GROUNDWATER MONITORING REPORT:
2nd Quarter - February 2017

Fife RV Center
3410 Pacific Highway East
Fife, Washington 98424

AEROTECH
Environmental Consulting Inc.

February 20, 2017

Anchorage Seattle Portland

Cost-effective environmental solutions
for the western United States and Alaska

www.AerotechEnvironmental.com

AEROTECH
Environmental Consulting Inc.

13925 Interurban Avenue South, Suite 210
Seattle, Washington 98168
(360) 710-5899

512 W. International Airport Road, Suite 201
Anchorage, Alaska 99518
(907) 575-6661

March 8, 2017

Mr. Chris LaVerdiere
Fife RV Center
3410 Pacific Highway East
Fife, Washington 98424

RE: Groundwater Monitoring Report – 2nd Quarter – February 2017
Fife RV Center
3410 Pacific Highway East, Fife, Washington
Fife, Washington 98424

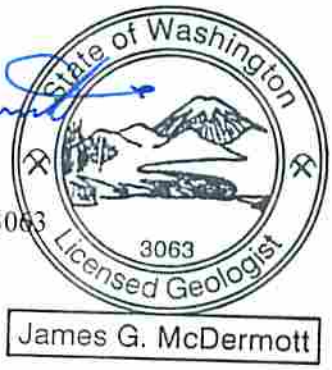
Dear Mr. LaVerdiere,

As you are aware, Aerotech Environmental Consulting, Inc. ("Aerotech") has been retained to collect quarterly groundwater samples from six groundwater monitoring wells previously installed at Fife RV Center in Fife, Washington. Aerotech conducted the second round of groundwater monitoring and sampling activities on February 20, 2017. Enclosed, please find the associated tabulated analytical results, site drawings, laboratory analytical report, and standard operating procedure document.

Please feel free to contact the Aerotech Geologist, Mr. James McDermott, at (425) 686-0032, or the Aerotech Field Sampling Coordinator, Mr. Nicholas Gerkin at (206) 482-2287 if you have any questions regarding work completed at this Site.

Sincerely,

James G. McDermott
State of Washington
Licensed Geologist No. 3063



Nick Gerkin
Environmental Professional
Washington State UST Site Assessor
ICC UST Decommissioning Supervisor

APPENDIX

- Figures
- Laboratory Analytical Results
- Laboratory Chain of Custody
- Low-Flow Groundwater Sampling Standard Operating Procedure
- Field Measurement Data Sheets

FIGURES

GROUNDWATER ANALYTICAL RESULTS

Fife RV Center
3410 Pacific Highway East
Fife, Washington

MW-1

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	Dissolved Lead	Total Lead
Feet		Feet Below TOC	Feet Above MSL	Feet Above MSL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
14.4	11/18/16	1.37	8.37	7.00	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	<2.0	<2.0
	02/20/17	1.19	8.37	7.18	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	<2.0	<2.0
		MTCA Method A Cleanup Levels			800	500	500	5	1,000	700	1,000	0.01	5	20	15	15

MW-2

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	Dissolved Lead	Total Lead
Feet		Feet Below TOC	Feet Above MSL	Feet Above MSL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
14.2	11/18/16	2.53	9.40	6.87	**18,000**	<200	<500	**470**	18	210	200	<0.01	<1.0	<5.0	<2.0	<2.0
	02/20/17	2.25	9.40	7.15	**29,000**	<200	<500	**720**	26	490	700	<0.01	<1.0	<5.0	<2.0	<2.0
		MTCA Method A Cleanup Levels			800	500	500	5	1,000	700	1,000	0.01	5	20	15	15

MW-3

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	Dissolved Lead	Total Lead
Feet		Feet Below TOC	Feet Above MSL	Feet Above MSL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
14.6	11/18/16	2.19	9.43	7.24	**42,000**	<200	<500	**130**	16	**2,800**	120	<0.01	<1.0	<5.0	<2.0	<2.0
	02/20/17	2.02	9.43	7.41	**10,000**	<200	<500	**28**	<1,000	620	92	<0.01	<1.0	<5.0	<2.0	<2.0
		MTCA Method A Cleanup Levels			800	500	500	5	1,000	700	1,000	0.01	5	20	15	15

MW-4

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	Dissolved Lead	Total Lead
Feet		Feet Below TOC	Feet Above MSL	Feet Above MSL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
14.5	11/18/16	3.31	10.12	6.81	**1,900**	<200	<500	**140**	<1.0	13	7.70	<0.01	<1.0	<5.0	<2.0	<2.0
	02/20/17	3.08	10.12	7.04	**6,800**	<200	<500	**220**	35	340	22	<0.01	<1.0	<5.0	<2.0	<2.0
		MTCA Method A Cleanup Levels			800	500	500	5	1,000	700	1,000	0.01	5	20	15	15

MW-5

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	Dissolved Lead	Total Lead
Feet		Feet Below TOC	Feet Above MSL	Feet Above MSL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
17.5	11/18/16	5.17	11.27	6.10	**2,100**	<200	<500	**250**	1.6	5.6	2.1	<0.01	<1.0	<5.0	<2.0	<2.0
	02/20/17	5.16	11.27	6.11	700	<200	<500	**52**	<1.0	2.2	2.4	<0.01	<1.0	<5.0	<2.0	<2.0
		MTCA Method A Cleanup Levels			800	500	500	5	1,000	700	1,000	0.01	5	20	15	15

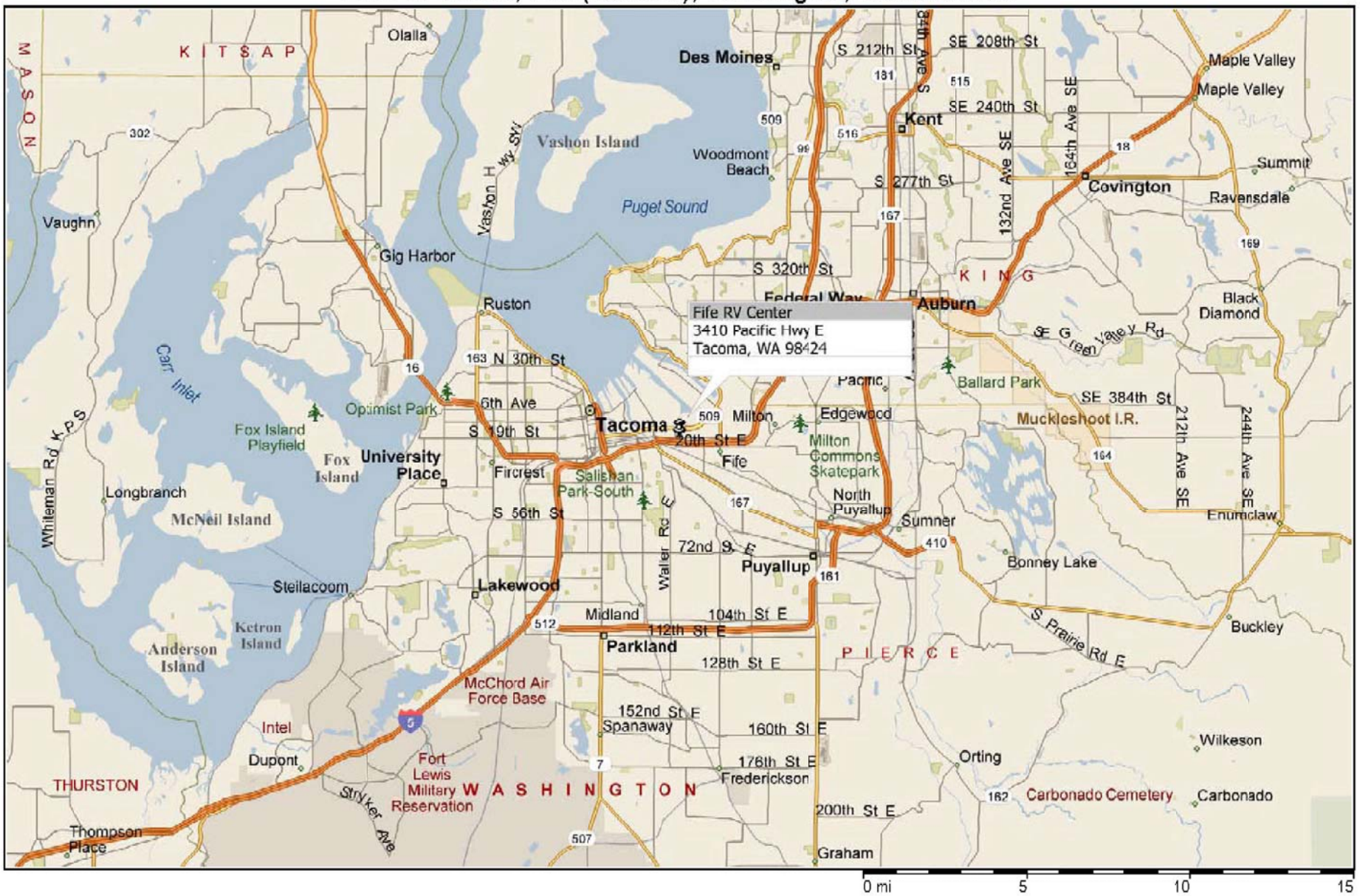
MW-6

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	Dissolved Lead	Total Lead
Feet		Feet Below TOC	Feet Above MSL	Feet Above MSL	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
17.5	11/18/16	4.72	11.40	6.68	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	<2.0	<2.0
	02/20/17	4.69	11.40	6.71	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	<2.0	<2.0
		MTCA Method A Cleanup Levels			800	500	500	5	1,000	700	1,000	0.01	5	20	15	15

MTCA = Model Toxic Control Act Cleanup Level (WAC173-340-900)
TOC = Top of Casing MSL = Mean Sea Level
< = not detected at indicated Laboratory Detection Limits -- not analyzed NM = Not Measured
TPHg - Total Petroleum Hydrocarbons - Gasoline by Method NWTPH-Gx
TPHd - Total Petroleum Hydrocarbons - Diesel by Method NWTPH-Dx TPHmo - Total Petroleum Hydrocarbons - Motor Oil by Method NWTPH-Dx extended
Benzene, Toluene, Ethylbenzene and Xylenes by EPA Method 8021B
MTBE = Methyl-tert-butyl-ether EDC = 1,2-Dichloroethane EDB = 1,2-Dibromoethane; by EPA Method 8260B
Total and Dissolved Lead by EPA Method 7010
Bolded numbers and red-shaded cells denote concentrations above the MTCA Method A Cleanup Levels for groundwater

N

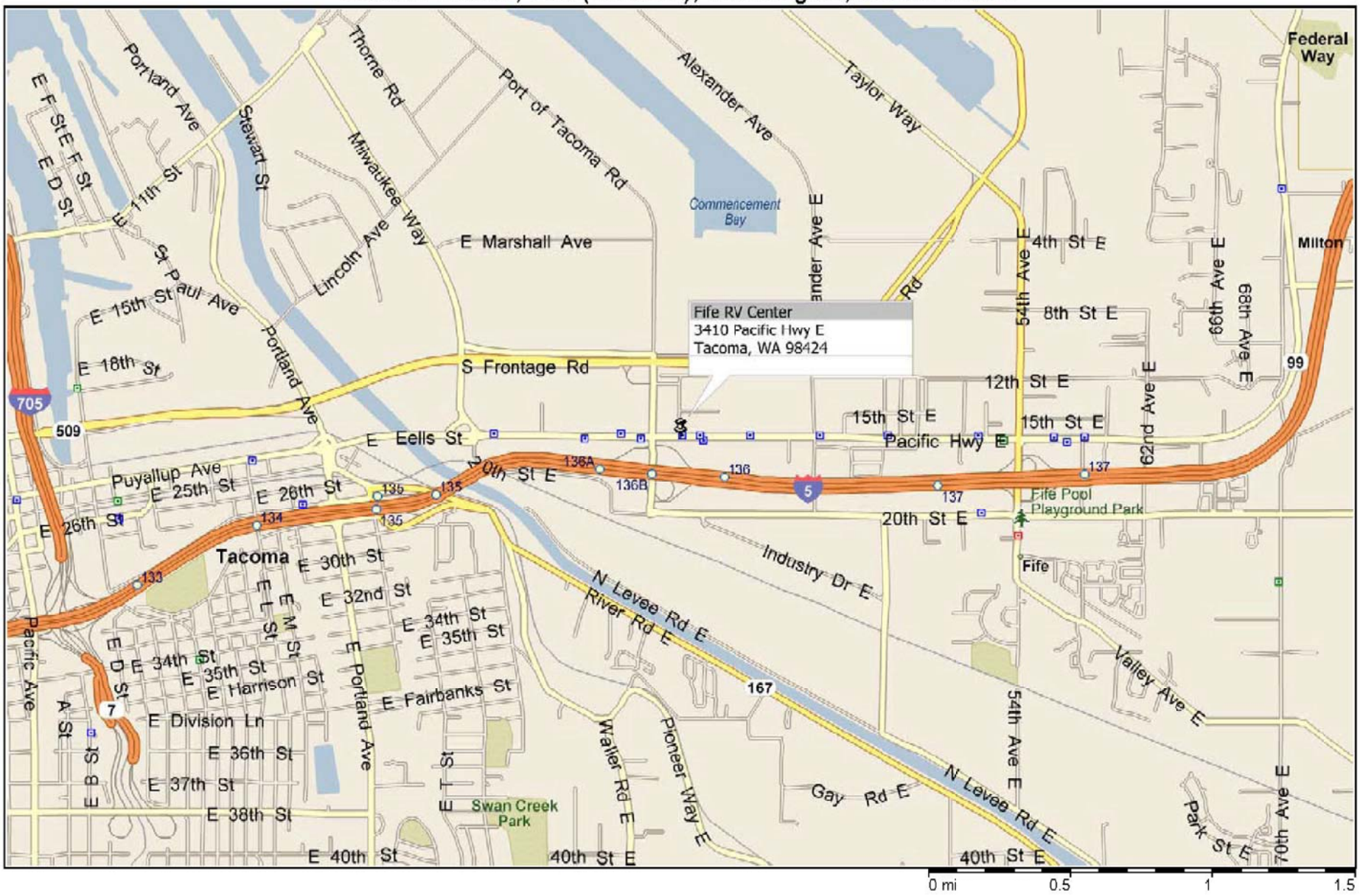
Fife RV Center, Fife (Tacoma), Washington, United States



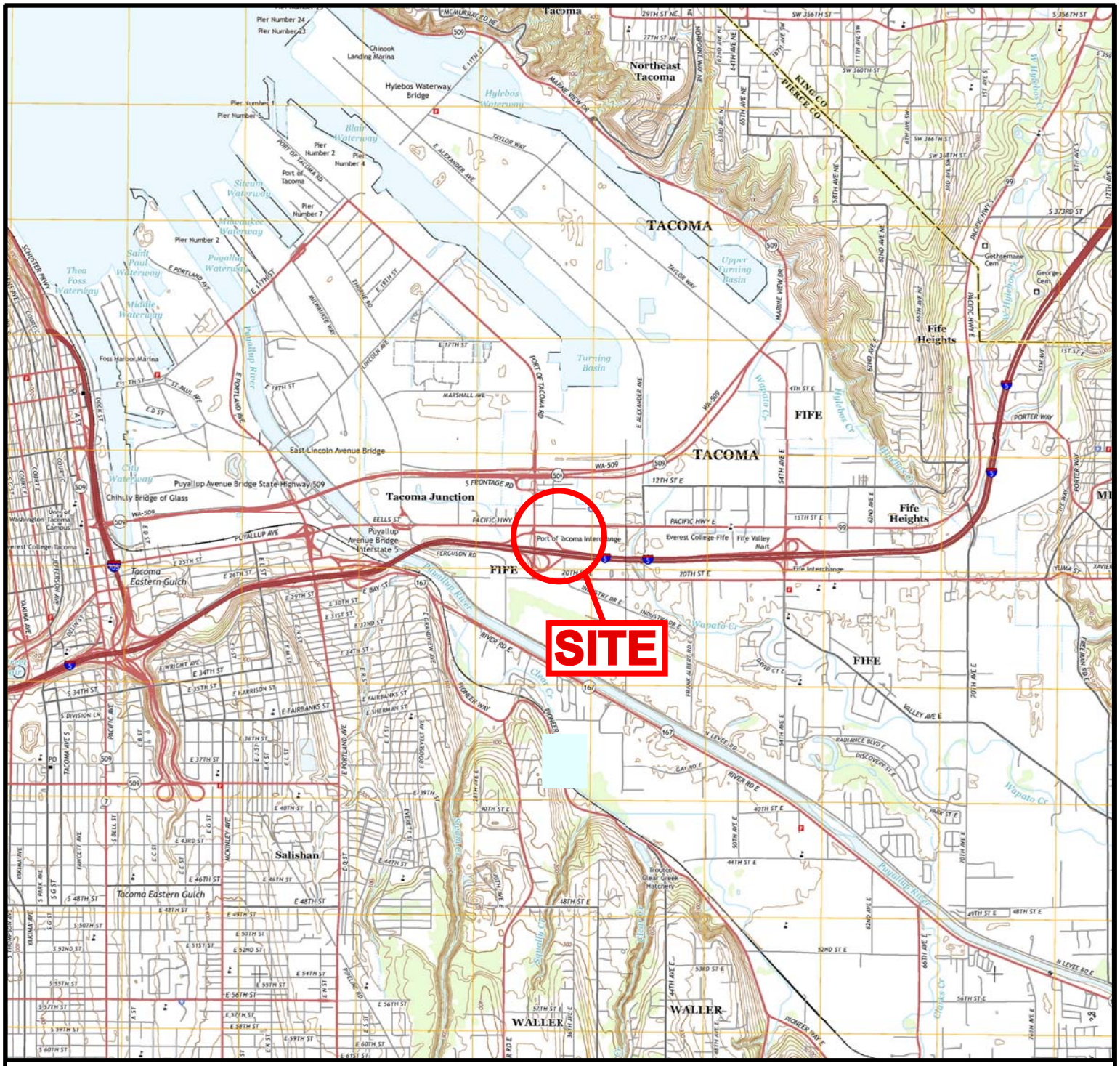
AEROTECH ENVIRONMENTAL CONSULTING	**REGIONAL MAP**	**Fife RV Center** **3410 Pacific Highway East** **Fife, Washington**		**Date:** 12/08/16 **By:** Nick Gerkin **Figure:** 1

