value established. TOC = Top of casing. Depth to water measurements were obtained from TOC (in feet). --- = Not analyzed or not applicable. x = According to the analytical chemist, the sample chromatographic pattern does not resemble the fuel standard used for quantification. Depth to water measurements obtained on December 23, 2013. The higher cleanup level is allowed if no benzene is detected in the sample and the total of toluene, ethylbenzene and xylenes is less than 1% of the gasoline mixture. Analyzed using EPA Test Method 8260C. Naphthalenes are factored into the TPH screening level calculation but are evaluated separately due to the fact that some mixtures of TPH may contain amounts of naphthalenes that did not match the assumptions used in the TPH calculations. It is not necessary to evaluate these compounds for screening level exceedances due to the fact that they are factored into the TPH screening level calculations. The carcinogenic MTCA Method B Cleanup Level was referenced. The non-carcinogenic MTCA Method B Cleanup Level was referenced RGI evaluated the cancer risk for the ARAR which was determined to be greater than 10<sup>-5</sup>. Therefore, the ARAR is adjusted down to a cancer risk of 10<sup>-5</sup>. These compounds are factored into the MTCA Method A TPH Cleanup Level calculations and are therefore not evaluated individually. No carcinogenic Method B was available in the searchable CLARC database at the time the Remedial Action report was prepared. Therefore, this concentration was compared to the Method B non-carcinogenic level of 80 micrograms/liter at that time. The selected groundwater cleanup levels for the Property are the MTCA Method A Cleanup Levels For Ground Water and under Method A, the ARAR is appropriate cleanup level for chloroform. Ecology Model Toxics Control Act Method A or B Cleanup Levels for Ground Water (WAC 173-340-900, Table 720-1 and CLARC database). ARAR = Applicable or Relavent and Appropriate Requirement. ARARs for the Property are the Federal and State Primary Maximum Contaminant Levels (MCLs) as established under the Environmental Protection Agency (EPA) National Primary Drinking Water Regulations. ARARs are referenced in Ecoloy's CLARC databse. **Bold** results indicated concentrations above laboratory detection limits. Bold and yellow highlighted results indicate concentrations (if any) that exceed the applicable groundwater cleanup levels.



# **City of Bellevue**

Development Services • 450 110th Ave NE • Bellevue 98004

Permit and Inspection Record

# Job Address:

Issued: 11/17/2014

#### Start Work On: 11/17/2014

# Permit Number: 14 142579 TN Expires: 04/30/2015

Type: ROW Commercial Development Property Owner: NONE Application Name: Main Street Apartments Development Occupancy Type: Nonresidential Applicant: Alamo Manhattan Bellevue, LLC Matt Segrest Phone: (469) 941-4510

Description: Installation of one approximately 70 ft deep groundwater monitoring well on the east side of 105th Avenue Southeast south of Main St. ANY FUTURE ACCESS for sampling will require a Street Use Permit (i.e. Type TE Right of Way Use Permit) for access.

Construction Lender: NON	NE Phone:		
Billable?	Yes Restoration Required	No Cut Street Pavements less than 60 Months?	Yes
ROW Cut/Square Feet (Calc = L x	1.00 ROW Parcel Sq. Ft	0.00 Start Work On	11/17/2014
Start Work Time	see approved TCP End Work By	04/30/2015 End Work Time	see approved TCP
Lease Start Days	0.00 Lease End Days	0.00	

Post this permit in a visible and accessible location at the job site and have the approved plans available for the inspector.

	Inspection Scheduling Information To schedule or cancel inpections by phone, call 425-452-6875 or go to MyBuildingPermit.com
	To get an estimated inspection time after the inspection is scheduled, call the appropriate number below. *** Do not call the following number(s) to schedule inspections ***
(425) 452-4570:	Building, Mechanical, Electrical, Plumbing, Clearing & Grading Inspections - Call between 7 and 8 a.m. the morning of the inspection.
(425) 452-4254:	Fire Department - If a specific time is needed, please call at least one day in advance.
(425) 452-4188:	Land Use Inspections - After you schedule your inspection, a Planner will call to schedule an inspection time.
(425) 452-6966:	Transportation Inspections - Call between 7:30 and 8:30 a.m. the morning of the inspection.
(425) 452-6977:	Utility Inspections- After you schedule your inspection, a Utilities representative will call to set up an appointment time.

#### Permit Expiration This permit will expire if -

Final inspection(s) approval is not obtained by 04/30/2015

There is limited ability to extend the expiration date.

Call 425-452-2888, or 4617 if you have questions about permit expiration.





DS Inspection Survey

Permit Number: 14 142579 TN

# Job Address:

**MBP Inspection Scheduling** 

Related Job #: Contractors:	Tenant:	Floor:	Suite:
HOLOCENE DRILLING IN SUTTER PAVING INC LE Construction Contact: NONE		License: HOLOCDI044KH License: SUTTEPI961QN	Phone: (253) 848-6500 Phone: (425) 391-9091

For each discipline, schedule inspections in order (read Left --> to --> Right, Top --> to --> Bottom).

Your project may not need all the listed inspections; ask your inspector.

All inspections must be approved or marked N/A by an inspector prior to requesting the final inspection.

Required Inspection	Inspector	Signoff Date	Required Inspection	Inspector	Signoff Date
900 ROW-Jobstart			902 ROW-Precon		
995 ROW-Final			928 ROW-Restoration		
903 ROW-General					

All permits and inspection disciplines associated with a building permit - including electrical, mechanical, plumbing, fire suppression, clearing & grading, right of way use, utilities, and any required land use surveys - must have final inspection approval before you schedule the final inspection on the building permit.



# **City of Bellevue**

Development Services • 450 110th Ave NE • Bellevue 98004

Permit and Inspection Record

Issued: 01/20/2015

#### Start Work On: 01/29/2015

Expires: 01/31/2016

Permit Number: 15 102779 TE

Type: ROW Street Use Property Owner: NONE Application Name: Main Street Apartments Development Occupancy Type: Other Project Type Applicant: Jerry Sawetz Phone: **(425) 415-0551/312** 

Description: ANNUAL PERMIT for groundwater sampling of well MW-5 situated in the northbound lane of 105th Avenue SE. Work will require closing northbound lane for approximately 2 hours while groundwater samples and groundwater data are collected. Applicant must renew permit every year for as long as well remains active. Applicant must call in a JOB START

#### Construction Lender: NONE

Phone:

Street Use Type? End Work By Street or Lane Closure Start Work On 01/31/2015 End Work Time 01/29/2015 Start Work Time see TCP

see TCP

Post this permit in a visible and accessible location at the job site and have the approved plans available for the inspector.

	Inspection Scheduling Information To schedule or cancel inpections by phone, call 425-452-6875 or go to MyBuildingPermit.com
	To get an estimated inspection time after the inspection is scheduled, call the appropriate number below. *** Do not call the following number(s) to schedule inspections ***
(425) 452-4570:	Building, Mechanical, Electrical, Plumbing, Clearing & Grading Inspections - Call between 7 and 8 a.m. the morning of the inspection.
(425) 452-4254:	Fire Department - If a specific time is needed, please call at least one day in advance.
(425) 452-4188:	Land Use Inspections - After you schedule your inspection, a Planner will call to schedule an inspection time.
(425) 452-6966:	Transportation Inspections - Call between 7:30 and 8:30 a.m. the morning of the inspection.
(425) 452-6977:	Utility Inspections- After you schedule your inspection, a Utilities representative will call to set up an appointment time.

#### Permit Expiration This permit will expire if -

Final inspection(s) approval is not obtained by 01/31/2016

There is limited ability to extend the expiration date.

Call 425-452-2888, or 4617 if you have questions about permit expiration.





DS Inspection Survey

Permit Number: 15 102779 TE

#### Job Address:

Related Job #: 13 134262 BB Contractors:	Tenant:		Floor:	Suite:
Construction Contact: NONE		License:	Phone:	

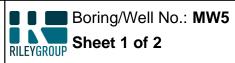
For each discipline, schedule inspections in order (read Left --> to --> Right, Top --> to --> Bottom). Your project may not need all the listed inspections; ask your inspector.

All inspections must be approved or marked N/A by an inspector prior to requesting the final inspection.

<b>Required Inspection</b>	Inspector	Signoff Date	<b>Required Inspection</b>	Inspector	Signoff Date
900 ROW-Jobstart			902 ROW-Precon		
995 ROW-Final			903 ROW-General		

All permits and inspection disciplines associated with a building permit - including electrical, mechanical, plumbing, fire suppression, clearing & grading, right of way use, utilities, and any required land use surveys - must have final inspection approval before you schedule the final inspection on the building permit.

# Project Name: Main Street Apartments Development Project Number: 2012-107K



#### Client: Alamo Manhattan

Date(s) Drilled: 12/11/14	Logged By: SL	Surface Conditions: Asphalt 6"	
Drilling Method(s): Hollow Stem Auger	Drill Bit Size/Type: 4" Inner Diameter	Total Depth of Borehole: 66.5 feet bgs	
Drill Rig Type: Truck-Mounted	Drilling Contractor: Holocene	Approximate Surface Elevation (feet amsl): <b>101.44</b>	
Groundwater Level and Date Measured: 51.59' on 12/12/14	Sampling Method(s): SPT	Hammer Data : 140 lb, 30 in drop, auto trip	
Borehole Backfill: Monitoring Well	Location: East side of 105th Avenue Southeast		

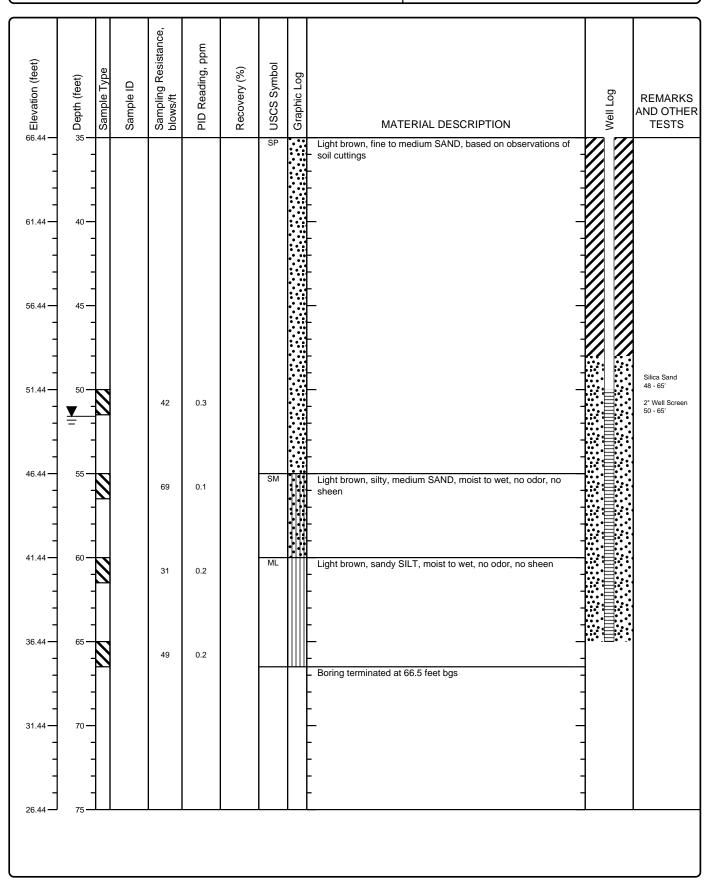
(feet) 101.4		Sample Type	Sample ID	Sampling Resistance, blows/ft	PID Reading, ppm	Recovery (%)	ध्य (ब्रि भि	Graphic Log	MATERIAL DESCRIPTION Asphalt Light brown, fine to medium SAND, based on observations of soil cuttings	REMAR AND OT TEST Asphalt 0 - 3.5" Concrete 3.5 - 6" Blank 2" P' 0 - 50 0.5 - 48" Bentonite
91.4 86.4 81.4										
76.4	25									

