

**GROUNDWATER MONITORING
REPORT:**

3rd Quarter - May 2017

Fife RV Center
3410 Pacific Highway East
Fife, Washington 98424

AEROTECH
Environmental Consulting Inc.

May 23, 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

June 7, 2017

Mr. Tony Carl
Fife RV Center
3410 Pacific Highway East
Fife, Washington 98424

RE: Groundwater Monitoring Report – 3rd Quarter – May 2017
Fife RV Center
3410 Pacific Highway East, Fife, Washington
Fife, Washington 98424

Dear Mr. Carl,

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 third round of groundwater monitoring and sampling activities on May 23, 2017. Enclosed, please find the associated tabulated analytical results, site drawings, laboratory analytical report, and standard operating procedure document.

Petroleum Hydrocarbon and Lead concentrations were below the MTCA Method A Cleanup Levels in samples collected from groundwater monitoring wells MW1, MW2, MW3, MW4, MW5, and MW6 with the exception of Total Petroleum Hydrocarbons as Gasoline (“TPHg”) and Benzene, which were present at concentrations above the MTCA Method A Cleanup Levels in groundwater monitoring wells MW2, MW3, and MW4.

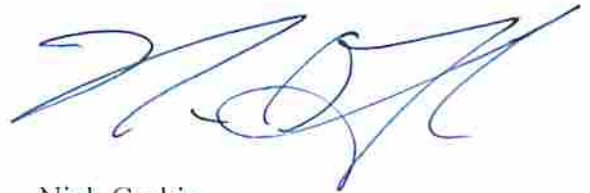
Please feel free to contact the Aerotech Geologist, Mr. Justin Foslien, at (206) 257-4211, or the Aerotech Field Sampling Coordinator, Mr. Nicholas Gerkin at (206) 482-2287 if you have any questions regarding work completed at this Site.



Justin F. Foslien
State of Washington
Licensed Geologist No. 2540



Sincerely,



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

APPENDIX

- Analytical Results Table & Figures
- Project Contract Documents
- Laboratory Analytical Results
- Laboratory Chain of Custody
- Low-Flow Groundwater Sampling Standard Operating Procedure
- Field Documentation

ANALYTICAL RESULTS TABLE
&
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
	05/23/17	1.72	8.37	6.65	<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
	05/23/17	3.02	9.40	6.38	10,000	<200	<500	300	18	93	400	<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
	05/23/17	2.65	9.43	6.78	6,700	<200	<500	21	1.4	210	57	<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
	05/23/17	3.88	10.12	6.24	1,600	<200	<500	120	6.0	12	3.8	<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
	05/23/17	6.34	11.27	4.93	<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-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
	05/23/17	5.85	11.40	5.55	<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

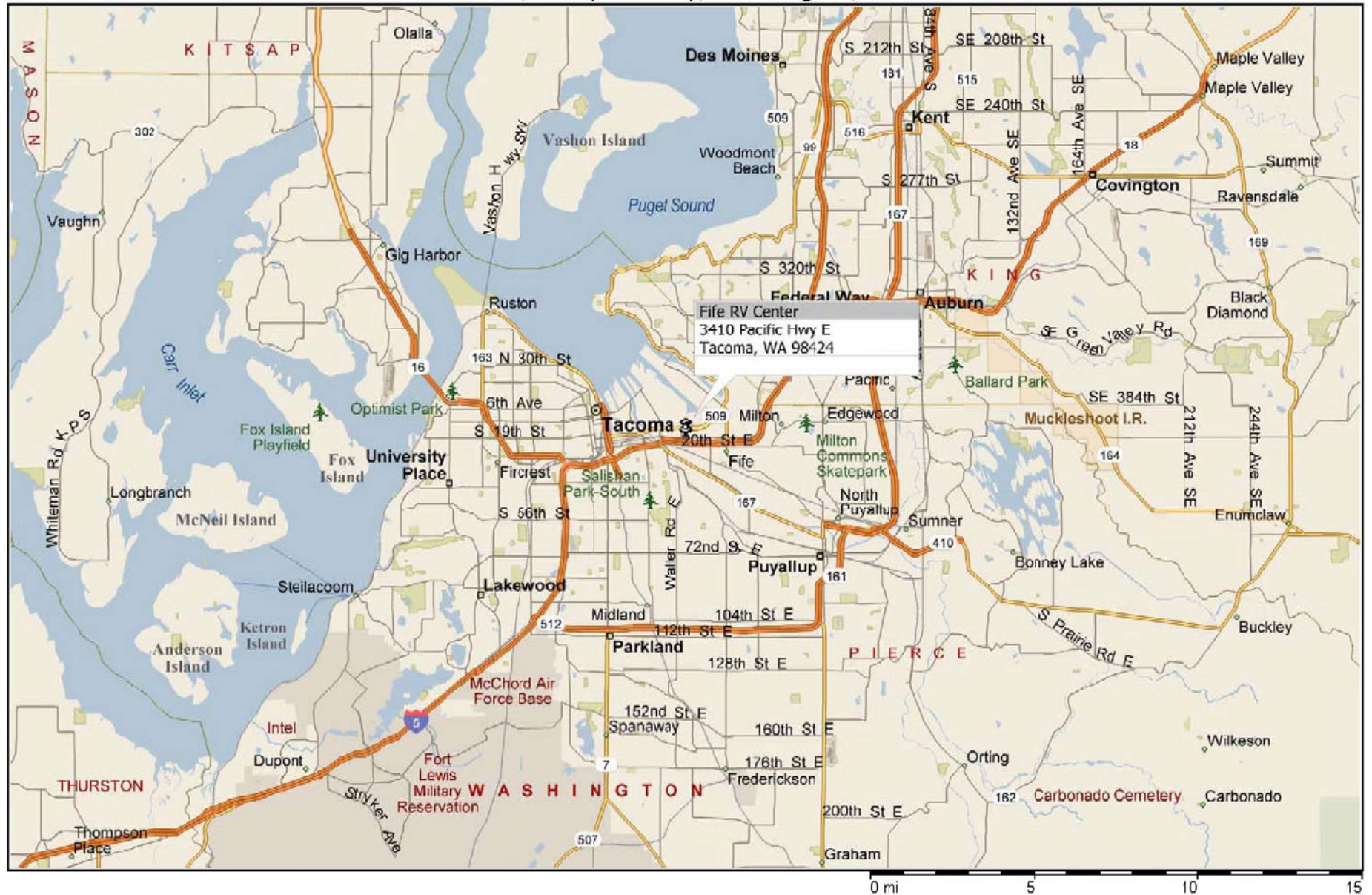
Benzene, Toluene, Ethylbenzene and Xylenes by EPA Method 8021B