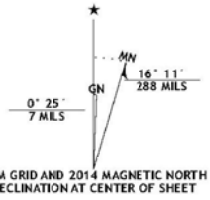
N

Fife RV Center, Fife (Tacoma), Washington, United States

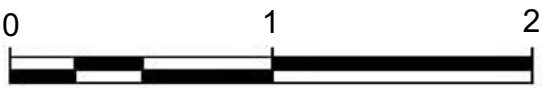


AEROTECH ENVIRONMENTAL CONSULTING	**NEIGHBORHOOD STREET MAP**	**Fife RV Center** **3410 Pacific Highway East** **Fife, Washington**		**Date:** 12/08/16 **By:** Nick Gerkin **Figure:** 2





UTM GRID AND 2014 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET



SCALE (mile)

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

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USGS TOPOGRAPHIC MAP

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 10/30/16
By: Nick Gerkin
Figure: 3

EXPLANATION

Extents of Site Remedial Excavation Figures

Property Boundary

AEROTECH ENVIRONMENTAL CONSULTING

SITE VICINITY MAP

Fife RV Center
3410 Pacific Highway East
Fife, Washington

0 150 300

SCALE (feet)

Date: 10/30/16

By: Nick Gerkin

Figure: 4

N

Landscaping

JACK IN THE BOX
DRIVE-THRU

Landscaping

ACCESS EASEMENT
Pacific Highway East
100 Feet to the North

UST BASIN
(25 Feet to the North)

PUMP ISLANDS
(50 Feet to the North)

Catch Basin Rim
8.0 Feet

MW2	GW Monitoring Well ID
02/20/17	Date
29,000	TPHg
<200	TPHd
<500	TPHo
720	Benzene
26	Toluene
490	Ethylbenzene
700	Xylenes
<2.0	Dissolved Lead
<2.0	Total Lead

All Concentrations Reported in µg/L

TACOMA EXPRESS
(Former Unocal Service Station 7343)
Ecology Cleanup Site ID 5015

MW4	
11/18/16	02/20/17
1,900	6,800
<200	<200
<500	<500
140	220
<1.0	35
13	340
7.70	22
<2.0	<2.0
<2.0	<2.0

BIO-SWALE
POND

MW4

MW2

MW2	
11/18/16	02/20/17
18,000	29,000
<200	<200
<500	<500
470	720
18	26
210	490
200	700
<2.0	<2.0
<2.0	<2.0

FORMER
PUMP
ISLANDS

MW1

MW1	
11/18/16	02/20/17
<100	<100
<200	<200
<500	<500
<1.0	<1.0
<1.0	<1.0
<1.0	<1.0
<1.0	<1.0
<2.0	<2.0
<2.0	<2.0

POSSIBLE FORMER
UST BASIN

POSSIBLE FORMER
UST BASIN

MW3

MW3	
11/18/16	02/20/17
42,000	10,000
<200	<200
<500	<500
130	28
16	<1.0
2,800	620
120	92
<2.0	<2.0
<2.0	<2.0

MW5

MW5	
11/18/16	02/20/17
2,100	700
<200	<200
<500	<500
250	52
1.6	<1.0
5.6	2.2
2.1	2.4
<2.0	<2.0
<2.0	<2.0

MW6

Fire
Hydrant

MW6	
11/18/16	02/20/17
<100	<100
<200	<200
<500	<500
<1.0	<1.0
<1.0	<1.0
<1.0	<1.0
<1.0	<1.0
<2.0	<2.0
<2.0	<2.0

0 15 30
SCALE (feet)

Blue numbers and symbols indicate concentrations below the MTCA Method A Cleanup Levels

Red numbers and symbols indicate concentrations above the MTCA Method A Cleanup Levels

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EXPLANATION

MW-6 — Groundwater Monitoring Well

Property Boundary

Fencing

Cool Guard HRL36 Liner Installed to 10-Foot Depth

All other analytes were not detected at or above the Laboratory Minimum Reporting Llimits

GROUNDWATER ANALYTICAL RESULTS MAP - 02/20/17

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 03/23/17

By: Nick Gerkin

Figure: 5

N

Landscaping

JACK IN THE BOX
DRIVE-THRU

Landscaping

ACCESS EASEMENT
Pacific Highway East
100 Feet to the North

UST BASIN
(25 Feet to the North)

PREDOMINANT
HISTORICAL FLOW
DIRECTION

TACOMA
EXPRESS

Catch Basin Rim
8.0 Feet[1]

Water surface presumed to be at or near groundwater table, and hydraulically connected by design to the adjoining Drainage Ditch to the south

BIO-SWALE
POND

MW1
7.18

MW2
7.15

GEO BARRIER

GEO BARRIER

7.4
7.3
7.2
7.1
7.0
6.9
6.8
6.7
6.6
6.5
6.4
6.3
6.2

MW4
7.04

MW3
7.41

MW5
6.11

MW6*
6.71

Storm Sewer
5-Foot Depth

DRAINAGE DITCH

Flows to Hylebos
Creek

1 - Aside from the adjoining Bio-Swale (west) & Drainage Ditch (southwest), a topographic minimum shared by the Site & the adjoining parcel to the north, is situated at the catch basin (north side of study area)

Fire
Hydrant

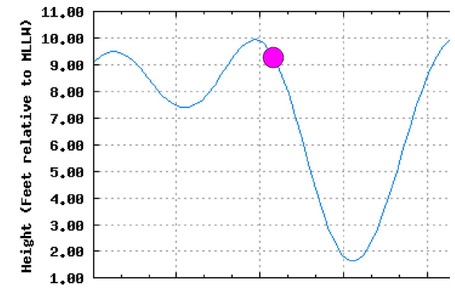
Storm Sewer
Approximate
2 to 3-Foot Depth
at Catch Basin to
the NW

Approximate
Groundwater
Flow Direction
Range[2]

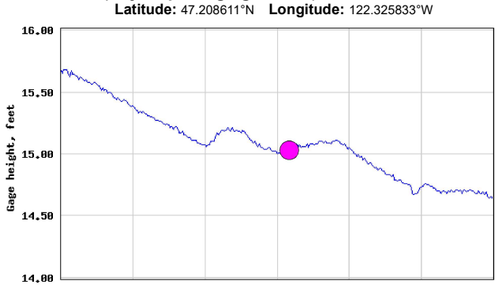
2 - based upon measurements on-site and historical measurements on the adjoining property to the North

Gradient Range
0.005 - 0.053 ft/ft

Commencement Bay Tide Chart for 02/20/17



Puyallup River Hydrograph
(Puyallup Gauging Station) 02/19 - 02/21/17
Latitude: 47.208611°N **Longitude:** 122.325833°W



Time at which water level data was obtained at the subject site

0 15 30
SCALE (feet)

EXPLANATION

MW-6 — Groundwater Monitoring Well
6.68 — Groundwater Elevation in Feet
Groundwater Elevation Contour Line (Isopotential Line)
Approximate Expected Location of Isopotential Line
Property Boundary
Fencing
Geo Membrane Barrier - Cool Guard HRL36 Liner Installed to 10-Foot Depth
Storm Sewer
Electrical Utility
Gas Utility
Water Utility

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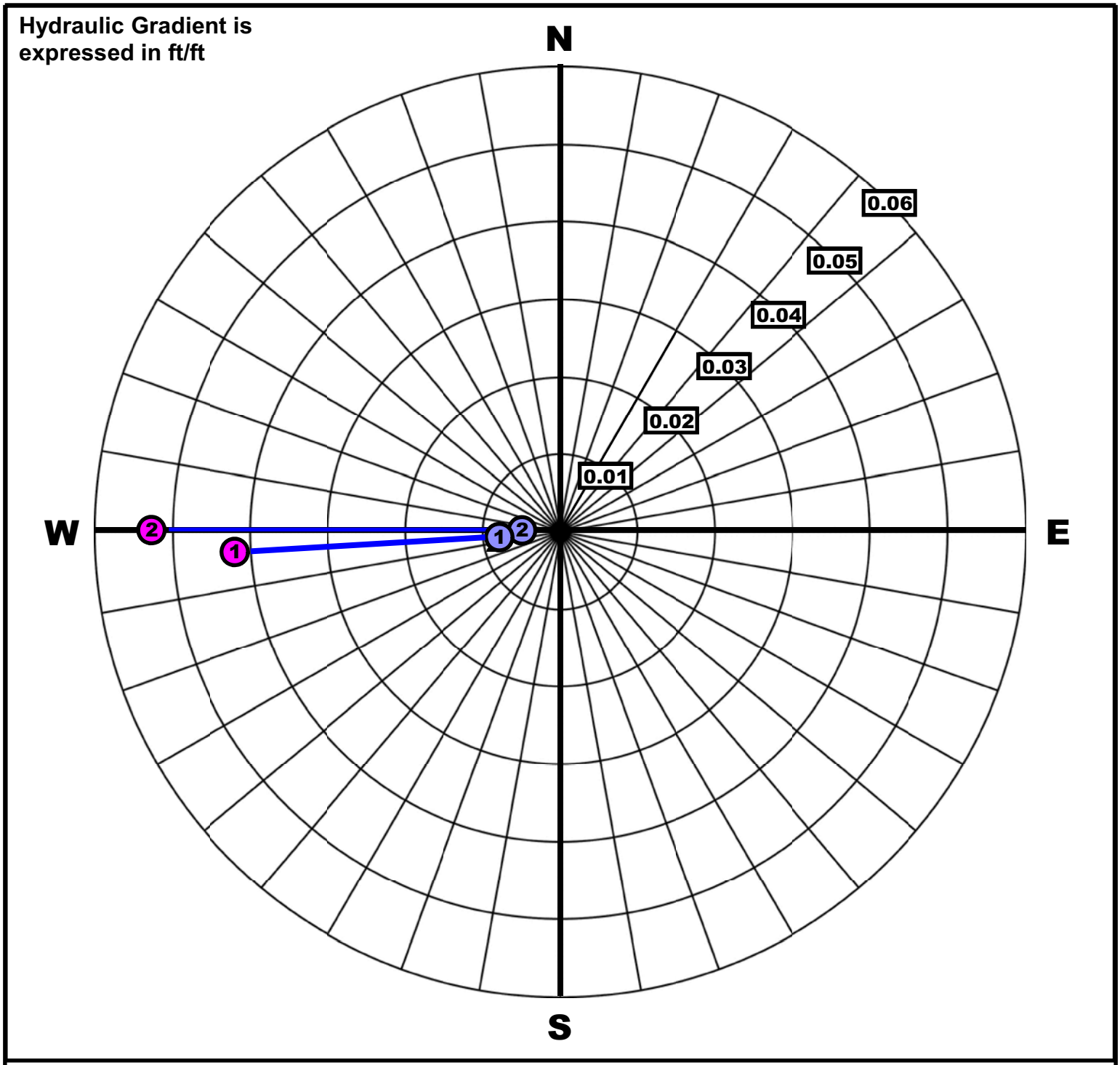
POTENTIOMETRIC SURFACE MAP - 02/20/17

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 03/24/17
By: Nick Gerkin
Figure: 6



HYDRAULIC GRADIENT RANGE AND SHALLOW GROUNDWATER FLOW DIRECTION FROM MW3

1 11/18/16

2 02/20/17

2 Maximum Calculated Gradient

2 Minimum Calculated Gradient

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ROSE DIAGRAM

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 03/24/17

By: Nick Gerkin

Figure: 7

LABORATORY ANALYTICAL RESULTS

ADVANCED ANALYTICAL

Environmental Testing Laboratory

March 01, 2017

Nick Gerkin
Aerotech Environmental, Inc.
13925 Interurban Avenue South, Suite 210
Seattle, WA 98168

Dear Mr. Gerkin:

Please find enclosed the analytical data report for the *Fife RV Center (**C70222-3**)* Project.

Samples were received on *February 22, 2017.* The results of the analyses are presented in the attached tables. Applicable reporting limits, QA/QC data and data qualifiers are included. A copy of the chain-of-custody and an invoice for the work is also enclosed.

ADVANCED ANALYTICAL LABORATORY appreciates the opportunity to provide analytical services for this project. Should there be any questions regarding this report, please contact me at (425) 702-8571.

It was a pleasure working with you, and we are looking forward to the next opportunity to work together.

Sincerely,

V. Ivanov

Val G. Ivanov, Ph.D.
Laboratory Manager

4078 148 Ave NE■ Redmond, WA 98052
425.702-8571
E-mail: aachemlab@yahoo.com

Advanced Analytical Laboratory
(425) 702-8571

AAL Job Number:	C70222-3
Client:	Aerotech Environmental
Project Manager:	Nick Gerkin
Client Project Name:	Fife RV Center
Client Project Number:	na
Date received:	02/22/17

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

8260B, µg/L		MTH BLK	LCS	W-MW1	W-MW2	W-MW3	W-MW4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	02/24/17	02/24/17	02/24/17	02/24/17	02/24/17	02/24/17
MTBE	5.0	nd		nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	114%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)*	0.01	nd		nd	nd	nd	nd
*-instrument detection limits							
Surrogate recoveries							
Dibromofluoromethane		98%	113%	107%	103%	105%	107%
1,2-Dichloroethane-d4		86%	100%	112%	115%	128%	109%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

8260B, µg/L		W-MW5	W-MW6	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	02/24/17	02/24/17	02/24/17	02/24/17	02/24/17
MTBE	5.0	nd	nd			
1,2-Dichloroethane (EDC)	1.0	nd	nd	123%	122%	1%
1,2-Dibromoethane (EDB)*	0.01	nd	nd			

*-instrument detection limits

Surrogate recoveries					
Dibromofluoromethane	115%	102%	106%	108%	
1,2-Dichloroethane-d4	110%	96%	123%	110%	

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

NWTPH-Gx/BTEX		MTH BLK	LCS	W-MW1	W-MW2	W-MW3	W-MW4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
NWTPH-Gx, ug/L							
Mineral spirits/Stoddard	100	nd		nd	nd	nd	nd
Gasoline	100	nd		nd	29,000	10,000	6,800
BTEX 8021B, µg/L							
Benzene	1.0	nd	102%	nd	720	28	220
Toluene	1.0	nd	103%	nd	26	nd	35
Ethylbenzene	1.0	nd		nd	490	620	340
Xylenes	1.0	nd		nd	700	92	22
Surrogate recoveries:							
Trifluorotoluene		115%	128%	106%	125%	94%	115%
Bromofluorobenzene		117%	119%	109%	110%	126%	C

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

				Dupl			
NWTPH-Gx/BTEX		**W-MW5**	**W-MW6**	**W-MW6**	**MS**	**MSD**	**RPD**
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
NWTPH-Gx, ug/L							
Mineral spirits/Stoddard	100	nd	nd	nd			
Gasoline	100	700	nd	nd			
BTEX 8021B, µg/L							
Benzene	1.0	52	nd	nd	97%	104%	6%
Toluene	1.0	nd	nd	nd	93%	97%	4%
Ethylbenzene	1.0	2.2	nd	nd			
Xylenes	1.0	2.4	nd	nd			
Surrogate recoveries:							
Trifluorotoluene		117%	108%	103%	122%	128%	
Bromofluorobenzene		115%	112%	108%	110%	114%	

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

NWTPH-Dx, mg/L		MTH BLK	W-MW1	W-MW2	W-MW3	W-MW4	W-MW5	W-MW6
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	02/22/17	02/22/17	02/22/17	02/22/17	02/22/17	02/22/17	02/22/17
Date analyzed	Limits	02/22/17	02/22/17	02/22/17	02/22/17	02/22/17	02/22/17	02/22/17
Kerosene/Jet fuel	0.20	nd	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	0.20	nd	nd	nd	nd	nd	nd	nd
Heavy oil	0.50	nd	nd	nd	nd	nd	nd	nd
Surrogate recoveries:								
Fluorobiphenyl		88%	89%	90%	95%	87%	89%	91%
o-Terphenyl		92%	85%	94%	99%	92%	88%	97%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
C - coelution with sample peaks
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

Metals Total (7010), mg/L		MTH BLK	LCS	W-MW1	W-MW2	W-MW3	W-MW4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Date analyzed	Limits	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Lead Total (Pb)	0.002	nd	93%	nd	nd	nd	nd

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

Metals Total (7010), mg/L		W-MW5	W-MW6	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Date analyzed	Limits	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Lead Total (Pb)	0.002	nd	nd	102%	99%	3%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

Metals Dissolved (7010), mg/L		MTH BLK	LCS	W-MW1	W-MW2	W-MW3	W-MW4
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Date analyzed	Limits	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Lead Dissolved (Pb)	0.002	nd	93%	nd	nd	nd	nd

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 30%

AAL Job Number: C70222-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 02/22/17

Analytical Results

Metals Dissolved (7010), mg/L		W-MW5	W-MW6	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Date analyzed	Limits	02/23/17	02/23/17	02/23/17	02/23/17	02/23/17
Lead Dissolved (Pb)	0.002	nd	nd	102%	99%	3%

Data Qualifiers and Analytical Comments
nd - not detected at listed reporting limits
na - not analyzed
Acceptable Recovery limits: 65% TO 135%
Acceptable RPD limit: 30%

LABORATORY CHAIN OF CUSTODY

ADVANCED ANALYTICAL

Chain of Custody Record

Page of

Laboratory Job #: C702223

2821 152 Avenue NE
Redmond, WA 98052
(425) 497-0110 fax: (425) 497-8089
aachemlab@yahoo.com

Client: Teroteeh

Project Manager: Nick Gerkin

Address: 13925 Interurban Ave S, Tukwila, WA

Phone: 206 482 2287 Fax:

Project Name: Fife RV Center

Project Number: —

Collector: Nick Gerkin

Date of collection: 2/20/17

	Sample ID	Time	Matrix	Container type	8260 Volatiles	8021B Volatiles	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx ext	NWTPH-HCID	8270 Semivolatiles	8270 PAH	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead Total	Lead Dissolved	EDB EDC/MTBE	Notes, comments	# of containers
1	W-MW1	1335	Water	1 Poly 1 Amb 2 VOA				X		X							X	X	X		4
2	W-MW2	1545						X		X							X	X	X		
3	W-MW3	1605						X		X							X	X	X		
4	W-MW4	1520						X		X							X	X	X		
5	W-MW5	1500						X		X							X	X	X		
6	W-MW6	1400	↓	↓				X		X							X	X	X		↓
7																					
8																					
9																					
10																					
11																					
12																					

Relinquished by:	Date/Time	Received by:	Date/Time
[signature]	2/23/17 0700	V. Ivanov	2/22/17 1530
Relinquished by:	Date/Time	Received by:	Date/Time

Sample receipt info:

Total # of containers:

Condition (temp, °C)

Seals (intact?, Y/N)

Comments:

Turnaround time:

Same day O

24 hr O

48 hr O

Standard ⊗

LOW-FLOW GROUNDWATER SAMPLING STANDARD OPERATING PROCEDURE

AEROTECH
Environmental Consulting Inc.
13925 Interurban Avenue South, Suite No.210
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(360)710-5899

2916 NW Bucklin Hill Road, Suite No.126
Silverdale, Washington 98383
(866) 800-4030

512 W. International Airport Road, Suite 201
Anchorage, Alaska 99518
(907) 575-6661

5319 SW Westgate Dr., Suite No.24
Portland, Oregon 97221
(503) 360-4701

LOW-FLOW GROUNDWATER SAMPLING STANDARD OPERATING PROCEDURE

The following protocol and sampling procedures were designed to meet or exceed standards for groundwater monitoring well sampling, as specified by the State of Washington Department of Ecology *"Standard Operating Procedures for Purging and Sampling Monitoring Wells, Version 1.0,"* dated and approved on October 4, 2011. These procedures are strictly adhered to by Aerotech field staff:

Cross-Contamination Mitigation Protocol

A sampling table is set up adjacent to the well head in order to protect field equipment from contact with the ground, to prevent or minimize the possible introduction of foreign materials into the wells, and in general in order to mitigate the possibility of cross-contamination. Where previous laboratory data is available, or where visual of olfactory indicators provide initial evidence, well sampling order is arranged to proceed with the least contaminated well, often the upgradient groundwater monitoring wells, and sampling order proceeds by sampling wells associated with successively higher contamination levels. Thus, the wells exhibiting the highest contamination levels are sampled last, in order to minimize the possibility of cross contamination.

A fresh pair of disposable Nitrile gloves is worn at each well. Equipment neither disposable nor dedicated to wells, is washed in a dedicated container prepared with non-phosphate Alconox detergent and triple rinsed in a second container prepared with distilled and/or deionized water. Surfaces that cannot be readily submerged for the purpose of decontamination, are sprayed with wash water followed by rinse water, and wiped with a fresh disposable paper towel. For shallow wells that require a peristaltic pump, dedicated tubing is left in each well after sampling, however, for deeper wells that require a submersible pump, dedicated tubing is recovered from wells after each use, and deployed to a designated dedicated clean plastic bag, bearing a label indicating well identification information.

Water Level Measurement

Prior to the well purge process and the collection of groundwater samples, groundwater levels are measured at the north side of the ("TOC") with a piezometer/water level indicator, by slowly lowering the sensor into wells prior to purging, in order to minimize disturbances. The water levels are measured twice, with tape a marked in 0.01 foot increments, in order to reduce possible reading error. Where appropriate, free product thickness is measured with gas level indicator paste or an interface indicator. Upon arrival, each well is visual inspected and the condition of the well and well head are noted.

Groundwater Monitoring Well Purge and Sampling Methodologies

Prior to groundwater sample collection, A dedicated length of high density polyethylene tubing is lowered into each well to a level near the middle of the screened interval. A dedicated length of clean silicone tubing is utilized within the pump mechanism. The wells are purged by means of low flow techniques, during which time groundwater is monitored for physical parameters, including temperature, pH, specific conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP), by means of a multi-parameter device mounted upon a flow cell, until such time as values recorded have stabilized and equilibrium conditions are verified according to State guidelines. This protocol ensures that collected groundwater samples are representative of in-situ groundwater conditions. Readings are recorded once every 2 to 5 minutes, including water level measurement. The pumping rate shall remain below 1 L/min during monitoring and sampling procedures. This is verified by periodically filling a one-Liter graduated cylinder and recording the rate, adjusting the pump as necessary. The water column within the well should remain within 5% of the static height during the purge and sample process, if this cannot be achieved, the pump rate will be reduced until the water level stabilizes. The following conditions must be met in three consecutive readings prior to sampling:

• pH	+/- 0.1 standard units
• Specific Conductivity	+/- 10.0 mS/cm for values < 1,000 mS/cm +/- 20.0 mS/cm for values > 1,000 mS/cm
• DO	+/- 0.05 mg/L for values < 1 mg/L +/- 0.2 mg/L for values > 1 mg/L
• Temperature	+/- 0.1 degrees Celcius
• ORP	+/- 10 mV

Groundwater samples are collected in containers specified by the laboratory for the analyses established at the Site, and in accordance with State of Washington regulations or guidelines. Sample containers are labeled with site name, well identification, and date of collection information. Each sample is documented on a *Chain of Custody* (“”COC”) form, and immediately placed in an iced cooler (maintained at 4 degrees Celcius or less) for transport to a certified laboratory for analysis. Please note that any purge water suspected or confirmed to contain concentrations above the MTCA Cleanup Levels is drummed and left on Site

Please feel free to contact the Aerotech Geologist/Hydrogeologist, Mr. James McDermott, at (425) 686-0032, or the Aerotech Environmental Scientist/Field Sampling Coordinator, Mr. Nicholas Gerkin, at (206) 482-2287, if you have questions regarding work completed at this Site.