Project Name: Main Street Apartments Development Project Number: 2012-107K



Boring/Well No.: **MW5** 

Client: Alamo Manhattan

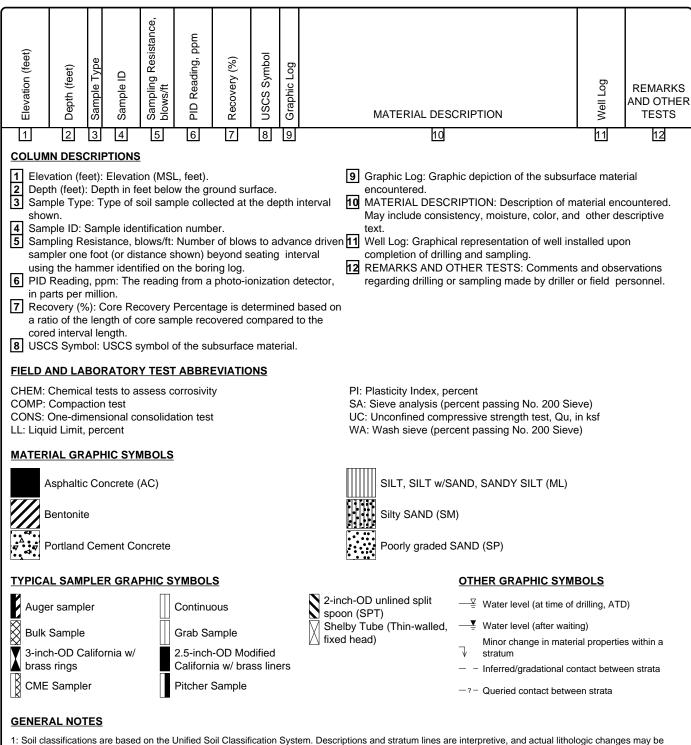


## Project Name: Main Street Apartments Development

Project Number: 2012-107K



Client: Alamo Manhattan



1: Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.

2: Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

December 30, 2014

Jerry Sawetz, Project Manager The Riley Group, Inc. 17522 Bothell Way NE Bothell, WA 98011

Dear Mr. Sawetz:

Included are the additional results from the testing of material submitted on December 12, 2014 from the 2012-107K, F&BI 412236 project. There are 4 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

1'r

Michael Erdahl Project Manager

Enclosures TRG1230R.DOC

# ENVIRONMENTAL CHEMISTS

# CASE NARRATIVE

This case narrative encompasses samples received on December 12, 2014 by Friedman & Bruya, Inc. from the The Riley Group 2012-107K, F&BI 412236 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>The Riley Group</u>
412236 -01	MW5-W
412236 -02	RW2-W
412236 -03	RW1-W

All quality control requirements were acceptable.

#### ENVIRONMENTAL CHEMISTS

Date of Report: 12/30/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236 Date Extracted: 12/15/14 Date Analyzed: 12/23/14

# RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a Silica Gel Column Prior to Analysis Results Reported as ug/L (ppb)

Surrogate Diesel Range (% Recovery) Sample ID Motor Oil Range Laboratory ID  $(C_{10}-C_{25})$  $(C_{25}-C_{36})$ (Limit 47-140) MW5-W 67 <250 87 412236-01 RW2-W <50 <250 93 412236-02 1,200 <250 97 RW1-W 412236-03 Method Blank <50 <250 92 04-2495 MB

# ENVIRONMENTAL CHEMISTS

Date of Report: 12/30/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236

# QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel									
			Percent	Percent					
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD			
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)			
Diesel Extended	ug/L (ppb)	2,500	94	98	61-133	4			

# ENVIRONMENTAL CHEMISTS

# **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

 ${\bf b}$  - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

 ${\rm d}$  - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

412236	~			SAMPLE	CHAIN C	)F (	CUS	бто	DY		MI	5_	12-	-12	2 (	ιų.		A	4/4
Send Report To Company	SAL	vetz	Graup		LERS (sign CT NAME			5	Zf	ve	$\geq$	_	PO#		[.c	T T	age # TURN		
Address $17522$ City, State, ZIP $B0$ Phone $# 425 \cdot 415 \cdot 05$	thell	WOY	NE 9801		() — ( RKS	07	'K	•							-   - -   -	Qush o Disj Reti	charg SAM pose a urn sa	es author PLE DIS after 30 d amples with inst	POSAL ays
· · · · · · · · · · · · · · · · · · ·		· · · ·		r					A	<b>NA</b>	LYSI	ES R	EQU	EST	ED				
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B				Dx ~/SG							Notes
Mws-w	di A.E	12/12/19	8:45	(+20	5	X	$\boldsymbol{k}$		X		(	0			•			0-0	er JS
Rw2-w	02T		1020			$\left  \right\rangle$	X		$\times$			2							<u>er JS</u> /10/14
RWI-W	03	V	1245			X	Y		X	_	. (	Э						 	ML .,
							-	-											
										+	_	-	+						
	-			· · · · · · · · · · · · · · · · · · ·													;		
									_				_						· · · · · · · · · · · · · · · · · · ·
				l 									·						
Friedman & Bruya, Inc. 3012 16th Avenue West	Relinquis	SIGN	ATURE		PR	INT	NA	ME					CO		-		1	DATE	TIME
Seattle, WA 98119-2029 Received by					57	×1-1		-4	<u>L_</u>		4			6.7	·		1	2/12/4	3:50
Ph. (206) 285-8282	Relinquis		Yn		$\mathcal{D}$	he	ín		Pŀ	1 les	1		Fa		<u>_</u>		<u>/</u>	2/12/19	3:50
Fax (206) 283-5044	Received	by:	<del>,</del>								+					rece	ivea	at_6	

FORMS\COC\COC.DO	$\mathbf{r}$
	L

٠

1

/		

### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

December 18, 2014

Jerry Sawetz, Project Manager The Riley Group, Inc. 17522 Bothell Way NE Bothell, WA 98011

Dear Mr. Sawetz:

Included are the results from the testing of material submitted on December 12, 2014 from the 2012-107K, F&BI 412236 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures TRG1218R.DOC

# ENVIRONMENTAL CHEMISTS

# CASE NARRATIVE

This case narrative encompasses samples received on December 12, 2014 by Friedman & Bruya, Inc. from the The Riley Group 2012-107K, F&BI 412236 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	The Riley Group
412236 -01	MW5-W
412236 -02	RW2-W
412236 -03	RW1-W

All quality control requirements were acceptable.

# ENVIRONMENTAL CHEMISTS

Date of Report: 12/18/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236 Date Extracted: 12/15/14 Date Analyzed: 12/15/14

# RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

~

<u>Sample ID</u> Laboratory ID	Gasoline Range	Surrogate ( <u>% Recovery)</u> (Limit 51-134)
MW5-W 412236-01	<100	85
RW2-W 412236-02	<100	108
RW1-W 412236-03	<100	92
Method Blank 04-2487 MB	<100	102

# ENVIRONMENTAL CHEMISTS

Date of Report: 12/18/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236 Date Extracted: 12/15/14 Date Analyzed: 12/15/14

# RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	Surrogate <u>(% Recovery)</u> (Limit 47-140)
MW5-W 412236-01	230 x	<250	103
RW2-W 412236-02	1,400 x	<250	92
RW1-W 412236-03	4,400 x	840 x	81
Method Blank 04-2495 MB	<50	<250	95

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	MW5-W 12/12/14 12/15/14 12/15/14 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 412 412236-01 121512.D GCMS9 SP	2236
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenz		% Recovery: 101 103 106	Lower Limit: 85 93 76	Upper Limit: 117 107 126	
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1
Chloromethane		<10		loroethene	<1
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1
Chloroethane		<1	Chlorobe	<1	
Trichlorofluoromet	hane	<1	Ethylber	nzene	<1
Acetone		<10		etrachloroethane	<1
1,1-Dichloroethene		<1	m,p-Xyle	ene	<2
Methylene chloride		<5	o-Xylene	) )	<1
Methyl t-butyl ethe		<1	Styrene		<1
trans-1,2-Dichloroe		<1	Isopropylbenzene		<1
1,1-Dichloroethane		<1	Bromoform		<1
2,2-Dichloropropan		<1	n-Propylbenzene		<1
cis-1,2-Dichloroeth	ene	<1	Bromobenzene		<1
Chloroform		<1		methylbenzene	<1
2-Butanone (MEK)		<10		etrachloroethane	<1
1,2-Dichloroethane		<1		chloropropane	<1
1,1,1-Trichloroetha		1.4	2-Chloro		<1
1,1-Dichloropropen		<1	4-Chloro		<1
Carbon tetrachlori	de	<1		ylbenzene	<1
Benzene		< 0.35		methylbenzene	<1
Trichloroethene		<1		lbenzene	<1
1,2-Dichloropropan		<1		pyltoluene	<1
Bromodichlorometh	nane	<1		lorobenzene	<1
Dibromomethane		<1		lorobenzene	<1
4-Methyl-2-pentan		<10		lorobenzene	<1
cis-1,3-Dichloropro	pene	<1		omo-3-chloropropane	<10
Toluene		<1		chlorobenzene	<1
trans-1,3-Dichlorop		<1		orobutadiene	<1
1,1,2-Trichloroetha	me	<1	Naphtha		<1
2-Hexanone		<10	1,2,3-111	chlorobenzene	<1