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

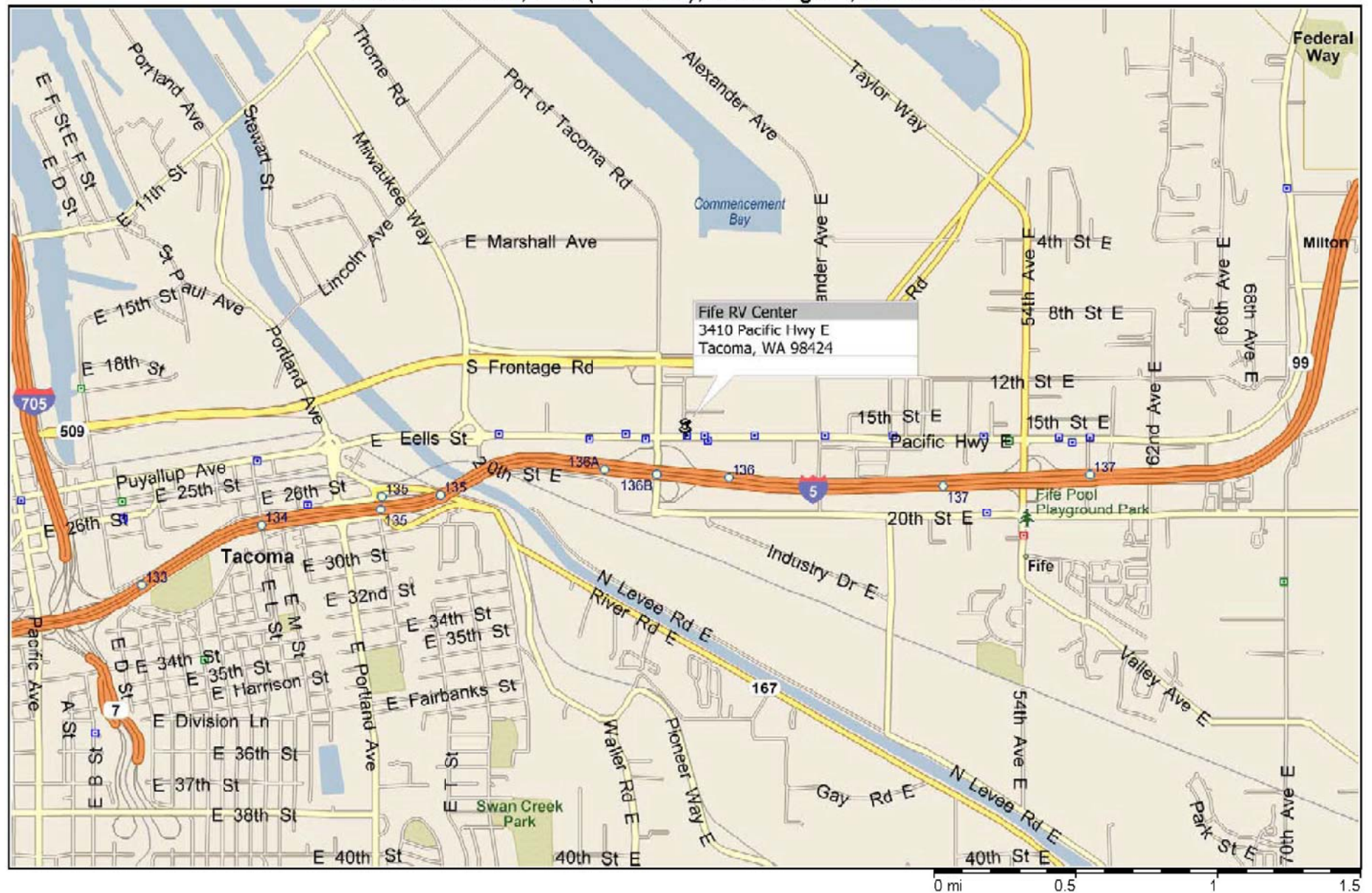
Bolded numbers and red-shaded cells denote concentrations above the MTCA Method A Cleanup Levels for groundwater