FIELD MEASUREMENT
DATA SHEETS

AEROTECH
ENVIRONMENTAL CONSULTING

www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL GAUGING RECORD

FIELD CREW: NAG	**PROJECT NAME:** Fife RV Center
DATE: 02/20/17	**PROJECT ADDRESS:** 3410 Pacific Highway East, Fife, WA

Well ID	Time	Wellhead Elevation	Depth to Water	Groundwater Elevation	Depth of Well	Well Diameter	Comments
--	hh:mm	Feet Above MSL	Feet Below TOC	Feet Above MSL	Feet Below TOC	Inches	--
MW1	12:59	8.37	1.19	7.18	14.4	2	Well vaults, seals, bolts and plugs are in great condition.
MW2	13:05	9.40	2.25	7.15	14.2	2	Well vaults, seals, bolts and plugs are in great condition.
MW3	13:06	9.43	2.02	7.41	14.6	2	Well vaults, seals, bolts and plugs are in great condition.
MW4	13:03	10.12	3.08	7.04	14.5	2	Well vaults, seals, bolts and plugs are in great condition.
MW5	13:02	11.27	5.16	6.11	17.5	2	Well vaults, seals, bolts and plugs are in great condition.
MW6	13:00	11.40	4.69	6.71	17.5	2	Well vaults, seals, bolts and plugs are in great condition.

EXPLANATION
MSL = Mean Sea Level
TOC - Top of Casing

AEROTECH ENVIRONMENTAL CONSULTING

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GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	**PROJECT NAME:** Fife RV Center
DATE: 02/20/2017	**PROJECT ADDRESS:** 3410 Pacific Highway East, Fife, WA

MW-1

Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
12:59	1.19	--	--	--	--	--	--
13:21	1.73	250	11.20	0.480	1.20	7.06	-105.0
13:23	1.75	250	11.14	0.479	0.79	7.00	-112.8
13:25	1.76	250	11.11	0.479	0.69	6.99	-115.3
13:27	1.77	250	11.11	0.481	0.50	6.98	-116.8
13:29	1.78	250	11.09	0.483	0.49	6.98	-119.1
13:31	1.78	250	11.06	0.484	0.47	6.99	-121.1
Ecology Parameter Limits (3 Consecutive Readings)			**+/- 0.1**	**+/- 0.1**	**+/- 0.05**	**+/- 0.1**	**+/- 10**
13:35	**SAMPLE**	--	--	--	--	--	--

Comments:
Very rainy conditions.

MW-2

Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
13:05	2.25	--	--	--	--	--	--
15:31	2.90	250	9.81	0.464	0.00	7.18	-84.4
15:32	2.96	250	9.80	0.466	0.14	7.15	-94.6
15:35	2.99	250	9.73	0.466	0.11	7.14	-99.9
15:37	3.01	250	9.69	0.466	0.11	7.13	-104.4
15:39	3.02	250	9.73	0.466	0.07	7.12	-106.5
Ecology Parameter Limits (3 Consecutive Readings)			**+/- 0.1**	**+/- 0.1**	**+/- 0.05**	**+/- 0.1**	**+/- 10**
15:45	**SAMPLE**	--	--	--	--	--	--

Comments:
Very rainy conditions.

AEROTECH ENVIRONMENTAL CONSULTING

www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	**PROJECT NAME:** Fife RV Center
DATE: 02/20/2017	**PROJECT ADDRESS:** 3410 Pacific Highway East, Fife, WA

MW-3

Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
13:06	2.02	--	--	--	--	--	--
15:53	2.49	250	9.63	0.442	0.11	7.16	-84.9
15:55	2.52	250	9.73	0.442	0.07	7.18	-89.5
15:57	2.54	250	9.81	0.442	0.02	7.20	-96.5
15:59	2.56	250	9.87	0.442	0.04	7.22	-100.7
16:01	2.57	250	9.90	0.441	0.04	7.23	-104.1
Ecology Parameter Limits (3 Consecutive Readings)			**+/- 0.1**	**+/- 0.1**	**+/- 0.05**	**+/- 0.1**	**+/- 10**
16:05	**SAMPLE**	--	--	--	--	--	--

Comments:
Very rainy conditions.

MW-4

Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
13:03	3.08	--	--	--	--	--	--
15:10	3.70	250	9.54	0.461	0.06	7.11	-60.2
15:12	3.76	250	9.58	0.462	0.11	7.09	-67.2
15:14	3.80	250	9.57	0.466	0.11	7.09	-71.9
15:16	3.81	250	9.54	0.466	0.10	7.08	-75.4
Ecology Parameter Limits (3 Consecutive Readings)			**+/- 0.1**	**+/- 0.1**	**+/- 0.05**	**+/- 0.1**	**+/- 10**
15:20	**SAMPLE**	--	--	--	--	--	--

Comments:
Very rainy conditions.

AEROTECH ENVIRONMENTAL CONSULTING

www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	**PROJECT NAME:** Fife RV Center
DATE: 02/20/2017	**PROJECT ADDRESS:** 3410 Pacific Highway East, Fife, WA

MW-5

Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
13:02	5.16	--	--	--	--	--	--
14:47	5.49	250	9.64	0.361	0.25	7.32	-32.2
14:49	5.54	250	9.69	0.364	0.21	7.28	-40.1
14:51	5.59	250	9.68	0.365	0.22	7.26	-47.7
14:53	5.63	250	9.69	0.365	0.22	7.25	-54.1
14:55	5.66	250	9.61	0.370	0.20	7.23	-59.3
14:57	5.68	250	9.61	0.373	0.18	7.22	-62.5
Ecology Parameter Limits (3 Consecutive Readings)			**+/- 0.1**	**+/- 0.1**	**+/- 0.05**	**+/- 0.1**	**+/- 10**
15:00	**SAMPLE**	--	--	--	--	--	--

Comments:
Very rainy conditions.

MW-6

Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
13:00	4.69	--	--	--	--	--	--
13:50	5.19	250	11.01	0.324	0.00	7.32	-98.1
13:52	5.23	250	10.94	0.319	0.00	7.32	-99.7
13:54	5.25	250	10.97	0.316	0.04	7.28	-97.0
13:56	5.27	250	11.00	0.316	0.06	7.27	-98.1
13:58	5.29	250	10.96	0.316	0.07	7.27	-98.5
Ecology Parameter Limits (3 Consecutive Readings)			**+/- 0.1**	**+/- 0.1**	**+/- 0.05**	**+/- 0.1**	**+/- 10**
14:00	**SAMPLE**	--	--	--	--	--	--

Comments:
Very rainy conditions.