City of Bothell™

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LETTER OF TRANSMITTAL

Date: April 13, 2017

Company: Department of Ecology
Attn: Sunny Becker NWRO Toxics
Address: Cleanup Program 3190 - 160th SE
Bellevue, WA 98008

From: Nduta Mbuthia, Project Engineer, Capital Projects Division

Attached please find: Electronic copy of:-

1) Letter Report (1/26/2017) - YR 3, QTR 4 Groundwater Monitoring Report for Riverside Site

- ☐ For your information/files
- ☒ At your request
- ☐ Returned for correction
- ☐ Other:
- ☐ For your action
- ☐ Approved as noted
- ☐ Please return all copies

Comments: N/A

HWA GeoSciences Inc.

Geotechnical Engineering • Hydrogeology • Geoenvironmental Services • Inspection and Testing

January 26, 2017
HWA Project No. 2007 098- 2012

Ms. Sunny Becker
Washington Department of Ecology
Toxics Cleanup Program, Northwest Regional Office
3190 - 160th SE Bellevue, WA 98008

Subject: **GROUND WATER MONITORING RESULTS**
YEAR 3, QUARTER 4 – DECEMBER/JANUARY 2016/2017
Riverside HVOC Site
Bothell, Washington

Dear Ms. Becker:

This report describes quarterly ground water monitoring results at the Riverside HVOC Site, hereafter referred to as "the Site", located in downtown Bothell, Washington.

Ground water remediation is being performed as an interim action, in response to tetrachloroethene (PCE) and its degradation products in shallow ground water at concentrations exceeding Model Toxics Control Act (MTCA) Method A cleanup levels. The interim action is being performed in accordance with the Interim Action Work Plan (IAWP) dated January 7, 2013 and per the scope of work set forth in Amendment 2 to Agreed Order DE 6295, dated April 19, 2013, between the City of Bothell (City) and the Washington State Department of Ecology (Ecology). Remediation is being performed via pump-and-treat methods, which includes ground water extraction and discharge to the sanitary sewer via King County Industrial Waste Discharge permit 4268-01. The remediation system currently includes six active extraction wells (EW-1 through EW-6) and 11 monitoring wells (RMW-4 through RMW-13 and BC-3).

Figure 1 shows a site plan with well locations. Ground water monitoring and remediation activities are described below.

GROUND WATER REMEDIATION ACTIVITIES

The ground water extraction and treatment system began operation in December 2013 and is still operating. Ground water extraction from the remediation system is measured via a totalizing flow meter placed in the effluent pipe that discharges to the King County sanitary sewer.

Quarterly discharge reports are submitted to King County Industrial Waste Division using standard forms provided by King County. The quarterly discharge reports for the

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year 2016 are attached for reference (Appendix A). During the first three quarters of sampling, effluent samples were collected from extraction wells EW-1 through EW-4; effluent samples were collected from extraction wells EW-1 through EW-6 during the last round of sampling (after installation of the two new wells EW-5 and EW-6). In addition, each quarter of sampling included collection of a sample from the combined discharge effluent from the remediation system. Sampling dates for extraction wells are shown in Table 1.

COMPLIANCE GROUND WATER MONITORING

This section describes performance monitoring of ground water performed during the interim action.

- First year (2014) ground water monitoring events were performed in April, June, September and December 2014.
- Second year (2015) ground water monitoring events were performed in March, June, September, and December 2015.
- Third year (2016) ground water monitoring events were performed in March, June, September, and December 2016/early January 2017.

All monitoring events have included sampling some wells on a quarterly basis and some wells on a semi-annual basis in accordance with the IAWP (see Table 1).

Performance monitoring is performed to confirm that the interim action has attained cleanup standards. Performance monitoring includes collection of ground water samples from the extraction wells and selected monitoring wells, as described in Table 1 (excerpted from the IAWP).

Performance monitoring samples are analyzed for halogenated volatile organic compounds (HVOCs) and field parameters (temperature, dissolved oxygen, oxygen reduction potential, specific conductivity, and pH).

GROUND WATER ANALYTICAL RESULTS

Analytical results for ground water samples are summarized in Table 2. Figures 2, 3, and 4 show graphs of HVOCs over time as follows:

- Figure 2 - Monitoring wells, PCE vs time
- Figure 3 - Extraction wells, PCE vs time
- Figure 4 - RMW-7 HVOCs vs. time

Sampling events in September 2009 and May 2013 provide ground water chemistry data from when the wells were installed, and base-line ground water chemistry data prior to initial operation of the ground water treatment system. Review of analytical results for monitoring well samples provides the following observations:

- HVOC concentrations in the monitoring wells, including RMW-7 at the point of compliance near the river, had decreased from 2009 to 2013, before the treatment system was installed.

- After the treatment system was started in December 2013, PCE and trichloroethene (TCE) concentrations in monitoring well RMW-7 have changed seasonally, but generally show decreasing concentrations. The concentration of degradation product cis 1,2-dichloroethene ((cis) 1,2-DCE) has also decreased, with seasonal fluctuations, while vinyl chloride (VC) concentrations have generally remained within the same range.

- After the treatment system was started in December 2013, HVOC concentrations in monitoring well RMW-6 also changed seasonally, with HVOC concentrations below cleanup levels and generally remaining within the same range. VC concentrations exceeding the MTCA Method A cleanup level were detected in well RMW-6 in September 2009 and May 2013. However, VC and other HVOC degradation product concentrations have been non-detect or below the cleanup levels since May 2013.

- With the exception of one low PCE detection that was below the cleanup level in RMW-10 in December 2014, all HVOCs have been non-detect during the monitoring of RMW-10.

- Although RMW-12 was installed in July 2016 and has only been monitored for two consecutive quarters, this well has shown decreases in PCE and TCE concentrations with a slight increase in other degradation product concentrations. PCE and TCE have been non-detect in monitoring well RMW-13 while (cis) 1,2-DCE and VC have shown a decrease in concentration,

- PCE, TCE, and (cis) 1,2-DCE concentrations continue to decrease at BC-3 while VC remains non-detect.

Review of analytical results for extraction well samples provides the following observations and trends:

- HVOC concentrations in the four original extraction wells after the treatment system was started have changed seasonally, but have generally remained within the same range.

- Wells EW-1, EW-2, and EW-3 have generally contained PCE and/or TCE exceeding the MTCA Method A cleanup levels. EW-3 has also exhibited concentrations of (cis) 1,2-DCE) and/or VC that exceed the MTCA Method A cleanup levels. Other HVOC degradation products have either been non-detect or detected at concentrations below the MTCA cleanup levels.

- Out of the four original extraction wells, well EW-4 has the lowest HVOC concentrations, with a low detection of PCE during the last round of sampling and no PCE detected in the four prior rounds of sampling. TCE in EW-4 has been detected below the MTCA cleanup level for the last nine rounds of sampling. Except for VC, other degradation products detected in EW-4 have either been non-detect or below the MTCA cleanup levels. VC has been detected above cleanup levels since pumping started in EW-4.

- The PCE concentration of the new EW-5 extraction well was at the MTCA cleanup level of 5 ug/L, and the VC concentration was just above the MTCA cleanup level. Other degradation products were either below cleanup levels or non-detect in EW-5. PCE and TCE were both detected at concentrations below the MTCA cleanup levels in the new EW-6 extraction well while other degradation products were non-detect in this well. As this was the first round of monitoring of these new extraction wells, trends for these wells can not be determined.

GROUND WATER TREATMENT SYSTEM PERFORMANCE DATA

Treatment system performance data is collected on at least a monthly basis. Total discharge to-date is 7,622,326 gallons based on totalizer readings at the discharge outlet to the sanitary sewer. Average flows have been around 10,000 gallons per day, with flows up to 15,000 gallons per day during periods of higher ground water and when all wells are functioning properly. Flows have remained between 10,000 and 15,0000 gallons per day since February 2016.

CONCLUSIONS AND RECOMMENDATIONS

Analytical results of the quarterly monitoring indicate all extraction wells have been and continue to recover HVOC-impacted ground water. Analytical results indicate decreasing trends in HVOC concentrations at EW-4, BC-3 and RMW-7, suggesting some shrinking of the plume, although the generally similar concentrations in the other wells suggest a steady state condition, where HVOCs from upgradient areas may be replacing ground water pumped from the system. The extraction system is, however, acting as a barrier and capturing HVOC-impacted ground water that might otherwise be discharging into the river, as intended.

In summary, the analytical results from the ground water monitoring and extraction wells show that the treatment system is effectively collecting HVOC-impacted ground water. We recommend continued operation of the treatment system. No augmentation or modifications of the system appear warranted other than what is needed as part of normal operation and maintenance.

January 26, 2017
HWA Project No. 2007 098- 2012 / 2041

We appreciate the opportunity to provide our services to you on this project. Please feel free to contact me if you have any questions or need additional information.

Sincerely,
HWA GEOSCIENCES INC.

Nicole Kapise
Senior Environmental Geologist

Arnie Sugar, LG, LHG
Principal Hydrogeologist

Attachments:
Table 1, Performance Monitoring per the IAWP
Table 2, Ground water analytical results, including new wells

Figure 1, Site plan
Figure 2, Monitoring wells, PCE vs time
Figure 3, Extraction wells, PCE vs time
Figure 4, MW-7 HVOCs vs. time
Figure 5: HVOCs in Ground water

Appendix A: Year 2016 Quarterly King County Industrial Waste Reports

Table 1
Performance Monitoring
Bothell Riverside Site

Sample Type	Sampling Location	Sampling Frequency / Rationale
Preliminary Point of Compliance	Extraction well 1 Extraction well 2 Extraction well 3 Extraction well 4 Extraction well 5 (added 12/16) Extraction well 6 (added 12/16) RMW-7	Quarterly for one year, then modify based on results and consultation with Ecology (e.g. move to semi-annual if concentrations stabilize)
Combined discharge	Combined discharge at sewer manhole or manifold	As required by KCIWD permit
Nearby wells	BC-3 RMW-4 RMW-5 RMW-6 RMW-8 RMW-9 RMW-10 RMW-12 (added 12/16) RMW-13 (added 12/16)	Semi-annual for one year, then modify based on results and consultation with Ecology to check for water quality impacts due to pumping

Table 2
Bothell Riverside Site
Ground Water Analytical Results

			FIELD PARAMETERS							HVOCs							NOTES
Monitoring Well Identification	Screened Interval (ft bgs)	Date Sampled	Depth to Water (ft below MP)	pH (units)	Conductivity (µS)	Temp (°C)	Dissolved Oxygen (mg/L)	Oxygen Reduction Potential (ORP)	Settable Solids (mg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	1,1-Dichloro-ethene (µg/L)	(cis) 1,2-Dichloro-ethene (µg/L)	(trans) 1,2-Dichloro-ethene (µg/L)	Vinyl chloride (µg/L)	Chloroform (ug/L)	
MTCA Method A (Table 720-1, WAC 173-340-900) or Method B Cleanup Level										**5**	**5**	**400 (B)**	**16 (B)**	**160 (B)**	**0.2**		
KCIWD Limits									**7.00**	**240**	**500**	**1700**	**Total <2000**		**12**		
RMW-4	**15-25**	6/24/14															Wellhead buried under new landscaping
		12/19/14	12.2	6.59	1183	14.6	1.70			**0.79**	**0.33**	<0.20	<0.20	<0.20	<0.20		
		6/23/15	13.09	5.76	987	17.67	0.00	-125.70		**0.52**	**0.72**	<0.20	<0.20	<0.20	<0.20		
		12/8/15	11.95	5.99	510	14.9	0.00	-69.90		**2.2**	**0.56**	<0.20	<0.20	<0.20	<0.2		
		6/29/16	12.22	5.17	400	15.31	4.22	91.50		**3.6**	**0.46**	<0.20	<0.20	<0.20	<0.20		
		12/21/16	11.48	6.2	293.5	14.5	0.43	0.00		**4.3**	**0.51**	<0.20	<0.20	<0.20	<0.20	<0.20	
RMW-5	**12-22**	5/24/13	11.51	6.70	932	13.9	1.00			**1.7**	<0.2		<0.2		<0.20		
		6/24/14	14.51	6.48	740	14.5	0.15			**1.4**	**0.40**	<0.20	<0.20	<0.20	<0.20		
		12/19/14	13.61	6.28	1226	13.3	0.55			**1.3**	**0.32**	<0.20	**0.22**	<0.20	<0.20		
		6/23/15	14.26	6.28	953	16.1	0.00	-127.10		**0.66**	**0.36**	<0.20	<0.20	<0.20	<0.20		
		12/8/15	13.29	5.83	318	14.54	18.61	-90.40		**1.6**	<0.20	<0.20	<0.20	<0.20	<0.2		
		6/29/16	13.41	6.18	356	14.43	1.71	-2.00		**1.1**	**0.31**	<0.20	<0.20	<0.20	<0.20		
		12/22/16	13.01	6.48	483.9	13.7	0.27	-106.2		**1.0**	<0.20	<0.20	**0.23**	<0.20	<0.20	<0.20	
RMW-6	**15-25**	9/14/09								<0.2	**0.27**		**3.6**		**5.3**		
		5/24/13	10.42	6.68	467	14.3	1.40			<0.2	<0.2		**2.7**		**3.4**		
		6/24/14	14.79	6.47	407	14.2	0.13			**0.34**	**0.60**	<0.20	**0.42**	<0.20	<0.20		
		12/19/14	13.31	6.09	294	14.3	0.82			**0.47**	<0.20	<0.20	<0.20	<0.20	<0.20		
		6/23/15	13.65	6.12	283	15.2	0.00	8.00		<0.20	**1.4**	<0.20	**0.88**	<0.20	<0.20		
		12/8/15	12.46	6.00	232	14.99	0.00	-40.10		<0.2	**2.7**	<0.20	**1.0**	<0.20	<0.20		
		6/29/16	13.14	6.39	194	15.34	1.64	35.50		<0.20	**2.5**	<0.20	**1.3**	<0.20	<0.20		
		12/21/16	12.21	6.47	179.8	14.8	0.57	88.20		<0.20	**0.39**	<0.20	**0.5**	<0.20	<0.20	<0.20	
RMW-7	**15-25**	9/14/09								**50**	**120**		**190**		**22**		
		5/24/13	16.31	6.80	447	16.2	0.30			**9**	**33**		**65**		**9.3**		
		4/4/14	16.65	6.50	1969	12.9	0.55			**0.75**	**3.8**		**35**	**0.54**	**8.3**		
		6/25/14	16.55	6.48	865	15.2	0.03			**5.2**	**24**	<0.20	**80**	**1.1**	**9.9**		
		9/22/14	17.54	6.96	386	18.2	5.25			<1.0	**3.2**	<1.0	**170**	**1.6**	**47**		
		12/19/14	17.49	6.06	683	15.4	0.73			**2.9**	**8.9**	<1.0	**150**	**1.4**	**34**		
		3/18/15	16.66	6.35	1127	14.9	1.87			<0.40	**1.5**	<0.40	**57**	**0.64**	**20**	<0.40	
		6/23/15	17.41	5.97	508	17.96	0	-70.3		<0.40	**3.1**	<0.40	**95**	**1.2**	**9.6**		
		9/11/15	18.50	6.22	464	21.54	3.23			**4.2**	**23**	<1.0	**110**	**1.4**	**14**		
		12/8/15	15.97	5.96	274	15.92	0.00	-12.3		**3.5**	**8.7**	<0.20	**85**	**0.87**	**9.0**		
		3/31/16	16.94	6.40	403	14.63	2	38.9		**1.5**	**6.8**	<0.40	**84**	**0.91**	**35**	<0.40	
		6/29/16	17.11	6.28	297	16.57	1.2	30.3		**2.3**	**14**	<0.40	**65**	**0.68**	**12**		
		9/30/16	18.28	6.12	419	16.81	0.69	31.3		**2.4**	**7.8**	<1.0	**89**	<1.0	**13**	<1.0	
		12/22/16	15.89	6.34	368.4	15.8	0.19	-34.1		**1.1**	**4.1**	<0.40	**88**	**0.93**	**24**	<0.40	
RMW-8	**20-30**	9/15/09								**0.46**	**2.6**		**1.3**		<0.2		
		5/24/13	18.81	6.42	494	16.4	0.10			**0.5**	**0.85**		**0.44**		<0.2		
		6/25/14	19.62	6.27	650	15.7	0.20			<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/19/14	20.63	6.18	431	14.5	0.84			**0.7**	<0.20	<0.20	<0.20	<0.20	<0.20		
		6/23/15	20.87	5.74	333	26.9	0.27	-61.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/8/15	19.42	5.83	344	15.15	1.51	44.30		<0.2	**0.39**	<0.20	**0.47**	<0.20	<0.2		
		6/29/16	20.5	6.27	216	17.47	2.05	32.00		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/22/16	20.58	6.13	297.3	14.6	0.31	32.80		**0.31**	**0.66**	<0.20	**0.37**	<0.20	<0.20	<0.20	
RMW-9	**20-30**	9/15/09								<0.20	<0.20		<0.20		<0.20		
		5/24/13	13.65	6.38	247	15.7	4.00			<0.20	<0.20		<0.20		<0.20		
		6/24/14										<0.20		<0.20			Well abandoned during SR 522 construction
RMW-9R		12/19/14	15.31	6.16	182	15.7	2.92			**0.79**	<0.20	<0.20	<0.20	<0.20	<0.20		
		6/23/15	4.00	5.93	139	18.7	4.20	70.40		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/8/15	15.92	5.75	163	15.61	3.29	94.30		<0.2	<0.2	<0.20	<0.2	<0.20	<0.2		
		6/29/16	15.31	6.53	132	15.91	11.2	94.90		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/22/16	14.78	6.19	151	16	7.68	85.30		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	

RMW-10	**32-42**	5/24/13	11.85	6.52	247	13.3	6.60			<0.20	<0.20		<0.20		<0.20		
		6/24/14	15.00	6.19	361	15.4	1.08			<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/19/14	14.80	6.08	284	15.0	2.03			**0.69**	<0.20	<0.20	<0.20	<0.20	<0.20		
		6/23/15	20.40	6.43	233	17.3	7.28	37.00		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/8/15	19.69	5.94	134	14.69	5.41	50.00		<0.2	<0.2	<0.20	<0.2	<0.20	<0.2		
		6/29/16	13.6	6.68	166	15.83	8.35	29.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
		12/21/16	13.63	6.31	152.4	14.3	3.25	133.80		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
RMW-12	15-25	7/25/16	16.25	6.3	0.442	17.68	1.53	21.7		**120**	**19**	<1.0	**14**	<1.0	<1.0	<1.0	
		12/21/16	13.1	5.9	305	15	0.25	103.3		**61**	**14**	<0.20	**21**	**0.34**	**1.6**	<0.20	
RMW-13	15-25	7/25/16	14.95	5.19	0.333	17.4	2.5	183.5		<0.20	<0.20	<0.20	**1.8**	<0.20	**0.24**	0.26	
		12/22/16	16.61	6.36	351.4	16.0	0.16	-8.2		<0.20	<0.20	<0.20	**1.2**	<0.20	<0.20	<0.20	
BC-3	**15-25**	9/5/08								**110**	**120**		**46**		<1		
		5/24/13	12.95	6.55	342	15.1	4.00			**25**	**11**		**4**		<0.20		
		6/24/14	14.41	6.06	426	14.8	2.40			**11**	**4.0**	<0.20	**0.75**	<0.20	<0.20		
		12/19/14	15.61	6.07	298	14.8	1.82			**7.7**	**2.1**	<0.20	**0.44**	<0.20	<0.20		
		6/23/15	18.30	5.68	161	21.2	364.00	123.40		**3.8**	**0.9**	<0.20	<0.20	<0.20	<0.20		
		12/8/15	15.3	5.59	248	15.17	6.05	120.80		**5.3**	**1.3**	<0.20	**0.29**	<0.20	<0.20		
		6/29/16	16.95	5.9	167	15.84	6.97	52.20		**3.7**	**0.93**	<0.20	<0.20	<0.20	<0.20		
		12/21/16	14.25	5.9	245.6	14.6	1.48	175.8		**5.9**	**1.5**	<0.20	**0.57**	<0.20	<0.20	<0.20	
EW-1	**12.5-32.5**	4/4/14	27.90							**17**	**3**		**1.2**		<0.20		
		6/25/14	14.78	6.61	0.10	18.3	5.68			**27**	**8.1**	<0.20	**6.5**	<0.20	<0.20		
		9/22/14															Pump not working
		12/19/14		6.42	107	17.3	4.99			**21**	**2.6**	<0.20	**0.82**	<0.20	<0.20		
		3/18/15		7.01	167	15.9	3.65			**2.8**	**0.27**	<0.20	<0.20	<0.20	<0.20	<0.20	
		6/23/15								**22**	**2**	<0.20	**0.95**	<0.20	<0.20	**2.20**	
		9/11/15	15.86	6.01	160	19.54	2.99	-49.88		**41**	**2.2**	<0.20	**0.79**	<0.20	<0.20	**1.30**	
		12/8/15															Pump not working
		3/31/16		6,27	227	15.94	6.55	80.2		**22**	**2.8**	<0.20	**2.5**	<0.20	<0.20	**0.84**	
		6/29/16		6.37	192	16.7	8.1	47.5		**24**	**4.2**	<0.20	**4.5**	<0.20	<0.20	**0.32**	
		9/30/16		5.63	193	14.21	4.1	90.1		**20**	**2.0**	<0.20	**2.3**	<0.20	<0.20	**0.33**	
		1/5/17		6.64	315	12.05	4.6	47.3		**1.1**	<0.20	<0.20	<0.20	<0.20	<0.20	**0.24**	
EW-2	**15-35**	4/4/14	23.70							**13**	**2.8**		**1.5**		<0.20		
		6/25/14	17.10	6.58	143	16.5	2.21			**28**	**3.8**	<0.20	**1.5**	<0.20	<0.20		
		9/22/14								**66**	**16**	<0.40	**12**	<0.40	<0.40		
		12/19/14		7.01	204	15.8	2.31			**44**	**12**	<0.40	**12**	<0.40	<0.40		
		3/18/15		6.87	251	15.0	2.16			**22**	**6.5**	<0.20	**4.3**	<0.20	<0.20	<0.20	
		6/23/15								**8.6**	**2.4**	<0.20	**1.8**	<0.20	<0.20	**1.40**	
		9/11/15	19.89	6.11	235	19.9	2.84	-56.8		**6.5**	**0.62**	<0.20	<0.20	<0.20	<0.20	**0.25**	
		12/8/15		5.92	201	15.12	2.43	595.1		**16**	**2.6**	<0.20	**2.4**	<0.20	<0.20		
		3/31/16		5.75	218	15,21	8.58	129.9		**16**	**4.0**	<0.20	**3.7**	<0.20	<0.20	<0.20	
		6/29/16		6.46	185	15.75	6.85	48.3		**17**	**4.1**	<0.20	**3.2**	<0.20	<0.20		
		9/30/16		5.94	191	14.24	3.97	73.9		**21**	**6.2**	<0.20	**5.6**	<0.20	<0.20	<0.20	
		1/5/17		6.67	192	12.08	3.8	31.3		**24**	**3.6**	<0.20	**1.7**	<0.20	<0.20	<0.20	
EW-3	**14-34**	4/4/14	23.80							**49**	**14**		**7.2**		**0.61**		
		6/25/14	19.00	6.58	182	16.4	6.34			**41**	**14**	<0.40	**12**	<0.40	<0.40		
		9/22/14								**190**	**59**	<1.0	**33**	<1.0	**1.10**		
		12/19/14		6.82	275	15.9	6.02			**21**	**6.4**	<0.20	**6**	<0.20	<0.20		
		3/18/15		6.78	322	15.4	5.47			**140**	**46**	<1.0	**29**	<1.0	<1.0	<1.0	
		6/23/15								**87**	**24**		**9**			**15.00**	
		9/11/15	20.86	6.56	354	19.89	2.53	-65.78		**81**	**28**	<0.40	**14**	<0.40	<0.40	**0.44**	
		12/8/15		5.82	247	16.59	2.36	160		**33**	**11**	<0.20	**7.8**	<0.20	**0.38**		
		3/31/16		6.20	358	19.57	2.28	87.5		**72**	**21**	<0.20	**16**	<0.20	**0.64**	<0.40	
		6/29/16		6.28	304	19.37	6.51	45.9		**79**	**24**	<0.40	**14**	<0.40	**0.43**		
		9/30/16		5.84	386	18.59	1.11	51.7		**50**	**18**	<0.20	**10**	<0.20	**0.63**	<0.20	
		1/5/17		6.37	319	13.32	2.6	27.5		**95**	**30**	<0.40	**20**	<0.40	**0.46**	<0.40	
EW-4	**11-31**	4/4/14	12.50														Pump not working
		6/25/14	17.30	6.46	0.22	16.0	1.73			**1.7**	**1.8**	<0.20	**1.1**	<0.20	**0.38**		
		9/22/14								**45**	**10**	<0.20	**7.4**	<0.20	**0.87**		
		12/19/14		6.68	105	16.6	1.99			**1.2**	**1.6**	<0.20	**1.1**	<0.20	**0.27**		
		3/18/15								**15**	**4.8**	<0.20	**3.2**	<0.20	<0.20	**0.21**	
		6/23/15								**0.85**	**2.8**	<0.20	**1.7**	<0.20	**0.37**	**2.10**	
		9/11/15	18.84	6.23	125	19.22	2.55	-65.32		**1.8**	**2.1**	<0.20	**0.92**	<0.20	**0.28**	<0.20	
		12/8/15		5.84	424	22.04	0	214		<0.20	**1.6**	<0.20	**2.9**	<0.20	**0.85**		
		3/31/16		6.61	354	15.91	1.47	2.0		<0.20	**2.5**	<0.20	**2.0**	<0.20	**0.31**	<0.20	
		6/29/16		6.54	344	19.19	6.99	33.0		<0.20	**1.2**	<0.20	**3.5**	<0.20	**0.61**		
		9/30/16		8.14	373	17.05	0.95	12.0		<0.20	**0.88**	<0.20	**4.0**	<0.20	**0.75**	<0.20	
		1/5/17		6.67	325	12.21	1.8	-67.9		**0.33**	**3.2**	<0.20	**1.8**	<0.20	**0.29**	<0.20	
EW-5	**15-35**	1/5/17		6.61	270	12.71	1.29	-45.1		**5.0**	**4.0**	<0.20	**9.4**	<0.20	**2.5**	<0.20	
EW-6	**15-35**	1/5/17		6.62	166	4.13	5.65	-17.8		**2.4**	**0.54**	<0.20	<0.20	<0.20	<0.20	<0.20	

DISCH	NA	4/4/14	NA	6.48	443	15.3				**25**	**6.3**		**3**	<0.20	<0.20		
		6/25/14	NA	6.40	200	16.4	1.43		0.0	**30**	**8.4**	<0.20	**5.9**	<0.20	**0.38**		
		9/22/14	NA						0.2	**79**	**18**	<0.40	**13**	<0.40	<0.40		
		12/18/14	NA							**11**	**2.7**	<0.20	**2.5**	<0.20	<0.20		
		3/18/15	NA	6.54	230	15.1	1.89		0.1	**25**	**7.4**	<0.20	**4.7**	<0.20	<0.20	<0.20	
		6/23/15	NA							**11**	**2.3**	<0.20	**1.5**	<0.20	<0.20	**1.60**	
		9/11/15	NA	6.23	245	20.55	2.68	-65.3	0	**7.9**	**1.5**	<0.20	**0.77**	<0.20	<0.20	**0.39**	
		12/8/15	NA	6.15	267	17.2	3.9	18		**68**	**21**	<0.20	**15**	**0.23**	**0.91**		
		3/31/16	NA	6.57	261	16.26	6.78	50.6		**21**	**5.5**	<0.20	**4.4**	<0.20	<0.20	**0.21**	
		6/29/16	NA	6.71	214	16.83	6.14	13.7		**24**	**5.7**	<0.20	**4.6**	<0.20	<0.20		
		9/30/16	NA	6.39	219	14.52	2.9	20.6		**16**	**4.4**	<0.20	**3.6**	<0.20	**0.22**	<0.20	
		1/5/17								**27**	**8.6**	<0.20	**5.3**	<0.20	**0.23**	<0.20	
QC Samples			**FIELD PARAMETERS**							**HVOCs**							**NOTES**
DUP 6/25/14		6/25/14								**28**	**8.4**	<0.20	**6.4**	<0.20	**0.37**		Duplicate of DISCH 6/25/14
DUP 12/19/14		12/19/14								**0.92**	<0.20	<0.20	<0.20	<0.20	<0.20		Duplicate of RMW-8 12/19/2014
Trip Blank		6/25/14								<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		
DUP 9/22/14		9/22/14								**66**	**16**	<0.40	<0.40	<0.40	<0.40		Duplicate of EX2 9/22/2014
Trip Blank		3/18/15								<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
DUP		3/18/15								<0.40	**1.0**	<0.40	**54**	**0.65**	**19**	<0.40	Duplicate of RMW-7 3/18/2015
Trip Blank		9/11/15								<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
DUP		9/11/15								**23**	1.7	<0.20	**0.62**	<0.20	<0.20	**0.91**	
Trip Blank		12/8/15								<0.2	<0.2	<0.20	<0.2	<0.20	<0.2		
DUP		12/8/15								**2.8**	**0.6**	<0.2	<0.2	<0.2	<0.2		Duplicate of RMW-4 12/8/15
Trip Blank		12/22/16								<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
DUP		12/22/16								<0.20	<0.20	<0.20	**1.2**	<0.20	<0.20	<0.20	

Bold indicates analyte detected at a concentration greater than the laboratory reporing limit

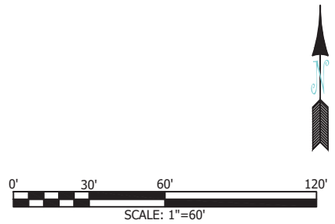
Yellow highlight indicates analyte exceeds MTCA cleanup level

MTCA = Model Toxic Control Act

KCIWD = King County Industrial Waste Discharge limit

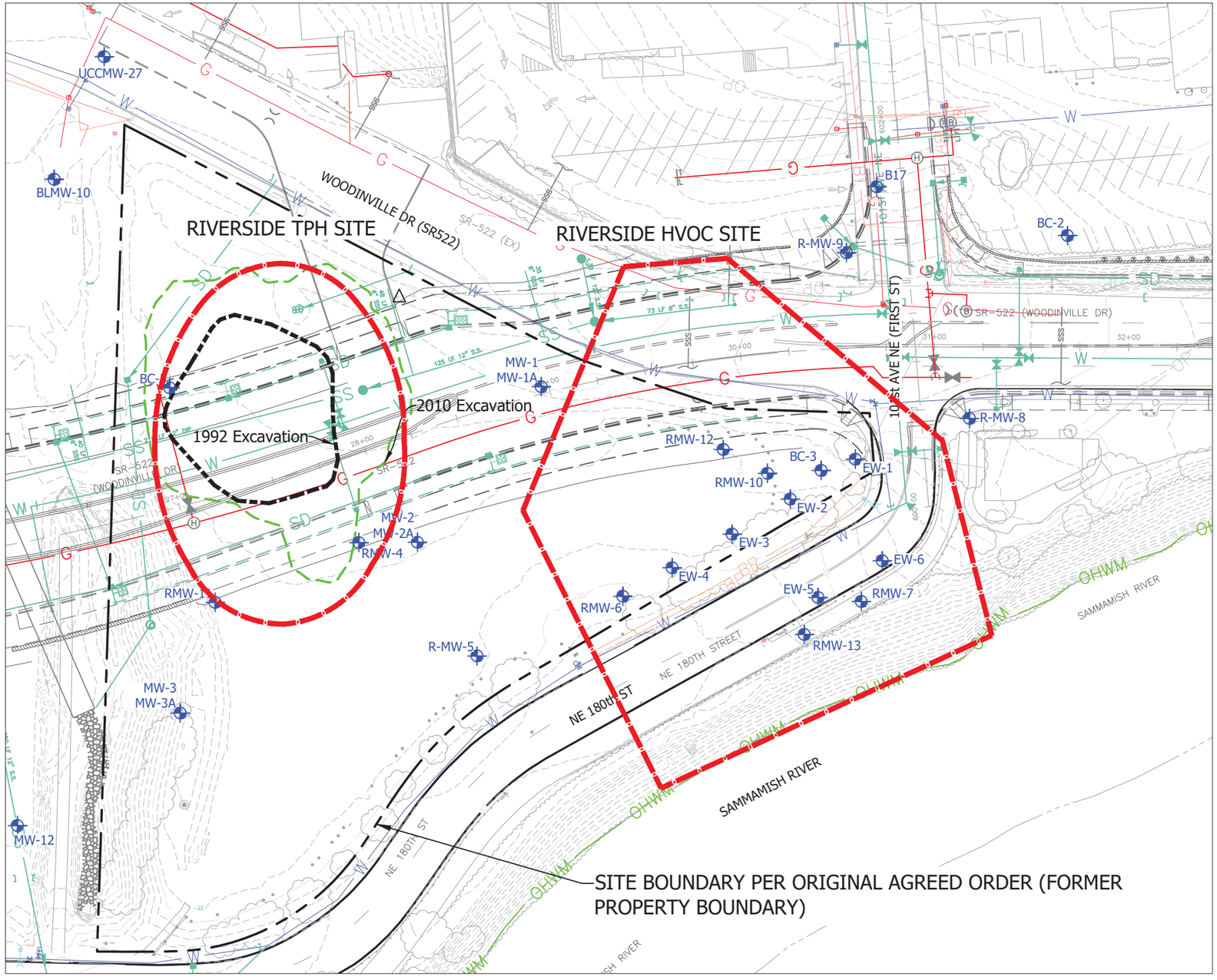
Blank – Not analyzed

NA – Not applicable



EXPLANATION OF SYMBOLS

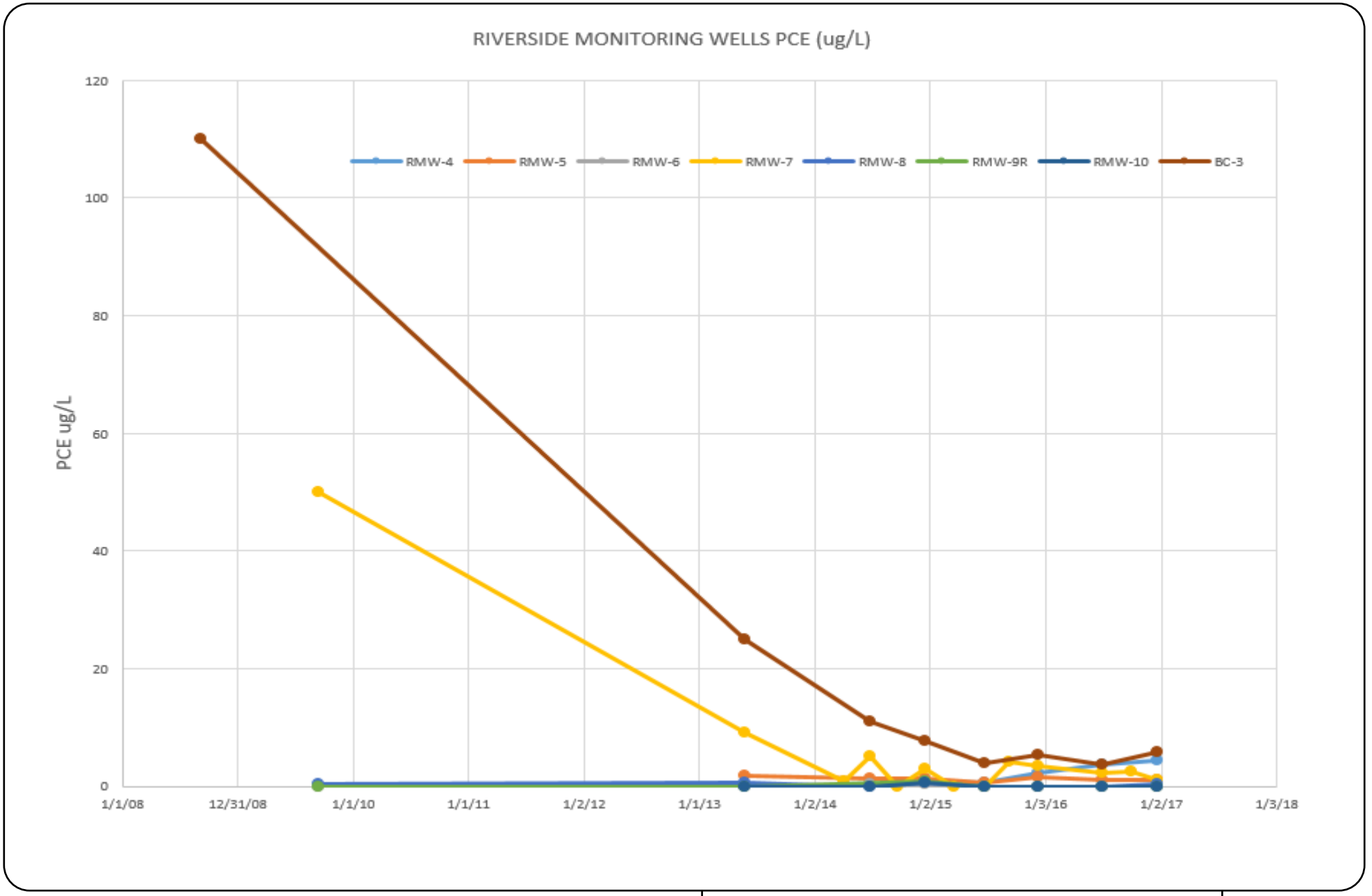
- APPROXIMATE EXTENT OF 2010 CLEANUP EXCAVATION
- APPROXIMATE EXTENT OF 1990'S CLEANUP
- APPROXIMATE PROPERTY BOUNDARY
- SITE BOUNDARY
- RMW-13 MONITORING WELL LOCATIONS
- EW-13 EXTRACTION WELL LOCATIONS



HWA GeoSciences Inc.	BOTHELL RIVERSIDE HVOC SITE BOTHELL, WASHINGTON	Site Plan Showing Well Locations	DRAWN BY EFK CHECK BY NK DATE 1.26.17 FIGURE NO. 1 PROJECT NO. 2007-098 T2012

S:\2007 PROJECTS\2007-098 BOTHELL CROSSROADS\CAD 2007-098\HWA 2007-098-21 T2012B.DWG <RIVERSIDE fig 1 Site Plan> Plotted: 11/9/2016 9:40 AM

BASE MAP PRODUCED BY ZABATIK



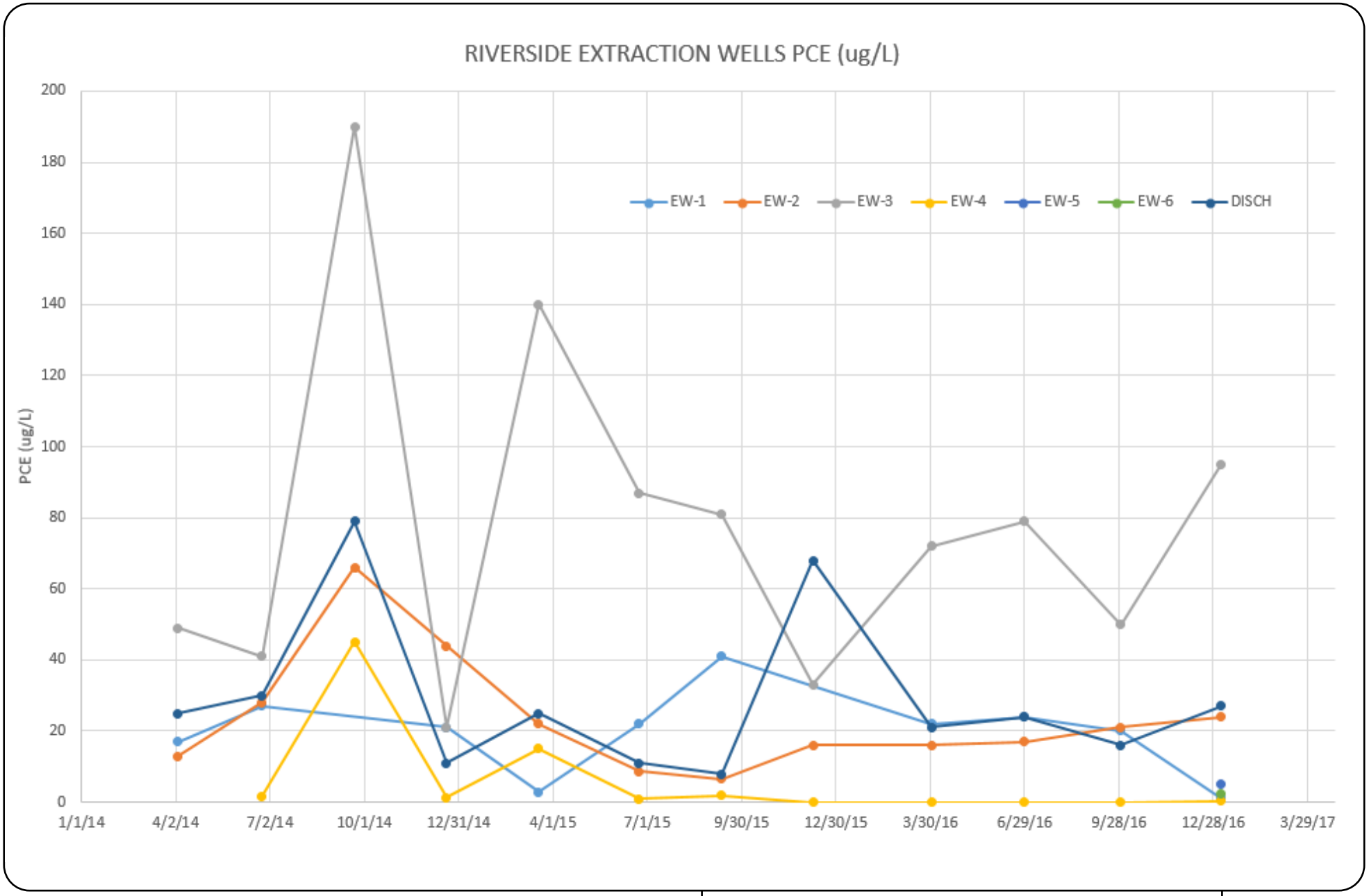
HWA GeoSciences Inc.

MONITORING WELLS PCE (UG/L)

BOTHELL RIVERSIDE HVOC SITE
BOTHELL, WASHINGTON

FIGURE NO.
2

POJECT NO
2007-098



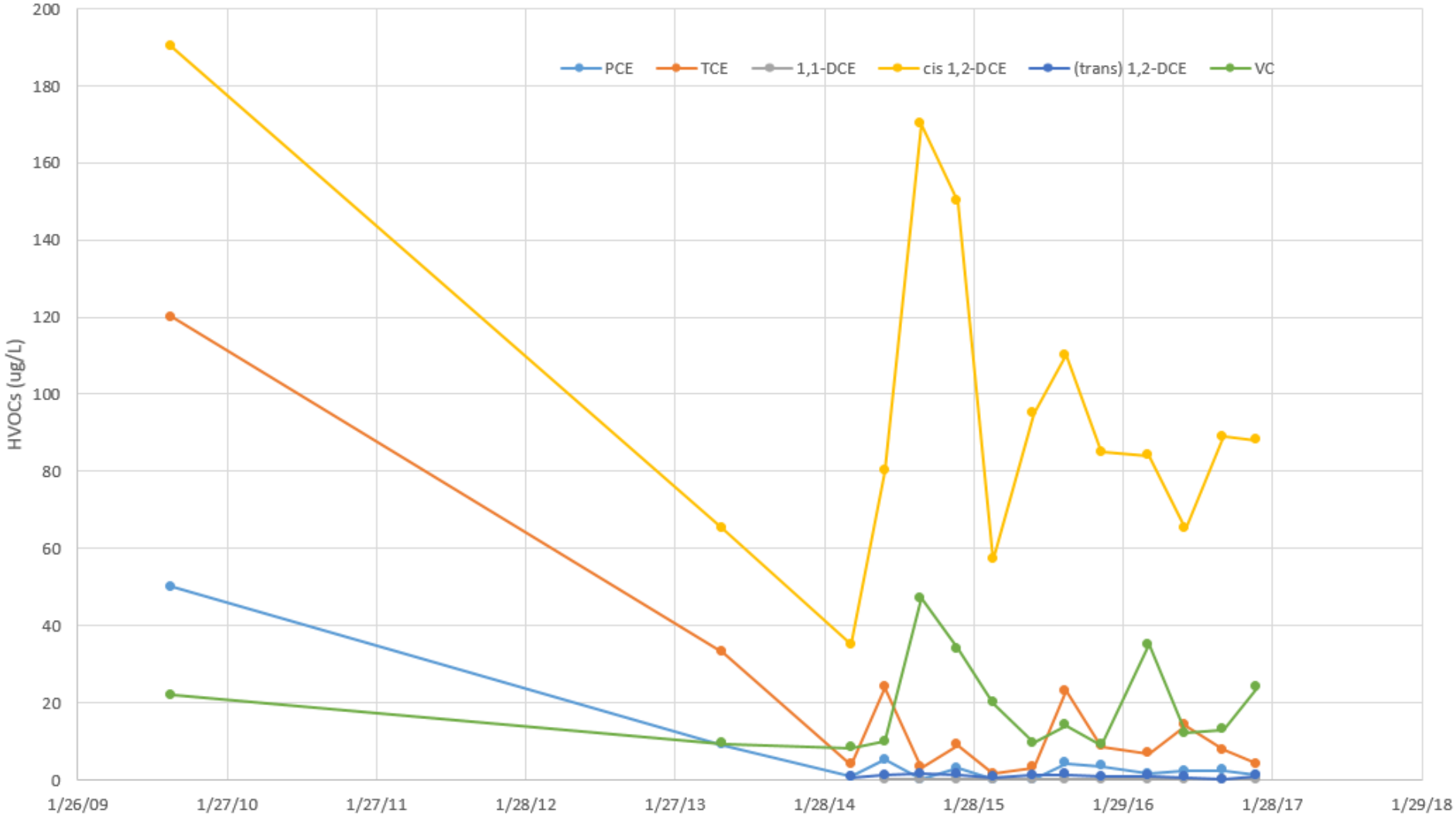
HWA GeoSciences Inc.

EXTRACTION WELLS PCE (UG/L)

BOTHELL RIVERSIDE HVOC SITE
BOTHELL, WASHINGTON

FIGURE NO.
3

POJECT NO
2007-098



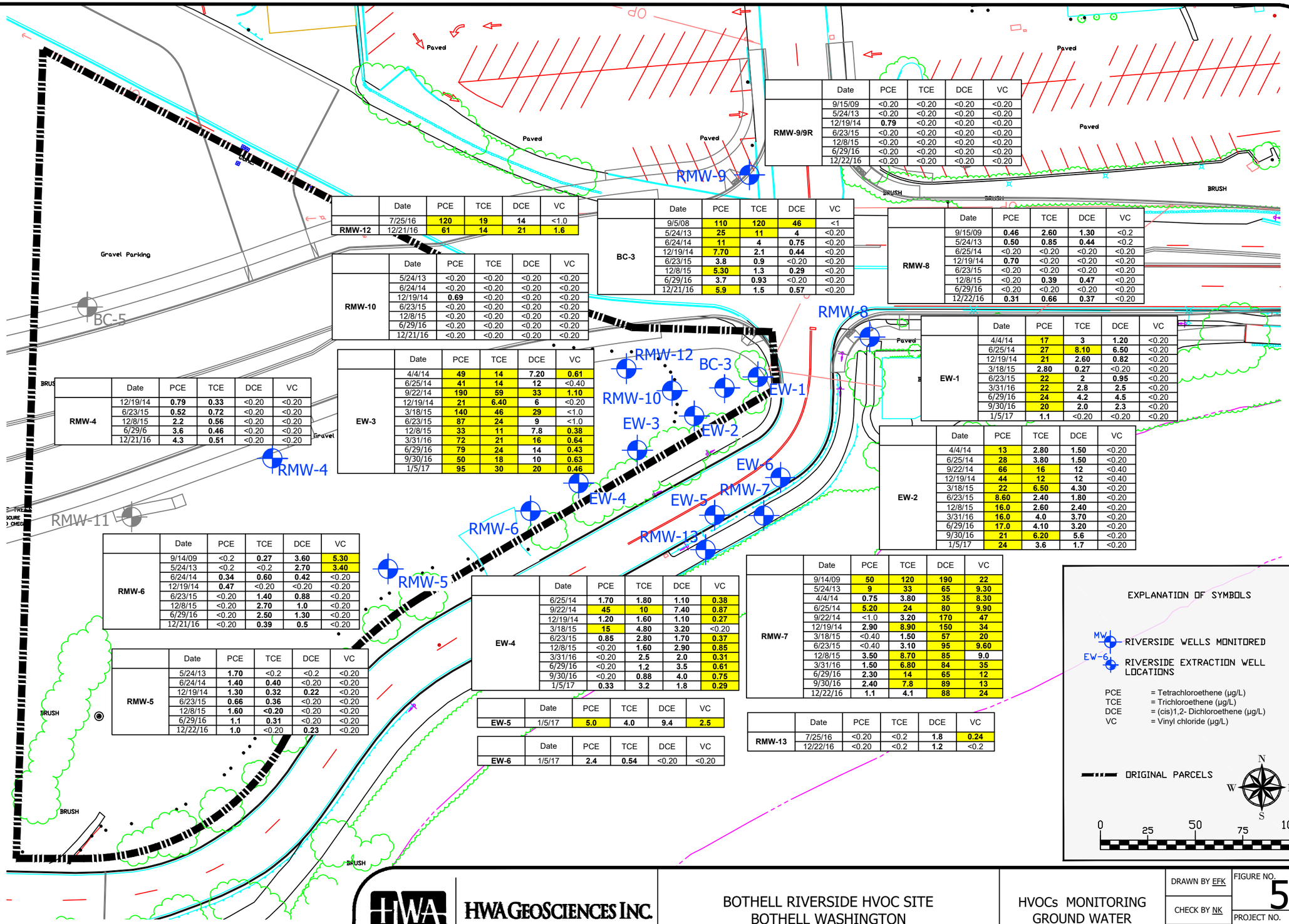
HWA GeoSciences Inc.

RMW-7 HVOCS (UG/L)

BOTHELL RIVERSIDE HVOC SITE
BOTHELL, WASHINGTON

FIGURE NO.
4

POJECT NO
2007-098



	Date	PCE	TCE	DCE	VC
RMW-9/9R	9/15/09	<0.20	<0.20	<0.20	<0.20
	5/24/13	<0.20	<0.20	<0.20	<0.20
	12/19/14	**0.79**	<0.20	<0.20	<0.20
	6/23/15	<0.20	<0.20	<0.20	<0.20
	12/8/15	<0.20	<0.20	<0.20	<0.20
	6/29/16	<0.20	<0.20	<0.20	<0.20
	12/22/16	<0.20	<0.20	<0.20	<0.20

	Date	PCE	TCE	DCE	VC
RMW-12	7/25/16	**120**	**19**	**14**	<1.0
	12/21/16	**61**	**14**	**21**	**1.6**

	Date	PCE	TCE	DCE	VC
BC-3	9/5/08	**110**	**120**	**46**	<1
	5/24/13	**25**	**11**	**4**	<0.20
	6/24/14	**11**	**4**	**0.75**	<0.20
	12/19/14	**7.70**	**2.1**	**0.44**	<0.20
	6/23/15	**3.8**	**0.9**	<0.20	<0.20
	12/8/15	**5.30**	**1.3**	**0.29**	<0.20
	6/29/16	**3.7**	**0.93**	<0.20	<0.20
	12/21/16	**5.9**	**1.5**	**0.57**	<0.20

	Date	PCE	TCE	DCE	VC
RMW-8	9/15/09	**0.46**	**2.60**	**1.30**	<0.2
	5/24/13	**0.50**	**0.85**	**0.44**	<0.2
	6/25/14	<0.20	<0.20	<0.20	<0.20
	12/19/14	**0.70**	<0.20	<0.20	<0.20
	6/23/15	<0.20	<0.20	<0.20	<0.20
	12/8/15	<0.20	**0.39**	**0.47**	<0.20
	6/29/16	<0.20	<0.20	<0.20	<0.20
	12/22/16	**0.31**	**0.66**	**0.37**	<0.20

	Date	PCE	TCE	DCE	VC
RMW-10	5/24/13	<0.20	<0.20	<0.20	<0.20
	6/24/14	<0.20	<0.20	<0.20	<0.20
	12/19/14	**0.69**	<0.20	<0.20	<0.20
	6/23/15	<0.20	<0.20	<0.20	<0.20
	12/8/15	<0.20	<0.20	<0.20	<0.20
	6/29/16	<0.20	<0.20	<0.20	<0.20
	12/21/16	<0.20	<0.20	<0.20	<0.20

	Date	PCE	TCE	DCE	VC
EW-1	4/4/14	**17**	**3**	**1.20**	<0.20
	6/25/14	**27**	**8.10**	**6.50**	<0.20
	12/19/14	**21**	**2.60**	**0.82**	<0.20
	3/18/15	**2.80**	**0.27**	<0.20	<0.20
	6/23/15	**22**	**2**	**0.95**	<0.20
	3/31/16	**22**	**2.8**	**2.5**	<0.20
	6/29/16	**24**	**4.2**	**4.5**	<0.20
	9/30/16	**20**	**2.0**	**2.3**	<0.20
	1/5/17	**1.1**	<0.20	<0.20	<0.20

	Date	PCE	TCE	DCE	VC
EW-3	4/4/14	**49**	**14**	**7.20**	**0.61**
	6/25/14	**41**	**14**	**12**	<0.40
	9/22/14	**190**	**59**	**33**	**1.10**
	12/19/14	**21**	**6.40**	**6**	<0.20
	3/18/15	**140**	**46**	**29**	<1.0
	6/23/15	**87**	**24**	**9**	<1.0
	12/8/15	**33**	**11**	**7.8**	**0.38**
	3/31/16	**72**	**21**	**16**	**0.64**
	6/29/16	**79**	**24**	**14**	**0.43**
	9/30/16	**50**	**18**	**10**	**0.63**
	1/5/17	**95**	**30**	**20**	**0.46**

	Date	PCE	TCE	DCE	VC
EW-2	4/4/14	**13**	**2.80**	**1.50**	<0.20
	6/25/14	**28**	**3.80**	**1.50**	<0.20
	9/22/14	**66**	**16**	**12**	<0.40
	12/19/14	**44**	**12**	**12**	<0.40
	3/18/15	**22**	**6.50**	**4.30**	<0.20
	6/23/15	**8.60**	**2.40**	**1.80**	<0.20
	12/8/15	**16.0**	**2.60**	**2.40**	<0.20
	3/31/16	**16.0**	**4.0**	**3.70**	<0.20
	6/29/16	**17.0**	**4.10**	**3.20**	<0.20
	9/30/16	**21**	**6.20**	**5.6**	<0.20
	1/5/17	**24**	**3.6**	**1.7**	<0.20

	Date	PCE	TCE	DCE	VC
RMW-4	12/19/14	**0.79**	**0.33**	<0.20	<0.20
	6/23/15	**0.52**	**0.72**	<0.20	<0.20
	12/8/15	**2.2**	**0.56**	<0.20	<0.20
	6/29/6	**3.6**	**0.46**	<0.20	<0.20
	12/21/16	**4.3**	**0.51**	<0.20	<0.20

	Date	PCE	TCE	DCE	VC
RMW-6	9/14/09	<0.2	**0.27**	**3.60**	**5.30**
	5/24/13	<0.2	<0.2	**2.70**	**3.40**
	6/24/14	**0.34**	**0.60**	**0.42**	<0.20
	12/19/14	**0.47**	<0.20	<0.20	<0.20
	6/23/15	<0.20	**1.40**	**0.88**	<0.20
	12/8/15	<0.20	**2.70**	**1.0**	<0.20
	6/29/16	<0.20	**2.50**	**1.30**	<0.20
	12/21/16	<0.20	**0.39**	**0.5**	<0.20

	Date	PCE	TCE	DCE	VC
RMW-5	5/24/13	**1.70**	<0.2	<0.2	<0.20
	6/24/14	**1.40**	**0.40**	<0.20	<0.20
	12/19/14	**1.30**	**0.32**	**0.22**	<0.20
	6/23/15	**0.66**	**0.36**	<0.20	<0.20
	12/8/15	**1.60**	**<0.20**	<0.20	<0.20
	6/29/16	**1.1**	**0.31**	<0.20	<0.20
	12/22/16	**1.0**	<0.20	**0.23**	<0.20

	Date	PCE	TCE	DCE	VC
EW-4	6/25/14	**1.70**	**1.80**	**1.10**	**0.38**
	9/22/14	**45**	**10**	**7.40**	**0.87**
	12/19/14	**1.20**	**1.60**	**1.10**	**0.27**
	3/18/15	**15**	**4.80**	**3.20**	<0.20
	6/23/15	**0.85**	**2.80**	**1.70**	**0.37**
	12/8/15	<0.20	**1.60**	**2.90**	**0.85**
	3/31/16	<0.20	**2.5**	**2.0**	**0.31**
	6/29/16	<0.20	**1.2**	**3.5**	**0.61**
	9/30/16	<0.20	**0.88**	**4.0**	**0.75**
	1/5/17	**0.33**	**3.2**	**1.8**	**0.29**

	Date	PCE	TCE	DCE	VC
EW-5	1/5/17	**5.0**	**4.0**	**9.4**	**2.5**

	Date	PCE	TCE	DCE	VC
EW-6	1/5/17	**2.4**	**0.54**	<0.20	<0.20

	Date	PCE	TCE	DCE	VC
RMW-7	9/14/09	**50**	**120**	**190**	**22**
	5/24/13	**9**	**33**	**65**	**9.30**
	4/4/14	**0.75**	**3.80**	**35**	**8.30**
	6/25/14	**5.20**	**24**	**80**	**9.90**
	9/22/14	<1.0	**3.20**	**170**	**47**
	12/19/14	**2.90**	**8.90**	**150**	**34**
	3/18/15	<0.40	**1.50**	**57**	**20**
	6/23/15	<0.40	**3.10**	**95**	**9.60**
	12/8/15	**3.50**	**8.70**	**85**	**9.0**
	3/31/16	**1.50**	**6.80**	**84**	**35**
	6/29/16	**2.30**	**14**	**65**	**12**
	9/30/16	**2.40**	**7.8**	**89**	**13**
	12/22/16	**1.1**	**4.1**	**88**	**24**

	Date	PCE	TCE	DCE	VC
RMW-13	7/25/16	<0.20	<0.2	**1.8**	**0.24**
	12/22/16	<0.20	<0.2	**1.2**	<0.2

EXPLANATION OF SYMBOLS

MW-1 RIVERSIDE WELLS MONITORED

EW-6 RIVERSIDE EXTRACTION WELL LOCATIONS

PCE = Tetrachloroethene (µg/L)
TCE = Trichloroethene (µg/L)
DCE = (cis)1,2- Dichloroethene (µg/L)
VC = Vinyl chloride (µg/L)

ORIGINAL PARCELS

N W E S

0 25 50 75 100

HWA GEOSCIENCES INC.

BOTHELL RIVERSIDE HVOC SITE
BOTHELL WASHINGTON

HVOCs MONITORING
GROUND WATER

DRAWN BY EFK
CHECK BY NK
1.30.17

FIGURE NO. 5
PROJECT NO. 2007-098 T2012

S:\2007 PROJECTS\2007-098-22 BOTHELL CROSSROADS\CAD 2007-098\HWA 2007-098-21 T2012.DWG <11x17 T2012 Fig 1> Plotted: 1/30/2017 8:07 AM

APPENDIX A

YEAR 2016 QUARTERLY KING COUNTY INDUSTRIAL WASTE REPORTS

King County

Industrial Waste Quarterly Self-Monitoring Report

Send to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001
Email: info.KCIW@kingcounty.gov

Company Name: **Bothell, City of - Riverside Groundwater Remediation Site**

This form is available at www.kingcounty.gov/industrialwaste.

Please specify year: **2016** **QUARTER 1** **Sample Site No.:** **IW1175A** **Permit/DA No.:** **4268-01**

Month	Sample Date	Sample Type C (Composite) G (Grab) BC (Batch)	1,2-Dichloro-ethylene (**Total** *cis & trans*) (µg/l)	Tetrachloro-ethylene **(PCE)** (µg/l)	Trichloro-ethylene **(TCE)** (µg/l)	Vinyl Chloride (µg/l)	1,1-Dichloro-ethane (µg/l)	Settleable Solids (ml/L)	Discharge Volume on sample day (gallons)	Total Monthly Flow (gallons)
January										
									Total volume discharged for January	30,270
February										
									Total volume discharged for February	64,234
March										
	3/31/16	G	4.4	21	5.5	<0.20	<0.20	0	12010	
									Total volume discharged for March	356,845

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested

4-18-16

Arnie Sugar, Designated rep. for City of Bothell per Delegation of signature form dated 8/21/13

Signature of Principal Executive or Authorized Agent Date

Due date: First quarter report is due by April 15 each year.

King County

Industrial Waste Quarterly Self-Monitoring Report

Send to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001
Email: info.KCIW@kingcounty.gov

Company Name: **Bothell, City of - Riverside Groundwater Remediation Site**

This form is available at www.kingcounty.gov/industrialwaste.

Please specify year: **2016** **QUARTER 2** **Sample Site No.:** **IW1175A** **Permit/DA No.:** **4268-01**

Month	Sample Date	Sample Type C (Composite) G (Grab) BC (Batch)	1,2-Dichloro-ethylene (**Total** *cis & trans*) (µg/l)	Tetrachloro-ethylene **(PCE)** (µg/l)	Trichloro-ethylene **(TCE)** (µg/l)	Vinyl Chloride (µg/l)	1,1-Dichloro-ethane (µg/l)	Settleable Solids (ml/L)	Discharge Volume on sample day (gallons)	Total Monthly Flow (gallons)
April										
									Total volume discharged for April	473,271
May										
									Total volume discharged for May	513,263
June										
	6/29/16	G	4.6	24	5.7	<0.20	<0.20	0	15,537	
									Total volume discharged for June	411,789

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested

Arnie Sugar, Designated rep. for City of Bothell per Delegation of signature form dated 8/22/13

Signature of Principal Executive or Authorized Agent Date 7/14/16

Due date: Second quarter report is due by July 15 each year.

King County

Industrial Waste Quarterly Self-Monitoring Report

Send to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001
Email: info.KCIW@kingcounty.gov

Company Name: **Bothell, City of - Riverside Groundwater Remediation Site**

This form is available at www.kingcounty.gov/industrialwaste.

Please specify year: **2016** **QUARTER 3** **Sample Site No.: IW1175A** **Permit/DA No.: 4268-01**

Month	Sample Date	Sample Type C (Composite) G (Grab) BC (Batch)	1,2-Dichloro-ethylene (**Total** *cis & trans*) (µg/l)	Tetrachloro-ethylene **(PCE)** (µg/l)	Trichloro-ethylene **(TCE)** (µg/l)	Vinyl Chloride (µg/l)	1,1-Dichloro-ethane (µg/l)	Settleable Solids (ml/L)	Discharge Volume on sample day (gallons)	Total Monthly Flow (gallons)
July										
									Total volume discharged for July	442,385
August										
									Total volume discharged for August	452,329
September										
	9/30/16	G	3.6	16	4.4	0.22	<0.20	0	11,000	
									Total volume discharged for September	234,782

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested

October 13, 2016

Arnie Sugar , Designated rep. for City of Bothell per Delegation of signature form dated 8/22/13

Signature of Principal Executive or Authorized Agent — Date

Due date: Third quarter report is due by October 15 each year.

King County

Industrial Waste Quarterly Self-Monitoring Report

Send to: King County Industrial Waste
130 Nickerson Street, Suite 200
Seattle, WA 98109-1658
Phone 206-263-3000 / FAX 206-263-3001
Email: info.KCIW@kingcounty.gov

Company Name: **Bothell, City of - Riverside Groundwater Remediation Site**

This form is available at www.kingcounty.gov/industrialwaste.

Please specify year: **2016** **QUARTER 4** **Sample Site No.: IW1175A** **Permit/DA No.: 4268-01**

Month	Sample Date	Sample Type C (Composite) G (Grab) BC (Batch)	1,2-Dichloro-ethylene (**Total** *cis & trans*) (µg/l)	Tetrachloro-ethylene **(PCE)** (µg/l)	Trichloro-ethylene **(TCE)** (µg/l)	Vinyl Chloride (µg/l)	1,1-Dichloro-ethane (µg/l)	Settleable Solids (ml/L)	Discharge Volume on sample day (gallons)	Total Monthly Flow (gallons)
October										
									Total volume discharged for October	164,915
November										
									Total volume discharged for November	355,191
December										
		G	5.3	27	8.6	0.23	(0.20	0	8,000	
									Total volume discharged for December	191,212

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further certify that all data requiring a laboratory analysis were analyzed by a Washington State Department of Ecology accredited laboratory for each parameter tested

Arnie Sugar , Designated rep. for City of Bothell per Delegation of signature form dated 8/22/13

Signature of Principal Executive or Authorized Agent Date 1/11/17

Due date: Fourth quarter report is due by January 15 each year.