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





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



AEROTECH
ENVIRONMENTAL CONSULTING

NEIGHBORHOOD STREET MAP

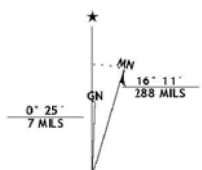
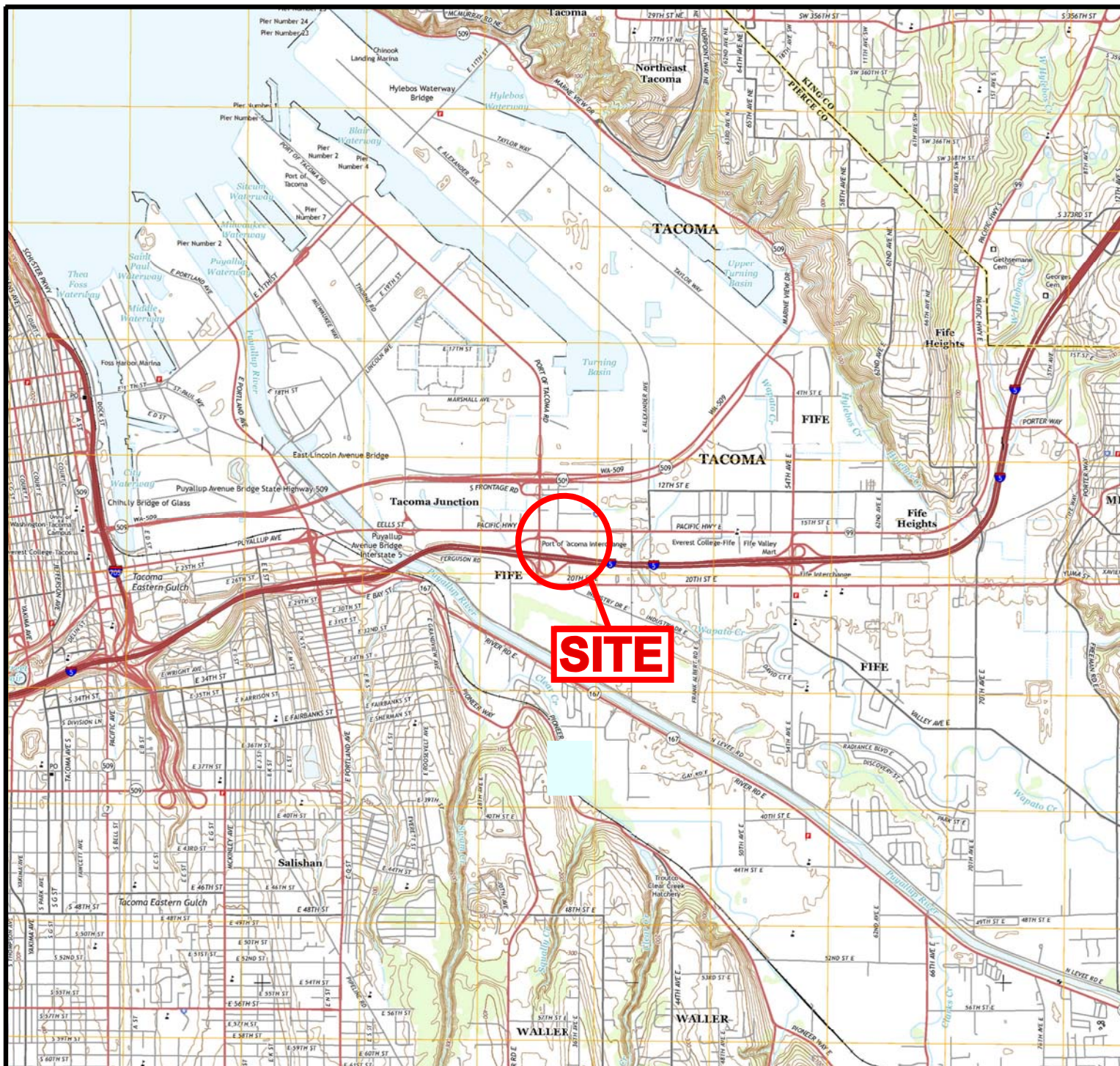
Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 12/08/16

By: Nick Gerkin

Figure:

2



SCALE (mile)



CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

AEROTECH
ENVIRONMENTAL CONSULTING

**USGS TOPOGRAPHIC
MAP**

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 10/30/16

By: Nick Gerkin

Figure:

3



EXPLANATION



SITE VICINITY MAP

Fife RV Center
3410 Pacific Highway East
Fife, Washington

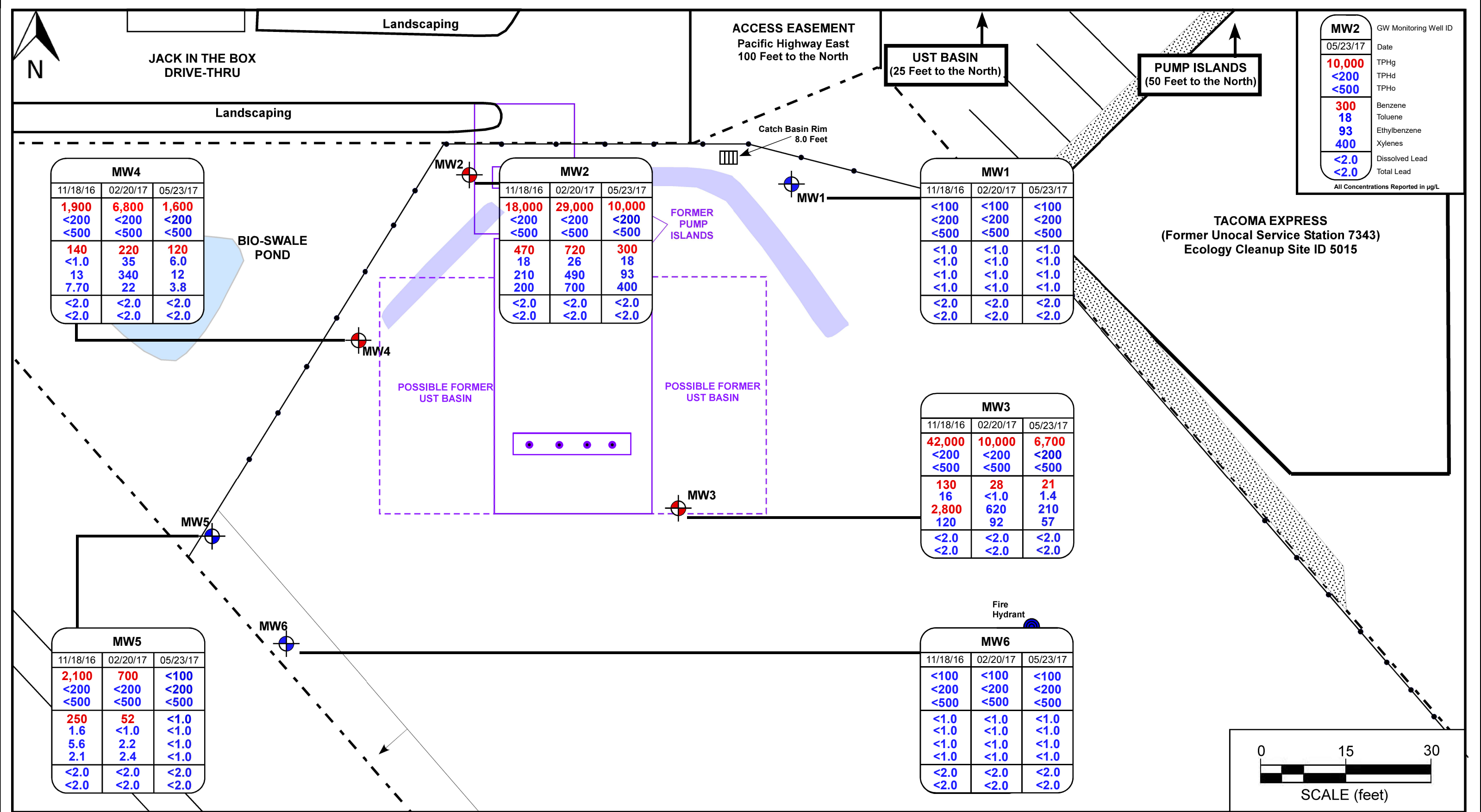


Date: 10/30/16

By: Nick Gerkin

Figure:

4



MW2	GW Monitoring Well ID
05/23/17	Date
10,000	TPHg
<200	TPHd
<500	TPHo
300	Benzene
18	Toluene
93	Ethylbenzene
400	Xylenes
<2.0	Dissolved Lead
<2.0	Total Lead
All Concentrations Reported in µg/L	

MW4		
11/18/16	02/20/17	05/23/17
1,900	6,800	1,600
<200	<200	<200
<500	<500	<500
140	220	120
<1.0	35	6.0
13	340	12
7.70	22	3.8
<2.0	<2.0	<2.0
<2.0	<2.0	<2.0

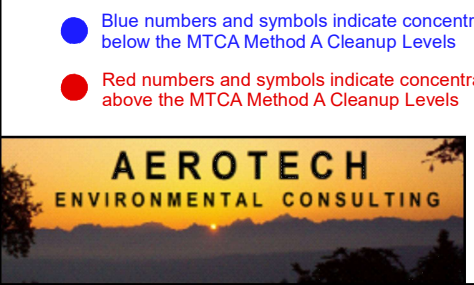
MW2		
11/18/16	02/20/17	05/23/17
18,000	29,000	10,000
<200	<200	<200
<500	<500	<500
470	720	300
18	26	18
210	490	93
200	700	400
<2.0	<2.0	<2.0
<2.0	<2.0	<2.0

MW1		
11/18/16	02/20/17	05/23/17
<100	<100	<100
<200	<200	<200
<500	<500	<500
<1.0	<1.0	<1.0
<1.0	<1.0	<1.0
<1.0	<1.0	<1.0
<1.0	<1.0	<1.0
<2.0	<2.0	<2.0
<2.0	<2.0	<2.0

MW3		
11/18/16	02/20/17	05/23/17
42,000	10,000	6,700
<200	<200	<200
<500	<500	<500
130	28	21
16	<1.0	1.4
2,800	620	210
120	92	57
<2.0	<2.0	<2.0
<2.0	<2.0	<2.0

MW5		
11/18/16	02/20/17	05/23/17
2,100	700	<100
<200	<200	<200
<500	<500	<500
250	52	<1.0
1.6	<1.0	<1.0
5.6	2.2	<1.0
2.1	2.4	<1.0
<2.0	<2.0	<2.0
<2.0	<2.0	<2.0

MW6		
11/18/16	02/20/17	05/23/17
<100	<100	<100
<200	<200	<200
<500	<500	<500
<1.0	<1.0	<1.0
<1.0	<1.0	<1.0
<1.0	<1.0	<1.0
<1.0	<1.0	<1.0
<2.0	<2.0	<2.0
<2.0	<2.0	<2.0



