

**GROUNDWATER MONITORING
REPORT:
7th Quarterly Sampling**

Performed at:
Fife RV Center
3410 Pacific Highway East
Fife, Washington 98424

AEROTECH
Environmental Consulting Inc.

July 2, 2018

Anchorage Seattle Portland

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

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July 30, 2018

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

RE: Groundwater Monitoring Report – 7th Quarterly Sampling
Fife RV Center
3410 Pacific Highway East, Fife, Washington
Fife, Washington 98424

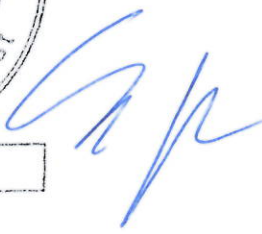
Dear Mr. LaVerdiere,

As you are aware, Aerotech Environmental Consulting, Inc. (“Aerotech”) has been retained to collect quarterly groundwater samples from twelve groundwater monitoring wells previously installed at Fife RV Center in Fife, Washington. Aerotech conducted the last round of groundwater monitoring and sampling activities on July 2, 2018. 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, MW3, MW5, MW6, MW7, MW8, MW9, AND MW11. Total Petroleum Hydrocarbons as Gasoline (“TPHg”) was present at concentrations above the MTCA Method A Cleanup Level in samples collected from groundwater monitoring wells MW2 and MW4. Benzene was present at concentrations above the MTCA Method A Cleanup Level in samples collected from groundwater monitoring wells MW2, MW4, MW10, and MW12.

Please feel free to contact the Aerotech Geologist, Mr. Simon Payne, at (206) 247-9155, or the Aerotech Field Sampling Coordinator, Mr. Nicholas Gerkin at (206) 482-2287 if you have any questions regarding work completed at this Site.




SIMON J. PAYNE
Simon Payne
State of Washington
Licensed Geologist No. 2712

Sincerely,

Nick Gerkin
Vice President
Principal Environmental Scientist

APPENDIX

- Tables & Figures
- Project Contract Documents
- Laboratory Analytical Report and Chain of Custody
- Standard Operating Procedure
- Field Documentation

- Tables & Figures

TABLE 1
WELL CONSTRUCTION DETAILS

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Well ID	Ecology Well ID	Installation Date	Elevation (TOC north)	Screen Interval	Diameter	Slot Size	Construction Material
			Feet Above MSL	Feet BGS	Inches	Inches	
MW1	BIS683	11/10/16	8.37	4 - 14	2	0.010	Flush - Sched 40 PVC
MW2	BIS684	11/10/16	9.57	4 - 14	2	0.010	Flush - Sched 40 PVC
MW3	BIS685	11/10/16	9.43	4 - 14	2	0.010	Flush - Sched 40 PVC
MW4	BIS686	11/10/16	10.12	4 - 14	2	0.010	Flush - Sched 40 PVC
MW5	BIT785	11/10/16	11.27	4 - 14	2	0.010	Bollard - Sched 40 PVC
MW6	BIT786	11/10/16	11.40	4 - 14	2	0.010	Bollard - Sched 40 PVC
MW7	BJP689	07/14/17	10.09	4 - 14	1	0.010	Flush - Sched 80 PVC
MW8	BJP688	07/14/17	10.26	4 - 14	1	0.010	Flush - Sched 80 PVC
MW9	BJP687	07/14/17	8.84	4 - 14	1	0.010	Flush - Sched 80 PVC
MW10	BJN085	02/23/18	12.94	4 - 14	2	0.020	Bollard - Sched 40 PVC
MW11	--*	02/23/18	9.12	2.5 - 9.5	2	0.020	Flush - Sched 40 PVC
MW12	BJN086	02/23/18	11.74	4 - 14	2	0.020	Bollard - Sched 40 PVC

* = Groundwater Monitoring Well MW11 does not have an Ecology Well ID since the Total Depth of the Well is less than 10 feet below ground surface (Feet BGS)

TABLE 2

GROUNDWATER ANALYTICAL RESULTS

Fife RV Center
3410 Pacific Highway East
Fife, Washington

MW1

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	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
	08/01/17	2.92	8.37	5.45	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	11/30/17	1.37	8.37	7.00	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
	04/03/18	1.97	8.37	6.40	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
	07/03/18	2.71	8.37	5.66	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160	0.1	15	15

MW2

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	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
	08/01/17	4.40	9.40	5.00	25,000	<200	<500	980	62	540	1,300	<0.01	<1.0	<5.0	ND	4.3	<0.1	--	<2.0
	11/30/17	2.43	9.40	6.97	64,000	<200	<500	2,800	94	1,800	3,000	<0.01	<1.0	<5.0	ND	25	<0.1	--	<2.0
	04/03/18 ¹	3.32	9.57	6.25	2,000	<200	<500	65	1	<1.0	120	<0.01	<1.0	<5.0	ND	1.1	<0.1	--	<2.0
	07/03/18	4.21	9.57	5.36	1,100	<200	<500	35	<1.0	<1.0	28	<0.01	<1.0	<5.0	ND	0.28	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

MW3

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	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
	08/01/17	4.05	9.43	5.38	620	<200	<500	<1.0	<1.0	2.4	1.3	<0.01	<1.0	<5.0	ND	0.60	<0.1	--	<2.0
	11/30/17	2.22	9.43	7.21	830	<200	<500	<1.0	<1.0	3.9	1.7	<0.01	<1.0	<5.0	ND	0.62	<0.1	--	<2.0
	04/03/18	2.85	9.43	6.58	210	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	1.4	<0.1	--	<2.0
	07/03/18	3.78	9.43	5.65	240	<200	<500	<1.0	<1.0	<1.0	2.1	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

MW4

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	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
	08/01/17	5.61	10.12	4.51	2,100	<200	<500	94	4.4	170	1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	11/30/17	3.15	10.12	6.97	6,400	<200	<500	320	17	370	58	<0.01	<1.0	<5.0	ND	9.90	<0.1	--	<2.0
	04/03/18	4.10	10.12	6.02	4,100	<200	<500	130	6.3	270	1.0	<0.01	<1.0	<5.0	ND	13	<0.1	--	<2.0
	07/03/18	5.23	10.12	4.89	1,000	<200	<500	16	1.2	<1.0	1.6	<0.01	<1.0	<5.0	ND	10	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	i	0.01	5	20	Variable	160*	0.1	15	15

TABLE 2

GROUNDWATER ANALYTICAL RESULTS

Fife RV Center
3410 Pacific Highway East
Fife, Washington

MW5

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	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
	08/01/17	8.31	11.27	2.96	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	11/30/17	5.07	11.27	6.20	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	04/03/18	6.13	11.27	5.14	110	<200	<500	3.2	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	2.5	<0.1	--	<2.0
	07/03/18	7.90	11.27	3.37	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	1.9	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

MW6

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	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
	08/01/17	7.32	11.40	4.08	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	11/30/17	6.72	11.40	4.68	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	--	--	--	--	<2.0
	04/03/18	5.67	11.40	5.73	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	07/03/18	6.91	11.40	4.49	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

MW7

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	µg/L	µg/L	µg/L
14.2	08/01/17	5.83	10.09	4.26	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	11/30/17	3.12	10.09	6.97	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	--	--	--	--	<2.0
	04/03/18	4.12	10.09	5.97	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
	07/03/18	5.28	10.09	4.81	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

MW8

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	µg/L	µg/L	µg/L
14.1	08/01/17	5.26	10.26	5.00	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	11/30/17	3.16	10.26	7.10	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	--	--	--	--	<2.0
	04/03/18	3.78	10.26	6.48	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
	07/03/18	4.92	10.26	5.34	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

TABLE 2 GROUNDWATER ANALYTICAL RESULTS

Fife RV Center
3410 Pacific Highway East
Fife, Washington

MW9

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	µg/L	µg/L	µg/L
14.3	08/01/17	3.57	8.84	5.27	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	11/30/17	1.58	8.84	7.26	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	--	--	--	--	<2.0
	04/03/18	3.25	8.84	5.59	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
	07/03/18	3.47	8.84	5.37	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160	0.1	15	15

MW10

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	µg/L	µg/L	µg/L
	04/03/18	7.01	12.94	5.93	530	<200	<500	17	2.30	<1.0	1.20	<0.01	<1.0	<5.0	ND	0.40	<0.1	--	<2.0
	07/03/18	7.90	12.94	5.04	610	<200	<500	42	1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	0.94	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

MW11

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	µg/L	µg/L	µg/L
	04/03/18	4.59	9.12	4.53	<100	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	07/03/18	5.94	9.12	3.18	120	<200	<500	<1.0	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160*	0.1	15	15

MW12

Well Depth	Sampling Date	Ground Water Level	Elevation (TOC north)	Water Level Elevation	TPHg	TPHd	TPHo	Benzene	Toluene	Ethyl-benzene	Xylenes	EDB	EDC	MTBE	HVOCs	Naphthalene	cPAHs*	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	µg/L	µg/L	µg/L
	04/03/18	7.05	11.74	4.69	240	<200	<500	60	<1.0	<1.0	<1.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
	07/03/18	8.46	11.74	3.28	790	<200	<500	170	1.3	<1.0	4.0	<0.01	<1.0	<5.0	ND	<0.1	<0.1	--	<2.0
MTCA Method A Cleanup Levels					800	500	500	5	1,000	700	1,000	0.01	5	20	Variable	160	0.1	15	15

EXPLANATION

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 HVOCs = Halogenated Volatile Organic Compounds; by EPA Method 8260B

