

**FOURTH QUARTER MONITORING WELL
SAMPLING AND TESTING EVENT**

Former Gas Station Site
4404 South 133rd Street
Tukwila, Washington 98168

BORRELLI REAL ESTATE INVESTMENT

ENVIRONMENTAL ASSOCIATES, INC.

1380 - 112th Avenue Northeast, Suite 300
Bellevue, Washington 98004
(425) 455-9025 Office
(888) 453-5394 Toll Free
(425) 455-2316 Fax

October 4th, 2018

JN-33076-4

Joey Borrelli
Borrelli Real Estate Investment
4439 South 134th Place, Building E
Tukwila, Washington 98168

Subject: **Fourth Quarter Monitoring Well Sampling and Testing Event**
4404 South 133rd Street
Tukwila, Washington 98168

Dear Mr. Borrelli:

In the course of August 2017 discussions with Ms. Jing Song of the Washington State Department of Ecology (WDOE) relating to your pursuit of a "No Further Action" (NFA) determination for the above referenced property, EAI was informed that monitoring well installation and groundwater sampling (four quarters) would be required to support their decision-making process. Prepared in response to your request and in accordance with our proposal dated September 7th, 2017, this report documents our approach to the well installation process and presents the cumulative results of the four quarters of groundwater testing completed thus far.

The contents of this report are confidential and are intended solely for your use along with Borrelli Real Estate Investment (Client) and its several representatives. Following your directives, an electronic copy of this report is being distributed to you. No other distribution or discussion of these findings will take place without your specific approval.

BACKGROUND

On May 7th, 2013, Environmental Associates, Inc (EAI) presented the findings of a Phase I Environmental Site Assessment to Borrelli Real Estate Investments, LLC for the subject property. The Phase I identified the historic operation of a gasoline station on the subject as a "recognized environmental condition" (REC). The Phase I research found no evidence of any prior environmental assessment of the subject parcel. EAI suggested that a geophysical survey should be conducted and that if an underground storage tank (UST) were discovered, that it be properly removed.



On May 15th, 2013, Underground Detection Services, Inc., presented the client with a geophysical survey. The survey was conducted between 133rd Street and the now-removed gas station buildings. During the survey, a geophysical “anomaly” indicative of a UST was detected to the south of the historic station garages. That location corresponds with the position of the 550 gallon tanks shown on Plate 2. Underground Detection Services had independently contracted with the client and Environmental Associates, Inc., was not involved in this geophysical survey.

On May 31st, 2013, EAI observed the excavation of the “geophysical anomaly” which proved to be an out-of-service UST. The tank was accessed through an uncovered fill port and was found to contain approximately 300-gallons of gasoline and water. Global (tank decommissioning contractor) arranged to have a vacuum truck pump remaining product from the UST. Upon receiving the Tukwila Fire Marshal field inspector’s permit sign-off, Global proceeded to remove the UST from the ground. The tank was constructed of single-wall steel and had an approximate diameter and length of 42-inches by 92-inches, which would correspond to a tank with a capacity of approximately 550 gallons. The tank was heavily rusted and had several holes due to corrosion in the bottom. The tank was then removed from the site. A moderate to strong petroleum odor was also noted emanating from the open excavation and from select soil samples obtained from the sidewalls of the excavation. Groundwater seepage was noted through the sidewalls of the excavation at a depth of approximately 5 to 6 feet. Discrete soil samples were collected from each sidewall of the excavation at depths of approximately 5 feet, corresponding to the upper fringe of the groundwater seepage zone soil/groundwater interface. A discrete soil sample was also collected from the base of the excavation directly below the former UST at a depth of approximately 7 feet. An additional soil sample was collected at a depth of 3 feet adjacent to the former fuel dispenser pump to the west of the UST. Finally, a field composite sample was collected from three (3) separate areas of the temporarily stockpiled overburden soil. All soil samples were collected following EPA Methodology 5035A, which is intended to minimize the potential loss of volatile organic compounds (VOCs).

Results of laboratory analysis showed three (3) of the samples contained total petroleum hydrocarbons (TPH) at concentrations above the WDOE’s 100 parts per million (ppm) target compliance level. Those concentrations ranged between 270 ppm to 1,000 ppm. No benzene, toluene, ethylbenzene, or xylene (BTEX) compounds (common to gasoline) were detected in any of the samples analyzed, a finding often interpreted as an indication of an “older” release in which the residual gasoline has significantly “weathered.” Two (2) soil samples with the highest concentrations of gasoline were further analyzed for total lead. Lead was only detected in one (1) sample at a concentration of 8.2 ppm, which is significantly less than the WDOE’s target compliance level of 250 ppm.