EXPLANATION

--- Property Boundary

— Fencing

Cool Guard HRL36 Liner Installed to 10-Foot Depth

Groundwater Monitoring Well

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

GROUNDWATER ANALYTICAL RESULTS

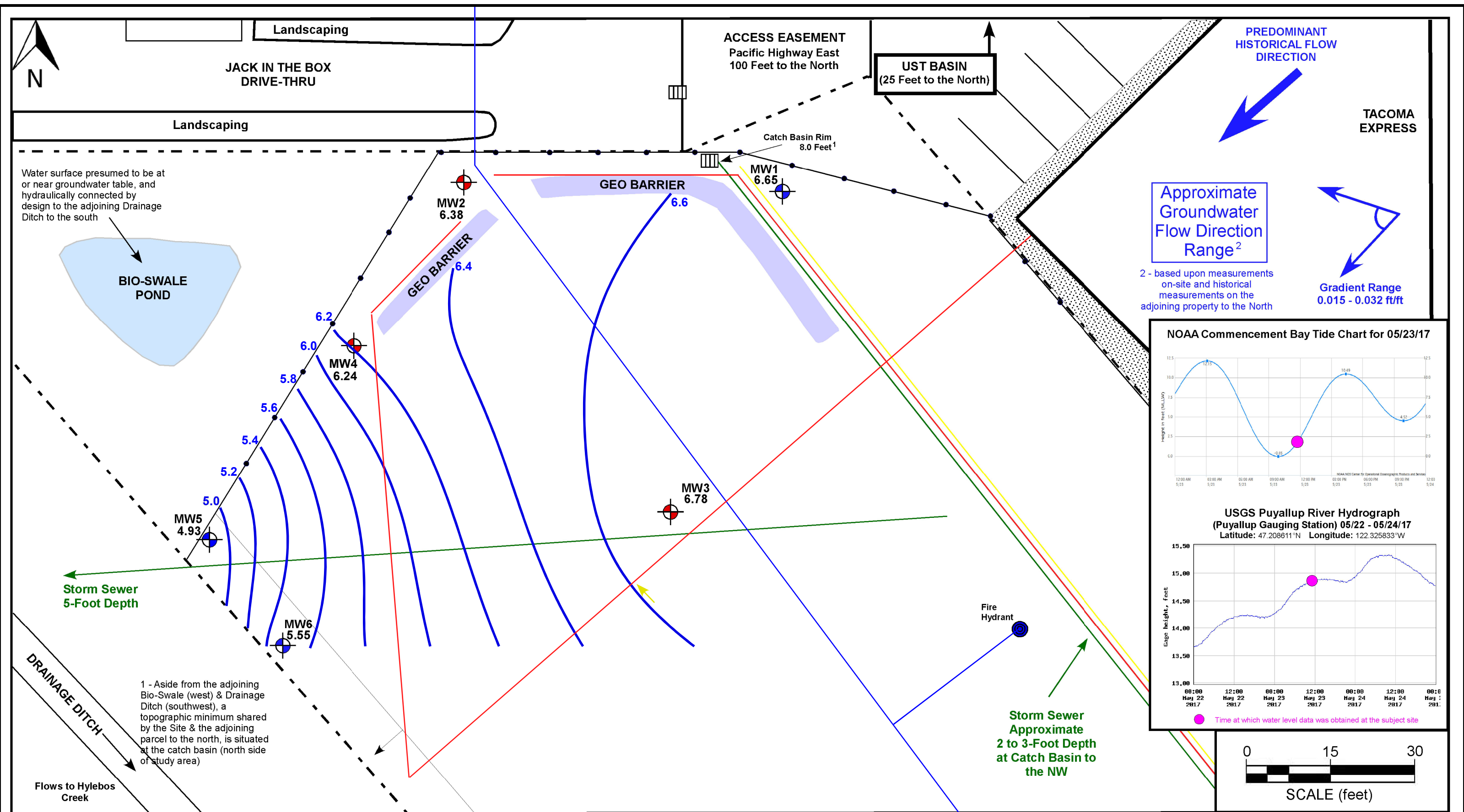
MAP - 05/23/17

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 06/23/17

By: Nick Gerkin

Figure: 5



AEROTECH
ENVIRONMENTAL CONSULTING

MW-6

Groundwater Monitoring Well

6.68 Groundwater Elevation in Feet

Groundwater Elevation Contour Line (Isopotential Line)