# ENVIRONMENTAL CHEMISTS

# Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	RW2-W 12/12/14 12/15/14 12/15/14 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 412 412236-02 121513A.D GCMS9 SP	2236
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenz		% Recovery: 101 100 102	Lower Limit: 85 93 76	Upper Limit: 117 107 126	
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1
Chloromethane		<10		oroethene	<1
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1
Bromomethane		<1	1,2-Dibro	omoethane (EDB)	<1
Chloroethane		<1	Chlorobe	<1	
Trichlorofluoromet	hane	<1	Ethylber	nzene	1.8
Acetone		<10	1,1,1,2-T	etrachloroethane	<1
1,1-Dichloroethene		<1	m,p-Xyle	ene	3.5
Methylene chloride		<5	o-Xylene	<b>;</b>	6.2
Methyl t-butyl ethe	er (MTBE)	<1	Styrene		<1
trans-1,2-Dichloroe	ethene	<1		lbenzene	<1
1,1-Dichloroethane		<1	Bromofo	rm	<1
2,2-Dichloropropan		<1	n-Propylbenzene		<1
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1
Chloroform		<1		methylbenzene	1.3
2-Butanone (MEK)		<10		etrachloroethane	<1
1,2-Dichloroethane		<1		chloropropane	<1
1,1,1-Trichloroetha		<1	2-Chloro		<1
1,1-Dichloropropen		<1	4-Chloro		<1
Carbon tetrachlorie	de	<1		ylbenzene	<1
Benzene		0.82		methylbenzene	4.0
Trichloroethene		<1		lbenzene	<1
1,2-Dichloropropan		<1		pyltoluene	<1
Bromodichlorometh	nane	<1		lorobenzene	<1
Dibromomethane		<1		lorobenzene	<1
4-Methyl-2-pentan		<10		lorobenzene	<1
cis-1,3-Dichloropro	pene	<1		omo-3-chloropropane	<10
Toluene		3.1		chlorobenzene	<1
trans-1,3-Dichlorop	-	<1		orobutadiene	<1
1,1,2-Trichloroetha	ne	<1	Naphtha		2.2
2-Hexanone		<10	1,2,3-111	chlorobenzene	<1

# ENVIRONMENTAL CHEMISTS

Compounds:ug/L (ppb)Compounds:ug/L (ppb)Dichlorodifluoromethane<11,3-Dichloropropane<1Chloromethane<10Tetrachloroethene1.5Vinyl chloride<0.2Dibromochloromethane<1Bromomethane<11,2-Dibromoethane (EDB)<1Chloroethane<1Chlorobenzene<1Trichlorofluoromethane<1Ethylbenzene<1Acetone<101,1,1,2-Tetrachloroethane<11,1-Dichloroethene<1m,p-Xylene<2Methylene chloride<5o Xylene<1Tras-1,2-Dichloroethene<1Isopropylbenzene<11,1-Dichloroethene<1Bromoform<11,1-Dichloroethene<1Bromoform<11,1-Dichloroethene<1Bromoform<12,2-Dichloroethene<1Bromoform<11,1-Dichloroethene<1Bromoform<11,1-Dichloroethene<1Bromoform<11,2-Dichloroethene<1Bromoform<11,1-Dichloroethane<11,3,5-Trimethylbenzene<12,2-Dichloroethane<11,2,2-Tetrachloroethane<11,2-Dichloroethane<11,2,2-Tetrachloroethane<11,1-Dichloroethane<11,2,3-Trichloroethane<11,1-Dichloroethane<11,2,2-Tetrachloroethane<11,1-Dichloroethane<11,2,2-Tetrachloroethane<11,2-Dichloroethane<11,2,2-Tetrachloro	Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	RW1-W 12/12/14 12/15/14 12/15/14 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 412 412236-03 121514.D GCMS9 SP	2236
Compounds:ug/L (ppb)Compounds:ug/L (ppb)Dichlorodifluoromethane<1	1,2-Dichloroethane Toluene-d8		100 104	Limit: 85 93	Limit: 117 107	
Chloromethane<10Tetrachlorothene1.5Vinyl chloride<0.2	Compounds:			Compou	nds:	Concentration ug/L (ppb)
Toluene<11,2,4-Trichlorobenzene<1trans-1,3-Dichloropropene<1	Dichlorodifluorome Chloromethane Vinyl chloride Bromomethane Chloroethane Trichlorofluoromet Acetone 1,1-Dichloroethene Methyl t-butyl ethe trans-1,2-Dichloroethane 2,2-Dichloropropan cis-1,2-Dichloroethane 1,1-Dichloroethane 2,2-Dichloroethane 1,2-Dichloroethane 1,1-Trichloroethane 1,1-Dichloropropan Carbon tetrachlorio Benzene Trichloroethene 1,2-Dichloropropan Bromodichloromethane	hane er (MTBE) ethene eene (EDC) une e de	$<1 \\<10 \\<0.2 \\<1 \\<1 \\<1 \\<1 \\<1 \\<5 \\<1 \\<1 \\<1 \\<1 \\<1 \\<1 \\<1 \\<1 \\<1 \\<1$	1,3-Dich Tetrachl Dibromo 1,2-Dibro Chlorobe Ethylber 1,1,1,2-T m,p-Xyle o-Xylene Styrene Isopropy Bromofo n-Propyl Bromobo 1,3,5-Tri 1,1,2,2-T 1,2,3-Tri 2-Chloro 4-Chloro tert-But 1,2,4-Tri sec-Buty p-Isopro 1,3-Dich 1,4-Dich	loropropane loroethene ochloromethane omoethane (EDB) enzene izerachloroethane ene ietrachloroethane ene imethylbenzene imethylbenzene ictrachloroethane ichloropropane otoluene otoluene otoluene itoluene interhylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene imethylbenzene	
1,1,2-Trichloroethane<1Naphthalene<12-Hexanone<10	Toluene trans-1,3-Dichlorog 1,1,2-Trichloroetha	oropene	<1 <1 <1	1,2,4-Tri Hexachl Naphtha	ichlorobenzene orobutadiene alene	<1 <1 <1

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Bla Not Applica 12/15/14 12/15/14 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 412 04-2458 mb 121507.D GCMS9 SP	2236
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenz		% Recovery: 101 98 100	Lower Limit: 85 93 76	Upper Limit: 117 107 126	
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)
Dichlorodifluorome	thane	<1	1,3-Dich	loropropane	<1
Chloromethane		<10		oroethene	<1
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1
Bromomethane		<1	1,2-Dibro	omoethane (EDB)	<1
Chloroethane		<1	Chlorobe		<1
Trichlorofluoromet	hane	<1	Ethylber	nzene	<1
Acetone		<10		etrachloroethane	<1
1,1-Dichloroethene		<1	m,p-Xyle	ene	<2
Methylene chloride	1	<5	o-Xylene	•	<1
Methyl t-butyl ethe	er (MTBE)	<1	Styrene		<1
trans-1,2-Dichloroe	ethene	<1	Isopropy	lbenzene	<1
1,1-Dichloroethane		<1	Bromofo	rm	<1
2,2-Dichloropropan	e	<1	n-Propyl	benzene	<1
cis-1,2-Dichloroethe	ene	<1	Bromobe	enzene	<1
Chloroform		<1	1,3,5-Tri	methylbenzene	<1
2-Butanone (MEK)		<10	1,1,2,2-T	etrachloroethane	<1
1,2-Dichloroethane		<1		chloropropane	<1
1,1,1-Trichloroetha		<1	2-Chloro		<1
1,1-Dichloropropen		<1	4-Chloro		<1
Carbon tetrachlorid	de	<1		ylbenzene	<1
Benzene		< 0.35		methylbenzene	<1
Trichloroethene		<1		lbenzene	<1
1,2-Dichloropropan		<1		pyltoluene	<1
Bromodichlorometh	nane	<1		lorobenzene	<1
Dibromomethane		<1		lorobenzene	<1
4-Methyl-2-pentan		<10		lorobenzene	<1
cis-1,3-Dichloropro	pene	<1		omo-3-chloropropane	<10
Toluene		<1		chlorobenzene	<1
trans-1,3-Dichlorop		<1		orobutadiene	<1
1,1,2-Trichloroetha	ne	<1	Naphtha		<1
2-Hexanone		<10	1,2,3-111	chlorobenzene	<1

#### ENVIRONMENTAL CHEMISTS

Date of Report: 12/18/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 412236-03 (Duplicate)								
	Reporting	Sampl	e Dup	olicate	RPD			
Analyte	Units	Result	t Re	esult	(Limit 20)			
Gasoline	ug/L (ppb)	<100	<	100	nm			
Laboratory Code: Lab	oratory Contro	l Sample	Percent					
	Reporting	Spike	Recovery	Acceptance				
Analyte	Units	Level	LCS	Criteria	_			
Gasoline	ug/L (ppb)	1,000	97	69-134	-			

#### ENVIRONMENTAL CHEMISTS

Date of Report: 12/18/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recov ery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	101	86	63-142	16

#### ENVIRONMENTAL CHEMISTS

Date of Report: 12/18/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Percent

Laboratory Code: 412241-01 (Matrix Spike)

				Percent	
	Reporting	Spike	Sample	Recovery	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	2.8	112	55-144
Chloromethane	ug/L (ppb)	50	<10	97	67-131
Vinyl chloride	ug/L (ppb)	50	<0.2	99	61-139
Bromomethane	ug/L (ppb)	50	<1	117	66-129
Chloroethane	ug/L (ppb)	50	<1	97	68-126
Trichlorofluoromethane	ug/L (ppb)	50	<1	101	71-128
Acetone	ug/L (ppb)	250	<10	95	48-149
1,1-Dichloroethene	ug/L (ppb)	50 50	<1 <5	94 93	71-123
Methylene chloride Methyl t-butyl ether (MTBE)	ug/L (ppb)	50 50		93	61-126
trans-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	93 91	68-125 72-122
1,1-Dichloroethane	ug/L (ppb)	50	<1	91	79-113
2,2-Dichloropropane	ug/L (ppb)	50	<1	96	58-132
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	93	73-119
Chloroform	ug/L (ppb)	50	<1	93	80-112
2-Butanone (MEK)	ug/L (ppb)	250	<10	95	69-123
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	93	78-113
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	95	79-116
1,1-Dichloropropene	ug/L (ppb)	50	<1	93	67-121
Carbon tetrachloride	ug/L (ppb)	50	<1	99	72-123
Benzene	ug/L (ppb)	50	<0.35	90	79-109
Trichloroethene	ug/L (ppb)	50	<1	96	75-109
1,2-Dichloropropane Bromodichloromethane	ug/L (ppb)	50 50	<1 <1	96 104	80-111 78-117
Dibromomethane	ug/L (ppb) ug/L (ppb)	50	<1	99	80-112
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	108	79-123
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	103	76-120
Toluene	ug/L (ppb)	50	<1	93	73-117
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	107	75-122
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	100	81-111
2-Hexanone	ug/L (ppb)	250	<10	100	75-126
1,3-Dichloropropane	ug/L (ppb)	50	<1	99	81-111
Tetrachloroethene	ug/L (ppb)	50	<1	92	72-113
Dibromochloromethane	ug/L (ppb)	50	<1	105	69-129
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	101	83-114
Chlorobenzene	ug/L (ppb)	50	<1	93 95	75-115
Ethylbenzene 1.1.1.2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	95 102	71-120 78-122
m,p-Xylene	ug/L (ppb)	100	<2	97	63-128
o-Xvlene	ug/L (ppb)	50	<1	98	64-129
Styrene	ug/L (ppb)	50	<1	102	70-122
Isopropylbenzene	ug/L (ppb)	50	<1	98	76-118
Bromoform	ug/L (ppb)	50	<1	101	49-138
n-Propylbenzene	ug/L (ppb)	50	<1	101	74-117
Bromobenzene	ug/L (ppb)	50	<1	97	70-121
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	102	81-112
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50 50	<1	101 97	79-120
1,2,3-Trichloropropane 2-Chlorotoluene	ug/L (ppb)	50 50	<1	97 96	72-119
4-Chlorotoluene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	96 97	77-114 81-109
tert-Butylbenzene	ug/L (ppb)	50	<1	106	81-116
1,2,4 Trimethylbenzene	ug/L (ppb)	50	<1	100	74-118
sec-Butyl benzene	ug/L (ppb)	50	<1	101	77-118
p-Isopropyltoluene	ug/L (ppb)	50	<1	98	64-132
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	97	81-111
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	92	78-110
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	96	81-111
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	102	69-129
1,2,4 Trichlorobenzene	ug/L (ppb)	50	<1	94	74-115
Hexachlorobutadiene	ug/L (ppb)	50	<1	100	67-120
Naphthalene 1,2,3-Trichlorobenzene	ug/L (ppb)	50 50	<1 <1	102 99	63-136 79-115
1,6,5 1110110100001120110	ug/L (ppb)	30	<1	99	15-115

