1180 NW Maple St., Suite 310
Issaquah, WA 98027
T 425.395.0010
TRCcompanies.com

October 19, 2021

Mr. Jason Cook, L.G.
Washington State Department of Ecology
Toxics Cleanup Program
300 Desmond Drive SE
Lacey, Washington 98503

Re: Quarterly Compliance Monitoring Report – July 2021
Lorenz Residence
8009 41st Avenue NE
Seattle, Washington
VCP Site No. NW1762

TRC Project Number: 423659.0000

Dear Mr. Cook:

TRC Environmental Corporation (TRC), is pleased to present this Quarterly Compliance Monitoring Report for July 2021, for the Lorenz Residence Site located at 8009 41st Avenue NE in Seattle, Washington (Site). The Site is currently enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) as Site No. NW1762. We understand that you are the current Site Manager. The location of the Site is indicated on Figure 1.

A No Further Action (NFA) determination was issued for this Site by Ecology on July 10, 2019 under the authority of the Model Toxics Control Act (MTCA), Revised Code of Washington (RCW), Chapter 70.105D.050(1). Ecology's NFA determination includes an Environmental Covenant (EC) that requires the performance of compliance monitoring to confirm the long-term effectiveness of the cleanup.

A *Groundwater Compliance Monitoring Plan* (GCMP), dated July 31, 2018 was prepared for the Site by TRC (formerly Environmental Partners, Inc. [EPI][1]) to formalize the scope of the monitoring obligations under the NFA. The GCMP was reviewed and approved by Ecology as a condition of the NFA.

The GCMP requires groundwater monitoring from wells MW-1, MW-4, MW-5, and MW-6 for a total of eight quarterly events. Quarterly compliance monitoring was first performed in October 2019 and this is the eighth and final required quarterly sampling event for the Site.

[1] TRC acquired EPI on December 27, 2019. For the purposes of this report EPI and TRC may be used interchangeably.

GROUNDWATER MONITORING AND SAMPLING PROCEDURES

All actions documented herein were performed in conformance with the procedures and methods approved in the GCMP. During the July 2021 monitoring event, groundwater levels were measured in all seven Site monitoring wells. Low-flow groundwater samples were collected from the monitoring wells scheduled for sampling during the July 2021 event, which included MW-1, MW-4, MW-5, and MW-6. Groundwater samples were analyzed for the contaminants of concern (COCs), as established in the GCMP.

Groundwater Measurements

On July 14, 2021, TRC personnel measured water levels in all seven Site monitoring wells. An electronic water level meter was used to measure depth to water to the nearest 0.01 foot from a surveyed point at the top of the well casing. The measurements were subtracted from the surveyed casing elevations to establish piezometric groundwater elevations.

An oil/water interface probe was used to assess for the presence of light non-aqueous phase liquid (LNAPL) and, if present, measure the thickness in the wells. LNAPL was not present during the July 2021 event. Measurable LNAPL has not been observed in any wells since January 2020.

The depth to groundwater at the Site ranged between 28.02 feet and 30.90 feet below grade. The piezometric elevation data indicate that groundwater migration remains consistently to the northwest. The groundwater gradient averages approximately 0.035 feet/foot as measured between wells MW-3 and MW-5. These piezometric conditions are consistent with previous findings at the Site. A summary of historical groundwater elevation data for the Site is included in Table 1. Figure 2 presents the groundwater elevations and piezometric contours for the July 2021 event.

Groundwater Sampling and Analysis

On July 14, 2021, TRC collected groundwater samples using low-flow techniques. During pre-sample purging, geochemical conditions of the groundwater were monitored including temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP). Groundwater samples were collected after these parameters had stabilized.

Groundwater samples were collected in appropriately labeled, unpreserved 500-mL amber glass bottles using the same pump and tubing utilized for purging. Non-disposable sampling equipment was thoroughly cleaned between uses and all disposal equipment (i.e., tubing) was replaced. The groundwater samples were placed in a chilled cooler and submitted to Friedman & Bruya, Inc. in Seattle, Washington, under standard chain-of-custody protocol.

All samples were analyzed for diesel-range and oil-range organics (DRO and ORO) using the Northwest Total Petroleum Hydrocarbons as Diesel (NWTPH-Dx) analytical method. Samples were passed through a silica gel column prior to analysis to remove biogenic polar hydrocarbon compounds, per the Ecology-approved GCMP.

Groundwater Analytical Results – July 2021

Table 2 summarizes the groundwater analytical results and Figure 2 presents the analytical data results from the July 2021 sampling event for each well location. The laboratory analytical report is included as Attachment A.

Pertinent field observations and analytical results are described below:

- Neither LNAPL nor sheen were detected in any monitoring wells. LNAPL has not been detected since January 2020 and no sheen has been observed since July 2020. The absence of any observable separate-phase hydrocarbons demonstrates a long-term effectiveness of the remedy and the associated improvement in groundwater quality at the Site over time.

- Dissolved-phase diesel-range organics (DRO) were detected in samples from monitoring wells MW-1 and MW-4 at concentrations of 1,000 micrograms per liter (µg/L) and 3,600 µg/L, respectively. These detected DRO concentrations exceeded the MTCA Method A CUL for groundwater of 500 µg/L.

- Samples from wells MW-5 and MW-6 both did not contain DRO at concentrations greater than the laboratory method detection limit.

- ORO was not detected in any of the groundwater samples.

- The concentrations observed are consistent with prior results and demonstrate that the current groundwater quality is consistent with the quality at the time the NFA was granted. DRO concentrations in well MW-4 indicated a strong declining trend from July 2020 to April 2021 with a slight rebound for this July 2021 sampling event. This slight rebound does not negate the long-term decreasing concentration trend in well MW-4.

- The observed and documented groundwater quality and hydraulic conditions support a conclusion that the selected remedy continues to be protective.

COMPLIANCE MONITORING

As noted, the current July 2021 sampling event is the last event required under the NFA and the Ecology-approved GCMP. Unless otherwise directed or required by Ecology, no additional routine groundwater monitoring will be performed in support of the NFA. No additional air monitoring is required at the subject property based on requirements of the NFA.

The Environmental Covenant should be revised to eliminate the indoor air vapor sampling requirements. Those requirements should be considered complete and no longer included as a component of the existing EC.

SUMMARY AND CONCLUSIONS

The following conclusions are supported by the findings of the groundwater monitoring event documented herein:

- Current data continue to support a conclusion that the remedy implemented in support of the NFA remains protective of human health and the environment and remains consistent with conditions at the time the NFA was granted.

- Groundwater quality continues to improve. LNAPL has not been observed since January 2020 and sheen has not been observed since July 2020. Groundwater quality continues to exhibit long-term improvements and decreasing concentration trends.

- Additional groundwater sampling is no longer obligatory at the subject property based on the requirements of the NFA and GCMP.

If you have any questions or comments regarding this report, please do not hesitate to contact us at (425) 395-0010.

Sincerely,

Mariem Esparra

Adam Morine

Mariem Esparra
Project Engineer

Adam Morine, P.E.
Senior Engineer

cc: Ms. Carol Lorenz
Mr. John Houlihan, Houlihan Law

ENCLOSURES

Tables

Table 1	Groundwater Elevations
Table 2	Groundwater Analytical Results

Figures

Figure 1	Site Vicinity Map
Figure 2	Groundwater Contours and Analytical Results – July 2021

Attachment

Attachment A	Laboratory Analytical Report

Tables

Table 1
Groundwater Elevations
Quarterly Compliance Monitoring Report – July 2021
Lorenz Residence
8009 41st Avenue NE Seattle, Washington

Well ID	Date	Total Well Depth	North Edge of PVC	Depth to Water	Depth to Product	Product Thickness	Calculated Groundwater Elevation
MW-1	10/8/2019	35.60	336.26	30.50	30.24	0.26	305.76
	1/22/2020		336.26	29.16	NP	Sheen	307.10
	4/27/2020		336.26	28.03	NP	0	308.23
	7/15/2020		336.26	28.75	NP	Sheen	307.51
	10/5/2020		336.26	29.67	29.64	0	306.59
	1/11/2021		336.26	28.09	NP	0	308.17
	4/13/2021		336.26	27.24	NP	0	309.02
	7/14/2021		336.26	29.00	NP	0	307.26
MW-2	10/8/2019	35.69	336.08	30.60	NP	0	305.48
	1/22/2020		336.08	28.89	NP	0	307.19
	4/27/2020		336.08	27.77	NP	0	308.31
	7/15/2020		336.08	28.49	NP	Sheen	307.59
	10/5/2020		336.08	29.39	NP	0	306.69
	1/11/2021		336.08	27.68	NP	0	308.40
	4/13/2021		336.08	26.93	NP	0	309.15
	7/14/2021		336.08	28.75	NP	0	307.33
MW-3	10/8/2019	36.15	336.19	30.21	NP	0	305.98
	1/22/2020		336.19	29.18	NP	0	307.01
	4/27/2020		336.19	27.99	NP	0	308.20
	7/15/2020		336.19	28.68	NP	Sheen	307.51
	10/5/2020		336.19	29.60	NP	0	306.59
	1/11/2021		336.19	28.06	NP	0	308.13
	4/13/2021		336.19	27.18	NP	0	309.01
	7/14/2021		336.19	28.95	NP	0	307.24
MW-4	10/8/2019	35.00	336.20	29.67	29.59	0.08	306.53
	1/22/2020		336.20	27.05	27.02	0.03	309.15
	4/27/2020		336.20	25.70	NP	0	310.50
	7/15/2020		336.20	27.77	NP	Sheen	308.43
	10/5/2020		336.20	28.92	NP	0	307.28
	1/11/2021		336.20	25.45	NP	0	310.75
	4/13/2021		336.20	25.24	NP	0	310.96
	7/14/2021		336.20	28.31	NP	0	307.89
MW-5	10/8/2019	35.00	331.81	32.15	NP	0	299.66
	1/22/2020		331.81	31.80	NP	0	300.01
	4/27/2020		331.81	29.84	NP	0	301.97
	7/15/2020		331.81	30.39	NP	0	301.42
	10/5/2020		331.81	31.30	NP	0	300.51
	1/11/2021		331.81	30.90	NP	0	300.91
	4/13/2021		331.81	29.12	NP	0	302.69
	7/14/2021		331.81	30.90	NP	0	300.91
MW-6	10/8/2019	34.59	333.91	30.85	NP	0	303.06
	1/22/2020		333.91	30.29	NP	0	303.62
	4/27/2020		333.91	28.86	NP	0	305.05
	7/15/2020		333.91	29.44	NP	0	304.47
	10/5/2020		333.91	30.20	NP	0	303.71
	1/11/2021		333.91	29.31	NP	0	304.60
	4/13/2021		333.91	28.13	NP	0	305.78
	7/14/2021		333.91	29.72	NP	0	304.19
MW-7	10/8/2019	35.00	333.56	29.11	NP	0	304.45
	1/22/2020		333.56	28.33	NP	0	305.23
	4/27/2020		333.56	27.16	NP	0	306.40
	7/15/2020		333.56	27.75	NP	0	305.81
	10/5/2020		333.56	28.51	NP	0	305.05
	1/11/2021		333.56	27.23	NP	0	306.33
	4/13/2021		333.56	26.41	NP	0	307.15
	7/14/2021		333.56	28.02	NP	0	305.54

Notes:

Measurements presented in feet.
Horizontal datum: North American Datum (NAD) 1983/2007 Washington State Plane North Zone.
Vertical datum: North American Datum 1998 (NAVD 88) - based on GPS measurements using the Washington State Reference Network. Referenced to Washington State Department of Transportation (WSDOT) Monument GP17522-151, with published elevation of 361 feet, June 2009.