PAHs (including Naphthalene) by EPA Method 8270

Total and Dissolved Lead by EPA Method 7010

* = Effective concentration using Toxic Equivalency Factor per WAC 173-340-708(e): SUM(Benzo(a)pyrene (x1), Benzo(a)anthracene (x0.1), Benzo(b)fluoranthene (x0.1), Benzo(k)fluoranthene (x0.1), Chrysene (x0.01), Dibenz(a,h)anthracene (x0.1), Indeno(1,2,3-cd)pyrene (x0.1)

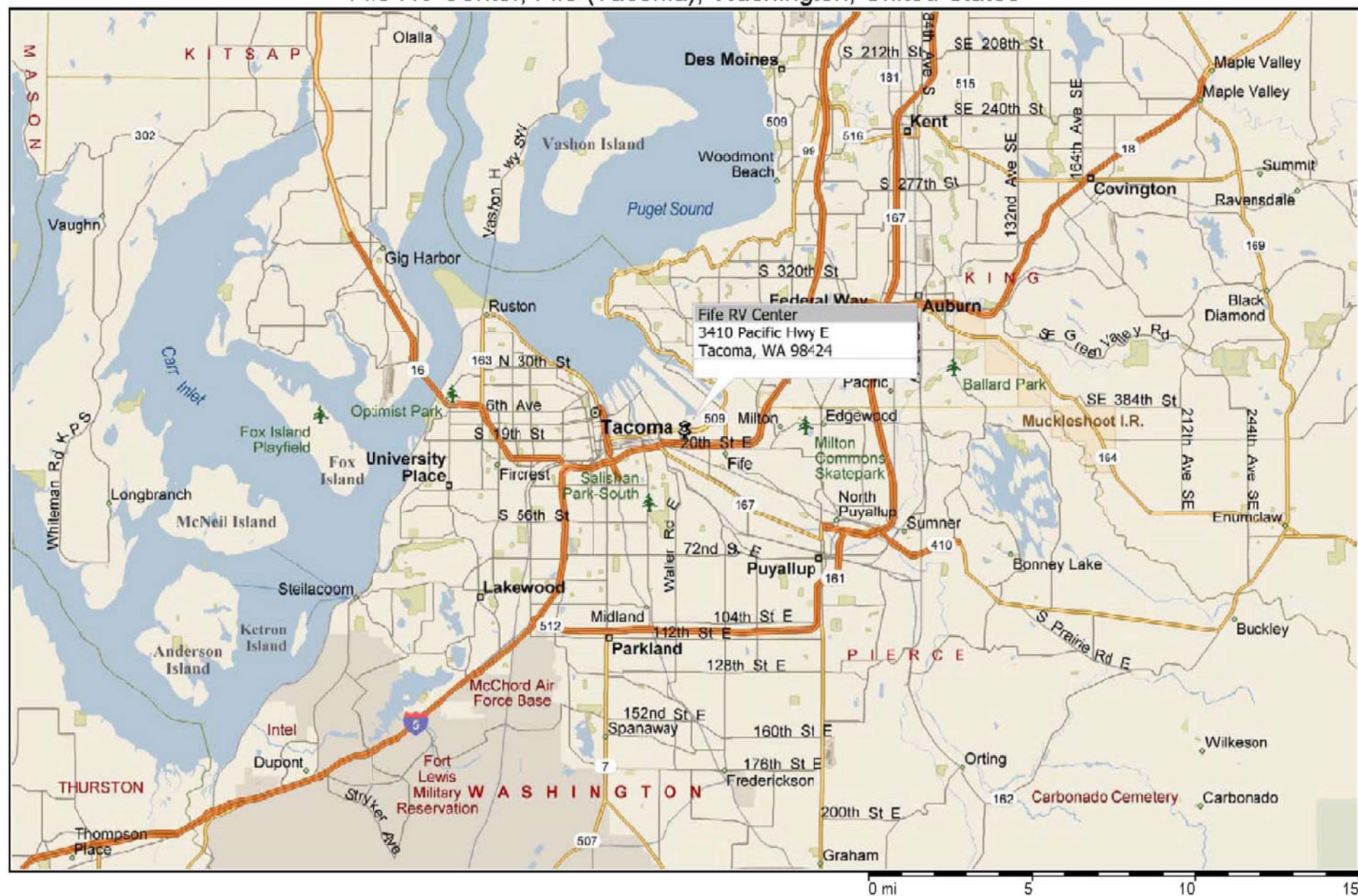
1 = Wells surveyed/resurveyed on 02/28/18

ND = Not Detected above Laboratory Minimum Reporting Limits or applicable cleanup levels (see laboratory report for further detail)

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

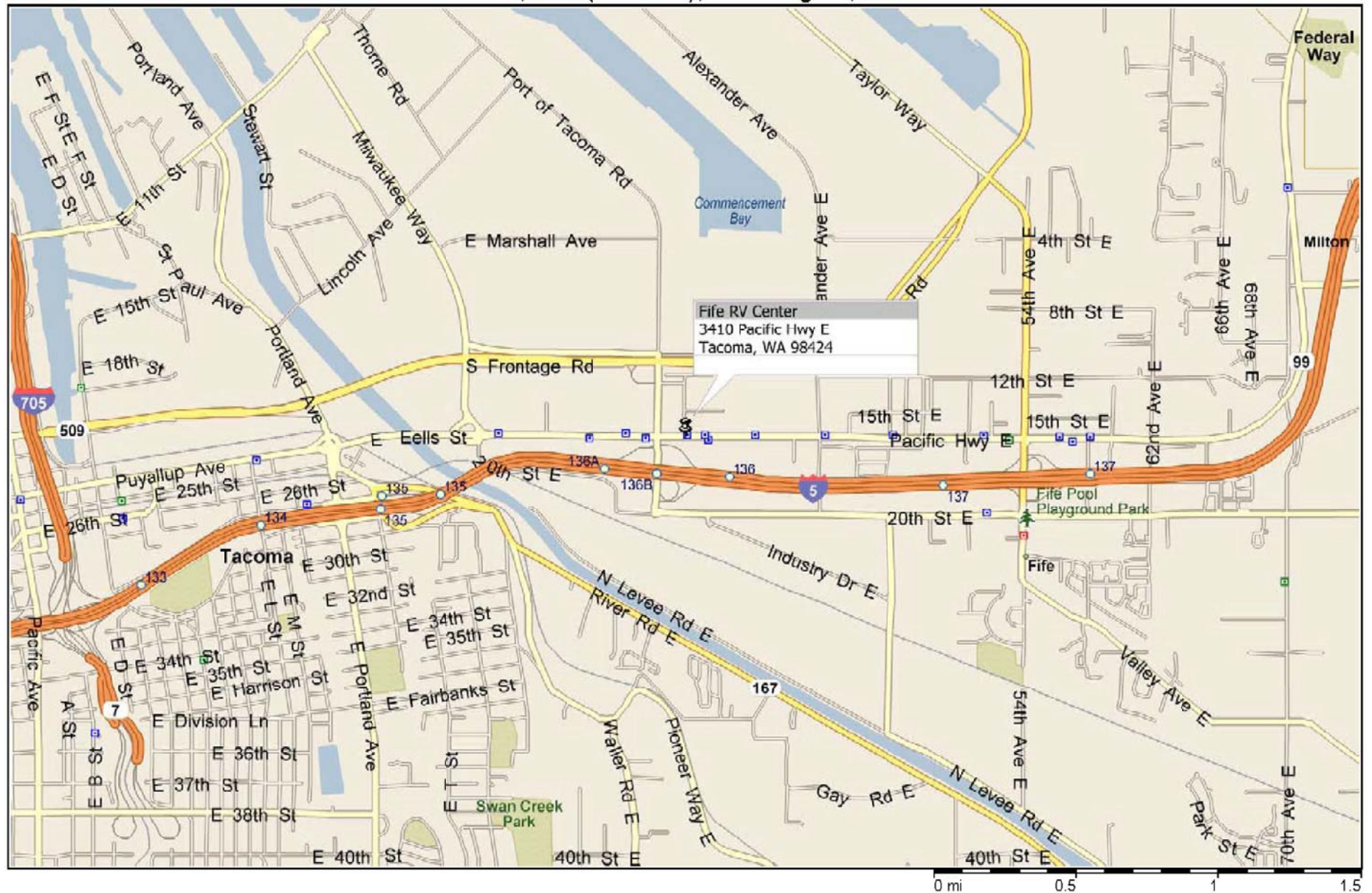


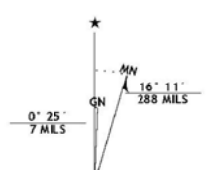
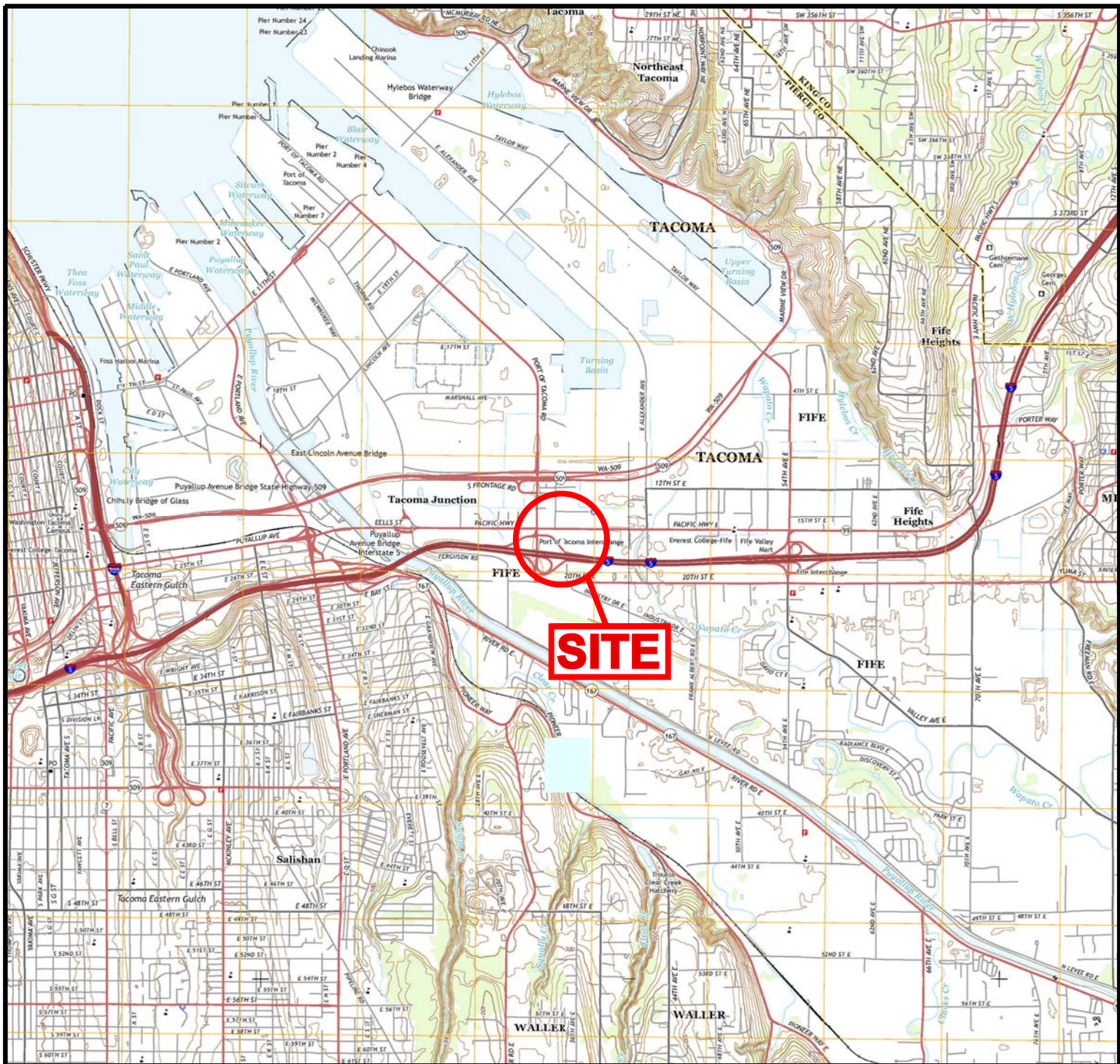
Fife RV Center, Fife (Tacoma), Washington, United States





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



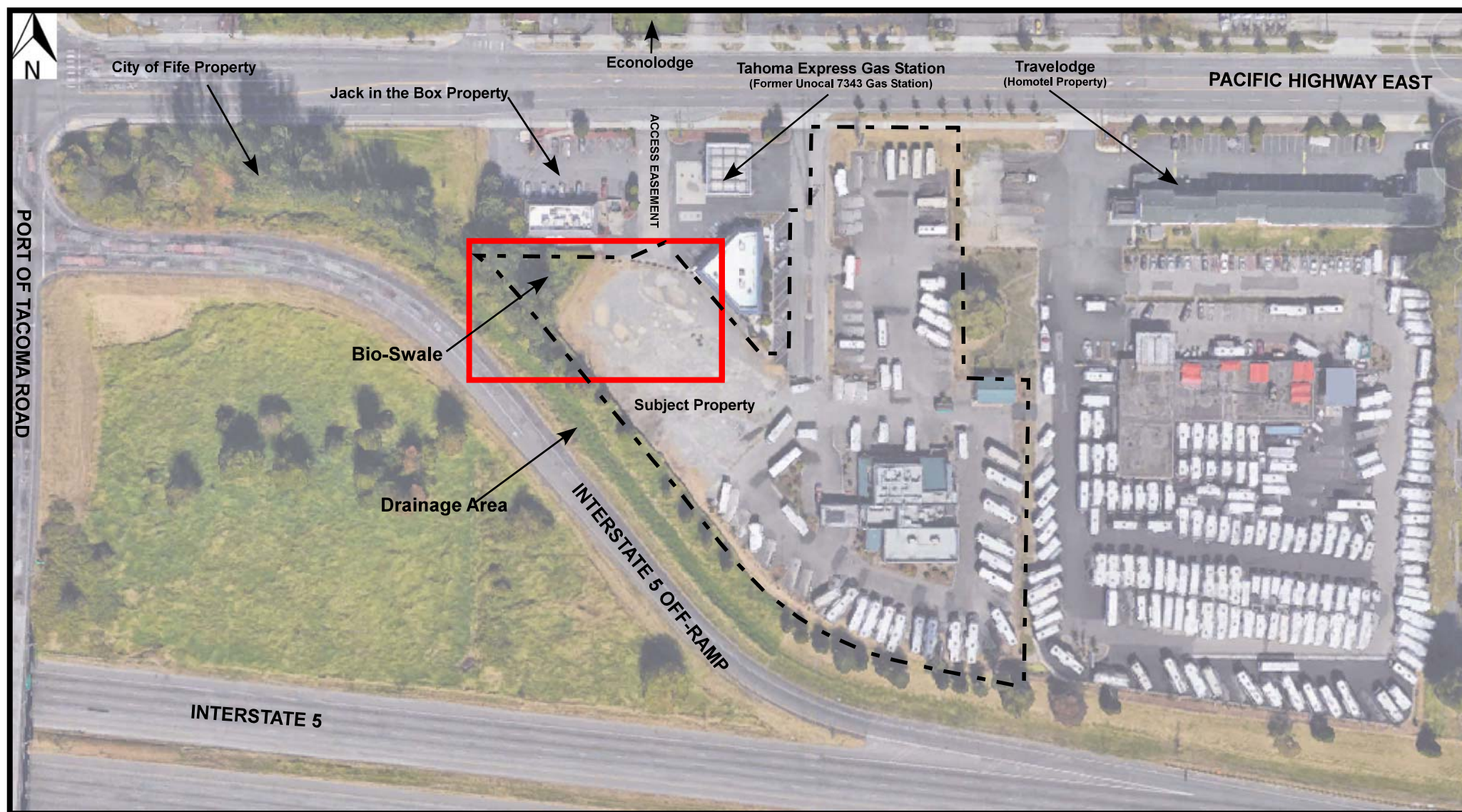


SCALE (mile)

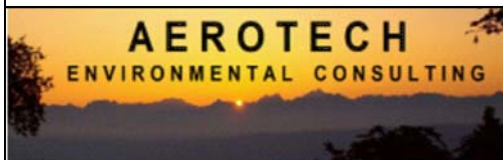


UTM GRID AND 2014 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

CONTOUR INTERVAL 20 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

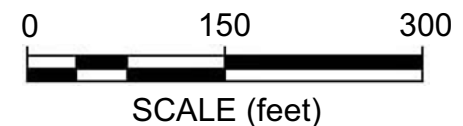


EXPLANATION



SITE VICINITY MAP

Fife RV Center
3410 Pacific Highway East
Fife, Washington

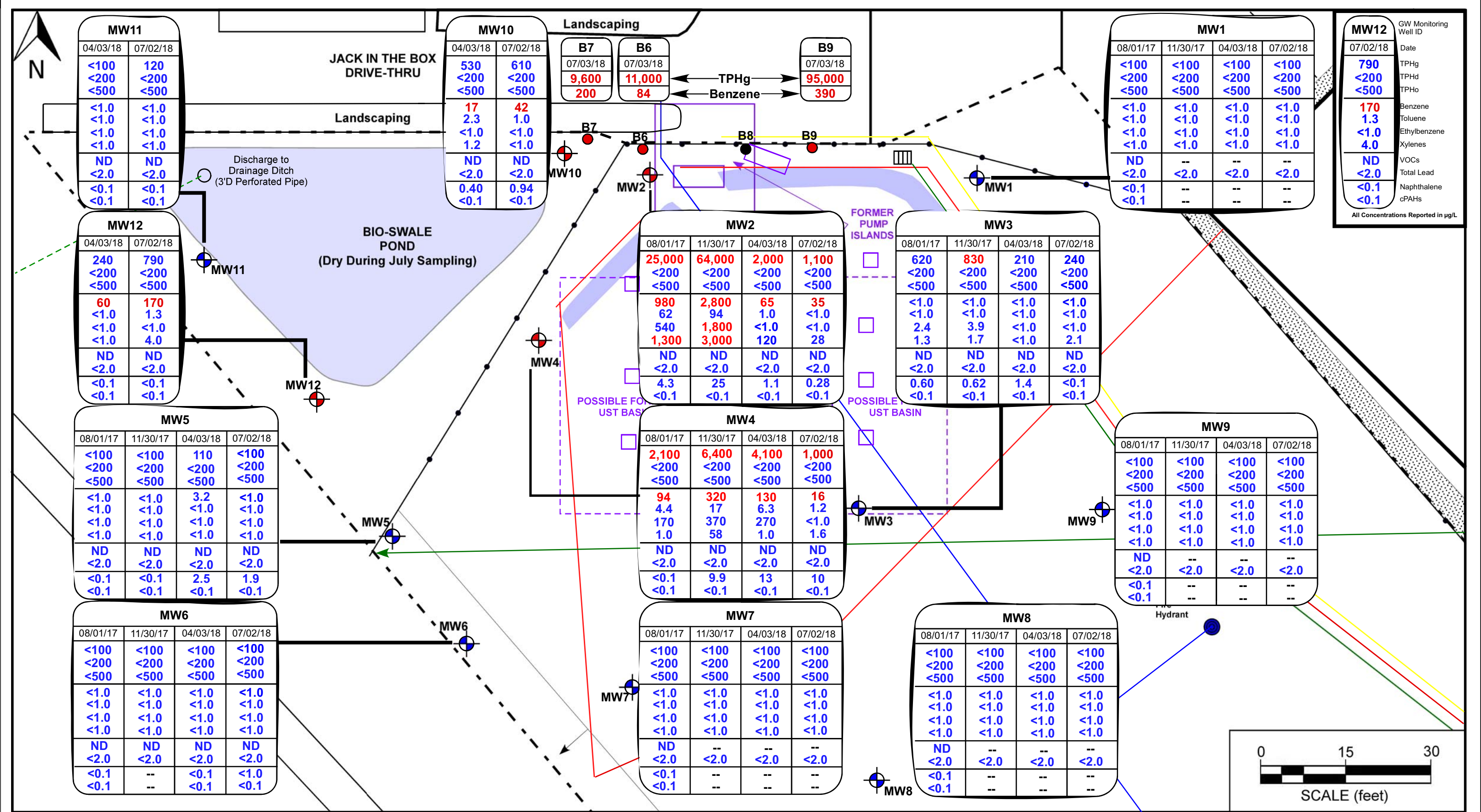


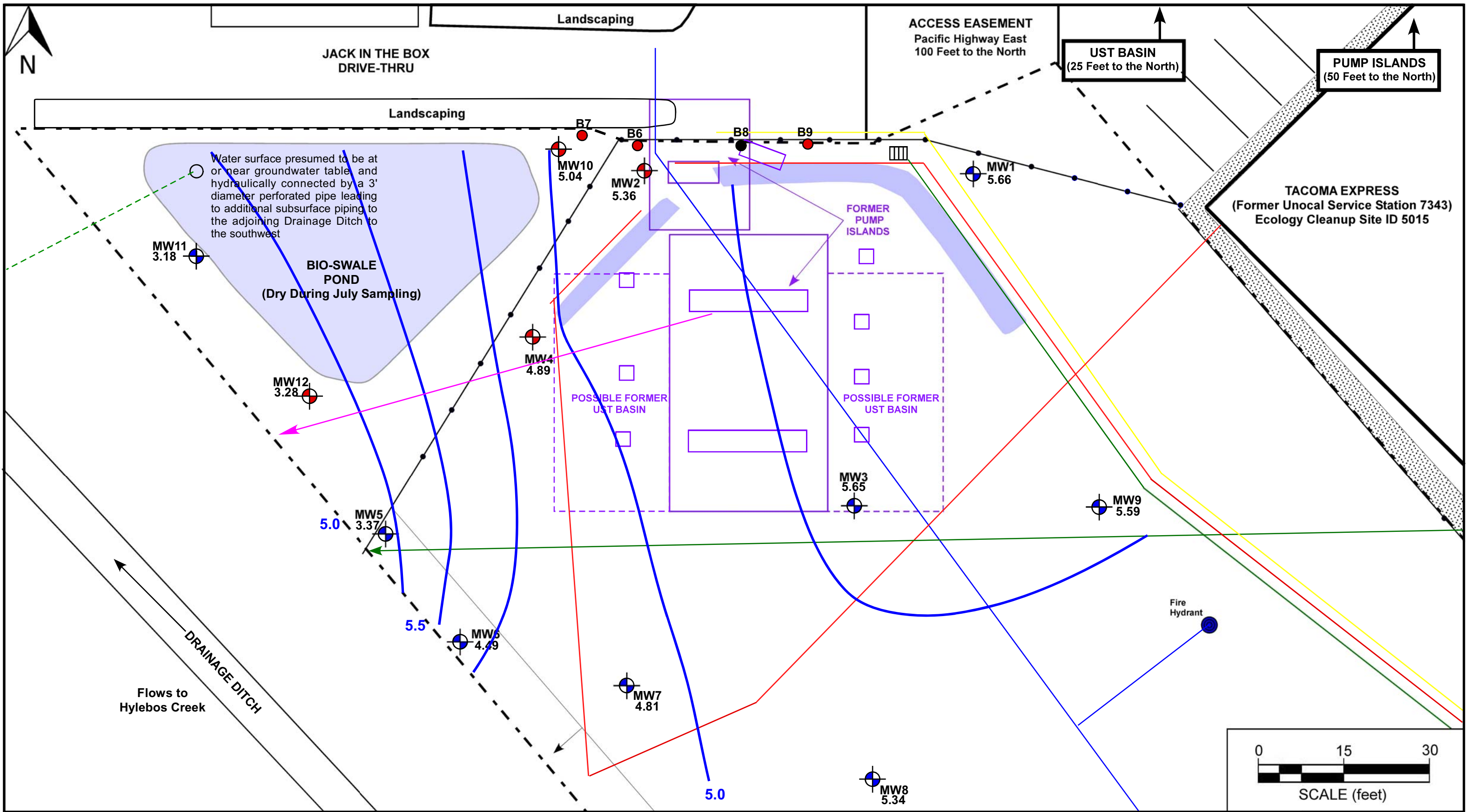
Date: 04/27/18

By: Nick Gerkin

Figure:

4





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



Groundwater Monitoring Well
Groundwater Elevation in Feet



Groundwater Elevation Contour Line (Isopotential Line)



Approximate Expected Location of Isopotential Line

EXPLANATION

Property Boundary
Fencing

Cool Guard HRL36 Liner
Installed to 10-Foot Depth

Storm Sewer

Electrical Utility

Gas Utility

Water Utility

POTENTIOMETRIC SURFACE MAP 07/02/18

Fife RV Center
3410 Pacific Highway East
Fife, Washington

Date: 07/30/18

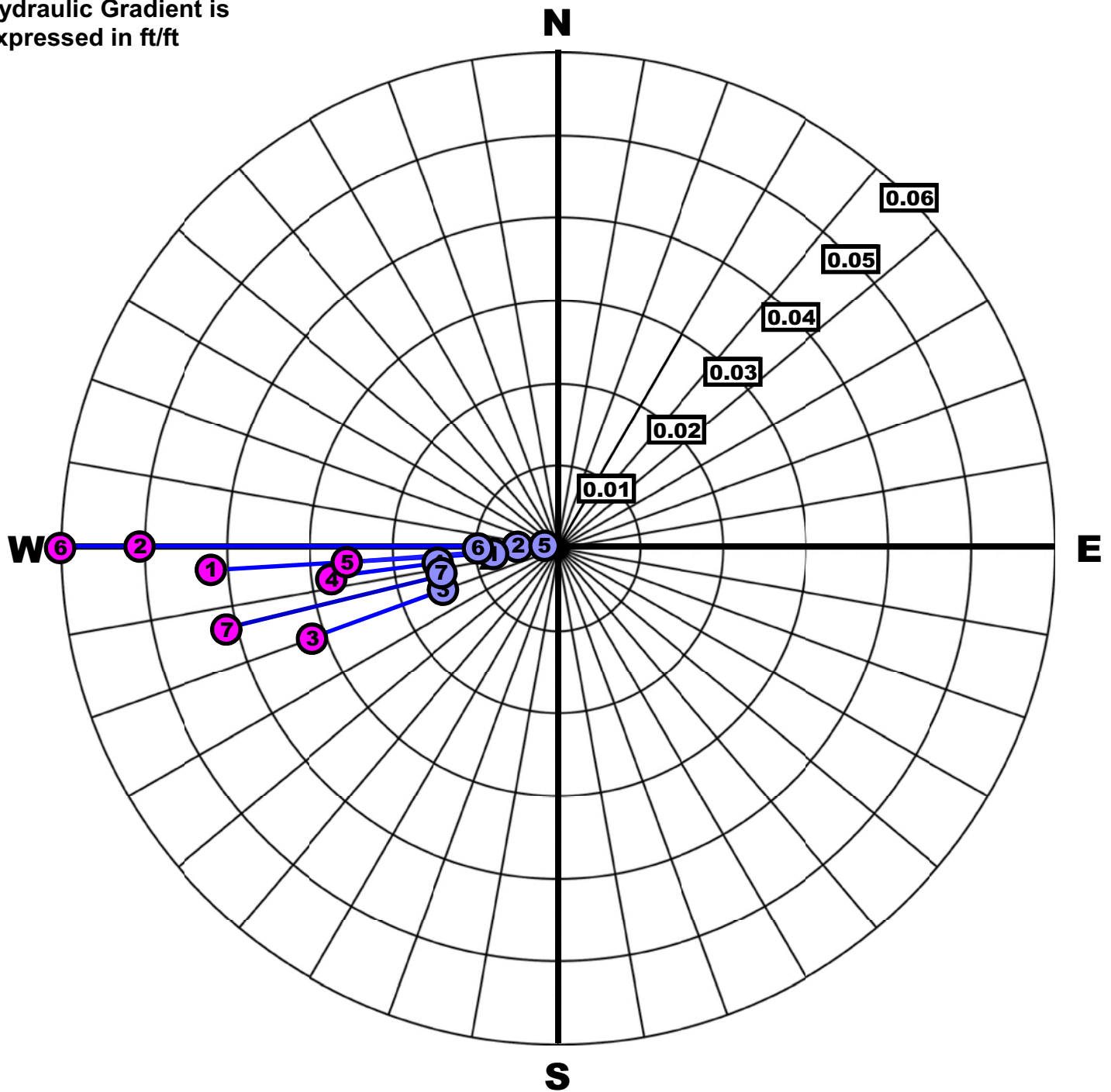
By: Nick Gerkin

Figure:

6



Hydraulic Gradient is
expressed in ft/ft



HYDRAULIC GRADIENT RANGE AND SHALLOW GROUNDWATER FLOW DIRECTION FROM MW3

1	11/18/16	5	11/30/17
2	02/20/17	6	04/03/18
3	05/23/17	7	07/02/18
4	08/01/17		

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

7-30-18
Date

- Laboratory Analytical Report and Chain of Custody

July 10, 2018

*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 (C80704-2)* Project.

Samples were received on *July 04, 2018*. 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:	C80704-2
Client:	Aerotech Environmental
Project Manager:	Nick Gerkin
Client Project Name:	Fife RV Center
Client Project Number:	na
Date received:	07/04/18

AAL Job Number: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

8260B, µg/L		MTH BLK	LCS	W-MW2	W-MW3	W-MW4
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/05/18	07/05/18	07/05/18	07/05/18	07/05/18
MTBE	5.0	nd		nd	nd	nd
Chloromethane	1.0	nd		nd	nd	nd
Vinyl chloride(*)	0.2	nd		nd	nd	nd
Bromomethane	1.0	nd		nd	nd	nd
Chloroethane	1.0	nd		nd	nd	nd
Trichlorofluoromethane	1.0	nd		nd	nd	nd
1,1-Dichloroethene	1.0	nd		nd	nd	nd
Methylene chloride	1.0	nd		nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd		nd	nd	nd
1,1-Dichloroethane	1.0	nd		nd	nd	nd
2,2-Dichloropropane	1.0	nd		nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd		nd	nd	nd
Chloroform	1.0	nd		nd	nd	nd
1,1,1-Trichloroethane	1.0	nd		nd	nd	nd
Carbontetrachloride	1.0	nd		nd	nd	nd
1,1-Dichloropropene	1.0	nd		nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd		nd	nd	nd
Trichloroethene	1.0	nd	88%	nd	nd	nd
1,2-Dichloropropane	1.0	nd		nd	nd	nd
Dibromomethane	1.0	nd		nd	nd	nd
Bromodichloromethane	1.0	nd		nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd		nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd		nd	nd	nd
1,1,2-Trichloroethane	1.0	nd		nd	nd	nd
Tetrachloroethene	1.0	nd		nd	nd	nd
1,3-Dichloropropane	1.0	nd		nd	nd	nd
Dibromochloromethane	1.0	nd		nd	nd	nd
1,2-Dibromoethane (EDB)*	0.01	nd		nd	nd	nd
Chlorobenzene	1.0	nd	99%	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd		nd	nd	nd
Bromoform	1.0	nd		nd	nd	nd
1,2,3-Trichloropropane	1.0	nd		nd	nd	nd
Bromobenzene	1.0	nd		nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd		nd	nd	nd
2-Chlorotoluene	1.0	nd		nd	nd	nd
4-Chlorotoluene	1.0	nd		nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd		nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd		nd	nd	nd
1,3-Dichlorobenzene	1.0	nd		nd	nd	nd
1,4-Dichlorobenzene	1.0	nd		nd	nd	nd
1,2-Dichlorobenzene	1.0	nd		nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd		nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd		nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd		nd	nd	nd

*-instrument detection limits

AAL Job Number: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

8260B, µg/L		MTH BLK	LCS	W-MW2	W-MW3	W-MW4
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/05/18	07/05/18	07/05/18	07/05/18	07/05/18

Surrogate recoveries

Dibromofluoromethane	114%	102%	103%	107%	101%
1,2-Dichloroethane-d4	129%	104%	109%	114%	106%

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: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

8260B, µg/L		W-MW5	W-MW6	W-MW10	W-MW11	W-MW12
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/05/18	07/05/18	07/05/18	07/05/18	07/05/18
MTBE	5.0	nd	nd	nd	nd	nd
Chloromethane	1.0	nd	nd	nd	nd	nd
Vinyl chloride(*)	0.2	nd	nd	nd	nd	nd
Bromomethane	1.0	nd	nd	nd	nd	nd
Chloroethane	1.0	nd	nd	nd	nd	nd
Trichlorofluoromethane	1.0	nd	nd	nd	nd	nd
1,1-Dichloroethene	1.0	nd	nd	nd	nd	nd
Methylene chloride	1.0	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	1.0	nd	nd	nd	nd	nd
1,1-Dichloroethane	1.0	nd	nd	nd	nd	nd
2,2-Dichloropropane	1.0	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	1.0	nd	nd	nd	nd	nd
Chloroform	1.0	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	1.0	nd	nd	nd	nd	nd
Carbontetrachloride	1.0	nd	nd	nd	nd	nd
1,1-Dichloropropene	1.0	nd	nd	nd	nd	nd
1,2-Dichloroethane (EDC)	1.0	nd	nd	nd	nd	nd
Trichloroethene	1.0	nd	nd	nd	nd	nd
1,2-Dichloropropane	1.0	nd	nd	nd	nd	nd
Dibromomethane	1.0	nd	nd	nd	nd	nd
Bromodichloromethane	1.0	nd	nd	nd	nd	nd
cis-1,3-Dichloropropene	1.0	nd	nd	nd	nd	nd
trans-1,3-Dichloropropene	1.0	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	1.0	nd	nd	nd	nd	nd
Tetrachloroethene	1.0	nd	nd	nd	nd	nd
1,3-Dichloropropane	1.0	nd	nd	nd	nd	nd
Dibromochloromethane	1.0	nd	nd	nd	nd	nd
1,2-Dibromoethane (EDB)*	0.01	nd	nd	nd	nd	nd
Chlorobenzene	1.0	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd
Bromoform	1.0	nd	nd	nd	nd	nd
1,2,3-Trichloropropane	1.0	nd	nd	nd	nd	nd
Bromobenzene	1.0	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	1.0	nd	nd	nd	nd	nd
2-Chlorotoluene	1.0	nd	nd	nd	nd	nd
4-Chlorotoluene	1.0	nd	nd	nd	nd	nd
1,3,5-Trimethylbenzene	1.0	nd	nd	nd	nd	nd
1,2,4-Trimethylbenzene	1.0	nd	nd	nd	nd	nd
1,3-Dichlorobenzene	1.0	nd	nd	nd	nd	nd
1,4-Dichlorobenzene	1.0	nd	nd	nd	nd	nd
1,2-Dichlorobenzene	1.0	nd	nd	nd	nd	nd
1,2-Dibromo-3-Chloropropane	1.0	nd	nd	nd	nd	nd
1,2,4-Trichlorobenzene	1.0	nd	nd	nd	nd	nd
1,2,3-Trichlorobenzene	1.0	nd	nd	nd	nd	nd

*-instrument detection limits

AAL Job Number: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

8260B, µg/L		W-MW5	W-MW6	W-MW10	W-MW11	W-MW12
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/05/18	07/05/18	07/05/18	07/05/18	07/05/18

Surrogate recoveries

Dibromofluoromethane	101%	104%	101%	102%	103%
1,2-Dichloroethane-d4	114%	113%	104%	113%	96%

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: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

8260B, µg/L		MS	MSD	RPD
Matrix	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/05/18	07/05/18	07/05/18
MTBE	5.0			
Chloromethane	1.0			
Vinyl chloride(*)	0.2			
Bromomethane	1.0			
Chloroethane	1.0			
Trichlorofluoromethane	1.0			
1,1-Dichloroethene	1.0			
Methylene chloride	1.0			
trans-1,2-Dichloroethene	1.0			
1,1-Dichloroethane	1.0			
2,2-Dichloropropane	1.0			
cis-1,2-Dichloroethene	1.0			
Chloroform	1.0			
1,1,1-Trichloroethane	1.0			
Carbontetrachloride	1.0			
1,1-Dichloropropene	1.0			
1,2-Dichloroethane (EDC)	1.0			
Trichloroethene	1.0	92%	107%	16%
1,2-Dichloropropane	1.0			
Dibromomethane	1.0			
Bromodichloromethane	1.0			
cis-1,3-Dichloropropene	1.0			
trans-1,3-Dichloropropene	1.0			
1,1,2-Trichloroethane	1.0			
Tetrachloroethene	1.0			
1,3-Dichloropropane	1.0			
Dibromochloromethane	1.0			
1,2-Dibromoethane (EDB)*	0.01			
Chlorobenzene	1.0	102%	117%	13%
1,1,1,2-Tetrachloroethane	1.0			
Bromoform	1.0			
1,2,3-Trichloropropane	1.0			
Bromobenzene	1.0			
1,1,2,2-Tetrachloroethane	1.0			
2-Chlorotoluene	1.0			
4-Chlorotoluene	1.0			
1,3,5-Trimethylbenzene	1.0			
1,2,4-Trimethylbenzene	1.0			
1,3-Dichlorobenzene	1.0			
1,4-Dichlorobenzene	1.0			
1,2-Dichlorobenzene	1.0			
1,2-Dibromo-3-Chloropropane	1.0			
1,2,4-Trichlorobenzene	1.0			
1,2,3-Trichlorobenzene	1.0			

*-instrument detection limits

AAL Job Number: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

8260B, µg/L		MS	MSD	RPD
Matrix	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/05/18	07/05/18	07/05/18

Surrogate recoveries

Dibromofluoromethane	104%	109%
1,2-Dichloroethane-d4	109%	114%

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: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

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	07/04/18	07/04/18	07/04/18	07/04/18	07/04/18	07/04/18

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100	nd		nd	nd	nd	nd
Gasoline	100	nd		nd	1,100	240	1,000

BTEX 8021B, ug/L

Benzene	1.0	nd	94%	nd	35	nd	16
Toluene	1.0	nd	106%	nd	nd	nd	1.2
Ethylbenzene	1.0	nd		nd	nd	nd	nd
Xylenes	1.0	nd		nd	28	2.1	1.6

Surrogate recoveries:

Trifluorotoluene	75%	78%	82%	74%	77%	115%
Bromofluorobenzene	96%	100%	115%	110%	127%	116%

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: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

NWTPH-Gx/BTEX		W-MW5	W-MW6	W-MW7	W-MW8	W-MW9	W-MW10
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/04/18	07/04/18	07/04/18	07/04/18	07/04/18	07/04/18

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100	nd	nd	nd	nd	nd	nd
Gasoline	100	nd	nd	nd	nd	nd	610

BTEX 8021B, ug/L

Benzene	1.0	nd	nd	nd	nd	nd	42
Toluene	1.0	nd	nd	nd	nd	nd	1.0
Ethylbenzene	1.0	nd	nd	nd	nd	nd	nd
Xylenes	1.0	nd	nd	nd	nd	nd	nd

Surrogate recoveries:

Trifluorotoluene	80%	89%	93%	90%	82%	105%
Bromofluorobenzene	107%	112%	106%	103%	104%	111%

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: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

NWTPH-Gx/BTEX		W-MW11	W-MW12	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/04/18	07/04/18	07/04/18	07/04/18	07/04/18

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100	nd	nd			
Gasoline	100	120	790			

BTEX 8021B, ug/L

Benzene	1.0	nd	170	93%	104%	11%
Toluene	1.0	nd	1.3	94%	104%	9%
Ethylbenzene	1.0	nd	nd			
Xylenes	1.0	nd	4.0			

Surrogate recoveries:

Trifluorotoluene	95%	119%	82%	86%		
Bromofluorobenzene	97%	101%	102%	101%		

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: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

NWTPH-Dx, ug/L		MTH BLK	W-MW1	W-MW2	W-MW3	W-MW4	W-MW5
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18
Date analyzed	Limits	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18
Kerosene/Jet fuel	200	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	200	nd	nd	nd	nd	nd	nd
Heavy oil	500	nd	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	98%	90%	94%	87%	86%	85%
o-Terphenyl	101%	94%	99%	91%	89%	88%

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: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

NWTPH-Dx, ug/L		W-MW6	W-MW7	W-MW8	W-MW9	W-MW10	W-MW11
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18
Date analyzed	Limits	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18	07/06/18
Kerosene/Jet fuel	200	nd	nd	nd	nd	nd	nd
Diesel/Fuel oil	200	nd	nd	nd	nd	nd	nd
Heavy oil	500	nd	nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	88%	84%	84%	83%	82%	83%
o-Terphenyl	91%	81%	87%	86%	85%	86%

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: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

NWTPH-Dx, ug/L		W-MW12
Matrix	Water	Water
Date extracted	Reporting	07/06/18
Date analyzed	Limits	07/06/18

Kerosene/Jet fuel	200	nd
Diesel/Fuel oil	200	nd
Heavy oil	500	nd

Surrogate recoveries:

Fluorobiphenyl	85%
o-Terphenyl	83%

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: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

PAH(8270), ug/L		MTH BLK	LCS	W-MW2	W-MW3	W-MW4	W-MW5	W-MW6
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Date analyzed	Limits	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Naphthalene	0.1	nd		0.28	nd	10	1.9	nd
1-Methylnaphthalene	0.1	nd		0.30	0.26	3.1	0.72	nd
2-Methylnaphthalene	0.1	nd		0.20	nd	0.46	0.22	nd
Acenaphthylene	0.1	nd		nd	nd	nd	nd	nd
Acenaphthene	0.1	nd	116%	nd	nd	nd	nd	nd
Fluorene	0.1	nd		nd	nd	nd	nd	nd
Phenanthrene	0.1	nd		nd	nd	nd	nd	nd
Anthracene	0.1	nd		nd	nd	nd	nd	nd
Fluoranthene	0.1	nd		nd	nd	nd	nd	nd
Pyrene	0.1	nd	103%	nd	nd	nd	nd	nd
Benzo(a)anthracene	0.1	nd		nd	nd	nd	nd	nd
Chrysene	0.1	nd		nd	nd	nd	nd	nd
Benzo(b)fluoranthene	0.1	nd		nd	nd	nd	nd	nd
Benzo(k)fluoranthene	0.1	nd		nd	nd	nd	nd	nd
Benzo(a)pyrene	0.1	nd		nd	nd	nd	nd	nd
Indeno(1,2,3-cd)pyrene	0.1	nd		nd	nd	nd	nd	nd
Dibenzo(ah)anthracene	0.1	nd		nd	nd	nd	nd	nd
Benzo(ghi)perylene	0.1	nd		nd	nd	nd	nd	nd

Surrogate recoveries:

Fluorobiphenyl	79%	59%	67%	78%	80%	76%	79%
o-Terphenyl	100%	97%	98%	102%	99%	101%	102%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 50%

AAL Job Number: C80704-2
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

PAH(8270), ug/L		W-MW10	W-MW11	W-MW12	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Date analyzed	Limits	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Naphthalene	0.1	0.94	nd	nd			
1-Methylnaphthalene	0.1	0.82	nd	nd			
2-Methylnaphthalene	0.1	0.18	nd	nd			
Acenaphthylene	0.1	nd	nd	nd			
Acenaphthene	0.1	nd	nd	nd	114%	115%	1%
Fluorene	0.1	nd	nd	nd			
Phenanthrene	0.1	nd	nd	nd			
Anthracene	0.1	nd	nd	nd			
Fluoranthene	0.1	nd	nd	nd			
Pyrene	0.1	nd	nd	nd	103%	101%	1%
Benzo(a)anthracene	0.1	nd	nd	nd			
Chrysene	0.1	nd	nd	nd			
Benzo(b)fluoranthene	0.1	nd	nd	nd			
Benzo(k)fluoranthene	0.1	nd	nd	nd			
Benzo(a)pyrene	0.1	nd	nd	nd			
Indeno(1,2,3-cd)pyrene	0.1	nd	nd	nd			
Dibenzo(ah)anthracene	0.1	nd	nd	nd			
Benzo(ghi)perylene	0.1	nd	nd	nd			

Surrogate recoveries:

Fluorobiphenyl	77%	82%	81%	54%	55%
o-Terphenyl	95%	101%	98%	97%	99%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
Acceptable Recovery limits: 50% TO 150%
Acceptable RPD limit: 50%

AAL Job Number: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

Metals Total (7010), ug/L		MTH BLK	LCS	W-MW1	W-MW2	W-MW3	W-MW4	W-MW5
Matrix	Water	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Date analyzed	Limits	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Lead Total (Pb)	2.0	nd	76%	nd	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: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

Metals Total (7010), ug/L		W-MW6	W-MW7	W-MW8	W-MW9	W-MW10	W-MW11
Matrix	Water	Water	Water	Water	Water	Water	Water
Date extracted	Reporting	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Date analyzed	Limits	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18	07/09/18
Lead Total (Pb)	2.0	nd	nd	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: C80704-2
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

Metals Total (7010), ug/L		W-MW12	MS	MSD	RPD
Matrix	Water	Water	Water	Water	Water
Date extracted	Reporting	07/09/18	07/09/18	07/09/18	07/09/18
Date analyzed	Limits	07/09/18	07/09/18	07/09/18	07/09/18

Lead Total (Pb)	2.0	nd	72%	78%	8%
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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 Job #: C80704.2

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

Client: Aerotech
Project Manager: Nick Gerke W. Justin Foster
Address: 13925 Interurban Ave S, Tukwila, WA
Phone: 206 482 2287 Fax: _____

Project Name: File RV Center
Project Number: _____
Collector: Nick Gerke W
Date of collection: ~~6/28/18~~ 7/2/18

Sample ID	Time	Matrix	Container type	8260 Volatiles	HVOC 8260	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx	NWTPH-HCID	8270 Semivolatiles	8082 PAH	8081 PCBs	8081 Pesticides	RCRA 8 Metals	Lead	MTCAS Metals	Notes, comments	# of containers
1		W	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X		4
2		W-MW2		X	X	X	X	X	X	X	X	X	X	X	X	X	X		5
3		W-MW3		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1
4		W-MW4		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1
5		W-MW5		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1
6		W-MW6		X	X	X	X	X	X	X	X	X	X	X	X	X	X		4
7		W-MW7		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1
8		W-MW8		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1
9		W-MW9		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1
10		W-MW10		X	X	X	X	X	X	X	X	X	X	X	X	X	X		5
11		W-MW11		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1
12		W-MW12		X	X	X	X	X	X	X	X	X	X	X	X	X	X		1

Relinquished by:	Date/Time	Received by:	Date/Time
<u>[Signature]</u>	<u>7/4/18 0430</u>	<u>V. HANOV</u>	<u>07/04/18 11:00</u>
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 ☐
24 hr ☐
48 hr ☐
Standard ☒

July 12, 2018

*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 (C80704-3)* Project.

Samples were received on *July 04, 2018*. 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:	C80704-3
Client:	Aerotech Environmental
Project Manager:	Nick Gerkin
Client Project Name:	Fife RV Center
Client Project Number:	na
Date received:	07/04/18

AAL Job Number: C80704-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results						Dupl	RPD
NWTPH-Gx/BTEX		MTH BLK	LCS	W-B6	W-B7	W-B9	W-B9
Matrix	Water	Water	Water	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/04/18	07/04/18	07/04/18	07/04/18	07/04/18	07/04/18

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100	nd		nd	nd	nd	nd
Gasoline	100	nd		11,000	9,600	95,000	100,000

BTEX 8021B, ug/L

Benzene	1.0	nd	94%	84	200	390	500	25%
Toluene	1.0	nd	106%	52	11	94	120	24%
Ethylbenzene	1.0	nd		530	400	2,000	2,200	10%
Xylenes	1.0	nd		7.6	160	1,800	2,300	24%

Surrogate recoveries:

Trifluorotoluene	75%	78%	C	C	C	C
Bromofluorobenzene	96%	100%	C	C	C	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: C80704-3
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

NWTPH-Gx/BTEX		MS	MSD	RPD
Matrix	Water	Water	Water	Water
Date analyzed	Reporting Limits	07/04/18	07/04/18	07/04/18

NWTPH-Gx, ug/L

Mineral spirits/Stoddard	100
Gasoline	100

BTEX 8021B, ug/L

Benzene	1.0	93%	104%	11%
Toluene	1.0	94%	104%	9%
Ethylbenzene	1.0			
Xylenes	1.0			

Surrogate recoveries:

Trifluorotoluene	82%	86%
Bromofluorobenzene	102%	101%

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: C80704-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

NWTPH-Gx / BTEX		MTH BLK	LCS	B2(5.5)	B3(7)	B4(6)	B5(3.5)	B5(6)
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18
Date analyzed	Limits	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd		nd	nd	nd	nd	nd
Gasoline	5.0	nd		nd	70	9.2	nd	nd

BTEX 8021B, mg/kg

Benzene	0.020	nd	85%	nd	0.070	nd	nd	nd
Toluene	0.050	nd	89%	nd	0.16	nd	nd	nd
Ethylbenzene	0.050	nd		nd	2.4	0.075	nd	nd
Xylenes	0.050	nd		nd	0.99	nd	nd	nd

Surrogate recoveries:

Trifluorotoluene	86%	87%	70%	73%	80%	82%	75%
Bromofluorobenzene	104%	99%	101%	114%	120%	126%	109%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
M - matrix interference
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C80704-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

NWTPH-Gx / BTEX		B6(6)	B6(7)	B7(5)	B7(7)	B8(4)	B9(4)	B9(5)
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18
Date analyzed	Limits	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd	nd	nd	nd	nd	nd	nd
Gasoline	5.0	190	120	2,400	920	350	1,200	2,800

BTEX 8021B, mg/kg

Benzene	0.020	0.59	0.12	0.48	6.0	0.70	2.5	2.2
Toluene	0.050	1.2	0.32	1.6	0.86	1.4	2.8	2.0
Ethylbenzene	0.050	3.1	4.2	20	14	3.0	7.4	13
Xylenes	0.050	1.1	nd	34	7.0	1.6	1.8	26

Surrogate recoveries:

Trifluorotoluene	120%	87%	C	C	78%	C	73%
Bromofluorobenzene	111%	124%	C	C	119%	C	100%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
M - matrix interference
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C80704-3
Client: Aerotech Environmental
Project Manager: Nick Gerkin
Client Project Name: Fife RV Center
Client Project Number: na
Date received: 07/04/18

Analytical Results

NWTPH-Gx / BTEX		B9(6)	B9(8)	MS	MSD	RPD	MTH BLK	LCS
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Date extracted	Reporting	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/12/18	07/12/18
Date analyzed	Limits	07/10/18	07/10/18	07/10/18	07/10/18	07/10/18	07/12/18	07/12/18

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd	nd				nd	
Gasoline	5.0	1,100	24				nd	

BTEX 8021B, mg/kg

Benzene	0.020	3.9	nd	72%	80%	11%	nd	78%
Toluene	0.050	2.0	nd	79%	82%	3%	nd	83%
Ethylbenzene	0.050	23	0.49				nd	
Xylenes	0.050	4.4	0.11				nd	

Surrogate recoveries:

Trifluorotoluene	84%	75%	91%	93%		84%	86%
Bromofluorobenzene	109%	123%	108%	103%		104%	103%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
na - not analyzed
M - matrix interference
C - coelution with sample peaks
Results reported on dry-weight basis
Acceptable Recovery limits: 70% TO 130%
Acceptable RPD limit: 30%

AAL Job Number: C80704-3
 Client: Aerotech Environmental
 Project Manager: Nick Gerkin
 Client Project Name: Fife RV Center
 Client Project Number: na
 Date received: 07/04/18

Analytical Results

NWTPH-Gx / BTEX		B3(12)
Matrix	Soil	Soil
Date extracted	Reporting	07/12/18
Date analyzed	Limits	07/12/18

NWTPH-Gx, mg/kg

Mineral spirits/Stoddard	5.0	nd
Gasoline	5.0	6.4

BTEX 8021B, mg/kg

Benzene	0.020	nd
Toluene	0.050	nd
Ethylbenzene	0.050	nd
Xylenes	0.050	nd

Surrogate recoveries:

Trifluorotoluene	79%
Bromofluorobenzene	107%

Data Qualifiers and Analytical Comments

nd - not detected at listed reporting limits
 na - not analyzed
 M - matrix interference
 C - coelution with sample peaks
 Results reported on dry-weight basis
 Acceptable Recovery limits: 70% TO 130%
 Acceptable RPD limit: 30%

Laboratory Job #: C80404-3

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

Client: Aerotech

Project Name: Fire RV Center

Project Manager: Nick Gerkin, Susan Foster

Project Number: —

Address: 13925 Interurban Ave S, Tukwila, WA

Collector: Nick Gerkin

Phone: 206 482 2287

Fax: —

Date of collection: 7/3/18

	Sample ID	Time	Matrix	Container type	8260 Volatiles	HVOC 8260	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx	NWTPH-HCID	8270 Semivolatiles	8082 PAH	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead	MTCAS Metals	Notes, comments	# of containers	
1	B2(5.5)	0900	S	1st			X														2
2	B2(8)	0910																		HOLD	1
3	B3(7)	0950					X														1
4	B3(12)	1000					X													HOLD	1
5	B4(6)	1030					X													Added by	1
6	B5(3.5)	1045					X													N. Gerkin 07/12/18	1
7	B5(6)	1115					X													VFE	1
8	B5(8)	1120																		HOLD	1
9	B6(6)	1200					X														1
10	B6(7)	1205	V				X														1
11	N-B6	1240	W				X														1
12	B7(5)	1350	S				X														2

Relinquished by:	Date/Time	Received by:	Date/Time
<u>[Signature]</u>	7/4/18 0930	<u>V. Hand</u>	07/04/18 11:00
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 ☐

24 hr ☐

48 hr ☐

Standard ☒

Laboratory Job #: C80704-3

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

Client: Aerotech

Project Name: File RV Center

Project Manager: Nick Gerkin Justin Foster

Project Number: -

Address: 13925 Interurban Ave S, Tukwila, WA

Collector: Nick Gerkin

Phone: 206 482 2287 Fax:

Date of collection: 7/3/18

	Sample ID	Matrix	Container type	8260 Volatiles	HVOC 8260	BTEX	BTEX/NWTPH-Gx	NWTPH-Gx	NWTPH-Dx	NWTPH-HCID	8270 Semivolatiles	8082 PCBs	8081 Pesticides	RCRA 8 Metals	Lead	MTCA5 Metals	Notes, comments	# of containers
1	B7(7)	1400 S	✓															
2	W-157	1410 W	✓															
3	B8(4)	1450 S	✓															
4	B9(4)	1535	✓															
5	B9(6)	1550	✓															
6	B9(5)	1555	✓															
7	B9(8)	1600	✓														Unpreserved (*)	✓
8	W-159	1610 W	✓														Unpreserved	1
9																		
10																	(*) Preserved in the	
11																	lab 07/04/18	
12																		Vit

Relinquished by:	Date/Time	Received by:	Date/Time
<u>[Signature]</u>	<u>7/4/18 04:13</u>	<u>V. Ivanov</u>	<u>07/04/18 11:00</u>
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 ☐

24 hr ☐

48 hr ☐

Standard ☒

- Standard Operating Procedure

AEROTECH

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Anchorage, Alaska 99518
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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 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 at the well and visual inspection, the condition of the well and well head.

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 $\mu\text{mhos/cm}$ for values $< 1,000 \mu\text{mhos/cm}$
+/- 20.0 $\mu\text{mhos/cm}$ for values $> 1,000 \mu\text{mhos/cm}$
- DO +/- 0.05 mg/L for values $< 1 \text{ mg/L}$
+/- 0.2 mg/L for values $> 1 \text{ mg/L}$
- Temperature +/- 0.1 degrees Celsius
- 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 Celsius 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 Mr. Simon Payne at (206) 741-1651, or the Aerotech Environmental Scientist/Field Sampling Coordinator, Mr. Nicholas Gerkin, at (206) 257-4211, if you have questions regarding work completed at this Site.

- Field Documentation



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GROUNDWATER MONITORING WELL GAUGING RECORD

FIELD CREW: NAG	PROJECT NAME: Fife RV Center
DATE: 07/03/18	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	7:13	8.37	2.71	5.66	14.4	2	Well vaults, seals, bolts and plugs are in adequate condition.
MW2	7:55	9.40	4.21	5.19	14.2	2	Well vaults, seals, bolts and plugs are in adequate condition.
MW3	7:17	9.43	3.78	5.65	14.6	2	Well vaults, seals, bolts and plugs are in adequate condition.
MW4	7:58	10.12	5.23	4.89	14.5	2	Well vaults, seals, bolts and plugs are in adequate condition.
MW5	7:47	11.27	7.90	3.37	17.5	2	Well vaults, seals, bolts and plugs are in great condition.
MW6	7:45	11.40	6.91	4.49	17.5	2	Well vaults, seals, bolts and plugs are in great condition.
MW7	7:22	10.09	5.28	4.81	14.2	1	Well vaults, seals, bolts and plugs are in adequate condition.
MW8	7:19	10.26	4.92	5.34	14.1	1	Well vaults, seals, bolts and plugs are in adequate condition.
MW9	7:15	8.84	3.47	5.37	14.3	1	Well vaults, seals, bolts and plugs are in adequate condition.
MW10	7:56	12.94	7.90	5.04	17.4	2	Well vaults, seals, bolts and plugs are in new condition.
MW11	7:50	9.12	5.94	3.18	9.8	2	Well vaults, seals, bolts and plugs are in new condition.
MW12	7:49	11.74	8.46	3.28	17.2	2	Well vaults, seals, bolts and plugs are in new condition.