### ENVIRONMENTAL CHEMISTS

Date of Report: 12/18/14 Date Received: 12/12/14 Project: 2012-107K, F&BI 412236

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Laboratory Code. Laborator	ry control Sample		Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Ûnits	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	114	112	54-149	2
Chloromethane	ug/L (ppb)	50	102	101	67-133	1
Vinyl chloride	ug/L (ppb)	50	103	103	73-132	0
Bromomethane Chloroethane	ug/L (ppb) ug/L (ppb)	50 50	123 101	122 100	69-123 68-126	1
Trichlorofluoromethane	ug/L (ppb)	50 50	101	100	70-132	0
Acetone	ug/L (ppb)	250	101	95	44-145	5
1,1-Dichloroethene	ug/L (ppb)	50	97	99	75-119	2
Methylene chloride	ug/L (ppb)	50	95	98	63-132	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	99	100	70-122	1
trans-1,2-Dichloroethene	ug/L (ppb)	50	95	96	76-118	1
1,1-Dichloroethane	ug/L (ppb)	50	95	97	80-116	2
2,2-Dichloropropane	ug/L (ppb)	50	102	104	62-141	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	99	81-111	1
Chloroform	ug/L (ppb)	50	97	97	81-109	0
2-Butanone (MEK)	ug/L (ppb)	250	97	96	53-140	1
1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	96 99	96 100	79-109 80-116	0 1
1,1-Dichloropropene	ug/L (ppb) ug/L (ppb)	50 50	99 97	98	78-112	1
Carbon tetrachloride	ug/L (ppb)	50	102	102	72-128	0
Benzene	ug/L (ppb)	50	94	95	81-108	1
Trichloroethene	ug/L (ppb)	50	100	101	77-108	1
1,2-Dichloropropane	ug/L (ppb)	50	102	102	82-109	0
Bromodichloromethane	ug/L (ppb)	50	107	106	76-120	1
Dibromomethane	ug/L (ppb)	50	101	102	80-110	1
4-Methyl-2-pentanone	ug/L (ppb)	250	111	111	59-142	0
cis-1,3-Dichloropropene	ug/L (ppb)	50	107	107	76-128	0
Toluene	ug/L (ppb)	50	97	99	83-108	2
trans-1,3-Dichloropropene	ug/L (ppb)	50 50	112 103	113 105	76-128 82-110	1 2
1,1,2-Trichloroethane 2-Hexanone	ug/L (ppb)	50 250	103	105		2
1,3-Dichloropropane	ug/L (ppb) ug/L (ppb)	230 50	101	102	53-145 83-110	1
Tetrachloroethene	ug/L (ppb)	50	96	97	78-109	1
Dibromochloromethane	ug/L (ppb) ug/L (ppb)	50	109	111	63-140	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	100	106	85-113	$\tilde{2}$
Chlorobenzene	ug/L (ppb)	50	97	99	84-108	2
Ethylbenzene	ug/L (ppb)	50	99	101	84-110	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	108	110	76-125	2
m,p-Xylene	ug/L (ppb)	100	101	103	84-112	2
o-Xylene	ug/L (ppb)	50	103	106	82-113	3
Styrene	ug/L (ppb)	50 50	104	108	84-116	4
Isopropylbenzene Bromoform	ug/L (ppb)	50 50	103 106	104 107	81-122	1
n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	108	107	40-161 81-115	3
Bromobenzene	ug/L (ppb)	50	103	103	80-113	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	105	108	83-117	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	100	106	79-118	2
1,2,3-Trichloropropane	ug/L (ppb)	50	98	100	74-116	2
2-Chlorotoluene	ug/L (ppb)	50	100	101	79-112	1
4-Chlorotoluene	ug/L (ppb)	50	99	102	81-113	3
tert-Butylbenzene	ug/L (ppb)	50	111	112	81-119	1
1,2,4-Trimethylbenzene	ug/L (ppb)	50	103	106	83-116	3
sec-Butylbenzene	ug/L (ppb)	50	105	107	83-116	2
p-Isopropyltoluene	ug/L (ppb)	50	103	104	82-119	1
1,3-Dichlorobenzene 1.4-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	100 94	103 97	83-111 82-109	3 3
1,4-Dichlorobenzene		50 50	94 100	102	82-109 83-111	2
1,2-Dibromo-3-chloropropane	ug/L (ppb) ug/L (ppb)	50 50	100	102	62-133	6
1,2-4 Trichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	104	102	77-117	6 2
Hexachlorobutadiene	ug/L (ppb)	50	102	102	74-118	1
Naphthalene	ug/L (ppb)	50	102	110	75-131	3
1,2,3-Trichlorobenzene	ug/L (ppb)	50	103	106	82-115	3
	0 41 /					

#### ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

 ${\bf b}$  - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

 ${\rm d}$  - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Send Report To	eR	iley	Graup	SAMPI	LERS (sign			5	fol	ve	/						ge #	<u> </u>	$\frac{1}{10} \frac{1}{10}$
<u>412,236</u> Send Report To <u>Th</u> Company <u>Jevry</u> Address <u>17575</u> Fo City, State, ZIP <u>Fort</u>	Sov thell	vetz	NE	- PROJE	CT NAME			<u>-</u>	. 0	•		P	O#			stand: RUSH	ard (2 1	2 Weeks	
City, State, ZIP $\_$ $Both$ Phone # $4f5 \cdot 415 \cdot 05^{\circ}$	ne(  $\vec{p} $ Fax	ωA #	9801		<u> ) —  </u> RKS	<u> </u>		<b>`</b>							Ē	Dispo: Returr	se af n san	ter 30 d	POSAL lays
				·····		[	-			ANA	ALYSI	ES RI	EQUE	ESTEI	)		Т	<u> </u>	
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS							;	Notes
MWS-W RWZ-W	di A.E	12/11/19		(4,0	5	$\left  \right\rangle$	$\times$		${\times}$								1		
Rw2-w	02 T	- (	1020	1		$ \chi $	$\mathbf{x}$		$  \times  $										
RwI-n	03	$\checkmark$	1245	$\checkmark$		$\lambda$	Y		$\times$										
· · · · · · · · · · · · · · · · · · ·																			
													_				:		
	Relinquis	hed by: $S_{a}$	ATURE		PR S 4	INI M		ME	 -/			-		IPAN GT	Y		1	ATE	TIM 3:5
Seattle, WA 98119-2029	Received	by m(~	The		, , , , , , , , , , , , , , , , , , ,	h	r 6	- 4	P	h d	in	<u></u>		0.1 :13_	7		17	12/19	21-
Ph. (206) 285-8282	Relinquis	hed by:	1		<u>/</u> \/	<u> </u>	in			~~~	1		, _						

FORMS\COC\COC.DOC
-------------------

#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

February 4, 2015

Jerry Sawetz, Project Manager The Riley Group, Inc. 17522 Bothell Way NE Bothell, WA 98011

Dear Mr. Sawetz:

Included are the results from the testing of material submitted on January 30, 2015 from the 2012-107K, F&BI 501430 project. There are 14 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures TRG0204R.DOC

## ENVIRONMENTAL CHEMISTS

### CASE NARRATIVE

This case narrative encompasses samples received on January 30, 2015 by Friedman & Bruya, Inc. from the The Riley Group 2012-107K, F&BI 501430 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>The Riley Group</u>
501430 -01	RW-1-W
501430 -02	RW-2-W
501430 -03	MW-5-W

All quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430 Date Extracted: 01/30/15 Date Analyzed: 01/30/15

### RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

~

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate ( <u>% Recovery)</u> (Limit 51-134)
RW-1-W 501430-01	<100	99
RW-2-W 501430-02	<100	95
MW-5-W 501430-03	<100	93
Method Blank <sup>05-170 MB</sup>	<100	97

#### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430 Date Extracted: 02/02/15 Date Analyzed: 02/03/15

#### RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a Silica Gel Column Prior to Analysis Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	Motor Oil Range (C25-C36)	Surrogate <u>(% Recovery)</u> (Limit 41-152)
<b>RW-1-W</b> 501430-01	240	<250	78
RW-2-W 501430-02	<50	<250	84
MW-5-W 501430-03	<50	<250	83
Method Blank <sup>05-234 MB</sup>	<50	<250	82

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430 Date Extracted: 02/02/15 Date Analyzed: 02/02/15

#### RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	Surrogate <u>(% Recovery)</u> (Limit 51-134)
RW-1-W 501430-01	2,800 x	540 x	71
RW-2-W 501430-02	2,000 x	360 x	85
MW-5-W 501430-03	<50	<250	86
Method Blank <sup>05-234 MB</sup>	<50	<250	85