Approximate Expected Location of Isopotential Line

EXPLANATION

Property Boundary

Fencing

Geo Membrane Barrier - Cool Guard HRL36 Liner Installed to 10-Foot Depth

Storm Sewer

Electrical Utility

Gas Utility

Water Utility

POTENTIOMETRIC SURFACE MAP - 05/23/17

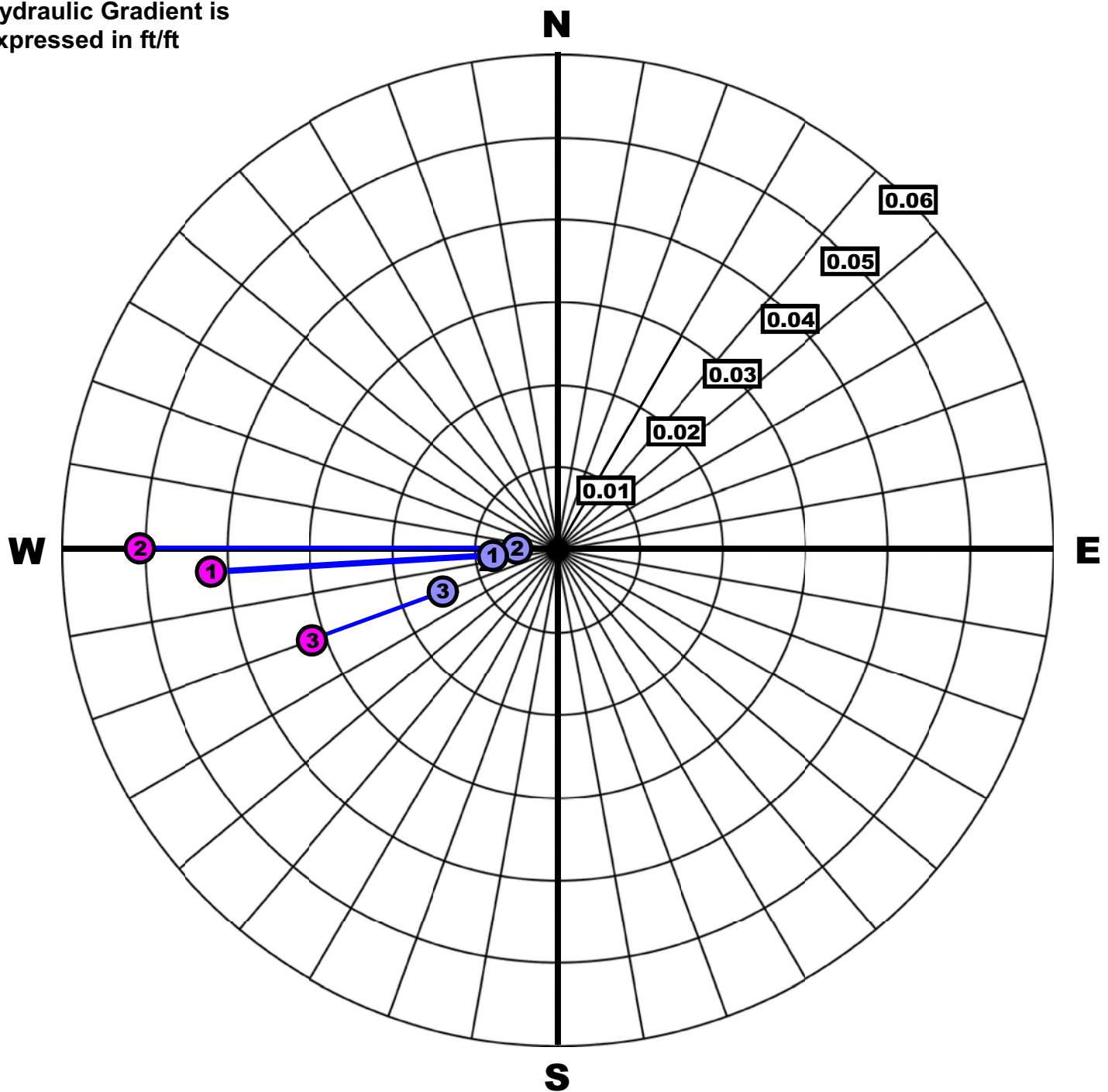
Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 06/30/17

By: Nick Gerkin

Figure: 6

Hydraulic Gradient is
expressed in ft/ft



HYDRAULIC GRADIENT RANGE AND SHALLOW GROUNDWATER FLOW DIRECTION FROM MW3

- 1 11/18/16
- 2 02/20/17
- 3 05/23/17

- ② Maximum Calculated Gradient
- ② Minimum Calculated Gradient

PROJECT CONTRACT DOCUMENTS

ENVIRONMENTAL CONTRACTOR'S CERTIFICATION

Fife RV Center
3410 Pacific Highway East
Fife, Washington 98424

1. Contractor's Name: Aerotech Environmental Consulting, Inc.
2. Contractor's Address: 13925 Interurban Avenue South, Ste. 210, Seattle, Washington 98168
3. Name and title of person completing this certification: Alan T. Blotch / President
4. Answer the following questions about each employee that contractor will have perform the assessment or prepare the report showing the results of the inspection:
 - a. Name and Title of Employee: Alan T. Blotch – Environmental Professional
 - b. Length of experience doing environmental assessments: 31 years
 - c. Education degrees received: Masters of Business Administration
Juris Doctor – Environmental Law
 - d. Relevant training received: ASTM E50 Environmental Assessment Committee Meetings
5. Identify any certifications and approvals issued to contractor pursuant to an official Federal, State or local program or policy to conduct environmental assessments: Registered Environmental Assessor
Issued by State of California
6. Describe the generally recognized standards which the contractor will use to perform the assessment.
Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process
(ASTM E 1903)
7. Disclose the nature of any previous environmental inspections contractor has ever performed for the Owner of the property: Phase I Environmental Site Assessment
8. Disclose the nature of any affiliation or association contractor now has, or ever had, with the above referenced seller of the property, of the above referenced buyer of the property: N/A
9. Describe the liability insurance carried by contractor to cover claims in the event that it fails to discover adverse environmental conditions during an environmental inspection.
Professional Errors & Omissions Coverage \$1,000,000 / claim and \$1,000,000 aggregate liability

THE UNDERSIGNED HEREBY CERTIFIES, UNDER PENALTY OF THE CRIMINAL AND/OR CIVIL PENALTIES IN 18 U.S.C. § 1001 FOR FALSE STATEMENTS TO THE UNITED STATES GOVERNMENT, THAT THE ABOVE INFORMATION IS TRUE AND CORRECT.



Signature

6-7-17

Date

LABORATORY ANALYTICAL RESULTS

May 31, 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 (C70524-2)* Project.