PVC	Polyvinyl chloride.
NP	No product in well.
NM	Not measured.

Table 2
Groundwater Analytical Results
Quarterly Compliance Monitoring Report – July 2021
Lorenz Residence
8009 41st Avenue NE Seattle, Washington

Sample Location	Sample Date	Petroleum Hydrocarbons[a]		Volatile Organic Compounds[b]
		DRO	ORO	Naphthalene
MW-1	10/8/2019	NS	NS	NS
	1/22/2020	**500**	<250	**12**
	4/27/2020	**690**	<250	**15**
	7/15/2020	**430**	<250	**7.2**
	10/5/2020	**890**	<250	**2.6**
	1/11/2021	**1,000**	<250	--
	4/13/2021	**940**	<250	**27**
	7/14/2021	**1,000**	<250	--
MW-4	10/8/2019	NS	NS	NS
	1/22/2020	NS	NS	NS
	4/27/2020	**200**	<250	<1
	7/15/2020	**1,800**	<250	<1
	10/5/2020	**620**	<250	<1
	1/11/2021	**820**	<250	--
	4/13/2021	**410**	<250	<1
	7/14/2021	**3,600**	<250	--
MW-5	10/8/2019	<50	<250	<1
	1/22/2020	<50	<250	<1
	4/27/2020	<50	<250	<1
	7/15/2020	<50	<250	<1
	1/11/2021	<50	<250	--
	7/14/2021	<50	<250	--
MW-6	10/8/2019	<50	<250	<1
	1/22/2020	<50	<250	<1
	4/27/2020	<50	<250	<1
	7/15/2020	<50	<250	<1
	1/11/2021	<50	<250	--
	7/14/2021	<50	<250	--
MTCA Method A Cleanup Levels for Groundwater[c]		**500**	**500**	**160**

Notes:
All results presented in micrograms per liter (µg/L).

Bold	Bold results exceed the laboratory reporting limit.
	Shaded results exceed the cleanup level.
--	Sample was not analyzed for this compound.
NS	Not sampled; light non-aqueous phase liquid in well.
a	Analyzed by Method NWTPH-Dx. Samples extracts passed through a silica gel column prior to analysis.
b	Analyzed by EPA Method 8260C.
c	Model Toxics Control Act (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1, WAC 173-340-900.

Qualifier:

x	The sample chromatographic patterns does not resemble the fuel standard use for quantitation.

Compounds:

DRO	Diesel-range organics
ORO	Oil-range organics

Figures

NOTES:

SOURCE: USGS 7.5 MINUTE QUADRANGLE (TOPOGRAPHIC)
SEATTLE, WA NORTH

2017

SCALE = 1:24,000

1180 NW MAPLE ST, SUITE 310
ISSAQUAH, WA 98027
425.395.0010
WWW.TRCCOMPANIES.COM

FIGURE 1
SITE VICINITY MAP

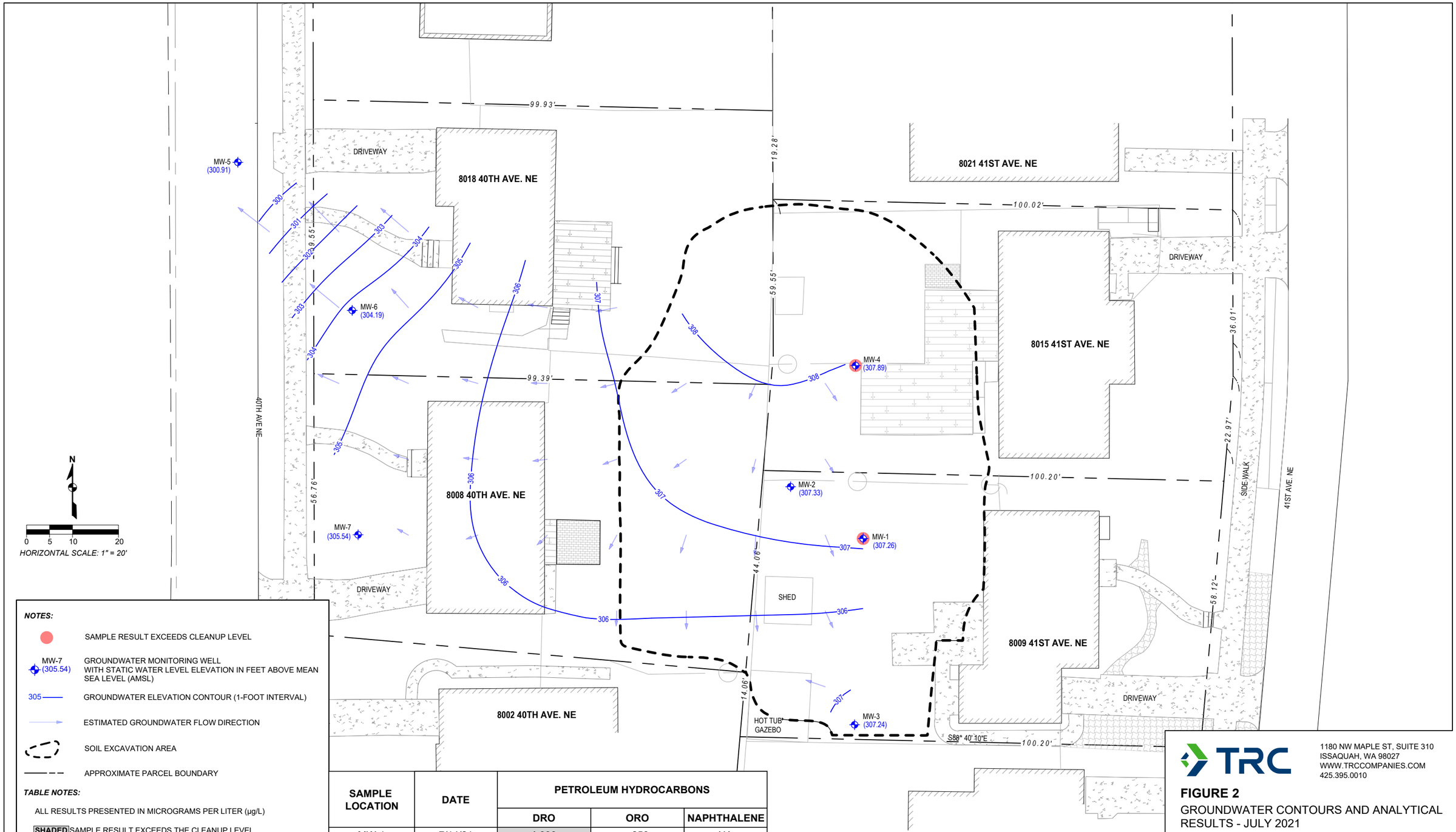
REPORT
QUARTERLY COMPLIANCE MONITORING REPORT
JULY 2021

PREPARED FOR
ALLSTATE INSURANCE

PROJECT NUMBER
426359.0000

LOCATION
8009 41ST AVENUE NE
SEATTLE, WASHINGTON

DATE 9/8/21
DRAWN BY ..... VPB
REVIEWED BY ..... ME



NOTES:

- SAMPLE RESULT EXCEEDS CLEANUP LEVEL
- MW-7 (305.54) — GROUNDWATER MONITORING WELL WITH STATIC WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL (AMSL)
- 305 — GROUNDWATER ELEVATION CONTOUR (1-FOOT INTERVAL)
- ESTIMATED GROUNDWATER FLOW DIRECTION
- SOIL EXCAVATION AREA
- APPROXIMATE PARCEL BOUNDARY

TABLE NOTES:

ALL RESULTS PRESENTED IN MICROGRAMS PER LITER (µg/L)

SHADED SAMPLE RESULT EXCEEDS THE CLEANUP LEVEL

< LESS THAN LABORATORY REPORTING LIMIT SHOWN

DRO DIESEL-RANGE ORGANICS BY NWTPH-DX

ORO OIL-RANGE ORGANICS BY NWTPH-DX

NA SAMPLE WAS NOT ANALYZED FOR THIS COMPOUND

NAPHTHALENE ANALYZED BY EPA METHOD 8260D

SAMPLE LOCATION	DATE	PETROLEUM HYDROCARBONS		
		DRO	ORO	NAPHTHALENE
MW-1	7/14/21	**1,000**	<250	NA
MW-4	7/14/21	**3,600**	<250	NA
MW-5	7/14/21	<50	<250	NA
MW-6	7/14/21	<50	<250	NA
MTCA METHOD A CLEANUP LEVELS FOR GROUNDWATER		**500**	**500**	**160**

TRC
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FIGURE 2

GROUNDWATER CONTOURS AND ANALYTICAL RESULTS - JULY 2021

REPORT
QUARTERLY COMPLIANCE MONITORING REPORT
JULY 2021

LOCATION
8009 41ST AVENUE NE
SEATTLE, WASHINGTON

PREPARED FOR
ALLSTATE INSURANCE

PROJECT NUMBER
426359.0000

DATE 9/8/21
DRAWN BY ..... VPB
REVIEWED BY ..... ME

Attachment A
Laboratory Analytical Report

FRIEDMAN & BRUYA, INC.

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
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fbi@isomedia.com
www.friedmanandbruya.com

July 22, 2021

Mariem Esparra, Project Manager
TRC Environmental
1180 NW Maple St, Suite 310
Issaquah, WA 98027

RE: 426359 - Lorenz Residence, F&BI 107226

Dear Ms Esparra:

Included are the results from the testing of material submitted on July 15, 2021 from the 426359 - Lorenz Residence, F&BI 107226 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
c: Cynthia Moon
TRC0722R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 15, 2021 by Friedman & Bruya, Inc. from the TRC Environmental 426359 - Lorenz Residence, F&BI 107226 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	TRC Environmental
107226-01	MW-5
107226-02	MW-6
107226-03	MW-1
107226-04	MW-4

All quality control requirements were acceptable.

Date of Report: 07/22/21
Date Received: 07/15/21
Project: 426359 - Lorenz Residence, F&BI 107226
Date Extracted: 07/16/21
Date Analyzed: 07/19/21

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW-5 107226-01	<50	<250	80
MW-6 107226-02	<50	<250	95
MW-1 107226-03	1,000	<250	90
MW-4 107226-04	3,600	<250	93
Method Blank 01-1640 MB	<50	<250	89

Date of Report: 07/22/21
Date Received: 07/15/21
Project: 426359 - Lorenz Residence, F&BI 107226

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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	96	84	61-133	13

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.

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.

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 analyte 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 due to sample matrix effects.

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.

SAMPLE CHAIN OF CUSTODY

107226

7/15/21 ME

E02 VW5

Page # 1 of 1

Report To Mariem Esparra cc: Cynthia Moon

Company TRC

Address 1180 NW Maple St, Suite 310

City, State, ZIP Issaquah, WA 98027

Phone (425) 395-0010 Email CMoon@trccompanies.com MEsparra@trccompanies.com

SAMPLERS (*signature*)

PROJECT NAME: 426359 - Lorenz Residence

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	DRO/ORO with silica gel				Notes
MW-5	01 A-D	7/14/21	1107	H_2O	4								X				
MW-6	02		1205										X				
MW-1	03		1346										X				
MW-4	04		1432										X				
													Samples received at 6 °C				

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	NATE DORFNER	TRC	7/14/21	1830
Received by:	Ramsey Mauldin	TRC	7-14-21	1830
Relinquished by:	Ramsey Mauldin	TRC	7-15-21	0915
Received by:	Will Radford	F&BI	7/15/21	09:15

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282