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	RW-1-W 01/30/15 01/30/15 01/30/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 501 501430-01 013011.D GCMS4 JS	430
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenz		% Recovery: 105 101 96	Lower Limit: 57 63 60	Upper Limit: 121 127 133	
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1
Chloromethane		<10		oroethene	<1
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1
Chloroethane		<1	Chlorobe	enzene	<1
Trichlorofluoromet	hane	<1	Ethylber		<1
Acetone		<10	1,1,1,2-T	etrachloroethane	<1
1,1-Dichloroethene		<1	m,p-Xyle	ene	<2
Methylene chloride		<5	o-Xylene	<b>)</b>	<1
Methyl t-butyl ethe		<1	Styrene		<1
trans-1,2-Dichloroe	ethene	<1	Isopropy	lbenzene	<1
1,1-Dichloroethane		<1	Bromofo	rm	<1
2,2-Dichloropropan		<1	n-Propyl		<1
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1
Chloroform		<1		methylbenzene	<1
2-Butanone (MEK)		<10		etrachloroethane	<1
1,2-Dichloroethane		<1		chloropropane	<1
1,1,1-Trichloroetha		<1	2-Chloro		<1
1,1-Dichloropropen		<1	4-Chloro		<1
Carbon tetrachlorie	de	<1		ylbenzene	<1
Benzene		0.39		methylbenzene	<1
Trichloroethene		<1		lbenzene	<1
1,2-Dichloropropan		<1		pyltoluene	<1
Bromodichlorometh	nane	<1		lorobenzene	<1
Dibromomethane		<1		lorobenzene	<1
4-Methyl-2-pentan		<10		lorobenzene	<1
cis-1,3-Dichloropro	pene	<1		omo-3-chloropropane	<10
Toluene		<1		chlorobenzene	<1
trans-1,3-Dichlorop		<1		orobutadiene	<1
1,1,2-Trichloroetha	ine	<1	Naphtha		<1
2-Hexanone		<10	1,2,3-111	chlorobenzene	<1

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	RW-2-W 01/30/15 01/30/15 01/30/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 501 501430-02 013012.D GCMS4 JS	430		
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenz		% Recovery: 102 102 98	Lower Limit: 57 63 60	Upper Limit: 121 127 133			
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)		
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1		
Chloromethane		<10	Tetrachl	oroethene	<1		
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1		
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1		
Chloroethane		<1	Chlorobe		<1		
Trichlorofluoromet	hane	<1	Ethylber		<1		
Acetone		<10		etrachloroethane	<1		
1,1-Dichloroethene		<1	m,p-Xyle		<2		
Methylene chloride		<5	o-Xylene	•	<1 <1		
Methyl t-butyl ethe		<1	Styrene				
trans-1,2-Dichloroe		<1	•	lbenzene	<1		
1,1-Dichloroethane		<1	Bromofo		<1		
2,2-Dichloropropan		<1	n-Propyl		<1		
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1		
Chloroform		<1		methylbenzene	<1		
2-Butanone (MEK)		<10		etrachloroethane	<1		
1,2-Dichloroethane		<1		chloropropane	<1		
1,1,1-Trichloroetha		<1	2-Chloro		<1		
1,1-Dichloropropen		<1	4-Chloro		<1		
Carbon tetrachlorie	de	<1		ylbenzene	<1		
Benzene		< 0.35		methylbenzene	<1		
Trichloroethene		<1		lbenzene	<1		
1,2-Dichloropropan		<1		pyltoluene	<1		
Bromodichlorometh	nane	<1		lorobenzene	<1		
Dibromomethane	0.000	<1 <10		lorobenzene	<1 <1		
4-Methyl-2-pentancis-1,3-Dichloropro		<10 <1		lorobenzene omo-3-chloropropane	<10		
Toluene	pene	<1 <1		chlorobenzene	<10		
trans-1,3-Dichlorop	ronone	<1 <1		orobutadiene	<1		
1,1,2-Trichloroetha		<1 <1	Naphtha		<1		
2-Hexanone	inc.	<10	-	chlorobenzene	<1		
		~10	1,~,0-111		<b>~1</b>		

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	MW-5-W cf 01/30/15 01/30/15 01/30/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 501 501430-03 013013.D GCMS4 JS	430
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenze		% Recovery: 101 101 99	Lower Limit: 57 63 60	Upper Limit: 121 127 133	
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1
Chloromethane		<10	Tetrachl	loroethene	<1
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1
Chloroethane		<1	Chlorobe	enzene	<1
Trichlorofluoromet	hane	<1	Ethylber		<1
Acetone		<10		etrachloroethane	<1
1,1-Dichloroethene		<1	m,p-Xyle		<2
Methylene chloride		<5	o-Xylene		<1
Methyl t-butyl ethe		<1	Styrene	<1	
trans-1,2-Dichloroe	thene	<1	•	lbenzene	<1
1,1-Dichloroethane		<1	Bromofo		<1
2,2-Dichloropropan		<1	n-Propyl		<1
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1
Chloroform		<1		methylbenzene	<1
2-Butanone (MEK)	(	<10		etrachloroethane	<1
1,2-Dichloroethane		<1		chloropropane	<1
1,1,1-Trichloroetha		1.6	2-Chloro		<1
1,1-Dichloropropen		<1	4-Chloro		<1
Carbon tetrachlorie	de	<1		ylbenzene	<1
Benzene		< 0.35		methylbenzene	<1
Trichloroethene	_	<1		vlbenzene	<1
1,2-Dichloropropan		<1		pyltoluene	<1
Bromodichlorometh	lane	<1		lorobenzene	<1
Dibromomethane 4-Methyl-2-pentane	o.m.o.	<1 <10		lorobenzene lorobenzene	<1 <1
cis-1,3-Dichloropro		<10		omo-3-chloropropane	<10
Toluene	pene	<1		ichlorobenzene	<10
trans-1,3-Dichlorop	ronene	<1 <1		orobutadiene	<1
1,1,2-Trichloroetha		<1	Naphtha		<1
2-Hexanone		<10		ichlorobenzene	<1
~ IICAUIUIIC		10	1,~,0 111		~1

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Bla Not Applica 01/30/15 01/30/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 501 05-0183 mb 013007.D GCMS4 JS	430		
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenz		% Recovery: 104 103 99	Lower Limit: 57 63 60	Upper Limit: 121 127 133			
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)		
Dichlorodifluorome	thane	<1	1,3-Dich	loropropane	<1		
Chloromethane		<10		oroethene	<1		
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1		
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1		
Chloroethane		<1	Chlorobe	enzene	<1		
Trichlorofluoromet	hane	<1	Ethylber		<1		
Acetone		<10	1,1,1,2-T	etrachloroethane	<1		
1,1-Dichloroethene		<1	m,p-Xyle	ene	<2		
Methylene chloride		<5	o-Xylene	<b>)</b>	<1		
Methyl t-butyl ethe		<1	Styrene	<1			
trans-1,2-Dichloroe	ethene	<1	Isopropy	<1			
1,1-Dichloroethane		<1	Bromofo		<1		
2,2-Dichloropropan		<1	n-Propyl	benzene	<1		
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1		
Chloroform		<1		methylbenzene	<1		
2-Butanone (MEK)		<10		etrachloroethane	<1		
1,2-Dichloroethane		<1		chloropropane	<1		
1,1,1-Trichloroetha		<1	2-Chloro		<1		
1,1-Dichloropropen		<1	4-Chloro		<1		
Carbon tetrachlorie	de	<1		ylbenzene	<1		
Benzene		< 0.35		methylbenzene	<1		
Trichloroethene		<1		lbenzene	<1		
1,2-Dichloropropan		<1		pyltoluene	<1		
Bromodichlorometh	nane	<1		lorobenzene	<1		
Dibromomethane		<1		lorobenzene	<1		
4-Methyl-2-pentan		<10		lorobenzene	<1		
cis-1,3-Dichloropro	pene	<1		omo-3-chloropropane	<10		
Toluene	nonona	<1		chlorobenzene	<1		
trans-1,3-Dichlorop		<1		orobutadiene	<1		
1,1,2-Trichloroetha	ne	<1	Naphtha 1 2 2 Tri		<1		
2-Hexanone		<10	1,2,3-111	chlorobenzene	<1		

#### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 501	Laboratory Code: 501417-02 (Duplicate)							
	Reporting	Sampl	e Dup	olicate	RPD			
Analyte	Units	Result	t Re	esult	(Limit 20)			
Gasoline	ug/L (ppb)	<100	<100		nm			
Laboratory Code: Lab	oratory Contro	l Sample	Percent					
	Reporting	Spike	Recovery	Acceptance				
Analyte	Units	Level	LCS	Criteria	_			
Gasoline	ug/L (ppb)	1,000	101	69-134	-			

#### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 1	ooratory Code: Laboratory Control Sample Silica Gel								
-	-		Percent	Percent					
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD			
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)			
Diesel Extended	ug/L (ppb)	2,500	84	96	63-142	13			

#### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Diesel Extended	ug/L (ppb)	2,500	86	94	58-134	9

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 501430-01 (Matrix Spike)

	Departing	Spike	Sampla	Percent Recovery	Accontance
A 1.	Reporting	Spike	Sample	5	Acceptance
Analyte	Units	Level	Result	MS	Criteria
Dichlorodifluoromethane	ug/L (ppb)	50	<1	110	10-172
Chloromethane Vinyl chloride	ug/L (ppb) ug/L (ppb)	50 50	<10 <0.2	90 99	25-166 36-166
Bromomethane	ug/L (ppb) ug/L (ppb)	50 50	<0.2	124	47-169
Chloroethane	ug/L (ppb)	50	<1	107	46-160
Trichlorofluoromethane	ug/L (ppb)	50	<1	120	44-165
Acetone	ug/L (ppb)	250	<10	101	10-182
1,1-Dichloroethene	ug/L (ppb)	50	<1	107	60-136
Methylene chloride	ug/L (ppb)	50	<5	104	67-132
Methyl t-butyl ether (MTBE) trans-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	103 102	74-127 72-129
1.1-Dichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1	102	70-128
2,2-Dichloropropane	ug/L (ppb)	50	<1	101	36-154
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	102	71-127
Chloroform	ug/L (ppb)	50	<1	104	65-132
2-Butanone (MEK)	ug/L (ppb)	250	<10	97	10-129
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	106	69-133
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	113	60-146
1,1-Dichloropropene Carbon tetrachloride	ug/L (ppb)	50 50	<1 <1	104 118	69-133 56-152
Benzene	ug/L (ppb) ug/L (ppb)	50 50	0.39	97	76-125
Trichloroethene	ug/L (ppb)	50	<1	106	66-135
1,2-Dichloropropane	ug/L (ppb)	50	<1	100	78-125
Bromodichloromethane	ug/L (ppb)	50	<1	110	61-150
Dibromomethane	ug/L (ppb)	50	<1	105	66-141
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	110	10-185
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	113	72-132
Toluene	ug/L (ppb)	50 50	<1	92 109	76-122 76-130
trans-1,3-Dichloropropene 1,1,2-Trichloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	109	68-131
2-Hexanone	ug/L (ppb) ug/L (ppb)	250	<10	100	10-185
1,3-Dichloropropane	ug/L (ppb)	50	<1	99	71-128
Tetrachloroethene	ug/L (ppb)	50	<1	100	10-226
Dibromochloromethane	ug/L (ppb)	50	<1	120	70-139
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	103	69-134
Chlorobenzene	ug/L (ppb)	50	<1	98	77-122
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	97 113	69-135 73-137
m,p-Xylene	ug/L (ppb)	100	<2	98	69-135
o-Xylene	ug/L (ppb)	50	<1	101	60-140
Styrene	ug/L (ppb)	50	<1	95	71-133
Isopropylbenzene	ug/L (ppb)	50	<1	98	65-142
Bromoform	ug/L (ppb)	50	<1	119	65-142
n-Propylbenzene	ug/L (ppb)	50	<1	95	58-144
Bromobenzene 1,3,5-Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	96 96	75-124 66-137
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50 50	<1	96 96	51-154
1,2,3 Trichloropropane	ug/L (ppb)	50	<1	97	53-150
2-Chlorotoluene	ug/L (ppb)	50	<1	94	66-127
4-Chlorotoluene	ug/L (ppb)	50	<1	94	65-130
tert-Butylbenzene	ug/L (ppb)	50	<1	100	65-137
1,2,4 Trimethylbenzene	ug/L (ppb)	50	<1	92	59-146
sec-Butylbenzene	ug/L (ppb)	50 50	<1 <1	99 96	64-140 65-141
p-Isopropyltoluene 1,3-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	96 97	72-123
1.4-Dichlorobenzene	ug/L (ppb)	50 50	<1	93	69-126
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	96	69-128
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	104	32-164
1,2,4 Trichlorobenzene	ug/L (ppb)	50	<1	102	66-136
Hexachlorobutadiene	ug/L (ppb)	50	<1	101	60-143
Naphthalene	ug/L (ppb)	50	<1	97	44-164
1,2, 3-Trichlorobenzene	ug/L (ppb)	50	<1	99	69-148