Samples were received on *May 24, 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,



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:	C70524-2
Client:	Aerotech Environmental
Project Manager:	Nick Gerkin
Client Project Name:	Fife RV Center
Client Project Number:	na
Date received:	05/24/17

AAL Job Number: C70524-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 05/24/17

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	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
MTBE	5.0	nd		nd	nd	nd	nd
1,2-Dichloroethane(EDC)	1.0	nd	83%	nd	nd	nd	nd
1,2-Dibromoethane (EDB)*	0.01	nd		nd	nd	nd	nd

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	101%	98%	105%	105%	101%	101%
1,2-Dichloroethane-d4	106%	95%	102%	110%	106%	94%

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: C70524-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 05/24/17

Analytical Results

8260B, µg/L		W-MW5	W-MW6	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
MTBE	5.0	nd	nd			
1,2-Dichloroethane(EDC)	1.0	nd	nd	94%	100%	7%
1,2-Dibromoethane (EDB)*	0.01	nd	nd			

*-instrument detection limits

Surrogate recoveries

Dibromofluoromethane	103%	98%	104%	107%
1,2-Dichloroethane-d4	97%	103%	108%	111%

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: C70524-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 05/24/17

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	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100	nd		nd	nd	nd	nd
Gasoline	100	nd		nd	10,000	6,700	1,600

BTEX 8021B, ug/L

Benzene	1.0	nd	88%	nd	300	21	120
Toluene	1.0	nd	98%	nd	18	1.4	6.0
Ethylbenzene	1.0	nd		nd	93	210	12
Xylenes	1.0	nd		nd	400	57	3.8

Surrogate recoveries:

Trifluorotoluene	89%	112%	113%	C	102%	121%
Bromofluorobenzene	105%	107%	113%	128%	128%	129%

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: C70524-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 05/24/17

Analytical Results

NWTPH-Gx/BTEX		W-MW5	W-MW6	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100	nd	nd			
Gasoline	100	nd	nd			

BTEX 8021B, ug/L

Benzene	1.0	nd	nd	108%	114%	5%
Toluene	1.0	nd	nd	118%	118%	0%
Ethylbenzene	1.0	nd	nd			
Xylenes	1.0	nd	nd			

Surrogate recoveries:

Trifluorotoluene	105%	109%	130%	128%		
Bromofluorobenzene	123%	117%	120%	117%		

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: C70524-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 05/24/17

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	05/25/17	05/25/17	05/25/17	05/25/17	05/25/17	05/25/17	05/25/17
Date analyzed	Limits	05/25/17	05/25/17	05/25/17	05/25/17	05/25/17	05/25/17	05/25/17
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	105%	101%	105%	104%	103%	101%	101%
o-Terphenyl	105%	102%	105%	106%	101%	105%	102%

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: C70524-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 05/24/17

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	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Date analyzed	Limits	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Lead Total (Pb)	0.002	nd	122%	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: C70524-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 05/24/17

Analytical Results

Metals Total (7010), mg/L		W-MW5	W-MW6	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Date analyzed	Limits	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Lead Total (Pb)	0.002	nd	nd	99%	89%	10%

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: C70524-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 05/24/17

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	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Date analyzed	Limits	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Lead Dissolved (Pb)	0.002	nd	122%	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: C70524-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 05/24/17

Analytical Results

Metals Dissolved (7010), mg/L		W-MW5	W-MW6	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Date analyzed	Limits	05/26/17	05/26/17	05/26/17	05/26/17	05/26/17
Lead Dissolved (Pb)	0.002	nd	nd	99%	89%	10%

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

Laboratory Job #: C70524-2

4078 148 Avenue NE
Redmond, WA 98052
(425) 702-8571
aachemiab@yahoo.com

Client: Aerotech
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 + Ryan Wigg
Date of collection: 5/23/17

Sample ID	Time	Matrix	Container type	8260 Volatiles	8260 VOC	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx	NWTPH-HCID	8270 Semivolatiles	8270 PAH	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead	Total	MTCs Metals	Dissolved Lead	Field Adj. 8260	Notes, comments	# of containers
1	W-MW1	1216	W			X		X							X		X	X				4
2	W-MW2	1440				X		X							X		X	X				
3	W-MW3	1525				X		X							X		X	X				
4	W-MW4	1415				X		X							X		X	X				
5	W-MW5	1323				X		X							X		X	X				
6	W-MW6	1252	↓	↓		X		X							X		X	X				↓
7																						
8																						
9																						
10																						
11																						
12																						

Relinquished by:	Date/Time	Received by:	Date/Time
<u>Ryan H. Wigg</u>	<u>5/24/17</u>	<u>V. Hauer</u>	<u>05/24/17</u>
Relinquished by:	Date/Time	Received by:	Date/Time

Sample receipt info:

Total # of containers: 24
Condition (temp, °C) _____
Seals (intact?, Y/N) _____
Comments: _____

Turnaround time:

Same day ☐
24 hr ☐
48 hr ☐
Standard ☒

LOW-FLOW GROUNDWATER SAMPLING STANDARD OPERATING PROCEDURE

AEROTECH

Environmental Consulting Inc.

13925 Interurban Avenue South, Suite No.210
Seattle, Washington 98168
(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 or 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 DOCUMENTATION



www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL GAUGING RECORD

FIELD CREW: NAG and RHW	PROJECT NAME: Fife RV Center
DATE: 05/23/17	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	11:46	8.37	1.72	6.65	14.4	2	Well vaults, seals, bolts and plugs are in great condition.
MW2	11:52	9.40	3.02	6.38	14.2	2	Well vaults, seals, bolts and plugs are in great condition.
MW3	11:54	9.43	2.65	6.78	14.6	2	Well vaults, seals, bolts and plugs are in great condition.
MW4	11:50	10.12	3.88	6.24	14.5	2	Well vaults, seals, bolts and plugs are in great condition.
MW5	11:49	11.27	6.34	4.93	17.5	2	Well vaults, seals, bolts and plugs are in great condition.
MW6	11:48	11.40	5.85	5.55	17.5	2	Well vaults, seals, bolts and plugs are in great condition.