On June 14th, 2013, EAI presented the Client with an Underground Storage Tank Removal and Site Assessment report. That report recommended performing additional site assessment to deduce the lateral extent of the petroleum impacted soil following demolition / clearing and grading. The report further advised that such explorations could be performed by drilling or potentially more cost effectively by excavating numerous shallow “test-pits” with a backhoe.

On May 27th, 2016, EAI presented a report entitled Limited Subsurface Sampling and Testing referring to the subject property to Borrelli Real Estate Investments, LLC. EAI observed excavation of six (6) test pits surrounding the former tank and dispenser area (known to be contaminated). Soil samples were obtained from each pit and groundwater was collected from four (4) of the pits. Soil and groundwater samples were analyzed for gasoline, diesel, and heavy oil petroleum hydrocarbons as well as benzene, toluene, ethylbenzene, and xylenes (BTEX). None of these analytes were detected in any of the soil samples. Diesel-range hydrocarbons were initially reported as being detected in all four (4) groundwater samples. That said, diesel concentrations detected in groundwater collected in three samples were below MTCA cleanup levels of 500 parts per billion (ppb) while one sample contained 520 ppb. These samples were all “flagged” in the laboratory report as “samples chromatographic pattern does not resemble the fuel standard used in quantitation” meaning that the detections may not be refined petroleum and may be due (in part) to the significant presence of naturally occurring organic material at that locality. EAI requested that the laboratory re-run the groundwater sample for diesel and heavy oil after it was put through a silica gel column to remove possible naturally occurring hydrocarbons. The results of the follow-up analysis were “non detect” for diesel and the concentration of heavy oil was below (i.e. compliant with) the MTCA Cleanup levels.

EAI’s May 27th, 2016 report outlined steps to pursue acquisition of a “No Further Action” (NFA) designation. Those steps included excavation, groundwater removal, possible addition of proprietary remediation compounds, backfilling, installation of monitoring wells, and eventually entering the WDOE Voluntary Cleanup Program (VCP) to apply for a determination of “no further action”(NFA).

Independent Cleanup Action

On July 12th, 2016, EAI was on site to observe the excavation of contaminated soil being performed by Mitchell Contractors starting at the western end of the suspected impacted area. With excavation then extending to the east. Referring to Plate 2, at approximately 10 to 15 feet east of the western edge of the excavation, a separate 1,100 gallon underground storage tank (UST) was discovered. Excavation was stopped until July 14th, 2016 when the tank was removed by Tank Wise, who had independently contracted with the client.

Upon removal of the newly discovered 1,100 gallon gasoline UST, EAI and Mitchell Contractors continued with the remedial excavation on the morning of July 15th, 2016. By the end of the day, field observations suggested that the bulk of contaminated soil may have been excavated. During the excavation, the removed soil was divided into three (3) piles tentatively designated suspected “clean”, potentially impacted, and “presumed” contaminated depending on field observations and the use of a photoionization detector (PID). Upon reaching the apparent lateral and vertical limits of contaminated soil, several samples were taken from each stockpile and tested for contaminants including (gasoline, BTEX, diesel, and heavy oil). Only soils in the “presumed contaminated” pile contained contaminants (gasoline and benzene) exceeding MTCA Cleanup Levels. Soil samples obtained from the other two stockpiles tested non detect for all contaminants except for a trace detection of gasoline in the “potentially” impacted pile. The “potentially” impacted pile contained 17 ppm of gasoline, well below the 30 ppm cleanup level of gasoline when benzene is present. A total of 74.58 tons of soil from the “presumed contaminated” stockpile was transported off-site Republic Services for lawful disposal.

Soils encountered within the excavation generally consisted of well sorted brown and grey silty sand (fine to medium grain) with some pebbles and cobbles extending from the surface to a depth of approximately 10 to 12 feet below ground surface (bgs). At approximately 10 to 15 feet bgs, a layer of highly organic material was present in fairly non-decomposed form (leaves, sticks, etc.) and included intermittent thin layers of gray silty sands. Such deposits are common in the alluvium comprising the Duwamish River Valley. The lower limit of this naturally occurring organic unit was not reached or otherwise determined in the course of the excavations which reached a maximum depth of approximately 7 feet bgs.

Twenty three (23) soil samples were collected from final limits of the remedial soil excavation and stockpiles. These included four (4) from the base of the excavation (maximum depth of approximately 15 feet), nine (9) from the sidewalls and ten (10) from the stockpiles. Only the presumed contaminated stockpile sample contained contaminants above WDOE compliance levels (gasoline and benzene). One base sample and one sidewall sample contained gasoline, diesel, heavy oil, toluene, ethylbenzene, xylenes, and lead with all detections found to be below WDOE-established cleanup levels. A groundwater sample was collected using a bailer on July 18th, 2016; the sample was analyzed for gasoline, BTEX, diesel, and heavy oil. All contaminants tested for were below laboratory reporting limits (i.e. non-detect). Relying upon the results of lab testing, EAI concluded that the limited cleanup action appeared to have been successful in achieving Washington State’s target compliance levels for unrestricted land use.

MONITORING WELL INSTALLATION

On September 25th, 2017, monitoring wells MW-1, MW-2, and MW-3 were drilled and installed on the property at the locations depicted on Plate 2, Site Plan. These locations correspond to the eastern portion of the property which is of interest to the WDOE.

The monitoring wells were completed using a truck-mounted auger drill rig operated by ESN of Lacey, Washington. Prior to installing the monitoring wells, a continuous soil core was collected in 5-foot sections beginning at the ground surface and extending to a 15 to 20-foot maximum depth of exploration in each of the wells. A soil sample was collected from the highly organic (TOC) layer noted below approximately 13 feet bgs in MW-3 for total organic carbon analysis. Soil samples in MW-1 and MW-2 were also collected at similar depths but the organic layer was not as prevalent at those locations. The soil samples were collected, stored, and submitted to the project laboratory per EPA guideline 5035A.

Following soil sample collection, auger casing was advanced to widen the borehole to facilitate the installation of the monitoring well casings. The monitoring wells were installed to a depth of approximately 15 to 20 feet and were constructed of 2-inch diameter PVC with the lower 10-feet consisting of well screen/slotted casing.

Water Table Survey

After allowing the newly installed wells to equilibrate for a few days, on September 28th, 2017, EAI returned to the site to survey the relative elevations of the tops of the monitoring well casings (MW-1, MW-2, and MW-3), and measure the depth to groundwater in each monitoring well using those points for reference. Based on Google Earth datum, Table 2 presents the surveyed relative elevations for the top of each well casing, the measured depths to groundwater from the casing tops, and the calculated elevations of the shallow water table at each of the monitoring well locations.

Plate 3, Groundwater Flow, presents an interpretive graphical representation of the shallow water table and deduced localized groundwater flow directions based upon the current geometry of monitoring wells. Examining Plate 3, groundwater flow within the current network of monitoring wells tentatively appears to be (locally) toward the southwest at the time of the June 2018 monitoring event.

Groundwater Sampling

On June 28th, 2018, prior to sampling, monitoring wells MW-1, MW-2, and MW-3 were “micro-purged” utilizing a peristaltic pump. Micro-purging continued until the groundwater began to flow “clear.” Representative groundwater samples were then transferred directly to laboratory-prepared glassware. Groundwater samples were successfully recovered from all three (3) selected monitoring wells.

Laboratory Analysis & Results

Laboratory analysis throughout the course of this project has been performed by Friedman and Bruya, Inc., of Seattle, Washington, a WDOE-accredited laboratory.

Subsequent to the third quarter sampling event, the WDOE provided guidance with instruction that monitoring should continue with analysis for gasoline, diesel, heavy oils and BTEX. Based on the soil and groundwater concentrations of total organic carbon (TOC), the WDOE has stated, "Considering TOC in well MW-2 at a high concentration, silica gel cleanup use appears to be reasonable. Please continue to analyze well MW-3 with and without silica gel cleanup for NWTPH-Dx analysis (split samples)."

Referencing results presented in Table 1 from the June 28th, 2018, (fourth quarter) sampling event, diesel range hydrocarbons were detected in the groundwater sample from MW-3 (without silica-gel cleanup) at a concentration of 440 ppb. As also indicated in Table 1, using the silica-gel cleanup procedure, the lab reported concentration of diesel in MW-3 dropped to 85 ppb. The laboratory (Friedman and Bruya) opined that the detections are not indicative of "normal" diesel hydrocarbon chromatogram. In a phone conversation with Mr. Matt Langston, a chemist of Friedman and Bruya, EAI was informed that chromatographs did not show patterns commonly associated with diesel or petroleum breakdown products. Instead, the chemist opined that the observe chromatograph rather may be an artifact of the highly natural organic content (leaves, sticks, etc.) common to the Duwamish River alluvium in which the monitoring well is set. The chemist's opinion is reinforced by the results of "silica-gel" cleanup also performed on the MW-3 groundwater sample, which yielded an even lower concentration of "diesel" (Table 1). Groundwater samples from MW-1 and MW-2 were non-detect for diesel and all three groundwater samples collected were non-detect for motor oil. Hydrocarbon detections in the boiling range of gasoline significantly declined to 190 ppb from the third quarter concentration of 1,000 ppb.

CONCLUSIONS

In summary, the monitoring well sampling and testing as proposed by EAI on September 7th, 2017 has been fully completed, with four total quarters sampled and analyzed. As such has been completed, taking into consideration the acceptance of using-gel cleanup, four (4) consecutive quarters of groundwater compliance has been demonstrated for diesel and oil-range petroleum hydrocarbons. This achievement appears to support moving forward with the "No Further Action" (NFA) process with the WDOE.

RECOMMENDATIONS

Relying upon the results of sampling and testing performed to date, EAI recommends submission of the quarterly monitoring reports to the WDOE so as to obtain their opinion as to whether or not continued sampling appears necessary.

LIMITATIONS

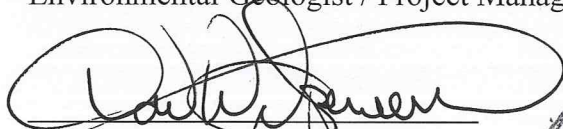
This report has been prepared for the exclusive use of Borrelli Real Estate Investments, and their several representatives for specific application to this site. Performed under authorities granted variously under RCW 18.220, WAC 173-360 A-0930 [par. 3(d)]. et seq., our work for this project was conducted in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions set forth in our proposal dated September 7th, 2017. The opinions expressed in this report are based upon interpretations, observations and testing made at separated locations and conditions may vary between those sampling localities or at other locations, depths, and/or media. EAI makes no warranty as to the accuracy or reliability of data / opinions provided/rendered by other parties. No other warranty, expressed or implied, is made. If new information is developed in future site work which may include excavations, borings, studies, etc., Environmental Associates, Inc., must be retained to reevaluate the conclusions of this interim document and to provide amendments as required.

We appreciate the opportunity to be of service on this assignment. If you have any questions or if we may be of additional service, please do not hesitate to contact us.

Respectfully submitted,
ENVIRONMENTAL ASSOCIATES, INC.



Garrett J. Scheuerman
Environmental Geologist / Project Manager

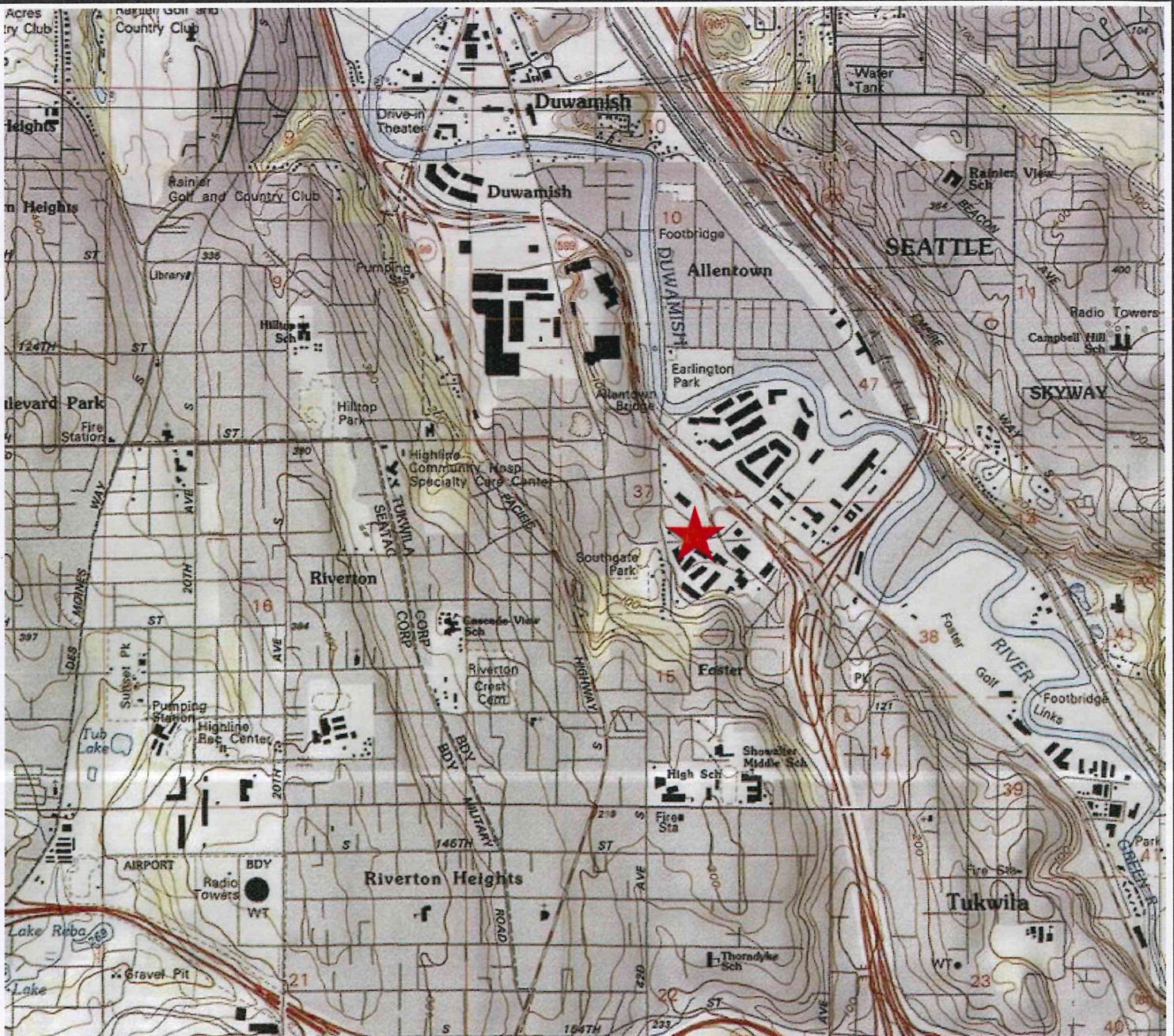


Don W. Spencer, M.Sc., P.G.
Principal

License: 604 (Washington)
License: 11464 (Oregon)
License: 876 (California)
License: 5195 (Illinois)
License: 0327 (Mississippi)



DON W. SPENCER



Approximate Property Location



Inferred Approximate Direction of Regional Groundwater Flow



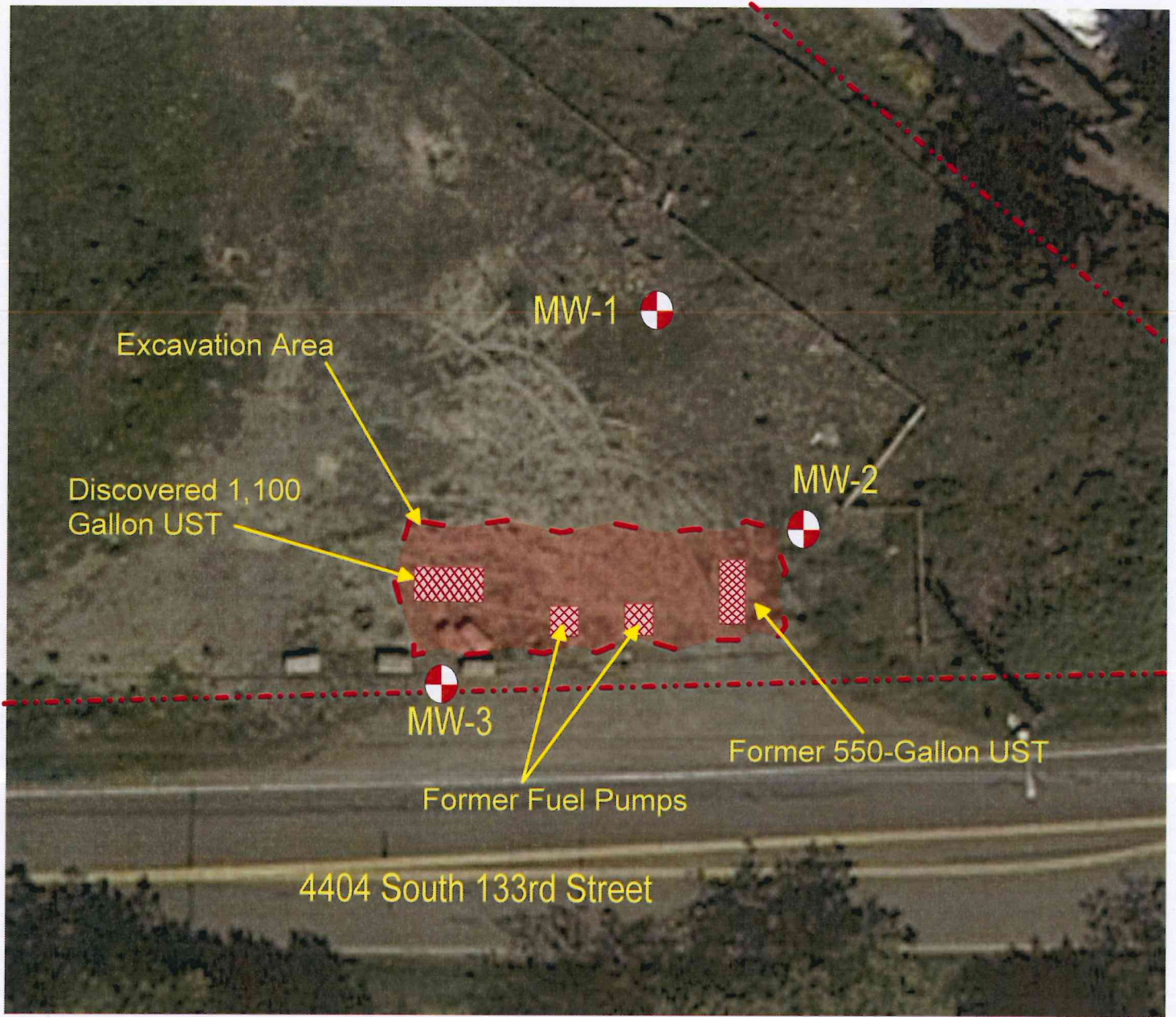
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Vicinity/Topographic Map

Former Gas Station Site
4404 South 133rd Street
Tukwila, Washington 98168

Job Number: JN 33076-4	Date: August 2018	Plate: 1
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Approximate Site Boundary



Approximate Location of Monitoring Well



Inferred Approximate Direction of Groundwater Flow



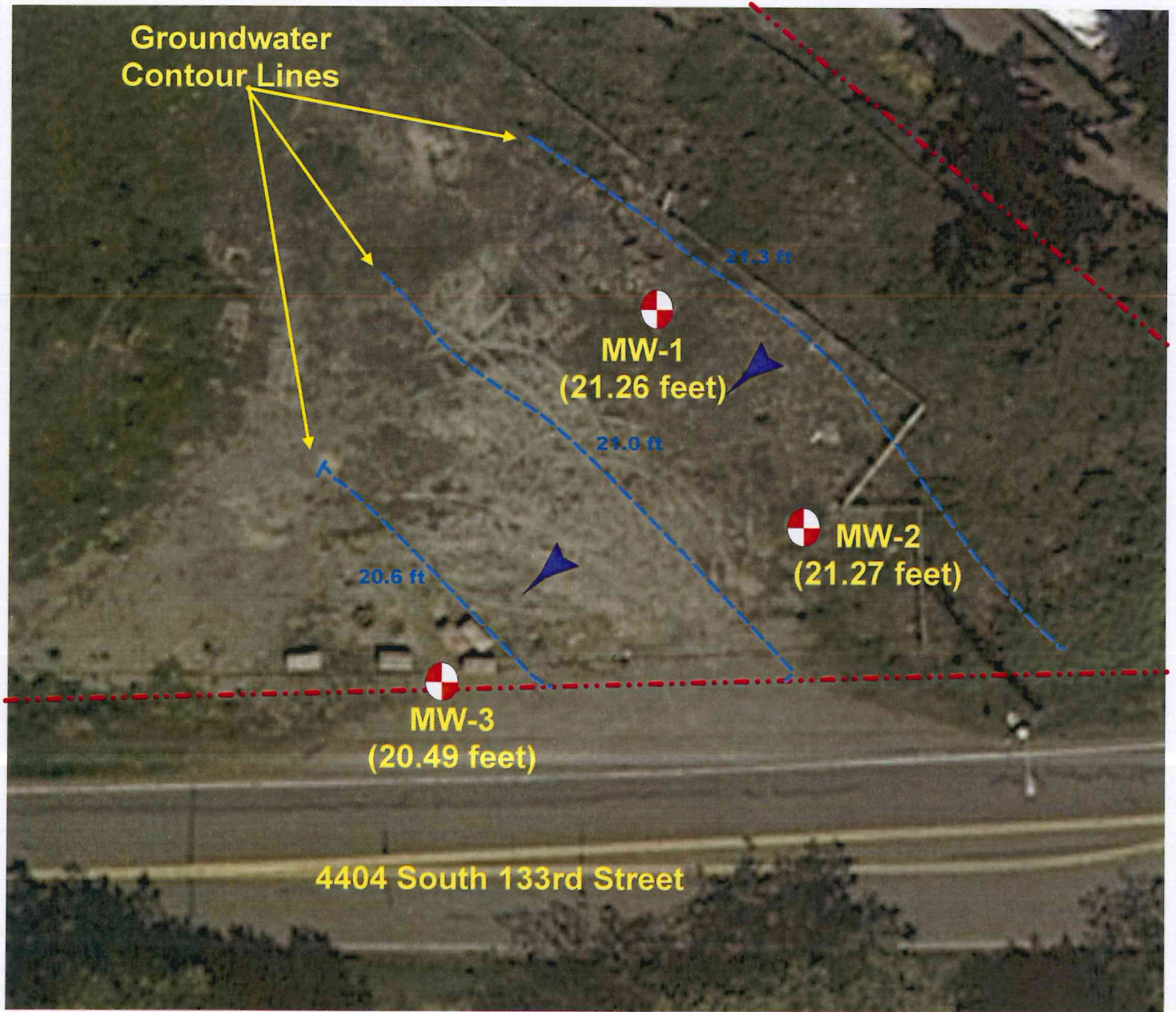
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Bellevue, Washington 98004

SITE PLAN

Former Gas Station Site
4404 South 133rd Street
Tukwila, Washington 98168

<i>Job Number:</i> JN 33076-4	<i>Date:</i> August 2018	<i>Plate:</i> 2
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----- Approximate Site Boundary



Approximate Location of Monitoring Well With Groundwater Depth



Inferred Approximate Direction of Groundwater Flow



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Bellevue, Washington 98004

GROUNDWATER FLOW

Former Gas Station Site
4404 South 133rd Street
Tukwila, Washington 98168

Job Number:	Date:		Plate:
JN 33076-4	August 2018		3

TABLE 1 - Groundwater Sampling Results - Petroleum Hydrocarbons/BTEX
All results and limits in parts per billion (ppb)

Monitoring Well / Sample Date	Gasoline (TPH)	Diesel	Heavy Oil	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-1							
09/28/17	NA	ND	ND	NA	NA	NA	NA
12/28/17	NA	ND	ND	NA	NA	NA	NA
03/29/18	ND	ND	ND	ND	ND	ND	ND
06/28/18	ND	ND	ND	ND	ND	ND	ND
MW-2							
09/28/17	NA	ND	ND	NA	NA	NA	NA
12/28/17	NA	ND	ND	NA	NA	NA	NA
03/29/18	ND	ND	ND	ND	ND	ND	ND
06/28/18	ND	ND	ND	ND	ND	ND	ND
MW-3							
09/28/17	NA	1,600*	ND	NA	NA	NA	NA
12/28/17	NA	690*	ND	NA	NA	NA	NA
03/29/18	1,000	2,100*	ND	3.3	2.2	5.1	4.6
06/28/18	190	440*	ND	ND	1.7	1	ND
MW-3 (Silica Gel)							
09/28/17	NA	160*	NA	NA	NA	NA	NA
12/28/17	NA	97*	NA	NA	NA	NA	NA
03/29/18	NA	180*	NA	NA	NA	NA	NA
06/28/18	NA	85*	NA	NA	NA	NA	NA
Reporting Limit ³	250	250	500	1	1	1	3
MTCA-Method-A Cleanup Levels ⁴	800 or 1000⁵	500	500	5	1000	700	1000

Notes:

1- "ND" denotes analyte not detected at or above listed Reporting Limit.

2- "NA" denotes sample not analyzed for specific analyte.

3- "Reporting Limit" represents the laboratory lower quantitation limit.

4- Method A groundwater cleanup levels as published in the Model Toxics Control Act (MTCA) 173-340-WAC.

5- The MTCA gasoline TPH cleanup level is 800 ppb for groundwater with benzene. Otherwise, the cleanup level is 1000 ppb.

(x)- The project laboratory reports that "the sample chromatographic pattern does not resemble the fuel standard used for quantitation."

Bold and Italics denotes concentrations above existing WDOE MTCA Method A groundwater cleanup levels.

**TABLE 2: Water Table Survey
(feet)**

Monitoring Well Number	Measurement Date	TOC Elevation	Depth to Water Below TOC	Elevation of Water Table
MW-1	09/28/17	23.11	0.97	22.14
	12/28/17		1.13	21.98
	03/29/18		1.15	21.96
	06/28/18		1.85	21.26
MW-2	09/28/17	22.79	0.50	22.29
	12/28/17		0.77	22.02
	03/29/18		0.81	21.98
	06/28/18		1.52	21.27
MW-3	09/28/17	25.00	2.50	22.50
	12/28/17		2.39	22.61
	03/29/18		2.73	22.27
	06/28/18		4.51	20.49

Notes:

- (1) TOC. Top of well casing (north side) elevation.
- (2) Elevations based upon assigning a "control point" an elevation of 46.00 feet above sea-level to the top of monitoring well casing MW-1.

APPENDIX-A

Laboratory Reports

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
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 11, 2018

Garrett Scheuerman, Project Manager
Environmental Associates, Inc.
1380 112th Ave. NE, 300
Bellevue, WA 98004

Dear Mr Scheuerman:

Included are the results from the testing of material submitted on June 28, 2018 from the Borrelli Site 33076-4, F&BI 806551 project. There are 8 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
EAI0711R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on June 28, 2018 by Friedman & Bruya, Inc. from the Environmental Associates Borrelli Site 33076-4, F&BI 806551 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Environmental Associates</u>
806551 -01	MW-1
806551 -02	MW-2
806551 -03	MW-3

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/11/18
Date Received: 06/28/18
Project: Borrelli Site 33076-4, F&BI 806551
Date Extracted: 07/03/18
Date Analyzed: 07/03/18

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
MW-1 806551-01	<1	<1	<1	<3	<100	72
MW-2 806551-02	<1	<1	<1	<3	<100	74
MW-3 806551-03	<1	1.7	1.0	<3	190	77
Method Blank 08-1380 MB	<1	<1	<1	<3	<100	79

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/11/18
Date Received: 06/28/18
Project: Borrelli Site 33076-4, F&BI 806551
Date Extracted: 07/02/18
Date Analyzed: 07/02/18

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	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
MW-1 806551-01	<50	<250	90
MW-2 806551-02	<50	<250	89
MW-3 806551-03	85 x	<250	85
Method Blank 08-1444 MB	<50	<250	82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/11/18
Date Received: 06/28/18
Project: Borrelli Site 33076-4, F&BI 806551
Date Extracted: 07/02/18
Date Analyzed: 07/06/18

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	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 51-134)
MW-1 806551-01	<50	<250	79
MW-2 806551-02	<50	<250	77
MW-3 806551-03	440 x	<250	86
Method Blank 06-1444 MB	<50	<250	79

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/11/18

Date Received: 06/28/18

Project: Borrelli Site 33076-4, F&BI 806551

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 806582-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	Acceptance Criteria
			Recovery LCS	
Benzene	ug/L (ppb)	50	112	65-118
Toluene	ug/L (ppb)	50	105	72-122
Ethylbenzene	ug/L (ppb)	50	107	73-126
Xylenes	ug/L (ppb)	150	103	74-118
Gasoline	ug/L (ppb)	1,000	96	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/11/18

Date Received: 06/28/18

Project: Borrelli Site 33076-4, F&BI 806551

**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	92	100	63-142	8

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/11/18

Date Received: 06/28/18

Project: Borrelli Site 33076-4, F&BI 806551

**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

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	88	61-133	5

FRIEDMAN & BRUYA, INC.

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.
- 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 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.