### ENVIRONMENTAL CHEMISTS

Date of Report: 02/04/15 Date Received: 01/30/15 Project: 2012-107K, F&BI 501430

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Laboratory Code. Laborat	ory control sumpl	c	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	108	104	25-158	4
Chloromethane	ug/L (ppb)	50	94	93	45-156	1
Vinyl chloride	ug/L (ppb)	50	99	101	50-154	2
Bromomethane	ug/L (ppb)	50	126	126	55-143	0
Chloroethane Trichlorofluoromethane	ug/L (ppb)	50 250	111 122	109 119	58-146 50-150	2 2
Acetone	ug/L (ppb) ug/L (ppb)	250	96	104	53-131	8
1,1-Dichloroethene	ug/L (ppb) ug/L (ppb)	230 50	107	104	67-136	3
Methylene chloride	ug/L (ppb)	50	107	104	39-148	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	104	106	64-147	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	104	104	68-128	0
1,1-Dichloroethane	ug/L (ppb)	50	103	103	79-121	0
2,2-Dichloropropane	ug/L (ppb)	50	106	108	55-143	2
cis-1,2-Dichloroethene	ug/L (ppb)	50	105	105	80-123	0
Chloroform	ug/L (ppb)	50	104	104	80-121	0
2-Butanone (MEK)	ug/L (ppb)	250	95	104	57-149	9
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	105	105	73-132	0
1,1,1-Trichloroethane	ug/L (ppb)	50	113	114	83-130	1
1,1-Dichloropropene	ug/L (ppb)	50	104	105	77-129	1
Carbon tetrachloride	ug/L (ppb)	50 50	120	118	75-158	2
Benzene Trichloroethene	ug/L (ppb)	50 50	98 105	97 102	69-134 80-120	1 3
1,2-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 50	105	99	77-123	2
Bromodichloromethane	ug/L (ppb)	50 50	113	111	81-133	2
Dibromomethane	ug/L (ppb)	50	106	106	82-125	õ
4-Methyl-2-pentanone	ug/L (ppb)	250	106	112	65-138	6
cis-1,3-Dichloropropene	ug/L (ppb)	50	116	116	82-132	0
Toluene	ug/L (ppb)	50	93	93	72-122	0
trans-1,3-Dichloropropene	ug/L (ppb)	50	112	113	80-136	1
1,1,2-Trichloroethane	ug/L (ppb)	50	102	103	75-124	1
2-Hexanone	ug/L (ppb)	250	97	105	60-136	8
1,3-Dichloropropane	ug/L (ppb)	50	99	100	76-126	1
Tetrachloroethene	ug/L (ppb)	50	102	99	76-121	3
Dibromochloromethane	ug/L (ppb)	50	123	122	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50 50	104	104	82-125	0 0
Chlorobenzene	ug/L (ppb)	50 50	100 99	100 99	83-114 77-124	0
Ethylbenzene 1,1,1,2-Tetrachloroethane	ug/L (ppb) ug/L (ppb)	50 50	99 115	99 116	84-127	1
m,p-Xylene	ug/L (ppb)	100	100	99	83-125	1
o-Xylene	ug/L (ppb)	50	100	102	81-121	2
Styrene	ug/L (ppb)	50	97	96	84-119	ĩ
Isopropylbenzene	ug/L (ppb)	50	100	99	85-117	1
Bromoform	ug/L (ppb)	50	124	125	74-136	1
n-Propylbenzene	ug/L (ppb)	50	97	96	74-126	1
Bromobenzene	ug/L (ppb)	50	97	97	80-121	0
1,3,5-Trimethylbenzene	ug/L (ppb)	50	96	97	78-123	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	96	101	66-126	5
1,2,3-Trichloropropane	ug/L (ppb)	50	94	99	67-124	5
2-Chlorotoluene	ug/L (ppb)	50	94	95	77-127	1
4-Chlorotoluene tert-Butylbenzene	ug/L (ppb) ug/L (ppb)	50 50	95 102	95 101	78-128 80-123	0 1
1.2.4 Trimethylbenzene	ug/L (ppb) ug/L (ppb)	50	96	97	79-122	1
sec-Butylbenzene	ug/L (ppb)	50	99	99	80-125	0
p-Isopropyltoluene	ug/L (ppb)	50	97	96	81-123	1
1.3-Dichlorobenzene	ug/L (ppb)	50	98	99	85-116	1
1.4-Dichlorobenzene	ug/L (ppb)	50	94	94	84-121	0
1,2-Dichlorobenzene	ug/L (ppb)	50	96	97	85-116	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	100	109	57-141	9
1,2,4-Trichlorobenzene	ug/L (ppb)	50	101	102	72-130	1
Hexachlorobutadiene	ug/L (ppb)	50	103	101	53-141	2
Naphthalene	ug/L (ppb)	50	94	100	64-133	6
1,2,3-Trichlorobenzene	ug/L (ppb)	50	98	100	65-136	2

#### ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

 ${\bf b}$  - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

 ${\rm d}$  - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

 $\ensuremath{\text{ip}}$  - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

501430				SAMPLE	CHAIN C	)F (	CUS	STC	DDY	, A	1E	01	-3	0 -1	15		CO	15	V2,
Send Report To	VVV	Salve	ity.	SAMP	LERS (sign	atur	re)		9	F	Mar				Ťr		Page		_of
Send Report To( Company	iles 1	Caro. L		PROJE	CT NAME	/NC	).				f	l	20#			🗆 Sta	ndaro	NAROUN 1 (2 Week	
Address $175\lambda$	BA	holl	. / 4.	-  <del>}</del>	12-1	27	ĸ	-								⊐ RU Rush		ges autho	rized by
Address17572 City, State, ZIPB0H	 N	10/4	98/11	REMA	RKS		1				<u> </u>		<u> </u>		┥┝			IPLE DIS	
Phone # 425 415 705	<u>T</u> -		10001										ډ					after 30 d amples	lays
Phone # 10 111 07	<u>71</u> Fax	(#	· · ·															with ins	ructions
		[	1		1		1				LYS	SES F	REQU	JEST	ED				
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diese	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS								Notes
RW-1-W	01 <sup>A-1</sup>	1/29	1200	420	8	X	Х		X										n a without
RW-1-w RW-2-w	02		10:50			X	Х		x										
MW-5-W	03	Ť	950	۲.		X	X		X								Silica Gel Cleanup		
															1 -				
											-+								
											-+								
	_									-								<u> </u>	
										-+								ļ	
				<del> </del>					-		-+								3
·							[												1
Friedman & Bruya, Inc.	Daliantia	SIGN	ATURE		PR	INT	'NA	ME						MP/				DATE	TIME
3012 16th Avenue West		hed by:	the		<u>5t</u>	alf.	AL	_0/	sa				r	16]			l	12015	9:00
Seattle, WA 98119-2029	Received		w fit	$\mathcal{N}$	MEISNO	f	ef.	fh	<u>_</u> U			F	to	$\left( \mathcal{A}\right)$	ρ		1	30 15	9:02
Ph. (206) 285-8282	Relinquis	-			• -	`	•										T	· · · · · · · · · · · · · · · · · · ·	
Fax (206) 283-5044	Received	by:	Jan	>	Ð	σ	V	5					Fr	B	P		1.	-30-15	9:41

FORMS\COC\COC.D	OC
-----------------	----

#### ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D. Yelena Aravkina, M.S. Michael Erdahl, B.S. Arina Podnozova, B.S. Eric Young, B.S. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282 fbi@isomedia.com www.friedmanandbruya.com

May 15, 2015

Jerry Sawetz, Project Manager The Riley Group, Inc. 17522 Bothell Way NE Bothell, WA 98011

Dear Mr. Sawetz:

Included are the results from the testing of material submitted on May 8, 2015 from the 2012-107K, F&BI 505127 project. There are 12 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl Project Manager

Enclosures TRG0515R.DOC

## ENVIRONMENTAL CHEMISTS

### CASE NARRATIVE

This case narrative encompasses samples received on May 8, 2015 by Friedman & Bruya, Inc. from the The Riley Group 2012-107K, F&BI 505127 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	The Riley Group
505127 -01	MW5
505127 -02	RW 2
505127 -03	RW 1

All quality control requirements were acceptable.