EXPLANATION

MSL = Mean Sea Level

TOC - Top of Casing



www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG and RHW	PROJECT NAME: Fife RV Center
DATE: 05/23/2017	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
11:46	1.72	--	--	--	--	--	--
12:05	2.06	200	14.4	658	0.39	6.79	-123.5
12:07	2.08	200	14.2	646	0.35	6.77	-124.8
12:09	2.11	200	14.3	645	0.34	6.82	-125.4
12:11	2.12	200	14.2	649	0.31	6.82	-127.1
12:13	2.14	200	14.1	651	0.30	6.82	-128.1
12:15	2.16	200	14.1	655	0.27	6.81	-129.3
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
12:16	SAMPLE	--	--	--	--	--	--
Comments:							

MW-2							
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
11:52	3.02	--	--	--	--	--	--
14:30	3.48	200	14.6	588.4	0.49	6.92	-123.8
14:32	3.59	200	14.6	585.8	0.36	6.92	-127.3
14:34	3.65	200	14.5	586.0	0.29	6.92	-129.2
14:36	3.70	200	14.5	585.6	0.25	6.93	-133.3
14:38	3.85	200	14.5	585.8	0.25	6.93	-137.1
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
14:40	SAMPLE	--	--	--	--	--	--
Comments:							



www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG and RHW	PROJECT NAME: Fife RV Center
DATE: 05/23/2017	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
11:54	2.65	--	--	--	--	--	--
14:56	3.02	200	15.0	630	0.46	6.91	-121.6
14:58	3.03	200	15.3	627	0.37	6.91	-123.3
15:00	3.05	200	15.2	629	0.33	6.91	-124.4
15:02	3.07	200	15.0	631	0.28	6.90	-125.5
15:04	3.09	200	14.8	631	0.29	6.90	-125.7
15:06	3.09	200	14.8	630	0.26	6.90	-126.5
15:08	3.10	200	15.1	630	0.44	6.91	-127.2
15:10	3.11	200	14.8	633	0.29	6.90	-127.5
15:12	3.11	200	15.1	631	0.32	6.90	-127.9
15:14	3.12	200	15.0	633	0.29	6.90	-128.5
15:16	3.13	200	14.6	635	0.26	6.91	-129.0
15:18	3.14	200	14.7	635	0.29	6.90	-128.9
15:20	3.14	200	14.4	634	0.29	6.90	-128.8
15:22	3.14	200	14.5	636	0.28	6.91	-126.0
15:24	3.14	200	14.5	638	0.29	6.91	-124.2
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
15:25	SAMPLE	--	--	--	--	--	--
Comments:							



www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG and RHW	PROJECT NAME: Fife RV Center
DATE: 05/23/2017	PROJECT ADDRESS: 3410 Pacific Highway East, Fife, WA

MW-4							
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
11:50	3.88	--	--	--	--	--	--
13:48	4.32	175	15.3	638	0.37	6.75	-104.7
13:50	4.40	175	15.4	636	0.32	6.74	-105.9
13:52	4.46	175	15.1	639	0.50	6.74	-107.0
13:54	4.50	175	15.1	634	0.41	6.75	-108.1
13:56	4.52	175	15.2	629	0.46	6.75	-109.3
13:58	4.54	175	15.0	619	0.51	6.76	-110.7
14:00	4.60	175	15.4	610.1	0.39	6.77	-113.5
14:02	4.64	175	15.0	615.7	0.32	6.76	-113.9
14:04	4.70	175	14.7	635	0.39	6.75	-110.0
14:06	4.76	175	14.6	632	0.27	6.76	-110.7
14:08	4.79	175	14.6	628	0.37	6.76	-112.0
14:10	4.82	175	14.7	621.1	0.35	6.77	-113.5
14:12	4.85	175	14.6	615.7	0.34	6.77	-114.0
14:14	4.90	175	14.6	611.9	0.32	6.78	-114.6
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
14:15	SAMPLE	--	--	--	--	--	--
Comments:							



www. AerotechEnvironmental.com

GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG and RHW
DATE: 05/23/2017

PROJECT NAME: Fife RV Center
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
11:39	5.16	--	--	--	--	--	--
13:16	5.49	200	14.7	487.6	0.42	6.91	-94.7
13:18	5.54	200	14.8	487.7	0.34	6.92	-95.2
13:20	5.59	200	14.7	488.9	0.38	6.91	-95.7
13:22	5.63	200	14.8	488.8	0.37	6.92	-96.1
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
13:23	SAMPLE	--	--	--	--	--	--

Comments:

MW-6

Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
11:48	5.85	--	--	--	--	--	--
12:32	6.21	200	15.0	420.7	0.66	6.97	-97.4
12:34	6.27	200	15.0	420.7	0.58	6.97	-98.6
12:36	6.33	200	15.3	419.4	0.32	6.96	-100.3
12:38	6.34	200	15.3	419.4	0.44	6.96	-101.4
12:40	6.36	200	15.1	420.8	0.44	6.96	-102.3
12:42	6.38	200	15.1	419.3	0.41	6.96	-102.9
12:44	6.39	200	14.9	419.7	0.31	6.96	-102.7
12:46	6.41	200	15.0	419.4	0.32	6.95	-102.8
12:48	6.40	200	15.1	419.4	0.28	6.96	-104.1
12:50	6.41	200	15.0	417.4	0.28	6.96	-104.3
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
12:52	SAMPLE	--	--	--	--	--	--

Comments: