



July 28, 2016
G-Logics File 01-0739-F

BV Holdings, LLC
Mr. Michael Nielson
10672 NE 9th Pl
Bellevue, WA 98004

Subject: 2016 System Operation and Monitoring Report
Former Drycleaner Location
10610 NE 8th Street
Bellevue, WA

Dear Mr. Nielson:

This report discusses vapor-sampling results and the status of the treatment system at the above referenced property (Figure 1). This work has been performed in accordance with our workplan *Authorization for SVE Continued Pulse Operation*, dated August 11, 2015.

Operation of the SVE system was extended from July 2015 to July 2016 to continue the removal of volatile contaminants from the subsurface. With the continued operation, monthly site visits and vapor sampling has been conducted to monitor the system and the operational components. Additionally, analytical results from the collected vapor samples have been used to calculate the total amount of contaminant mass removal.

Site Background

The Property is located on the northeast corner of the intersection of NE 8th Street and 106th Avenue NE in downtown Bellevue (Figure 1). During the 1950s, a single structure was built on the site and used as an auto-fueling and service station. In 1976, the service station was converted to operate as a retail/commercial space. A dry-cleaning business operated on the property from 1976 to 1986. During that time, a common dry-cleaning solvent known as tetrachloroethylene (PCE) was used in the operations. After 1986, the structure was used for various commercial uses, including a pet store and toy store (Thinker Toys) until 2007. In 2007, the structure was demolished and the site was converted to its current use as a parking lot.

Several environmental investigations have been conducted on the Property and immediate vicinity to evaluate contaminant impacts to soil and groundwater from release(s) of PCE. The results of a soil-vapor survey conducted in 2009 indicated chlorinated solvents were present on the Property. Two subsurface investigations conducted in 2010 confirmed that the soil and groundwater on the Property were contaminated with chlorinated solvents, specifically PCE and its associated degradation products. The highest concentrations of chlorinated solvents are located near the center of the Property (Figure 2) in the general vicinity of the former dry-cleaning operations. In 2010/2011, a Remedial Investigation/Feasibility Study (RI/FS) and an Interim Cleanup Action Plan (ICAP) was prepared for the Property.

In 2012, BV Holdings and two other parties entered into a Settlement Agreement with Sterling Realty Organization (SRO), owner of the property directly across 8th Street to the south. As part of this agreement, a “reasonable interim action” was to be conducted on the subject Property. The purpose of the interim action was to reduce concentrations of PCE in soils at the Property and thereby reduce offsite migration of PCE-related substances. Specifically, a treatment system was to be installed in order to reduce soil concentrations such that when soils are excavated (as part of a future site development) they could be disposed as a non-hazardous waste, subject to Ecology approval.

System Configuration

Initially, the treatment system included an air-sparge and soil-vapor extraction system (AS/SVE) that was installed at the former Thinker Toys property. Installation of the AS/SVE system began in October 2012 after receiving appropriate permits. During the December 2013 visit/sampling event, air-pressure was observed to remain in the supply line between the backflow valve and the wells. This continued to be observed through the June 2014 visit/sampling event, when it was apparent that the soil formation was not sufficiently permeable to effectively accomplish a sparging action; due to this observation, the AS system was permanently shut down during the June 2014 visit.

The SVE system primarily consists of one regenerative blower, one rotary-vane compressor, related electrical equipment, and a moisture-reduction or “knockout” tank (K/O tank). The equipment is housed in a wood-framed building identified as the Equipment Shed (Figure 2). The regenerative blower produces a vacuum that removes subsurface vapors from the vadose zone. The regenerative blower operates on a pulsed schedule, running for two 6-hour periods every 24-hours (resting between operating times).

A vacuum-pipe line extends from the blower in the equipment shed to the north vault, where a manifold directs vacuum to SVE Wells 1 through 4. Similarly, a vacuum-pipe line extends from the blower in the equipment shed to the south vault, where a manifold directs vacuum to SVE Wells 5 through 9.

System Monitoring

During monthly site visits, vacuum readings were observed on vacuum gauges and recorded. The vacuum gauges are located on the K/O tank and at each of the two vacuum lines immediately after the manifold within the shed. The manifold is located inside the shed, positioned between the K/O tank and the wells.

Vapor Removal Discussion

During this annual sampling and monitoring effort, vapor samples were collected in January, March, and June 2016 from the exhaust-stack and SVE Wells. Collected vapor samples were analyzed for PCE and its breakdown components by EPA Method 8260. Analytical results demonstrate that contaminants continue to be removed from the soil on

the property (Table 1, Graph 1). The highest concentration of contaminant removal continues to be observed in SVE Wells 5, 6, and 7. These wells are located in the area that was mapped as having elevated concentrations of Tetrachloroethene (PCE) in the soil (Figure 3). An approximate 6 pounds of PCE vapor-contaminants have been removed from the subsurface the past twelve months (June 2015 to June 2016, see Table 2).

Summary Discussion

Overall, the system has removed approximately 100 pounds of PCE since the system was started (December 7, 2012 to June 23, 2016). This is also demonstrated on Graph 2, which plots the effluent concentrations of PCE over time removed by the system. Both the cumulative total and daily average of PCE removal are shown on Graph 2. Groundwater elevations were plotted on the attached Graph 3, which depicts the fluctuations in groundwater elevations over time. Generally, groundwater elevations are lower in the fall and early winter months, higher in the spring and early summer months. When comparing the system exhaust-effluent containing PCE vapor (Table 1, Graph 1), to groundwater fluctuations (Table 3, Graph 3) it appears that the effluent PCE-vapor concentrations are higher when more of the vadose zone is exposed (when the groundwater-table is low).

The most recent analytical results indicate that the system continues to remove PCE contaminants from the subsurface. Based on the continued removal of PCE, the understood objective to reduce PCE concentrations in the soil (for ultimate soil disposal), and the agreement with SRO (to reduce potential off-site migration), it is recommended the SVE system continue to be operated on a pulsed-operating schedule. A pulsed-operating schedule reduces the time of system operation to a few hours per day. This allows for the diffusion of contaminant into the soil pores during resting phases, which can then be removed by the SVE during the operational phase. Additionally, pulsed operation allows for decreased electricity use while still removing residual contamination.

Closing

We appreciate this opportunity to provide our services to you. Please contact us at your convenience with any questions regarding our work or findings.

Sincerely,
G-Logics, Inc.



Rory L. Galloway, LG, LHG
Principal



Dan Hatch, PMP
Remediation Manager



Steve Holmes
Project Environmental Engineer

cc: Mark Myers
 Rob Zarkos

Attachments:

Figure 1 – Site Location Maps
Figure 2 – Property Diagram, AS/SVE System Layout
Figure 3 – AS/SVE System Layout with PCE Mapping

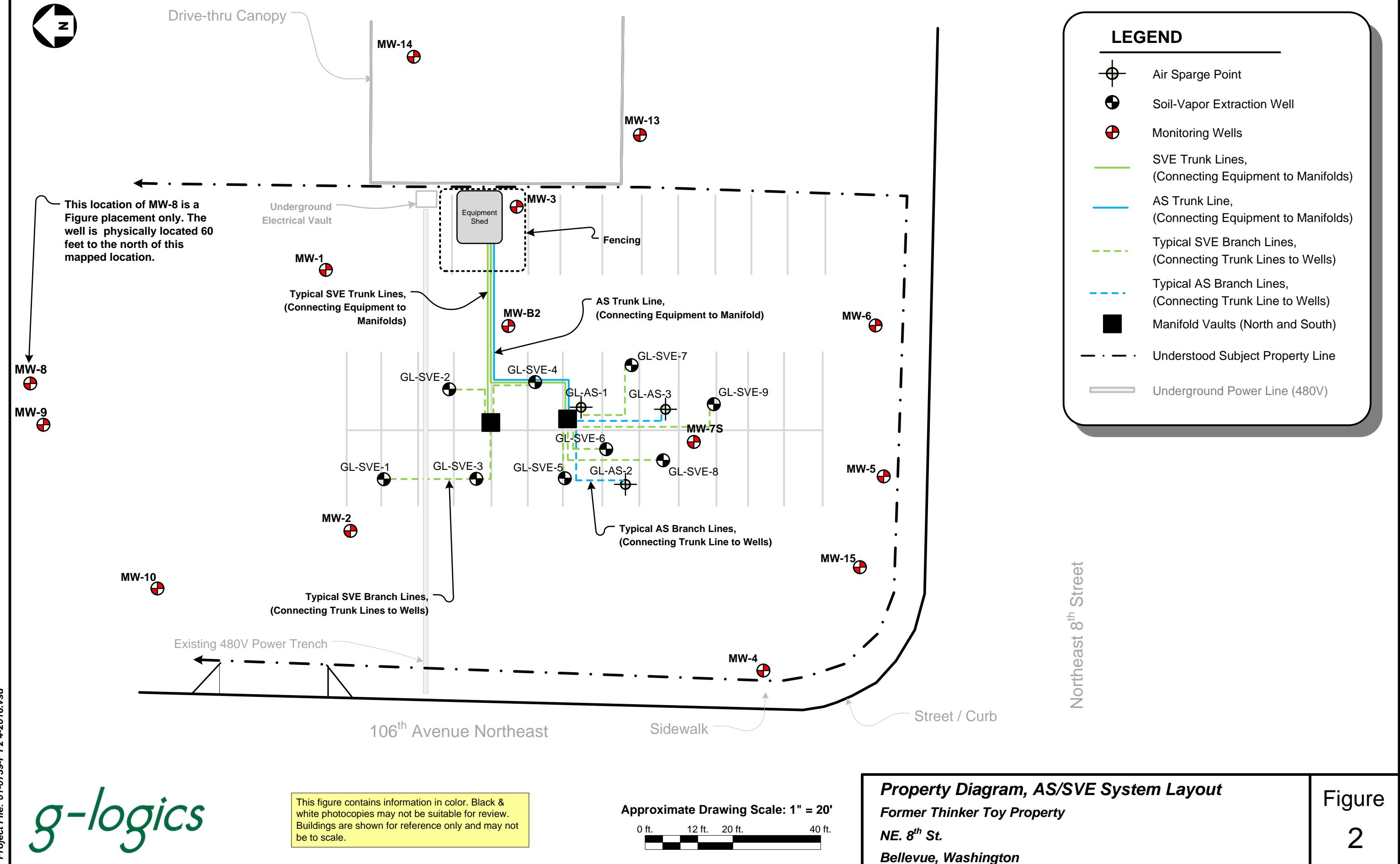
Table 1 – Vapor Sample Analyses, Volatile Organic Compounds
Table 2 – Vapor Contaminant Removal Summary Calculations
Table 3 – Groundwater Elevation Measurements

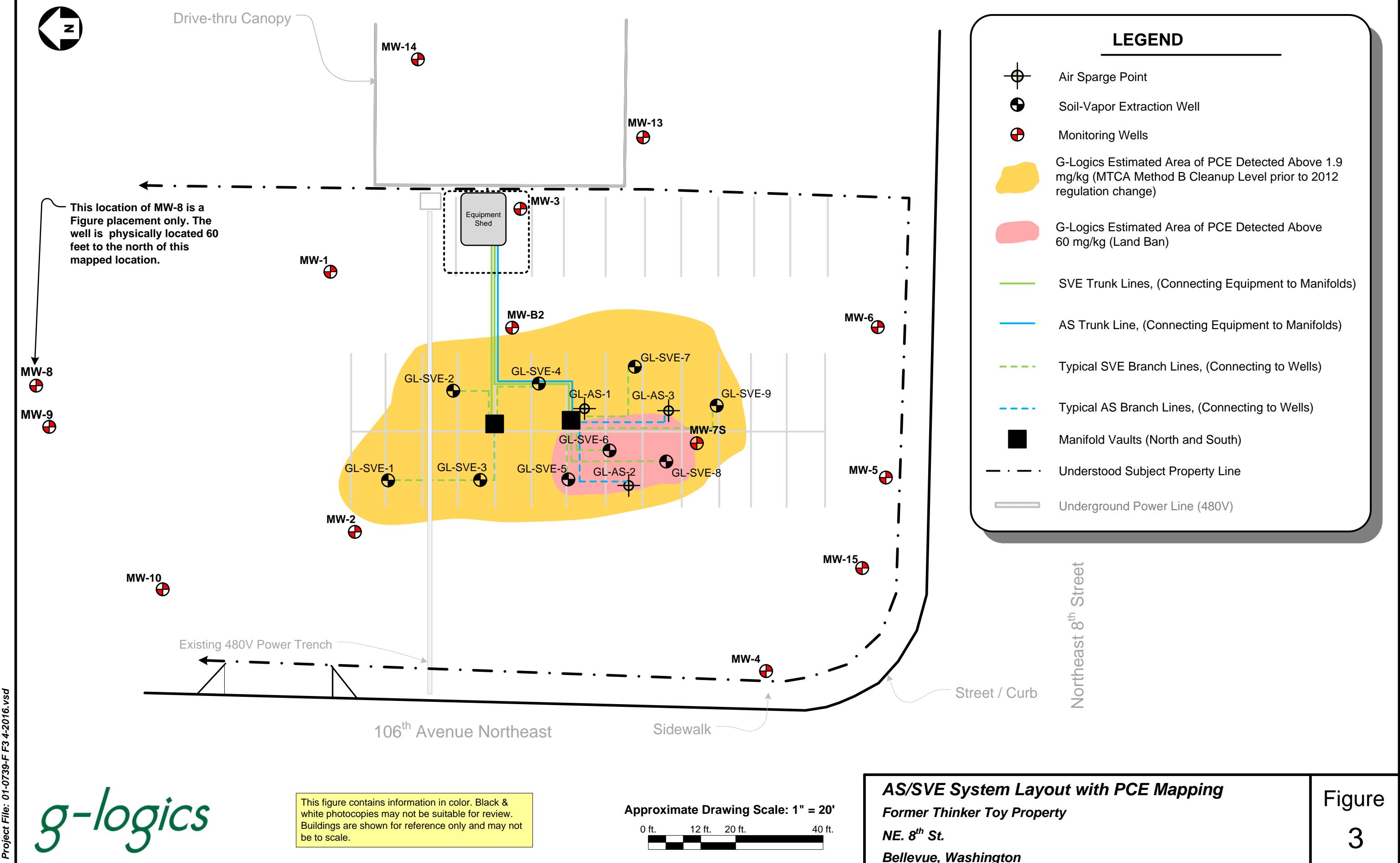
Graph 1 – Adjusted Analytical Results for PCE Vapor
Graph 2 – Pounds of PCE Removal
Graph 3 – Plotted Groundwater Elevations



FIGURES







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TABLES

TABLE 1
Vapor Sample Analyses, Volatile Organic Compounds (1)
Former Thinker Toys (Bellevue)

Sample Location	Sample Date	Sample Number	trans-1,2-Dichloroethene	Chloroethane	Toluene	cis-1,2-Dichloroethene	Trichloroethene (TCE)	Tetrachloroethene (PCE)	Chloroform	m,p-Xylene	1,1,1-Trichloroethane
(Units reported in ug/L)											
Exhaust Stack	12/7/2012	Ex Stack (T)	<0.100	<0.100	<0.100	1.32	1.29	21.4	<0.100	<0.100	<0.100
	12/28/2012	Ex Stack	<0.100	<0.100	<0.100	0.110	<0.100	28.0	<0.100	0.106	<0.100
	1/5/2013	Ex Stack	<0.100	<0.100	<0.100	0.103	<0.100	26.5	<0.100	<0.100	<0.100
	1/14/2013	Ex Stack (H)	<0.100	<0.100	<0.100	0.231	0.203	54.6	<0.100	<0.100	<0.100
	1/22/2013	Ex Stack	<0.100	<0.100	<0.100	0.169	0.169	64.7	<0.100	<0.100	<0.100
	1/31/2013	Ex Stack	<0.100	<0.100	<0.100	0.453	0.475	40.4	<0.100	<0.100	<0.100
	3/8/2013	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	19.4	<0.100	<0.100	<0.100
	4/10/2013	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	9.85	<0.100	<0.100	<0.100
	5/30/2013	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	8.0	<0.100	<0.100	<0.100
	6/11/2013	Ex Stack	<0.100	<0.100	<0.100	0.113	0.145	21.8	<0.100	<0.100	<0.100
	9/12/2013	Ex Stack	<0.100	<0.100	<0.100	<0.100	0.127	15.7	<0.100	<0.100	<0.100
	12/23/2013	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	4.65	<0.100	0.143	<0.100
	3/19/2014	Ex Stack Dup	<0.100	<0.100	<0.100	<0.100	<0.100	0.826	<0.100	<0.100	<0.100
	6/19/2014	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	2.24	<0.100	<0.100	<0.100
	9/19/2014	Ex Stack	<0.100	<0.100	<0.100	0.101	<0.100	8.00	<0.100	<0.100	<0.100
	12/19/2014	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	3.46	<0.100	<0.100	<0.100
	3/26/2015	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	1.38	<0.100	<0.100	<0.100
	6/26/2015	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	0.105	10.00	<0.100	<0.100
	1/7/2016	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	1.69	<0.100	<0.100	<0.100
	3/17/2016	Ex Stack	<0.100	<0.100	<0.100	<0.100	<0.100	1.50	<0.100	<0.100	<0.100
	6/23/2016	Ex Stack	<0.100	<0.100	0.161	<0.100	<0.100	1.03	<0.100	<0.100	<0.100
SVE-1	1/31/2013	SVE-1	<0.100	<0.100	0.123	1.06	0.445	10.8	<0.100	<0.100	<0.100
	3/8/2013	SVE-1	<0.100	<0.100	<0.100	<0.100	0.147	14.0	<0.100	<0.100	<0.100
	4/10/2013	SVE-1	<0.100	<0.100	<0.100	0.271	0.289	22.8	<0.100	<0.100	<0.100
	5/30/2013	SVE-1	<0.100	<0.100	<0.100	0.333	<0.100	16.4	<0.100	<0.100	<0.100
	6/11/2013	SVE-1	<0.100	<0.100	<0.100	0.313	0.363	37.7	<0.100	<0.100	<0.100
	9/12/2013	SVE-1	<0.100	<0.100	<0.100	0.133	0.176	18.4	<0.100	<0.100	<0.100
	12/23/2013	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	12.8	<0.100	<0.100	<0.100
	3/19/2014	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	2.73	<0.100	<0.100	<0.100
	6/19/2014	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	1.72	<0.100	<0.100	<0.100
	9/19/2014	SVE-1	<0.100	<0.100	<0.100	0.330	0.225	14.6	<0.100	<0.100	<0.100
	12/19/2014	SVE-1	<0.100	<0.100	0.134	<0.100	<0.100	2.12	<0.100	0.117	<0.100
	3/26/2015	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	0.870	<0.100	<0.100	<0.100
	6/26/2015	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	3.29	<0.100	<0.100	<0.100
	1/7/2016	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	2.75	<0.100	<0.100	<0.100
	3/17/2016	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	5.07	<0.100	<0.100	<0.100
	6/23/2016	SVE-1	<0.100	<0.100	<0.100	<0.100	<0.100	0.952	<0.100	<0.100	<0.100
SVE-2	1/31/2013	SVE-2	<0.100	<0.100	0.132	1.04	0.466	5.64	<0.100	0.190	<0.100
	3/8/2013	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	6.82	<0.100	nd	<0.100
	4/10/2013	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	6.55	<0.100	nd	<0.100
	5/30/2013	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	6.27	<0.100	nd	<0.100
	6/11/2013	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	10.6	<0.100	nd	<0.100
	9/12/2013	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	4.82	<0.100	nd	<0.100
	12/23/2013	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	7.04	<0.100	nd	<0.100
	3/19/2014	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	1.98	<0.100	nd	<0.100
	6/19/2014	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	0.316	<0.100	nd	<0.100
	9/19/2014	SVE-2	<0.100	<0.100	<0.100	0.168	<0.100	3.93	<0.100	nd	<0.100
	12/19/2014	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	1.23	<0.100	nd	<0.100
	3/26/2015	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	0.677	<0.100	nd	<0.100
	6/26/2015	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	1.28	<0.100	nd	<0.100
	1/7/2016	SVE-2	<0.100	<0.100	<0.100	nd	<0.100	1.63	<0.100	nd	<0.100
	3/17/2016	SVE-2	*	---	---	---	---	---	---	---	---
	6/23/2016	SVE-2	<0.100	<0.100	0.229	<0.100	<0.100	0.293	<0.100	<0.100	<0.100

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Vapor Sample Analyses, Volatile Organic Compounds (1)
Former Thinker Toys (Bellevue)

Sample Location	Sample Date	Sample Number		trans-1,2-Dichloroethene	Chloroethane	Toluene	cis-1,2-Dichloroethene	Trichloroethene (TCE)	Tetrachloroethene (PCE)	Chloroform	m,p-Xylene	1,1,1-Trichloroethane
(Units reported in ug/L)												
SVE-3	1/31/2013	SVE-3	<0.100	<0.100	0.125	1.03	0.460	15.8	<0.100	<0.100	<0.100	<0.100
	3/8/2013	SVE-3	<0.100	<0.100	<0.100	1.07	0.553	13.6	<0.100	<0.100	<0.100	<0.100
	4/10/2013	SVE-3	<0.100	<0.100	<0.100	0.340	0.426	14.2	<0.100	<0.100	<0.100	<0.100
	5/30/2013	SVE-3	<0.100	<0.100	<0.100	1.08	0.494	14.8	<0.100	<0.100	<0.100	<0.100
	6/11/2013	SVE-3	<0.100	<0.100	<0.100	3.14	1.74	36.7	<0.100	<0.100	<0.100	<0.100
	9/12/2013	SVE-3	<0.100	<0.100	<0.100	0.989	0.495	15.8	<0.100	<0.100	<0.100	<0.100
	12/23/2013	SVE-3	<0.100	<0.100	<0.100	<0.100	0.261	21.2	<0.100	<0.100	<0.100	<0.100
	3/19/2014	SVE-3	<0.100	<0.100	<0.100	<0.100	<0.100	3.60	<0.100	<0.100	<0.100	<0.100
	6/19/2014	SVE-3	<0.100	<0.100	<0.100	<0.100	<0.100	2.15	<0.100	<0.100	<0.100	<0.100
	9/19/2014	SVE-3	<0.100	<0.100	<0.100	0.115	<0.100	2.21	<0.100	<0.100	<0.100	<0.100
	12/19/2014	SVE-3	<0.100	<0.100	<0.100	<0.100	<0.100	1.49	<0.100	<0.100	<0.100	<0.100
	3/26/2015	SVE-3	<0.100	<0.100	<0.100	<0.100	<0.100	3.78	<0.100	<0.100	<0.100	<0.100
	6/26/2015	SVE-3	<0.100	<0.100	<0.100	<0.100	<0.100	0.93	<0.100	<0.100	<0.100	<0.100
	1/7/2016	SVE-3	<0.100	<0.100	<0.100	<0.100	<0.100	0.93	<0.100	<0.100	<0.100	<0.100
	3/17/2016	SVE-3	*	---	---	---	---	---	---	---	---	---
	6/23/2016	SVE-3	<0.100	<0.100	0.238	<0.100	0.176	3.76	<0.100	<0.100	<0.100	<0.100
SVE-4	1/31/2013	SVE-4	<0.100	<0.100	0.125	0.981	0.546	18.3	<0.100	<0.100	<0.100	<0.100
	3/8/2013	SVE-4	<0.100	<0.100	<0.100	0.853	3.380	70.5	<0.100	<0.100	<0.100	<0.100
	4/10/2013	SVE-4	<0.100	<0.100	<0.100	1.29	12.1	191	<0.100	<0.100	<0.100	<0.100
	5/30/2013	SVE-4	<0.100	<0.100	<0.100	0.40	2.52	78.2	<0.100	<0.100	<0.100	<0.100
	6/11/2013	SVE-4	<0.100	<0.100	<0.100	0.240	1.70	21.0	<0.100	<0.100	<0.100	<0.100
	9/12/2013	SVE-4	<0.100	<0.100	<0.100	2.74	15.3	493	<0.100	<0.100	<0.100	<0.100
	12/23/2013	SVE-4	<0.100	<0.100	<0.100	0.890	10.8	199	<0.100	<0.100	<0.100	<0.100
	3/19/2014	SVE-4	<0.100	<0.100	<0.100	<0.100	<0.100	4.77	<0.100	<0.100	<0.100	<0.100
	6/19/2014	SVE-4	<0.100	<0.100	<0.100	<0.100	<0.100	0.195	<0.100	<0.100	<0.100	<0.100
	9/19/2014	SVE-4	<0.100	<0.100	<0.100	0.686	7.01	119	<0.100	<0.100	<0.100	<0.100
	12/19/2014	SVE-4	<0.100	<0.100	<0.100	0.125	0.306	4.60	<0.100	<0.100	<0.100	<0.100
	3/26/2015	SVE-4	<0.100	<0.100	<0.100	<0.100	<0.100	2.09	<0.100	<0.100	<0.100	<0.100
	6/26/2015	SVE-4	<0.100	<0.100	<0.100	<0.100	<0.100	1.66	<0.100	<0.100	<0.100	<0.100
	1/7/2016	SVE-4	<0.100	<0.100	<0.100	<0.100	<0.100	0.67	<0.100	<0.100	<0.100	<0.100
	3/17/2016	SVE-4	*	---	---	---	---	---	---	---	---	---
	6/23/2016	SVE-4	<0.100	<0.100	0.249	<0.100	<0.100	1.73	<0.100	<0.100	<0.100	<0.100
SVE-5	1/31/2013	SVE-5	<0.100	<0.100	0.147	0.62	1.06	45.0	<0.100	<0.100	<0.100	<0.100
	3/8/2013	SVE-5	<0.100	<0.100	<0.100	0.46	0.66	55.2	<0.100	<0.100	<0.100	<0.100
	4/10/2013	SVE-5	<0.100	<0.100	<0.100	0.934	1.40	38.1	<0.100	<0.100	<0.100	<0.100
	5/30/2013	SVE-5	<0.100	0.222	<0.100	<0.100	0.473	33.3	<0.100	<0.100	<0.100	<0.100
	6/11/2013	SVE-5	0.458	<0.100	<0.100	5.87	9.23	238	<0.100	<0.100	<0.100	<0.100
	9/12/2013	SVE-5	0.224	<0.100	<0.100	4.04	8.7	1,720	0.135	<0.100	0.262	<0.100
	12/23/2013	SVE-5	<0.100	<0.100	<0.100	2.26	3.5	472	<0.100	<0.100	<0.100	<0.100
	3/19/2014	SVE-5	<0.100	<0.100	<0.100	<0.100	<0.100	6.07	<0.100	<0.100	<0.100	<0.100
	6/19/2014	SVE-5	<0.100	<0.100	<0.100	<0.100	<0.100	0.806	<0.100	<0.100	<0.100	<0.100
	9/19/2014	SVE-5	<0.100	<0.100	<0.100	0.311	0.648	125	<0.100	<0.100	<0.100	<0.100
	12/19/2014	SVE-5	<0.100	<0.100	<0.100	<0.100	<0.100	22.0	<0.100	<0.100	<0.100	<0.100
	3/26/2015	SVE-5	<0.100	<0.100	<0.100	<0.100	<0.100	0.196	16.7	<0.100	<0.100	<0.100
	6/26/2015	SVE-5	<0.100	<0.100	<0.100	<0.100	<0.100	0.259	50.10	<0.100	<0.100	<0.100
	1/7/2016	SVE-5	<0.100	<0.100	<0.100	0.478	1.88	53.80	<0.100	<0.100	<0.100	<0.100
	3/17/2016	SVE-5	<0.100	<0.100	<0.100	<0.100	<0.100	2.36	<0.100	<0.100	<0.100	<0.100
	6/23/2016	SVE-5	<0.100	<0.100	0.240	0.153	0.307	21.5	<0.100	<0.100	<0.100	<0.100

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Former Thinker Toys (Bellevue)

Sample Location	Sample Date	Sample Number		trans-1,2-Dichloroethene	Chloroethane	Toluene	cis-1,2-Dichloroethene	Trichloroethene (TCE)	Tetrachloroethene (PCE)	Chloroform	m,p-Xylene	1,1,1-Trichloroethane
(Units reported in ug/L)												
SVE-6	1/31/2013	SVE-6	<0.100	<0.100	0.130	0.246	0.716	77.6	<0.100	<0.100	<0.100	<0.100
	3/8/2013	SVE-6	<0.100	<0.100	<0.100	nd	0.257	307	<0.100	<0.100	<0.100	<0.100
	4/10/2013	SVE-6	<0.100	<0.100	<0.100	0.204	0.471	240	<0.100	<0.100	<0.100	<0.100
	5/30/2013	SVE-6	<0.100	<0.100	<0.100	nd	nd	47.4	<0.100	<0.100	<0.100	<0.100
	6/11/2013	SVE-6	<0.100	<0.100	<0.100	0.284	1.21	370	<0.100	<0.100	<0.100	<0.100
	9/12/2013	SVE-6	<0.100	<0.100	<0.100	0.287	0.748	238	<0.100	<0.100	<0.100	<0.100
	12/23/2013	SVE-6	<0.100	<0.100	<0.100	0.153	0.290	55.3	<0.100	<0.100	<0.100	<0.100
	3/19/2014	SVE-6	<0.100	<0.100	<0.100	nd	0.159	11.5	<0.100	<0.100	<0.100	<0.100
	6/19/2014	SVE-6	<0.100	<0.100	<0.100	nd	nd	1.2	<0.100	<0.100	<0.100	<0.100
	9/19/2014	SVE-6	<0.100	<0.100	<0.100	0.835	0.960	196	<0.100	<0.100	<0.100	<0.100
	12/19/2014	SVE-6	<0.100	<0.100	<0.100	0.287	0.348	27.7	<0.100	<0.100	<0.100	<0.100
	3/26/2015	SVE-6	<0.100	<0.100	<0.100	nd	0.130	13.6	<0.100	<0.100	<0.100	<0.100
	6/26/2015	SVE-6	<0.100	<0.100	<0.100	nd	nd	14.60	<0.100	<0.100	<0.100	<0.100
	1/7/2016	SVE-6	<0.100	<0.100	<0.100	0.157	0.491	39.40	<0.100	<0.100	<0.100	<0.100
	3/17/2016	SVE-6	<0.100	<0.100	<0.100	0.199	0.350	16.8	<0.100	<0.100	<0.100	<0.100
	6/23/2016	SVE-6	<0.100	<0.100	0.212	<0.100	<0.100	7.55	<0.100	<0.100	<0.100	<0.100
SVE-7	1/31/2013	SVE-7	<0.100	<0.100	0.139	0.388	0.712	57.2	<0.100	0.187	<0.100	
	3/8/2013	SVE-7	<0.100	<0.100	<0.100	0.591	7.500	165.0	<0.100	<0.100	<0.100	<0.100
	4/10/2013	SVE-7	<0.100	<0.100	<0.100	<0.100	0.688	22.9	<0.100	<0.100	<0.100	<0.100
	5/30/2013	SVE-7	<0.100	<0.100	<0.100	<0.100	<0.100	6.0	<0.100	<0.100	<0.100	<0.100
	6/11/2013	SVE-7	<0.100	<0.100	<0.100	<0.100	1.72	89.0	<0.100	<0.100	<0.100	<0.100
	9/12/2013	SVE-7	<0.100	<0.100	<0.100	0.570	16.2	330	<0.100	<0.100	<0.100	<0.100
	12/23/2013	SVE-7	<0.100	<0.100	<0.100	0.244	6.1	102	<0.100	<0.100	<0.100	<0.100
	3/19/2014	SVE-7	<0.100	<0.100	<0.100	<0.100	1.34	18.6	<0.100	<0.100	<0.100	<0.100
	6/19/2014	SVE-7	<0.100	<0.100	<0.100	<0.100	0.664	3.10	<0.100	<0.100	<0.100	<0.100
	9/19/2014	SVE-7	<0.100	<0.100	<0.100	0.107	1.530	87.6	<0.100	<0.100	<0.100	<0.100
	12/19/2014	SVE-7	<0.100	<0.100	<0.100	<0.100	0.338	13.8	<0.100	<0.100	<0.100	<0.100
	3/26/2015	SVE-7	<0.100	<0.100	<0.100	<0.100	0.436	7.24	<0.100	<0.100	<0.100	<0.100
	6/26/2015	SVE-7	<0.100	<0.100	<0.100	<0.100	0.104	6.25	<0.100	<0.100	<0.100	<0.100
	1/7/2016	SVE-7	<0.100	<0.100	<0.100	<0.100	0.975	29.0	<0.100	<0.100	<0.100	<0.100
	3/17/2016	SVE-7	<0.100	<0.100	<0.100	<0.100	<0.100	1.0	<0.100	<0.100	<0.100	<0.100
	6/23/2016	SVE-7	<0.100	<0.100	0.203	<0.100	0.310	7.9	<0.100	<0.100	<0.100	<0.100
SVE-8	1/31/2013	SVE-8	<0.100	<0.100	0.134	0.349	0.373	19.7	<0.100	0.203	<0.100	
	3/8/2013	SVE-8	<0.100	<0.100	nd	nd	0.108	6.9	<0.100	nd	<0.100	
	4/10/2013	SVE-8	<0.100	<0.100	nd	nd	nd	4.8	<0.100	nd	<0.100	
	5/30/2013	SVE-8	<0.100	<0.100	nd	nd	nd	4.75	<0.100	nd	<0.100	
	6/11/2013	SVE-8	<0.100	<0.100	nd	nd	0.175	31.6	<0.100	nd	<0.100	
	9/12/2013	SVE-8	<0.100	<0.100	nd	nd	0.243	26.3	<0.100	nd	<0.100	
	12/23/2013	SVE-8	<0.100	<0.100	nd	nd	nd	1.3	<0.100	nd	<0.100	
	3/19/2014	SVE-8	<0.100	<0.100	nd	nd	0.391	10.5	<0.100	nd	<0.100	
	6/19/2014	SVE-8	<0.100	<0.100	nd	nd	0.163	2.08	<0.100	nd	<0.100	
	9/19/2014	SVE-8	<0.100	<0.100	nd	nd	nd	13.7	<0.100	nd	<0.100	
	12/19/2014	SVE-8	<0.100	<0.100	nd	nd	nd	6.04	<0.100	nd	<0.100	
	3/26/2015	SVE-8	<0.100	<0.100	nd	nd	nd	2.01	<0.100	nd	<0.100	
	6/26/2015	SVE-8	<0.100	<0.100	nd	nd	nd	2.45	<0.100	nd	<0.100	
	1/7/2016	SVE-8	<0.100	<0.100	nd	nd	0.189	12.9	<0.100	nd	<0.100	
	3/17/2016	SVE-8	*	---	---	---	---	---	---	---	---	
	6/23/2016	SVE-8	<0.100	<0.100	0.201	<0.100	<0.100	3.75	<0.100	<0.100	<0.100	<0.100

TABLE 1
Vapor Sample Analyses, Volatile Organic Compounds (1)
Former Thinker Toys (Bellevue)

Sample Location	Sample Date	Sample Number	trans-1,2-Dichloroethene	Chloroethane	Toluene	cis-1,2-Dichloroethene	Trichloroethene (TCE)	Tetrachloroethene (PCE)	Chloroform	m,p-Xylene	1,1,1-Trichloroethane
(Units reported in ug/L)											
SVE-9	1/31/2013	SVE-9	<0.100	<0.100	0.123	0.312	0.256	14.4	<0.100	<0.100	<0.100
	3/8/2013	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	17.2	<0.100	<0.100	<0.100
	4/10/2013	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	6.20	<0.100	<0.100	<0.100
	5/30/2013	SVE-9	<0.100	0.222	<0.100	<0.100	<0.100	13.7	<0.100	<0.100	<0.100
	6/11/2013	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	15.2	<0.100	<0.100	<0.100
	9/12/2013	SVE-9	<0.100	<0.100	<0.100	<0.100	0.441	39.4	<0.100	<0.100	<0.100
	12/23/2013	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	1.58	<0.100	<0.100	<0.100
	3/19/2014	SVE-9	<0.100	<0.100	<0.100	<0.100	0.158	6.32	<0.100	<0.100	<0.100
	6/19/2014	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	0.603	<0.100	<0.100	<0.100
	9/19/2014	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	5.34	<0.100	<0.100	<0.100
	12/19/2014	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	4.53	<0.100	<0.100	<0.100
	3/26/2015	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	1.15	<0.100	<0.100	<0.100
	6/26/2015	SVE-9	<0.100	<0.100	<0.100	<0.100	<0.100	1.90	<0.100	<0.100	<0.100
	1/7/2016	SVE-9	<0.100	<0.100	<0.100	<0.100	0.125	10.60	<0.100	<0.100	<0.100
	3/17/2016	SVE-9	*	---	---	---	---	---	---	---	---
	6/23/2016	SVE-9	<0.100	<0.100	0.178	<0.100	<0.100	2.88	<0.100	<0.100	<0.100
RL			0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100

Notes: Refer to site diagram(s) for sampling locations.

(1) Method EPA 8260B, Other 8260 Compounds not listed were not detected.

H Holding times for preparation or analysis exceeded.

<0.10 The analyte was not detected at a concentration above the indicated reporting limit.

--- Not Analyzed - No Sample Collected

* Well closed at valve, no sample collected this event.

4.8 Bold Number(s) Indicates Contaminant Detected.

RL Laboratory Reporting Limits for EPA Method 8260

(T) Sample analysis performed by EPA Method TO-15 (ug/ms), results were converted to match EPA Method 8260 ($\mu\text{g}/\text{L}$). Detected analytes shown with nd were below typical Method 8260 reporting limits. Other compounds not listed also were below typical Method 8260 reporting limits.

dup Duplicate Sample

Most Recent Sampling Event

Table 2
Vapor Contaminant Removal Summary Calculations
Former Thinker Toys (Bellevue)
Tetrachloroethene (PCE) Removal

Period Start Date	Period End Date	Pounds Removed During Period	Elapsed Days During Period	Pounds Removed Daily (Average for Sampling Interval)
December 7, 2012	December 28, 2012	4.43	21	0.211
December 28, 2012	January 5, 2013	2.27	8	0.284
January 5, 2013	January 14, 2013	3.10	9	0.344
January 14, 2013	January 22, 2013	2.79	8	0.349
January 22, 2013	January 31, 2013	2.96	9	0.329
January 31, 2013	March 8, 2013	10.35	36	0.288
March 8, 2013	April 10, 2013	5.94	33	0.180
April 10, 2013	May 30, 2013	5.58	50	0.112
May 30, 2013	June 11, 2013	2.27	12	0.189
June 11, 2013	September 12, 2013	22.10	93	0.238
September 12, 2013	December 23, 2013	13.16	102	0.129
December 23, 2013	March 19, 2014	3.01	86	0.035
March 19, 2014	June 19, 2014	1.79	92	0.019
June 19, 2014	September 19, 2014	5.78	92	0.063
September 19, 2014	December 19, 2014	3.21	91	0.035
December 19, 2014	March 26, 2015	1.46	97	0.015
March 26, 2015	June 26, 2015	3.22	92	0.035
June 26, 2015	January 7, 2016	4.92	195	0.025
January 7, 2016	March 17, 2016	0.94	70	0.013
March 17, 2016	June 23, 2016	0.24	97	0.003

*Total Pounds Removed: 99.52

*Total Days of Operation: 1294

* Quantity estimated from start of operation to most recent day of sample collection.

TABLE 3
Groundwater Elevation Measurements
Former Thinker Toys (Bellevue)
10610 Northeast 8th Street

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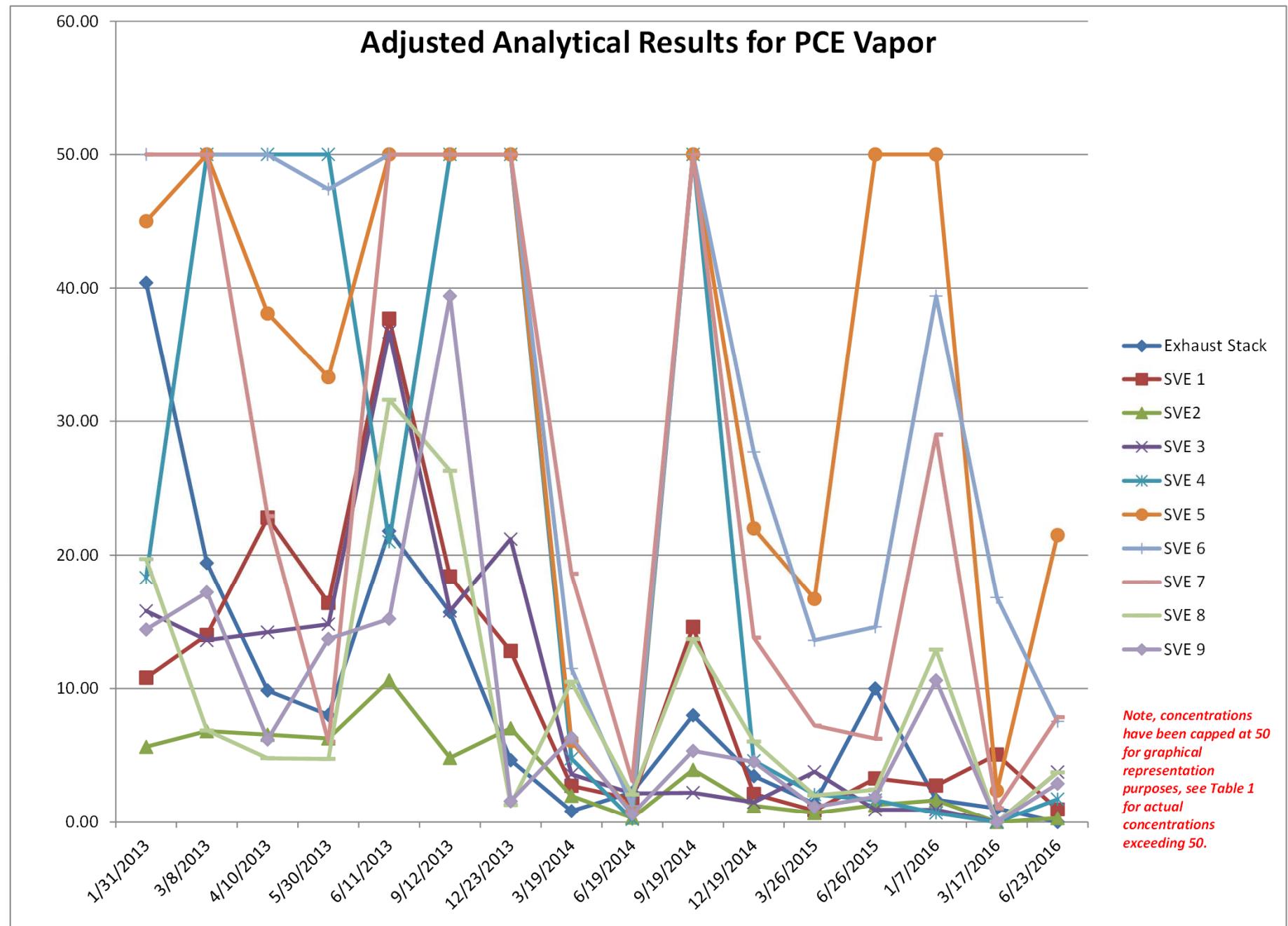
TABLE 3
Groundwater Elevation Measurements
Former Thinker Toys (Bellevue)
10610 Northeast 8th Street

Notes:

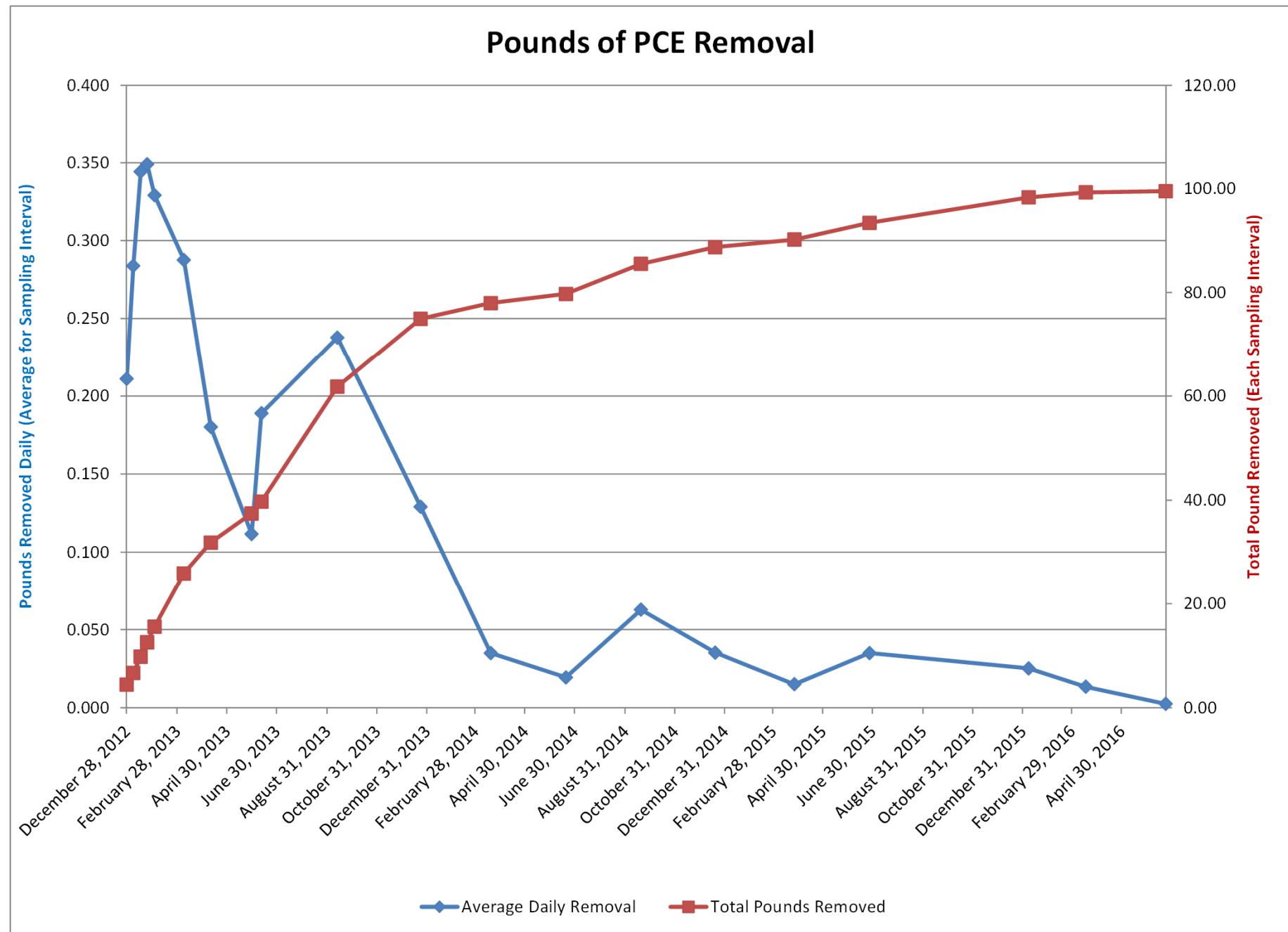
Elevation Datum reported as mean sea level, vertical datum NAVD 88.

GRAPHS

Graph 1
Former Thinker Toys



Graph 2
Former Thinker Toys



Graph 3
Former Thinker Toys