### ENVIRONMENTAL CHEMISTS

Date of Report: 05/15/15 Date Received: 05/08/15 Project: 2012-107K, F&BI 505127 Date Extracted: 05/08/15 Date Analyzed: 05/08/15

### RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

~

<u>Sample ID</u> Laboratory ID	Gasoline Range	Surrogate ( <u>% Recovery)</u> (Limit 51-134)
MW5 505127-01	<100	94
RW 2 505127-02	<100	98
RW 1 505127-03	<100	97
Method Blank <sup>05-913 MB</sup>	<100	94

#### ENVIRONMENTAL CHEMISTS

Date of Report: 05/15/15 Date Received: 05/08/15 Project: 2012-107K, F&BI 505127 Date Extracted: 05/11/15 Date Analyzed: 05/14/15

#### RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx Sample Extracts Passed Through a Silica Gel Column Prior to Analysis Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	Diesel Range (C10-C25)	Motor Oil Range (C25-C36)	Surrogate (% Recovery) (Limit 41-152)
MW5 505127-01	<50	<250	112
RW 2 505127-02	<50	<250	117
RW 1 505127-03	440	<250	108
Method Blank <sup>05-950 MB</sup>	<50	<250	107

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	MW5 05/08/15 05/08/15 05/08/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 505 505127-01 050828.D GCMS4 JS	5127		
Surrogates: 1,2-Dichloroethane-d4 Toluene-d8 4-Bromofluorobenzene		% Recovery: 103 98 99	Lower Limit: 57 63 60	Upper Limit: 121 127 133			
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)		
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1		
Chloromethane		<10		loroethene	<1		
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1		
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1		
Chloroethane		<1	Chlorobe	enzene	<1		
Trichlorofluoromet	hane	<1	Ethylber	nzene	<1		
Acetone		<10	1,1,1,2-T	etrachloroethane	<1		
1,1-Dichloroethene		<1	m,p-Xyle	ene	<2		
Methylene chloride		<5	o-Xylene	<1			
Methyl t-butyl ethe		<1	Styrene	<1			
trans-1,2-Dichloroe	ethene	<1	Isopropy	lbenzene	<1		
1,1-Dichloroethane		<1	Bromofo		<1		
2,2-Dichloropropan		<1	n-Propyl	lbenzene	<1		
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1		
Chloroform		<1		methylbenzene	<1		
2-Butanone (MEK)		<10		etrachloroethane	<1		
1,2-Dichloroethane		<1		chloropropane	<1		
1,1,1-Trichloroetha		1.4	2-Chloro		<1		
1,1-Dichloropropen		<1	4-Chloro		<1		
Carbon tetrachlori	de	<1		ylbenzene	<1		
Benzene		< 0.35		methylbenzene	<1		
Trichloroethene		<1	0	lbenzene	<1		
1,2-Dichloropropan		<1		pyltoluene	<1		
Bromodichlorometh	nane	<1		lorobenzene	<1		
Dibromomethane		<1		lorobenzene	<1		
4-Methyl-2-pentan		<10		lorobenzene	<1		
cis-1,3-Dichloropro	pene	<1		omo-3-chloropropane	<10		
Toluene		<1		chlorobenzene	<1		
trans-1,3-Dichlorop		<1		orobutadiene	<1		
1,1,2-Trichloroetha 2-Hexanone	me	<1 <10	Naphtha 1 2 3 Tri	ichlorobenzene	<1 <1		
£-⊓exanone		<10	1,2,3-111	unioropenzene	<1		

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	RW 2 05/08/15 05/08/15 05/08/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 505 505127-02 050829.D GCMS4 JS	5127		
Surrogates: 1,2-Dichloroethane-d4 Toluene-d8 4-Bromofluorobenzene		% Recovery: 104 99 100	Lower Limit: 57 63 60	Upper Limit: 121 127 133			
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)		
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1		
Chloromethane		<10	Tetrachl	loroethene	<1		
Vinyl chloride		< 0.2	Dibromo	chloromethane	<1		
Bromomethane		<1		omoethane (EDB)	<1		
Chloroethane		<1		Chlorobenzene			
Trichlorofluoromet	hane	<1	Ethylber		<1		
Acetone		<10		etrachloroethane	<1		
1,1-Dichloroethene		<1	m,p-Xyle		<2		
Methylene chloride		<5	o-Xylene	<1			
Methyl t-butyl ethe		<1	Styrene	<1			
trans-1,2-Dichloroe	ethene	<1	•	lbenzene	<1		
1,1-Dichloroethane		<1	Bromofo		<1		
2,2-Dichloropropan		<1	n-Propyl		<1		
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1		
Chloroform		<1		methylbenzene	<1		
2-Butanone (MEK)		<10		etrachloroethane	<1		
1,2-Dichloroethane		<1		chloropropane	<1		
1,1,1-Trichloroetha		<1	2-Chloro		<1		
1,1-Dichloropropen		<1	4-Chloro		<1		
Carbon tetrachlorie	de	<1		ylbenzene	<1		
Benzene		< 0.35		methylbenzene	<1		
Trichloroethene		<1		vlbenzene	<1		
1,2-Dichloropropan		<1 <1		pyltoluene lorobenzene	<1 <1		
Bromodichlorometh Dibromomethane	lane	<1 <1		lorobenzene	<1 <1		
4-Methyl-2-pentan	ono	<10		lorobenzene	<1 <1		
cis-1,3-Dichloropro		<10		omo-3-chloropropane	<10		
Toluene	pene	<1 <1		ichlorobenzene	<10		
trans-1,3-Dichlorop	ronene	<1		orobutadiene	<1		
1,1,2-Trichloroetha		<1	Naphtha		<1		
2-Hexanone		<10	-	ichlorobenzene	<1		
			1,2,5 111		•-		

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	RW 1 05/08/15 05/08/15 05/08/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 505 505127-03 050830.D GCMS4 JS	5127		
Surrogates: 1,2-Dichloroethane-d4 Toluene-d8 4-Bromofluorobenzene		% Recovery: 104 99 100	Lower Limit: 57 63 60	Upper Limit: 121 127 133			
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)		
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1		
Chloromethane		<10	Tetrachl	loroethene	<1		
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1		
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1		
Chloroethane		<1	Chlorobe	enzene	<1		
Trichlorofluoromet	hane	<1	Ethylber		<1		
Acetone		<10		etrachloroethane	<1		
1,1-Dichloroethene		<1	m,p-Xyle		<2		
Methylene chloride		<5	o-Xylene	<1			
Methyl t-butyl ethe		<1	Styrene	<1			
trans-1,2-Dichloroe	ethene	<1	•	lbenzene	<1		
1,1-Dichloroethane		<1	Bromofo		<1		
2,2-Dichloropropan		<1	n-Propyl		<1		
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1		
Chloroform		<1		methylbenzene	<1		
2-Butanone (MEK)		<10		etrachloroethane	<1		
1,2-Dichloroethane		<1		chloropropane	<1		
1,1,1-Trichloroetha		<1	2-Chloro		<1		
1,1-Dichloropropen		<1	4-Chloro		<1		
Carbon tetrachlorid	le	<1		ylbenzene	<1		
Benzene		< 0.35		methylbenzene	<1		
Trichloroethene		<1		vlbenzene	<1		
1,2-Dichloropropan		<1		pyltoluene	<1		
Bromodichlorometh	lane	<1		lorobenzene	<1		
Dibromomethane		<1 <10		lorobenzene lorobenzene	<1 <1		
4-Methyl-2-pentanc cis-1,3-Dichloropro		<10 <1		omo-3-chloropropane	<10		
Toluene	pene	<1 <1		ichlorobenzene	<10		
trans-1,3-Dichlorop	ronene	<1 <1		orobutadiene	<1		
1,1,2-Trichloroetha		<1 <1	Naphtha		<1		
2-Hexanone		<10		ichlorobenzene	<1		
~ IICAUIUIIC		~10	1,~,0 111		~1		

# ENVIRONMENTAL CHEMISTS

Client Sample ID: Date Received: Date Extracted: Date Analyzed: Matrix: Units:	Method Bla Not Applica 05/08/15 05/08/15 Water ug/L (ppb)		Client: Project: Lab ID: Data File: Instrument: Operator:	The Riley Group 2012-107K, F&BI 505 05-0902 mb 050807.D GCMS4 JS	5127
Surrogates: 1,2-Dichloroethane Toluene-d8 4-Bromofluorobenz		% Recovery: 103 98 100	Lower Limit: 57 63 60	Upper Limit: 121 127 133	
Compounds:		Concentration ug/L (ppb)	Compou	nds:	Concentration ug/L (ppb)
Dichlorodifluorome	ethane	<1	1,3-Dich	loropropane	<1
Chloromethane		<10	Tetrachl	loroethene	<1
Vinyl chloride		< 0.2	Dibromo	ochloromethane	<1
Bromomethane		<1	1,2-Dibr	omoethane (EDB)	<1
Chloroethane		<1	Chlorobe		<1
Trichlorofluoromet	hane	<1	Ethylber	<1	
Acetone		<10		etrachloroethane	<1
1,1-Dichloroethene		<1	m,p-Xyle		<2
Methylene chloride		<5	o-Xylene	<1	
Methyl t-butyl ethe		<1	Styrene	<1	
trans-1,2-Dichloroe		<1	•	lbenzene	<1
1,1-Dichloroethane		<1	Bromofo		<1
2,2-Dichloropropan		<1	n-Propyl		<1
cis-1,2-Dichloroeth	ene	<1	Bromobe		<1
Chloroform		<1		methylbenzene	<1
2-Butanone (MEK)		<10		etrachloroethane	<1
1,2-Dichloroethane		<1		chloropropane	<1
1,1,1-Trichlorœtha		<1	2-Chloro		<1
1,1-Dichloropropen		<1	4-Chloro		<1
Carbon tetrachlorie	de	<1		ylbenzene	<1
Benzene		< 0.35		methylbenzene	<1
Trichloroethene	_	<1		/lbenzene	<1
1,2-Dichloropropan Bromodichlorometh		<1		pyltoluene	<1
Dibromomethane	lane	<1 <1		lorobenzene lorobenzene	<1 <1
4-Methyl-2-pentan	000	<1		lorobenzene	<1
cis-1,3-Dichloropro		<10 <1		omo-3-chloropropane	<10
Toluene	pene	<1 <1		ichlorobenzene	<10
trans-1,3-Dichlorop	ronene	<1 <1		orobutadiene	<1
1,1,2-Trichloroetha		<1	Naphtha		<1
2-Hexanone	inc.	<10		ichlorobenzene	<1
~ Hendilone		~10	1,~,0 111		~1

#### ENVIRONMENTAL CHEMISTS

Date of Report: 05/15/15 Date Received: 05/08/15 Project: 2012-107K, F&BI 505127

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: Laboratory Control Sample

			Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Gasoline	ug/L (ppb)	1,000	103	102	69-134	1

### ENVIRONMENTAL CHEMISTS

Date of Report: 05/15/15 Date Received: 05/08/15 Project: 2012-107K, F&BI 505127

### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel										
-	-									
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD				
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)				
Diesel Extended	ug/L (ppb)	2,500	107	104	63-142	3				

### ENVIRONMENTAL CHEMISTS

Date of Report: 05/15/15 Date Received: 05/08/15 Project: 2012-107K, F&BI 505127

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 505113-01 (Matrix Spike)

Laboratory Code. 5051154	or (matrix Spike)			Percent							
	Reporting	Spike	Spike Sample Recovery Acceptar								
Analyte	Units	Level	Result	MS	Criteria						
Dichlorodi fluoromethane	ug/L (ppb)	50	<1	94	10-172						
Chloromethane	ug/L (ppb)	50	<10	104	25-166						
Vinyl chloride	ug/L (ppb)	50	<0.2	109	36-166						
Bromomethane Chloroethane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	102 106	47-169 46-160						
Trichlorofluoromethane	ug/L (ppb)	50	<1	99	44-165						
Acetone	ug/L (ppb)	250	<10	104	10-182						
1,1-Dichloroethene	ug/L (ppb)	50	<1	94	60-136						
Methylene chloride	ug/L (ppb)	50	<5	106	67-132						
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	98	74-127						
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	99	72-129						
1,1-Dichloroethane	ug/L (ppb)	50 50	<1	99	70-128						
2,2-Dichloropropane cis-1,2-Dichloroethene	ug/L (ppb) ug/L (ppb)	50 50	<1 13	80 100 b	36-154 71-127						
Chloroform	ug/L (ppb)	50	<1	96	65-132						
2-Butanone (MEK)	ug/L (ppb)	250	<10	121	10-129						
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	96	69-133						
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	97	60-146						
1,1-Dichloropropene	ug/L (ppb)	50	<1	97	69-133						
Carbon tetrachloride	ug/L (ppb)	50	<1	108	56-152						
Benzene	ug/L (ppb)	50 50	< 0.35	96	76-125						
Trichloroethene 1,2-Dichloropropane	ug/L (ppb) ug/L (ppb)	50 50	18 <1	103 b 101	66-135 78-125						
Bromodichloromethane	ug/L (ppb)	50 50	<1	101	61-150						
Dibromomethane	ug/L (ppb)	50	<1	100	66-141						
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	111	10-185						
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	110	72-132						
Toluene	ug/L (ppb)	50	<1	96	76-122						
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	112	76-130						
1,1,2-Trichloroethane	ug/L (ppb)	50 250	<1	104	68-131						
2-Hexanone 1,3-Dichloropropane	ug/L (ppb) ug/L (ppb)	250 50	<10 <1	113 102	10-185 71-128						
Tetrachloroethene	ug/L (ppb)	50 50	6.1	98	10-226						
Dibromochloromethane	ug/L (ppb)	50	<1	116	70-139						
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	108	69-134						
Chlorobenzene	ug/L (ppb)	50	<1	95	77-122						
Ethylbenzene	ug/L (ppb)	50	<1	96	69-135						
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50 100	<1 <2	103	73-137						
m,p-Xylene o-Xylene	ug/L (ppb) ug/L (ppb)	50	<2 <1	97 98	69-135 60-140						
Styrene	ug/L (ppb)	50 50	<1	98 98	71-133						
Isopropylbenzene	ug/L (ppb)	50	<1	96	65-142						
Bromoform	ug/L (ppb)	50	<1	112	65-142						
n-Propylbenzene	ug/L (ppb)	50	<1	101	58-144						
Bromobenzene	ug/L (ppb)	50	<1	101	75-124						
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	102	66-137						
1,1,2,2-Tetrachloroethane 1,2,3-Trichloropropane	ug/L (ppb) ug/L (ppb)	50 50	<1 <1	108 110	51-154 53-150						
2-Chlorotoluene	ug/L (ppb)	50	<1	101	66-127						
4-Chlorotoluene	ug/L (ppb)	50	<1	100	65-130						
tert-Butylbenzene	ug/L (ppb)	50	<1	101	65-137						
1,2,4 Trimethylbenzene	ug/L (ppb)	50	<1	100	59-146						
sec-Butylbenzene	ug/L (ppb)	50	<1	101	64-140						
p-Isopropyltoluene	ug/L (ppb)	50	<1	98	65-141						
1,3-Dichlorobenzene 1.4-Dichlorobenzene	ug/L (ppb)	50 50	<1 <1	97 93	72-123 69-126						
1,2-Dichlorobenzene	ug/L (ppb) ug/L (ppb)	50 50	<1	93 98	69-126						
1.2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	120	32-164						
1,2,4 Trichlorobenzene	ug/L (ppb)	50	<1	97	66-136						
Hexachlorobutadiene	ug/L (ppb)	50	<1	98	60-143						
Naphthalene	ug/L (ppb)	50	<1	108	44-164						
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	100	69-148						

### ENVIRONMENTAL CHEMISTS

Date of Report: 05/15/15 Date Received: 05/08/15 Project: 2012-107K, F&BI 505127

#### QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: Laboratory Control Sample

Laboratory Code. Laborato		C	Percent	Percent		
	Reporting	Spike	Recovery	Recovery	Acceptance	RPD
Analyte	Units	Level	LCS	LCSD	Criteria	(Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	87	82	25-158	6
Chloromethane	ug/L (ppb)	50	95	91	45-156	4
Vinyl chloride	ug/L (ppb)	50	107	101	50-154	6
Bromomethane	ug/L (ppb)	50	105	100	55-143	5
Chloroethane	ug/L (ppb)	50	104	101	58-146	3
Trichlorofluoromethane	ug/L (ppb)	250	102	96	50-150	6
Acetone	ug/L (ppb)	250	106	102	53-131	4
1,1-Dichloroethene	ug/L (ppb)	50	94	92	67-136	2
Methylene chloride	ug/L (ppb)	50	106	104	39-148	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	101	99	64-147	2
trans-1,2-Dichloroethene	ug/L (ppb)	50	101	101	68-128	0
1,1-Dichloroethane	ug/L (ppb)	50	101	99	79-121	2
2,2-Dichloropropane	ug/L (ppb)	50	90	94	55-143	4
cis-1,2-Dichloroethene	ug/L (ppb)	50	98	97	80-123	1
Chloroform	ug/L (ppb)	50	97	95	80-121	2
2-Butanone (MEK)	ug/L (ppb)	250	112	116	57-149	4 2
1,2-Dichloroethane (EDC) 1,1,1-Trichloroethane	ug/L (ppb)	50 50	98 102	96 100	73-132 83-130	2
	ug/L (ppb)					2 3
1,1-Dichloropropene Carbon tetrachloride	ug/L (ppb)	50 50	100 114	97 111	77-129 75-158	3
Benzene	ug/L (ppb) ug/L (ppb)	50 50	97	96	69-134	3 1
Trichloroethene	ug/L (ppb)	50	101	101	80-120	0
1.2-Dichloropropane	ug/L (ppb)	50 50	99	101	77-123	1
Bromodichloromethane	ug/L (ppb)	50	110	109	81-133	1
Dibromomethane	ug/L (ppb)	50	100	99	82-125	1
4-Methyl-2-pentanone	ug/L (ppb)	250	110	108	65-138	2
cis-1,3-Dichloropropene	ug/L (ppb)	50	113	112	82-132	1
Toluene	ug/L (ppb)	50	98	97	72-122	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	120	119	80-136	1
1,1,2-Trichloroethane	ug/L (ppb)	50	105	106	75-124	1
2-Hexanone	ug/L (ppb)	250	112	113	60-136	1
1,3-Dichloropropane	ug/L (ppb)	50	103	105	76-126	2
Tetrachloroethene	ug/L (ppb)	50	100	98	76-121	2
Dibromochloromethane	ug/L (ppb)	50	124	125	84-133	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	108	108	82-125	0
Chlorobenzene	ug/L (ppb)	50	96	97	83-114	1
Ethylbenzene	ug/L (ppb)	50	98	98	77-124	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	109	108	84-127	1
m,p-Xylene	ug/L (ppb)	100	100	99	83-125	1
o-Xylene	ug/L (ppb)	50	101	100	81-121	1
Styrene	ug/L (ppb)	50 50	100	101	84-119	1
Isopropylbenzene	ug/L (ppb)	50 50	100	99 124	85-117	1 0
Bromoform n-Propylbenzene	ug/L (ppb) ug/L (ppb)	50 50	124 106	124	74-136 74-126	3
Bromobenzene	ug/L (ppb) ug/L (ppb)	50 50	100	103	80-121	3 1
1.3.5-Trimethylbenzene	ug/L (ppb)	50	102	101	78-123	4
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50 50	100	102	66-126	2
1,2, 3-Trichloropropane	ug/L (ppb)	50	110	108	67-124	2
2-Chlorotoluene	ug/L (ppb)	50	104	101	77-127	3
4-Chlorotoluene	ug/L (ppb)	50	102	101	78-128	1
tert-Butylbenzene	ug/L (ppb)	50	107	104	80-123	3
1,2,4 Trimethylbenzene	ug/L (ppb)	50	104	101	79-122	3
sec-Butylbenzene	ug/L (ppb)	50	107	102	80-125	5
p-Isopropyltoluene	ug/L (ppb)	50	104	100	81-123	4
1,3-Dichlorobenzene	ug/L (ppb)	50	99	97	85-116	2
1,4-Dichlorobenzene	ug/L (ppb)	50	96	95	84-121	1
1,2-Dichlorobenzene	ug/L (ppb)	50	100	98	85-116	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	124	121	57-141	2
1,2,4 Trichlorobenzene	ug/L (ppb)	50	100	97	72-130	3
Hexachlorobutadiene	ug/L (ppb)	50	108	101	53-141	7
Naphthalene	ug/L (ppb)	50	111	107	64-133	4
1,2,3-Trichlorobenzene	ug/L (ppb)	50	104	100	65-136	4

#### ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

 ${\bf b}$  - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

 ${\rm d}$  - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

505127			9	SAMPLE (	CHAIN O	FC	CUS	то	DY			M	Ē	0:	5/0	18/	15	١	V2/1	Eq3
505127 Send Report To	SAMPLERS (signature)								-			Pa Ti	ige #_ IRNA	ROUN	_of′	=				
	The PROJECT NAME/NO.								PC	)#				dard (	2 Weeks					
CompanyThe Riley GroupPROJECT NAME/NO.IIProject NAME/NO.Address17522BothellWay NE2012-107KCity, State, ZIPBothellWA 98011REMARKS													s author	ized by	-					
Address (752)	<u> </u>	neij	$\frac{NN}{n}$	= 0	<u>0[]-[(</u> RKS		<u> </u>				<b>I</b>	<del></del>			-			LE DISI		
City, State, ZIP	Theil		17 100													l Disp l Retu		fter 30 d nples	ays	
Phone # $(425)$ $415 - \theta$	<u>55</u> 1Fax	ː #	· · · · · · · · · · · · · · · · · · ·	[														vith inst	ructions	
		T		r	<b>.</b>				4	ANA	LYSI	ES RE	QU	ESTE	ED					
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by8260	SVOCs by 8270	HFS								Notes	
MW5	OIA	5/1/15	8:40	Hro	5	×	X		×									* with	silic	4
RW-2	07	1	935			X	×		$\times$										clean	·
RWI	R		1040			X	×		X									J	·	
	P		1																	
		<u> </u>					+				$\vdash$									
		-	1			-						_		Sar	noie	s rec	eiver	<b>lat</b> (	6 · c	
			<b> </b>		+	<u> </u>					$\vdash$		-							
																				]
Friedman & Bruya, Inc.	Dolin and		IATURE				ΓΝΑ	١ME	3				~	MPA				DATE	TIM	
3012 16th Avenue West			off	-	5.	tof	fork		10	Be	n		K	6Ţ				5/1/12	13:	19
Seattle, WA 98119-2029	Received	$\sim$	11		<u>,</u>	0.12	[	ll	der	do.	_ \		fei	AE -			ت	-3-	12:5	is
Ph. (206) 285-8282	Relinqui			)																
Fax (206) 283-5044	Received	i by: M	holan	J	Nhan	<u> </u>	pl	ran	~				Ŧ.	B	T		5	18/1s	152	C

FORMS\COC\COC.DOC