EXPLANATION

MSL = Mean Sea Level

TOC - Top of Casing



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GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	PROJECT NAME: Fife RV Center
DATE: 07/03/18	PROJECT ADDRESS: 3410 Pacific Highway East, Fife, WA

MW1		Purge Start:	16:01	Purge Stop:	16:15	Purge V (L):	3.50
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:13	2.71	--	--	--	--	--	--
16:08	3.54	250	15.6	746	2.26	7.06	-73.1
16:10	3.57	250	15.7	746	2.26	7.06	-79.7
16:12	3.57	250	15.7	748	2.18	7.06	-83.2
16:14	3.57	250	15.7	748	2.15	7.06	-85.1
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.20	+/- 0.1	+/- 10
16:15	SAMPLE	--	--	--	--	--	--
Comments:							

MW2		Purge Start:	13:53	Purge Stop:	14:10	Purge V (L):	4.25
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:55	4.21	--	--	--	--	--	--
13:53	4.20	--	--	--	--	--	--
13:58	4.82	250	15.0	590.7	0.56	7.16	-90.4
14:00	4.82	250	15.1	591.5	0.47	7.17	-91.7
14:02	4.93	250	15.4	592.0	0.41	7.17	-92.9
14:04	4.93	250	15.5	590.1	0.40	7.17	-94.7
14:06	4.93	250	15.5	591.5	0.38	7.19	-95.6
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
14:10	SAMPLE	--	--	--	--	--	--
Comments:							



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GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	PROJECT NAME: Fife RV Center
DATE: 07/03/18	PROJECT ADDRESS: 3410 Pacific Highway East, Fife, WA

MW3		Purge Start:	15:31	Purge Stop:	15:50	Purge V (L):	4.27
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:17	3.78	--	--	--	--	--	--
15:38	4.28	225	15.2	526.6	0.59	7.11	-94.0
15:40	4.31	225	15.0	529.0	0.40	7.11	-94.5
15:42	4.33	225	15.1	527.7	0.35	7.12	-94.8
15:44	4.34	225	15.0	528.7	0.32	7.13	-95.4
15:46	4.34	225	15.0	528.4	0.36	7.13	95.8
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
15:50	SAMPLE	--	--	--	--	--	--
Comments:							

MW4		Purge Start:	14:59	Purge Stop:	15:15	Purge V (L):	2.80
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:58	5.23	--	--	--	--	--	--
14:58	5.20	--	--	--	--	--	--
15:06	5.61	175	15.0	645	0.66	7.01	-91.5
15:08	5.61	175	15.0	644	0.54	7.00	-92.1
15:10	5.80	175	15.0	644	0.48	7.00	-92.8
15:12	5.80	175	15.1	641	0.46	6.99	-93.7
15:14	5.80	175	15.1	641	0.44	7.01	-95.7
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
15:15	SAMPLE	--	--	--	--	--	--
Comments:							



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GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	PROJECT NAME: Fife RV Center
DATE: 07/03/18	PROJECT ADDRESS: 3410 Pacific Highway East, Fife, WA

MW5		Purge Start:	10:49	Purge Stop:	11:10	Purge V (L):	4.20
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:47	7.90	--	--	--	--	--	--
10:56	7.84	200	14.2	522.8	0.81	7.10	-61.0
10:58	8.39	200	14.1	528.4	0.63	7.09	-63.0
11:00	8.55	200	14.5	524.8	0.59	7.07	-66.0
11:02	8.71	200	14.5	523.2	0.51	7.07	-68.9
11:04	8.71	200	14.7	523.5	0.49	7.09	-71.3
11:06	8.71	200	14.8	524.7	0.46	7.09	-74.0
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
11:10	SAMPLE	--	--	--	--	--	--
Comments:							

MW6		Purge Start:	10:14	Purge Stop:	10:35	Purge V (L):	#VALUE!
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:45	6.91	--	--	--	--	--	--
10:12	6.92	--	--	--	--	--	--
10:19	7.42	190	14.0	416.3	1.81	7.20	-43.9
10:21	7.52	190	13.9	417.2	0.86	7.19	-51.7
10:23	7.52	190	13.9	417.7	0.60	7.19	-59.8
10:25	7.64	190	14.1	417.7	0.54	7.19	-65.7
10:27	7.71	190	13.4	417.9	0.50	7.19	-67.8
10:29	7.76	190	13.4	417.9	0.47	7.18	-71.1
10:31	7.79	190	13.4	417.6	0.46	7.18	-72.5
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
10:35	SAMPLE	--	--	--	--	--	--
Comments:							



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GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	PROJECT NAME: Fife RV Center
DATE: 07/03/18	PROJECT ADDRESS: 3410 Pacific Highway East, Fife, WA

MW7		Purge Start:	9:50	Purge Stop:	10:01	Purge V (L):	1.98
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:22	5.28	--	--	--	--	--	--
9:56	10.54	180	14.1	476.4	0.79	7.15	32.3
9:58	11.93	180	14.0	473.6	0.58	7.12	-22.7
10:00	13.73	180	14.1	481.7	0.59	7.10	-34.9
10:01	PUMPED DRY						
17:20	5.30	--	--	--	--	--	--
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.20	+/- 0.1	+/- 10
17:20	SAMPLE	--	--	--	--	--	--
Comments: Well pumped Dry at 10:01							

MW8		Purge Start:	16:50	Purge Stop:	17:02	Purge V (L):	1.80
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:19	4.92	--	--	--	--	--	--
16:56	5.35	150	14.8	766	1.62	7.14	-61.2
16:58	5.45	150	14.7	752	1.23	7.14	-63.1
17:00	5.52	150	14.7	749	1.10	7.15	-65.1
17:02	5.59	150	14.6	748	1.08	7.14	-66.8
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.20	+/- 0.1	+/- 10
17:05	SAMPLE	--	--	--	--	--	--
Comments:							



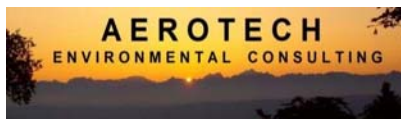
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GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	PROJECT NAME: Fife RV Center
DATE: 07/03/18	PROJECT ADDRESS: 3410 Pacific Highway East, Fife, WA

MW9		Purge Start:	16:25	Purge Stop:	16:38	Purge V (L):	2.27
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:15	3.47	--	--	--	--	--	--
16:30	3.49	175	14.8	719	1.56	7.08	-84.6
16:32	3.50	175	14.8	721	1.09	7.10	-95.3
16:34	3.52	175	14.7	708	0.95	7.10	-98.0
16:36	3.52	175	14.7	701	0.92	7.10	-104.3
16:38	3.53	175	14.8	7	0.90	7.10	-105.1
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
16:40	SAMPLE	--	--	--	--	--	--
Comments:							

MW10		Purge Start:	14:33	Purge Stop:	14:50	Purge V (L):	3.57
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:56	7.90	--	--	--	--	--	--
14:33	8.06	210	15.4	626	0.70	7.09	-105.2
14:35	8.08	210	15.3	624	0.71	7.09	-107.7
14:37	8.09	210	15.3	620	0.69	7.10	-112.1
14:39	8.10	210	15.1	617	0.66	7.08	-115.7
14:41	8.10	210	15.1	616	0.59	7.08	-118.6
14:43	8.11	210	15.1	612	0.58	7.08	-120.0
14:45	8.11	210	15.1	610	0.55	7.07	-121.9
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
14:50	SAMPLE	--	--	--	--	--	--
Comments:							



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GROUNDWATER MONITORING WELL LOW FLOW SAMPLING FIELD LOG

FIELD CREW: NAG	PROJECT NAME: Fife RV Center
DATE: 07/03/18	PROJECT ADDRESS: 3410 Pacific Highway East, Fife, WA

MW11		Purge Start: 12:59		Purge Stop: 13:35		Purge V (L): 8.10	
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:50	5.94	--	--	--	--	--	--
13:07	6.27	225	14.4	493.3	1.20	7.11	-99.5
13:09	6.31	225	14.3	492.1	1.00	7.11	-105.9
13:11	6.35	225	14.3	491.1	0.92	7.10	-109.2
13:13	6.37	225	14.3	490.9	0.82	7.10	-114.1
13:15	6.38	225	14.4	490.9	0.75	7.10	-117.9
13:17	6.40	225	14.3	490.8	0.70	7.10	-120.1
13:19	6.41	225	14.3	491.5	0.70	7.10	-120.1
13:21	6.42	225	14.3	491.4	0.59	7.11	-124.3
10:13	6.43	225	14.2	491.4	0.51	7.11	-124.2
13:31	6.44	225	14.2	491.2	0.48	7.11	-126.8
13:33	6.44	225	14.2	491.4	0.48	7.14	-122.5
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.20	+/- 0.1	+/- 10
13:35	SAMPLE	--	--	--	--	--	--
Comments:							

MW12		Purge Start: 11:30		Purge Stop: 11:50		Purge V (L): 4.80	
Time	DTW	Purge Rate	Temperature	Specific Conductivity	DO	pH	ORP
hr:min	feet	mL/min	°C	mS/cm	mg/L	unit	mV
7:49	8.46	--	--	--	--	--	--
11:29	8.44	--	--	--	--	--	--
11:42	8.93	240	14.4	768	0.55	6.97	-47.5
11:44	8.97	240	14.2	767	0.51	6.97	-48.2
11:46	9.01	240	14.1	766	0.47	6.95	-50.1
11:48	9.04	240	14.1	765	0.46	6.95	-51.1
Ecology Parameter Limits (3 Consecutive Readings)			+/- 0.1	+/- 10	+/- 0.05	+/- 0.1	+/- 10
11:50	SAMPLE	--	--	--	--	--	--
Comments:							