



TECHNICAL MEMORANDUM

Date: May 12, 2017 **RGI Project Number:** 2012-107L

To: Mr. Michael Warfel
Washington Department of Ecology
Northwest Regional Office
3190 160th Avenue Southeast
Bellevue, Washington 98008

cc: Mr. Matt Segrest
Alamo Manhattan Bellevue, LLC

From: Ms. Anna Jordan/ Mr. Paul Riley
The Riley Group, Inc.

Subject: Groundwater Evaluation
Main Street Apartments Development
10505 Main Street
Bellevue, Washington 98004
Ecology VCP No. NW2811

The Riley Group, Inc. (RGI) has been retained by Alamo Manhattan Bellevue, LLC (Alamo Manhattan) to manage environmental issues pertaining to the Main Street Development project located at 10505 Main Street in Bellevue, Washington (herein referred to as the Property). The location of the Property and significant features are depicted on the attached Figure 1.

The Property is currently owned by Alamo Manhattan and has been enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) since December of 2013. The Property is identified by Ecology as the Alamo Manhattan Main Street project (VCP No. NW2811).

BACKGROUND

Several previous investigations, including a completed cleanup action, have been performed on the Property. The following reports and correspondence pertaining to environmental investigations previously conducted for the Property:

- *Further Action at the following Site: Alamo Manhattan Main Street* (Ecology June 6, 2016 Opinion Letter).
- *Groundwater Characterization Report, Alamo Manhattan Main Street* (Groundwater Characterization Report) dated July 22, 2015.
- *Groundwater Characterization Work Plan, Alamo Manhattan Main Street* (Groundwater Characterization Report) dated October 30, 2014.

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- *Remedial Action Report, Main Street Apartments Development (RA report) dated June 13, 2014.*
- *Excavation Work Plan, Main Street Development (Excavation Work Plan) dated July 17, 2013 by RGI.*
- *Phase I Environmental Site Assessment Update Report (Phase I ESA Update) Main Street Development dated June 26, 2013 by RGI.*
- *Additional Groundwater Monitoring Well Installation and Sampling Report (Well and Sampling Report) Proposed Main Street Development dated June 19, 2013 by RGI.*
- *Phase II Subsurface Investigation Report (Phase II); Proposed Main Street Development dated July 24, 2012 by RGI.*
- *Phase I Environmental Site Assessment Report (Phase I ESA); Aaron Bothers Retail Property dated March 21, 2012 by RGI.*

The history of the Property and details pertaining to environmental investigations are described in the above-referenced documents and the reader should refer to these documents in their entirety for details pertaining to these investigations. Additionally, all of the above-mentioned documents prepared by RGI have been submitted to Ecology for review.

GROUNDWATER EVALUATION

Groundwater Sampling

On May 4, 2017 RGI collected groundwater samples from wells RW-1 and RW-2 situated in the parking garage of the Property building. Prior to sampling, water levels in each well were measured relative to the northernmost point of the well casing. After collection of water level data, each well was purged using a submersible pump and dedicated tubing. RGI also recorded measurements of temperature, conductivity, and pH during purging. Each well was purged dry twice and allowed to recharge then sampled using standard low-flow sampling methodology. Groundwater samples were placed in an iced cooler and transferred to the laboratory in accordance with standard chain of custody protocols.

Groundwater Analytical Results

As discussed in advance with Ecology, groundwater samples collected from wells RW1 and RW2 were submitted to ALS Environmental Laboratory (ALS) in Everett for the following analyses:

- Diesel-range Total Petroleum Hydrocarbons using Ecology Method NWTPH-Dx (without silica gel).
- Volatile Petroleum Hydrocarbons (VPH) and hexane using Method NWVPH.
- Extractable Petroleum Hydrocarbons (EPH) using Method NWEPH.

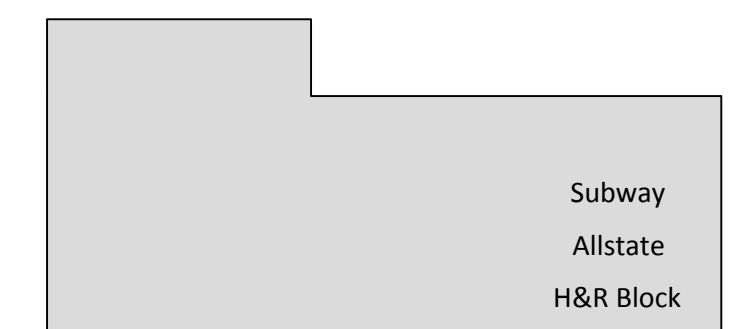
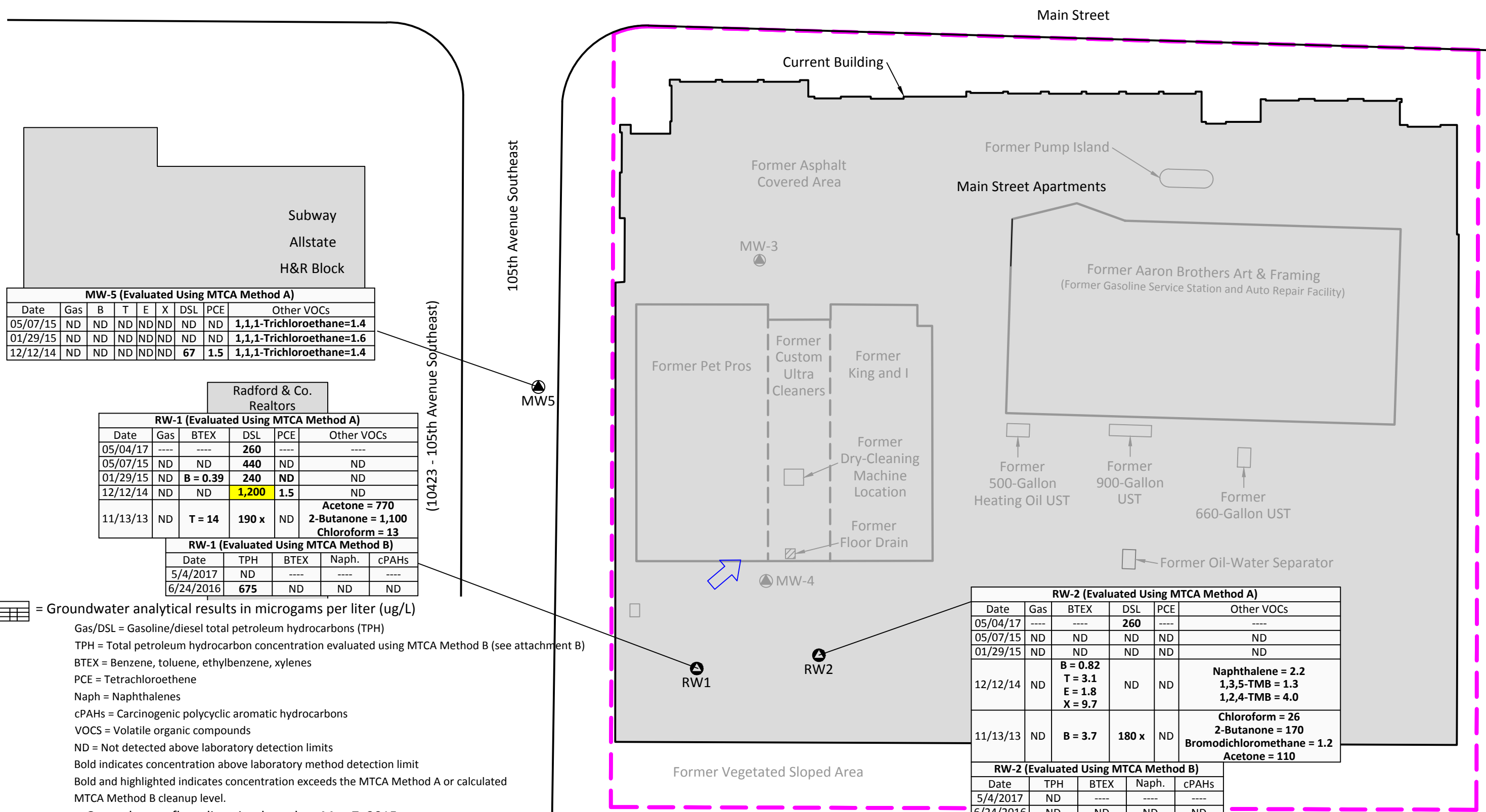
Analytical results including historical groundwater data obtained from groundwater monitoring wells RW-1 and RW-2 are illustrated on Figure 1 and discussed below. Analytical results from these samples indicated that groundwater in RW-1 and RW-2 both contained concentrations of diesel-range TPH at 260 micrograms/liter ($\mu\text{g/L}$). These concentrations are below the Property specific cleanup level (684 $\mu\text{g/L}$) that was calculated using the MTCA Method B Evaluation in January 2017.

Both samples from RW-1 and RE-2 were also analyzed for EPH/VPH with the intention of performing the Method B Evaluation. Both samples had non-detectable concentrations (non-detect) of the various aliphatic and aromatic carbon ranges. Since results were non-detect, the Method B evaluation was not warranted at this time.

Please do not hesitate to contact us at 425-415-0551 with any questions or comments regarding this Technical Memorandum.

Attachments: Figure 1, Property Representation Map

Attachment A, Groundwater Analytical Laboratory Report



MW-5 (Evaluated Using MTCA Method A)									
Date	Gas	B	T	E	X	DSL	PCE	Other VOCs	
05/07/15	ND	ND	ND	ND	ND	ND	ND	1,1,1-Trichloroethane=1.4	
01/29/15	ND	ND	ND	ND	ND	ND	ND	1,1,1-Trichloroethane=1.6	
12/12/14	ND	ND	ND	ND	ND	67	1.5	1,1,1-Trichloroethane=1.4	

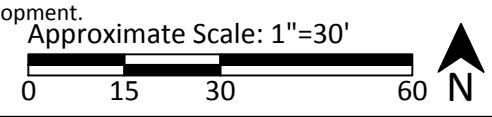
Radford & Co. Realtors					
RW-1 (Evaluated Using MTCA Method A)					
Date	Gas	BTEX	DSL	PCE	Other VOCs
05/04/17	----	----	260	----	----
05/07/15	ND	ND	440	ND	ND
01/29/15	ND	B = 0.39	240	ND	ND
12/12/14	ND	ND	1,200	1.5	ND
11/13/13	ND	T = 14	190 x	ND	Acetone = 770 2-Butanone = 1,100 Chloroform = 13

RW-1 (Evaluated Using MTCA Method B)				
Date	TPH	BTEX	Naph.	cPAHs
5/4/2017	ND	----	----	----
6/24/2016	675	ND	ND	ND

RW-2 (Evaluated Using MTCA Method A)					
Date	Gas	BTEX	DSL	PCE	Other VOCs
05/04/17	----	----	260	----	----
05/07/15	ND	ND	ND	ND	ND
01/29/15	ND	ND	ND	ND	ND
12/12/14	ND	B = 0.82 T = 3.1 E = 1.8 X = 9.7	ND	ND	Naphthalene = 2.2 1,3,5-TMB = 1.3 1,2,4-TMB = 4.0
11/13/13	ND	B = 3.7	180 x	ND	Chloroform = 26 2-Butanone = 170 Bromodichloromethane = 1.2 Acetone = 110

RW-2 (Evaluated Using MTCA Method B)				
Date	TPH	BTEX	Naph.	cPAHs
5/4/2017	ND	----	----	----
6/24/2016	ND	ND	ND	ND

- = Groundwater analytical results in micrograms per liter (ug/L)
- Gas/DSL = Gasoline/diesel total petroleum hydrocarbons (TPH)
- TPH = Total petroleum hydrocarbon concentration evaluated using MTCA Method B (see attachment B)
- BTEX = Benzene, toluene, ethylbenzene, xylenes
- PCE = Tetrachloroethene
- Naph = Naphthalenes
- cPAHs = Carcinogenic polycyclic aromatic hydrocarbons
- VOCs = Volatile organic compounds
- ND = Not detected above laboratory detection limits
- Bold indicates concentration above laboratory method detection limit
- Bold and highlighted indicates concentration exceeds the MTCA Method A or calculated MTCA Method B cleanup level.
- = Groundwater flow direction based on May 7, 2015 measurements.
- = Existing groundwater monitoring well location
- = Groundwater monitoring well location by RGI, 12/2014
- = (in gray) Former groundwater monitoring well location
- MW-3 and MW-4 were installed by RGI prior to redevelopment.
- B-1A was a temporary monitoring well installed by RGI and decommissioned during redevelopment.
- = (in pink) Property boundary



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Main Street Apartments Development		Figure 1
RGI Project Number 2012-107L	Property Representation Map with Groundwater Analytical Data	Date Drawn: 05/2017
Address: 10505 Main Street, Bellevue, Washington 98004		

Drawn from Bush, Roed & Hitchings, Inc., ALTA/ACSM Land Title Survey, dated 03/2012.



May 9, 2017

Mr. Jerry Sawetz
The Riley Group, Inc.
17522 Bothell Way NE, Suite A
Bothell, WA 98011

Dear Mr. Sawetz,

On May 4th, 2 samples were received by our laboratory and assigned our laboratory project number EV17050038. The project was identified as your 2012-107L. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Rick Bagan
Laboratory Director



CERTIFICATE OF ANALYSIS

CLIENT: The Riley Group, Inc.
 17522 Bothell Way NE, Suite A
 Bothell, WA 98011

CLIENT CONTACT: Jerry Sawetz
 CLIENT PROJECT: 2012-107L
 CLIENT SAMPLE ID: RW 1

DATE: 5/9/2017
 ALS JOB#: EV17050038
 ALS SAMPLE#: EV17050038-01
 DATE RECEIVED: 05/04/2017
 COLLECTION DATE: 5/4/2017 1:10:00 PM
 WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS	ANALYSIS
						DATE	BY
C5-C6 Aliphatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
>C6-C8 Aliphatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
>C8-C10 Aliphatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
>C8-C10 Aromatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
Hexane	NWVPH	U	1.0	1	UG/L	05/05/2017	PAB
TPH-Diesel Range	NWTPH-DX	260	130	1	UG/L	05/05/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	05/05/2017	EBS
>C8-C10 Aliphatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C10-C12 Aliphatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C12-C16 Aliphatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C16-C21 Aliphatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C21-C34 Aliphatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C8-C10 Aromatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C10-C12 Aromatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C12-C16 Aromatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C16-C21 Aromatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS
>C21-C34 Aromatics	NWEPH	ND- F1	60	1	UG/L	05/08/2017	EBS

SURROGATE	METHOD	%REC	ANALYSIS	ANALYSIS
			DATE	BY
TFT - Aliphatic	NWVPH	107	05/05/2017	PAB
TFT - Aromatic	NWVPH	113	05/05/2017	PAB
TFT - Hexane	NWVPH	110	05/05/2017	PAB
C25	NWTPH-DX	114	05/05/2017	EBS
C25	NWEPH	96.0	05/08/2017	EBS
p-Terphenyl	NWEPH	90.0	05/08/2017	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
 F1 - Reporting limit for compound raised due to low sample amount.
 Chromatogram indicates that it is likely that sample contains highly weathered diesel.



CERTIFICATE OF ANALYSIS

CLIENT: The Riley Group, Inc.
 17522 Bothell Way NE, Suite A
 Bothell, WA 98011

CLIENT CONTACT: Jerry Sawetz
 CLIENT PROJECT: 2012-107L
 CLIENT SAMPLE ID: RW 2

DATE: 5/9/2017
 ALS JOB#: EV17050038
 ALS SAMPLE#: EV17050038-02
 DATE RECEIVED: 05/04/2017
 COLLECTION DATE: 5/4/2017 1:10:00 PM
 WDOE ACCREDITATION: C601

SAMPLE DATA RESULTS

ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
>C6-C8 Aliphatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
>C8-C10 Aliphatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
>C8-C10 Aromatics	NWVPH	U	50	1	UG/L	05/05/2017	PAB
Hexane	NWVPH	U	1.0	1	UG/L	05/05/2017	PAB
TPH-Diesel Range	NWTPH-DX	260	130	1	UG/L	05/05/2017	EBS
TPH-Oil Range	NWTPH-DX	U	250	1	UG/L	05/05/2017	EBS
>C8-C10 Aliphatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C10-C12 Aliphatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C12-C16 Aliphatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C16-C21 Aliphatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C21-C34 Aliphatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C8-C10 Aromatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C10-C12 Aromatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C12-C16 Aromatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C16-C21 Aromatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS
>C21-C34 Aromatics	NWEPH	U	50	1	UG/L	05/08/2017	EBS

SURROGATE	METHOD	%REC	ANALYSIS DATE	ANALYSIS BY
TFT - Aliphatic	NWVPH	104	05/05/2017	PAB
TFT - Aromatic	NWVPH	112	05/05/2017	PAB
TFT - Hexane	NWVPH	106	05/05/2017	PAB
C25	NWTPH-DX	104	05/05/2017	EBS
C25	NWEPH	103	05/08/2017	EBS
p-Terphenyl	NWEPH	93.0	05/08/2017	EBS

U - Analyte analyzed for but not detected at level above reporting limit.
 Chromatogram indicates that it is likely that sample contains highly weathered diesel.



CERTIFICATE OF ANALYSIS

CLIENT: The Riley Group, Inc.
 17522 Bothell Way NE, Suite A
 Bothell, WA 98011

CLIENT CONTACT: Jerry Sawetz
 CLIENT PROJECT: 2012-107L

DATE: 5/9/2017
 ALS SDG#: EV17050038
 WDOE ACCREDITATION: C601

LABORATORY BLANK RESULTS

MBLK-294361 - Batch R294361 - Water by NWVPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
C5-C6 Aliphatics	NWVPH	U	UG/L	50	05/05/2017	PAB
>C6-C8 Aliphatics	NWVPH	U	UG/L	50	05/05/2017	PAB
>C8-C10 Aliphatics	NWVPH	U	UG/L	50	05/05/2017	PAB
>C8-C10 Aromatics	NWVPH	U	UG/L	50	05/05/2017	PAB
Hexane	NWVPH	U	UG/L	1.0	05/05/2017	PAB

U - Analyte analyzed for but not detected at level above reporting limit.

MB-050417W - Batch 115982 - Water by NWTPH-DX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	UG/L	130	05/05/2017	EBS
TPH-Oil Range	NWTPH-DX	U	UG/L	250	05/05/2017	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

MBLK-294365 - Batch R294365 - Water by NWEPH

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
>C8-C10 Aliphatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C10-C12 Aliphatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C12-C16 Aliphatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C16-C21 Aliphatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C21-C34 Aliphatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C8-C10 Aromatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C10-C12 Aromatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C12-C16 Aromatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C16-C21 Aromatics	NWEPH	U	UG/L	50	05/08/2017	EBS
>C21-C34 Aromatics	NWEPH	U	UG/L	50	05/08/2017	EBS

U - Analyte analyzed for but not detected at level above reporting limit.



CERTIFICATE OF ANALYSIS

CLIENT: The Riley Group, Inc.
 17522 Bothell Way NE, Suite A
 Bothell, WA 98011

CLIENT CONTACT: Jerry Sawetz
 CLIENT PROJECT: 2012-107L

DATE: 5/9/2017
 ALS SDG#: EV17050038
 WDOE ACCREDITATION: C601

LABORATORY CONTROL SAMPLE RESULTS

ALS Test Batch ID: R294361 - Water by NWVPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
C5-C6 Aliphatics - BS	NWVPH	90.0			70	130	05/05/2017	PAB
C5-C6 Aliphatics - BSD	NWVPH	96.0	6		70	130	05/05/2017	PAB
>C6-C8 Aliphatics - BS	NWVPH	89.0			70	130	05/05/2017	PAB
>C6-C8 Aliphatics - BSD	NWVPH	95.0	7		70	130	05/05/2017	PAB
>C8-C10 Aliphatics - BS	NWVPH	89.0			70	130	05/05/2017	PAB
>C8-C10 Aliphatics - BSD	NWVPH	90.0	1		70	130	05/05/2017	PAB
>C8-C10 Aromatics - BS	NWVPH	94.0			70	130	05/05/2017	PAB
>C8-C10 Aromatics - BSD	NWVPH	97.0	3		70	130	05/05/2017	PAB
Hexane - BS	NWVPH	87.3			70	130	05/05/2017	PAB
Hexane - BSD	NWVPH	92.7	6		70	130	05/05/2017	PAB

ALS Test Batch ID: 115982 - Water by NWTPH-DX

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
TPH-Diesel Range - BS	NWTPH-DX	89.2			67	125.2	05/05/2017	EBS
TPH-Diesel Range - BSD	NWTPH-DX	92.3	3		67	125.2	05/05/2017	EBS

ALS Test Batch ID: R294365 - Water by NWEPH

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C8-C10 Aliphatics - BS	NWEPH	97.0			70	130	05/08/2017	EBS
>C8-C10 Aliphatics - BSD	NWEPH	93.0	4		70	130	05/08/2017	EBS
>C10-C12 Aliphatics - BS	NWEPH	102			70	130	05/08/2017	EBS
>C10-C12 Aliphatics - BSD	NWEPH	99.0	3		70	130	05/08/2017	EBS
>C12-C16 Aliphatics - BS	NWEPH	105			70	130	05/08/2017	EBS
>C12-C16 Aliphatics - BSD	NWEPH	102	3		70	130	05/08/2017	EBS
>C16-C21 Aliphatics - BS	NWEPH	106			70	130	05/08/2017	EBS
>C16-C21 Aliphatics - BSD	NWEPH	104	2		70	130	05/08/2017	EBS
>C21-C34 Aliphatics - BS	NWEPH	104			70	130	05/08/2017	EBS
>C21-C34 Aliphatics - BSD	NWEPH	100	4		70	130	05/08/2017	EBS
>C8-C10 Aromatics - BS	NWEPH	101			70	130	05/08/2017	EBS
>C8-C10 Aromatics - BSD	NWEPH	82.0	21		70	130	05/08/2017	EBS
>C10-C12 Aromatics - BS	NWEPH	108			70	130	05/08/2017	EBS
>C10-C12 Aromatics - BSD	NWEPH	95.0	13		70	130	05/08/2017	EBS
>C12-C16 Aromatics - BS	NWEPH	115			70	130	05/08/2017	EBS
>C12-C16 Aromatics - BSD	NWEPH	104	10		70	130	05/08/2017	EBS
>C16-C21 Aromatics - BS	NWEPH	116			70	130	05/08/2017	EBS
>C16-C21 Aromatics - BSD	NWEPH	108	7		70	130	05/08/2017	EBS
>C21-C34 Aromatics - BS	NWEPH	91.0			70	130	05/08/2017	EBS

CERTIFICATE OF ANALYSIS

CLIENT:	The Riley Group, Inc. 17522 Bothell Way NE, Suite A Bothell, WA 98011	DATE:	5/9/2017
CLIENT CONTACT:	Jerry Sawetz	ALS SDG#:	EV17050038
CLIENT PROJECT:	2012-107L	WDOE ACCREDITATION:	C601

LABORATORY CONTROL SAMPLE RESULTS

SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	LIMITS		ANALYSIS DATE	ANALYSIS BY
					MIN	MAX		
>C21-C34 Aromatics - BSD	NWEPH	83.0	9		70	130	05/08/2017	EBS

APPROVED BY



Laboratory Director

