Colbert Landfill Remediation Project Annual Report 2015

Progress Report for

April 2014 through April 2015

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Colbert Landfill Remediation Project Summary

The Colbert Landfill Superfund site is a closed, 40-acre, municipal solid waste landfill located approximately 15 miles north of Spokane, Washington, and about 2.5 miles north of Colbert, Washington. The landfill received waste from 1968 to 1986 when it became filled to capacity. Groundwater in the vicinity of the landfill was found to be contaminated with volatile organic compounds and in 1983, the landfill was place on the National Priorities List (NPL) by EPA. In 1989, a consent decree was executed to implement a site remedy. The site remedy includes:

- An available alternate water supply for residential wells impacted by groundwater contamination originating from the landfill.
- Institutional Controls
- Construction and operation of a pump and treat system to capture and prevent further spread of groundwater contaminants.
- Landfill closure according to the State of Washington regulations Minimal Functional Standards (WAC173-304).
- Monitoring of contaminants to protect human health and the environment at the site.

Construction of a pump and treat (P&T) system was completed in 1994. The P&T system operated successfully for 20 years. In 2014, an EPA recommended shut-down test was initiated to determine if the facility was continuing to add any significant benefit to the clean-up .

The programs currently in place include a Shut-down Test (lower aquifer) for the pump and treat system; and upper aquifer compliance groundwater monitoring (includes 1-4,dioxane monitoring' and MFS monitoring of the upper aquifer); residential well monitoring (includes both upper and lower aquifers); and landfill cover maintenance and monitoring. The groundwater monitoring programs and criteria are summarized below.

Current Monitoring Programs

Program	Aquifer	Parameters	Schedule
Shut-down Test	Lower	VOC's	Quarterly
Upper Aquifer Compliance	Upper	VOC's	Annual (Extraction wells quarterly)
1,4-Dioxane Sampling	Upper	1,4-Dioxane	Annual
MFS Monitoring	Upper	Cl/NH3/NO2/NH3 /SO4/Fe/Mn/Zn/T OC/COD	Annual
Residential Monitoring	Lower /Upper	VOC's	Monthly/Quarterly/SemiAnnual /Annual/BiAnnual

Program Criteria

PROGRAM	CRITERIA	TCA	DCE	DCA	TCE	PCE	MC	1,4-Dioxane		Units
CONSENT DECREE	Performance	200	7	4050	5	0.7	2.5			
	Evaluation	200	7	4050	5	0.7	2.5	7		
SHUT-DOWN TEST	Action Level	130	4.55	2632	3.25	0.5	1.63			
	Evaluation	200	7	4050	5	0.7	2.5			ug/L
RESIDENTIAL										
Monthly sampling initiated, evaluated in 12 months	Action Level	130	4.55	2632	3.25	0.5	1.63			
Exeedance requires alternative drinking w ater source be supplied	MCL	200	7	4050	5	0.7	2.5			
		Cl	**Fe**	**Mn**	**Zn**	**TOC**	**COD**	**SO4**	**NO3**	
MFS	(mg/L)	250	0.3	0.05	5	NA	NA	250	10	mg/L

Shut-down Test-Lower Aquifer

A pump and treat system was successfully operated from 1994 through March 31, 2014 to prevent further spread of groundwater contamination emanating from the landfill. A shut-down test for the lower aquifer pump and treat system was deemed appropriate for the site after a Remedial System Evaluation (RSE) was performed as recommended in the 2009 Five Year Review (EPA). The RSE recommendation stated that with the extensive groundwater monitoring programs in place and with concentrations having decreased substantially after 20 years of operation, the current pump and treat system may not be adding significant benefit to the overall protectiveness of the remedy and that a shut-down test would help determine its efficacy. The shut-down test procedures are outlined in the *Final Work Plan, Groundwater Pump and Treat System Shut-down Test, Colbert Landfill CERCLA Site, Spokane County Utilities/ Landau Assoc. 2013*. See Section 2 of this report for more details. The upper aquifer monitoring wells are governed by the Consent Decree compliance, Post Closure (MFS), and 1,4-dioxane sampling programs and are not included in the Shut-down test work plan.

Upper Aquifer Monitoring

Compliance Monitoring (VOC's)

The compliance monitoring sampling program is outlined in the Consent Decree and performed according to the Colbert Landfill Operations and Maintenance manual *(Colbert Landfill Operations and Maintenance Manual, 1998*.). During implementation of the lower aquifer system Shut-down Test, the compliance monitoring will only apply to the upper aquifer. Per conditions set forth in the consent decree (Appendix B, page V-7), the south system extraction wells are not required to be in operation and have been on stand-by status since 2004, and therefore are included in the compliance monitoring program.

1, 4-Dioxane Sampling

During the 2005 (3rd) Five Year Site Review, EPA specified an additional constituent (1,4-Dioxane)for evaluation at the Colbert Landfill site. After extensive monitoring in both the upper and lower aquifers, it was determined that an ongoing monitoring program would apply to selected wells in the upper aquifer only. The selected upper aquifer well locations are sampled for 1,4-dioxane according to the *1,4-Dioxane Work Plan for the Colbert Landfill (December 2007)*.

Minimal Functional Standards Post Closure

The landfill was closed pursuant to requirements of the Minimal Functional Standards for Solid Waste Handling (MFS, WAC173-304). Lower aquifer locations, as outlined in the MFS Groundwater Monitoring Plan (Landau Assoc., 1996), require no additional monitoring after the 2 year monitoring period, which ended in January 1999. Monitoring for the upper aquifer continue according to the *Colbert Landfill Operations and Maintenance Manual, 1998*., and the *MFS Groundwater Monitoring Plan, 1996* .

Residential Well Monitoring

The Consent Decree specified that domestic wells within the vicinity of the landfill be monitored to protect human health. Domestic well locations and schedules for this program were selected by proximity to landfill contamination and are evaluated on a regular basis to accommodate any changes in groundwater contamination. This program includes well locations in both the upper and lower aquifers. Sampling for this program is done in accordance with the *Quality Assurance and Field Sampling Plan-Colbert Residential Well Sampling, 1991* and is governed by the Consent Decree.

Landfill Operations and Maintenance

In 1997, the landfill closure construction (cover system and components) was completed as part of the MFS requirements. The landfill gas collection and treatment system is monitored and maintained on a regular basis as outlined in the *Operations and Maintenance Manual for Colbert Landfill Closure, CH2MHill, May 1997*.

1 Shut-down Test

A shut-down test of the Colbert Landfill Groundwater Pump and Treat facility was initiated April 1, 2014 when all lower aquifer extraction wells were turned off and placed in standby mode. The shut-down test was deemed appropriate for the site after a Remedial System Evaluation (RSE) was performed as recommended in the 2009 Five Year Review (EPA). The shut-down test is performed according to the *Final Work Plan, Groundwater Pump and Treat System Shut-down Test, Colbert Landfill CERCLA Site, Spokane County Utilities/ Landau Assoc. 2013*.

1.1 Shut-down Testing Locations and Schedule

The lower aquifer wells selected as monitoring locations for the Colbert Landfill pump and treat system shut-down test include: the lower aquifer extraction wells (CP-E1, CP-E2, CP-E3, CP-W1, CP-W2, and CP-W3), the compliance monitoring well clusters (CD-41, CD-42, CD-43, CD-44, CD-45, and CD-48), and monitoring well CD-49. Locations are presented in Figure 1-1 . Collection of groundwater samples from the shut-down locations was performed quarterly (see Table 1-1) and occurred during July 2014, October 2014, January 2015 and April 2015.

1.2 Shut-down Test Monitoring

The lower aquifer extraction wells, the compliance monitoring well clusters (CD-41, CD-42, CD-43, CD-44, CD-45, and CD-48) and monitoring well CD-49 were sampled according to the *Colbert Landfill Operations and Maintenance Manual, 1998.* Field parameters were taken and VOC samples were collected. There were no problems/issues associated with sampling during the reporting period.

1.2.1 Groundwater Elevations

Groundwater elevations for the reporting period are shown in Table 1-2 and in Figure 1-2. Estimated groundwater contours and flow are shown in Figure 1-3. Elevations in the lower aquifer were consistent and followed typical seasonal variation with levels slightly higher in the spring and slightly lower during the fall. Extraction well hydrographs show the anticipated increase in groundwater levels at the immediate vicinity of those wells in April 2014 when the system was shut down.

1.2.2 Field Parameters

Field parameters taken at the shut-down test locations are shown in Table 1-2. The highest conductivities were seen in the east system extraction wells. Conductivity values in monitoring wells ranged from 297 to 525 umhos/cm. Measurements of pH ranged from 8.06 to 6.87, with the lowest pH values found in the east system extraction wells.

1.2.3 Constituents of Concern (COC's)

Constituent of concern concentrations for Shut-down Test locations are presented Table 1-4. Concentrations versus time for Shut-down locations are presented in Figure 1-4. All detected concentrations found in the shut-down test compliance wells were well below any applicable criteria. Criteria are shown in Table 2-2. The only COC found in any of the shut-down program criteria dependent wells was TCA, and the highest concentration found was at 3.13 ug/L.

Monitoring well CD-49 had a low concentration of TCA detected in it during the April 2015 sample round. See Figure 1-9 for the estimated TCA plume boundaries in the lower aquifer.

Lower aquifer extraction wells are not criteria dependent locations, and therefore actions during the shut-down test are not governed by COC concentrations in these wells. Analytical results from the extraction well sampling are shown in Table 1-5. Time versus concentrations are found in Figure 1-5 through Figure 1-8. In general, concentrations of COC's increased in east system wells and CP-W3, while CP-W2 showed a significant decrease in concentrations three months after the wells were inactivated.

1.3 Data Evaluation

Data indicates a slight shift in plume concentrations toward the western edge of landfill, evident by the first concentration of TCA found in CD-49, decreasing concentrations found in CP-W2 and increasing concentrations (rebound) found in CP-W3.

1.4 Program Changes or Modifications

No criteria were exceeded during the reporting period. As stated in the work plan, sampling at the lower aquifer monitoring wells will now move to a semiannual schedule and will be sampled again in October 2015. Quarterly sampling will continue at the extraction wells, as running the wells periodically will assist with preventive maintenance and provide indicators for any possible changes in COC concentrations near the landfill boundaries.

1.5 Cost Savings

Typical electrical costs associated with operating the pump and treat system for the lower aquifer on a continual basis for a period of one year were approximately $59,000. From April 1, 2014 to April 1, 2015 the cost for electricity at the facility during the first year of the shut-down test was $16,939.31.

Increases in lab costs were minimal when compared to the savings in electricity. The estimated cost for three additional sampling rounds was $12,400. Labor costs for three additional sampling rounds were estimated to be approximately $6,000.

Typical Annual Electrical Costs		**$59,000**
Electrical Costs for First Year of Shut-down Test		-$16,940
Additional Lab Cost Associated with Shut-down Test		-$12,400
Estimated labor costs for additional sample rounds		-$6,000
Estimated Total Cost Savings		$23,660

Figure 1-1 Shut-down Test Locations

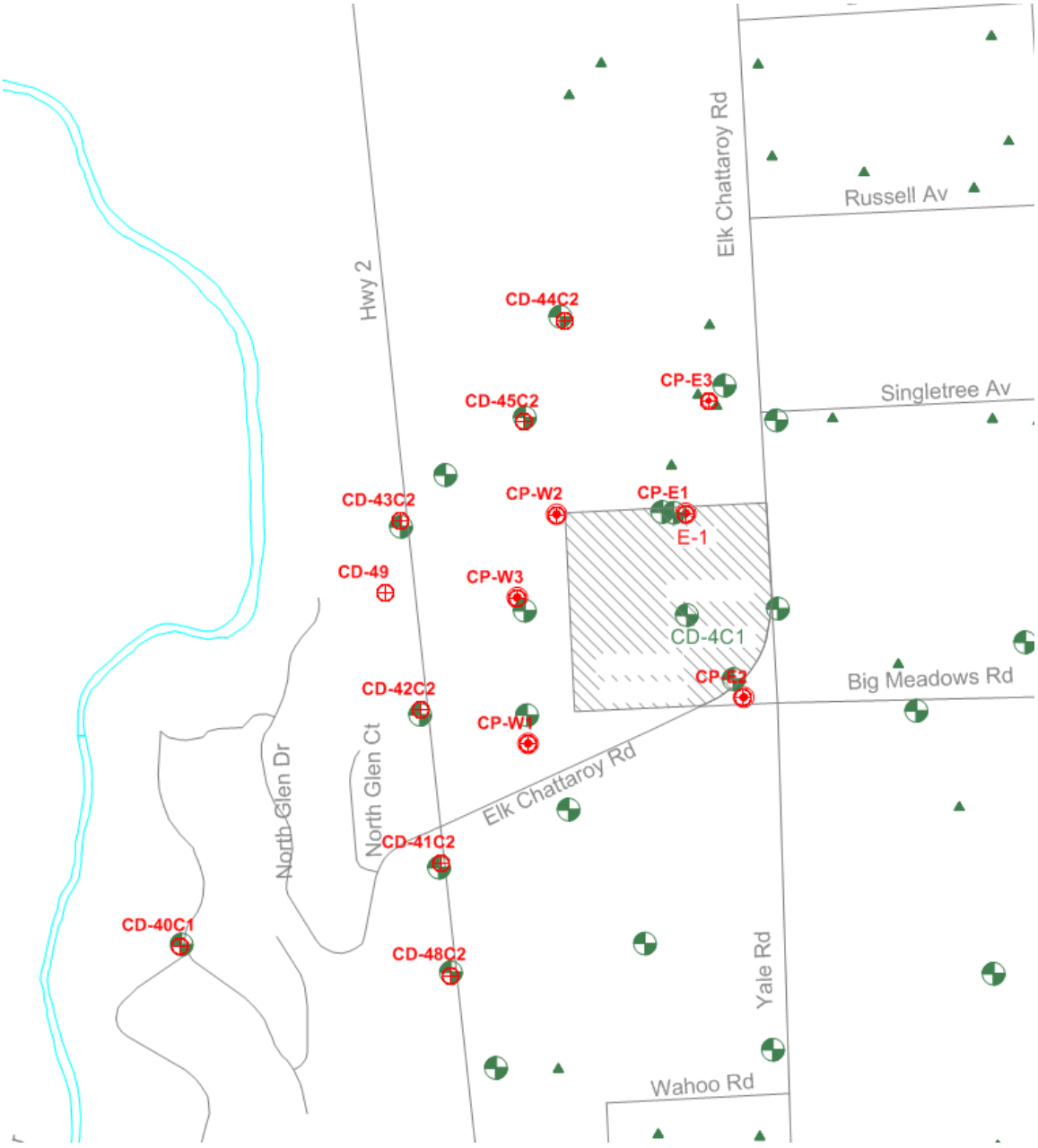
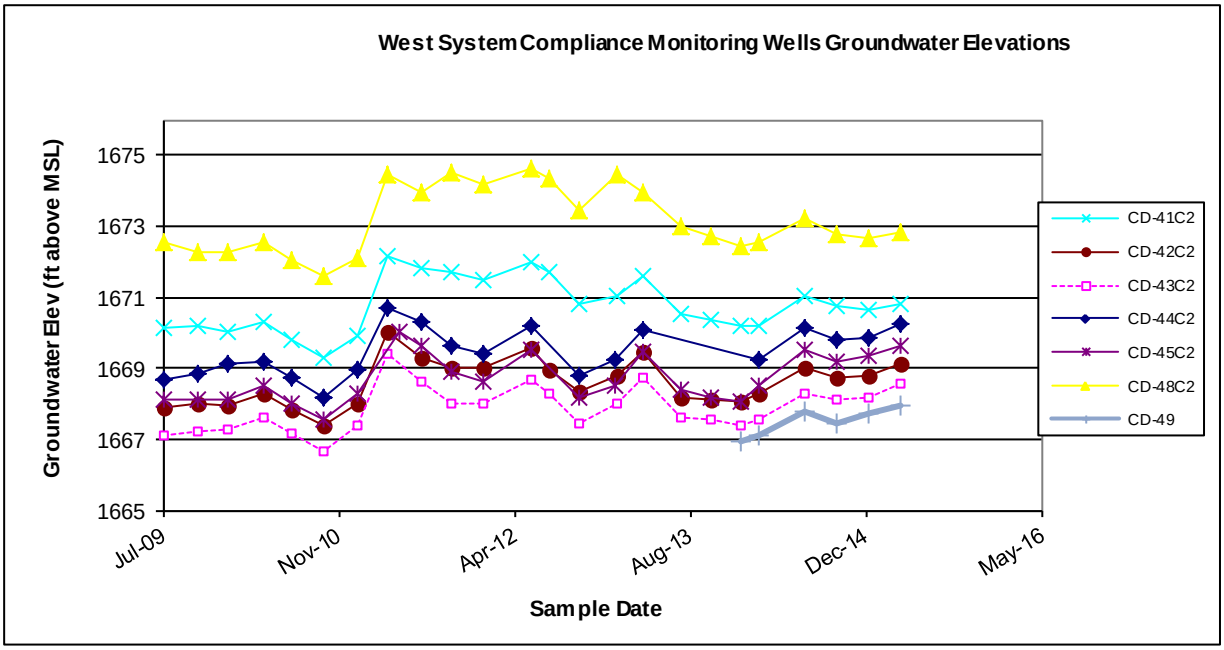


Table 1-1 Colbert Landfill Shut-down Test Sampling Schedule Year 1

System	Well ID	Monitoring Frequency		Shut-down Criteria Applies?
		Water Levels	Sampling	
West	CD-41C1	Q	Q	Yes
	CD-41C2	Q	Q	
	CD-41C3	Q	Q	
	CD-42C1	Q	Q	Yes
	CD-42C2	Q	Q	
	CD-42C3	Q	Q	
	CD-43C1	Q	Q	Yes
	CD-43C2	Q	Q	
	CD-43C3	Q	Q	
	CD-44C1	Q	Q	Yes
	CD-44C2	Q	Q	
	CD-44C3	Q	Q	
	CD-45C1	Q	Q	Yes
	CD-45C2	Q	Q	
	CD-45C3	Q	Q	
	CD-48C1	Q	Q	Yes
	CD-48C2	Q	Q	
	CD-48C3	Q	Q	
	CD-49	Q	Q	Yes
	CP-W1	Q	Q	No
	CP-W2	Q	Q	
	CP-W3	Q	Q	
East	CP-E1	Q	Q	No
	CP-E2	Q	Q	
	CP-E3	Q	Q	

Figure 1-2 Lower Aquifer Groundwater Elevations



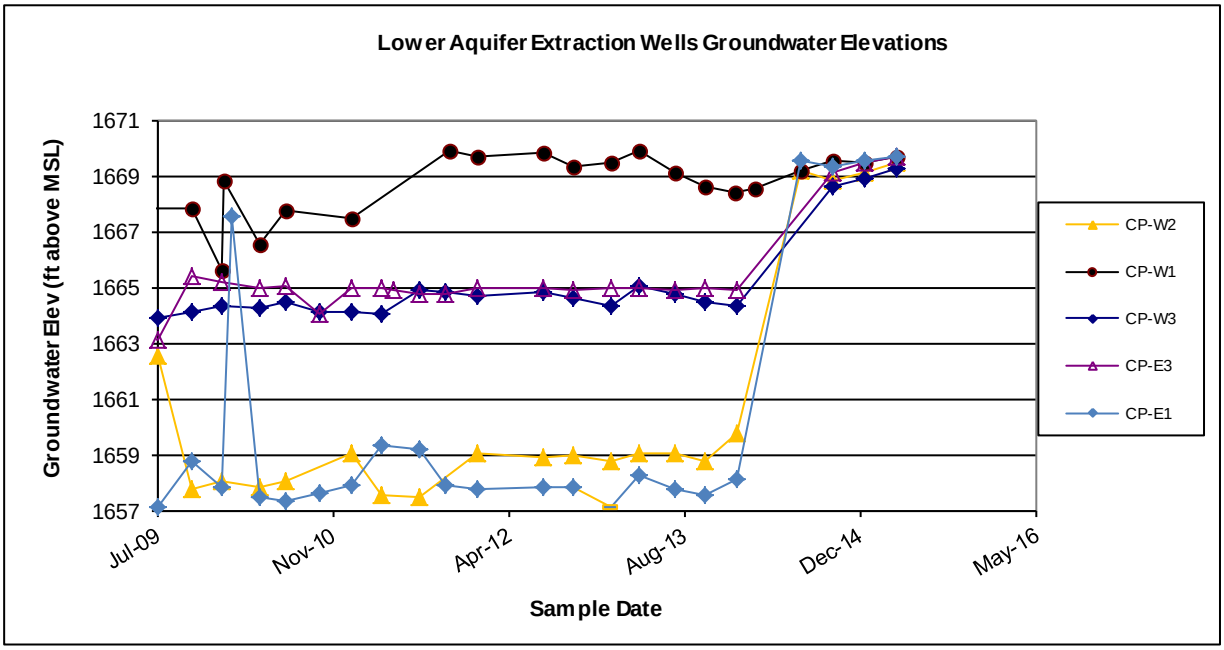


Figure 1-3 Lower Aquifer Groundwater Contours

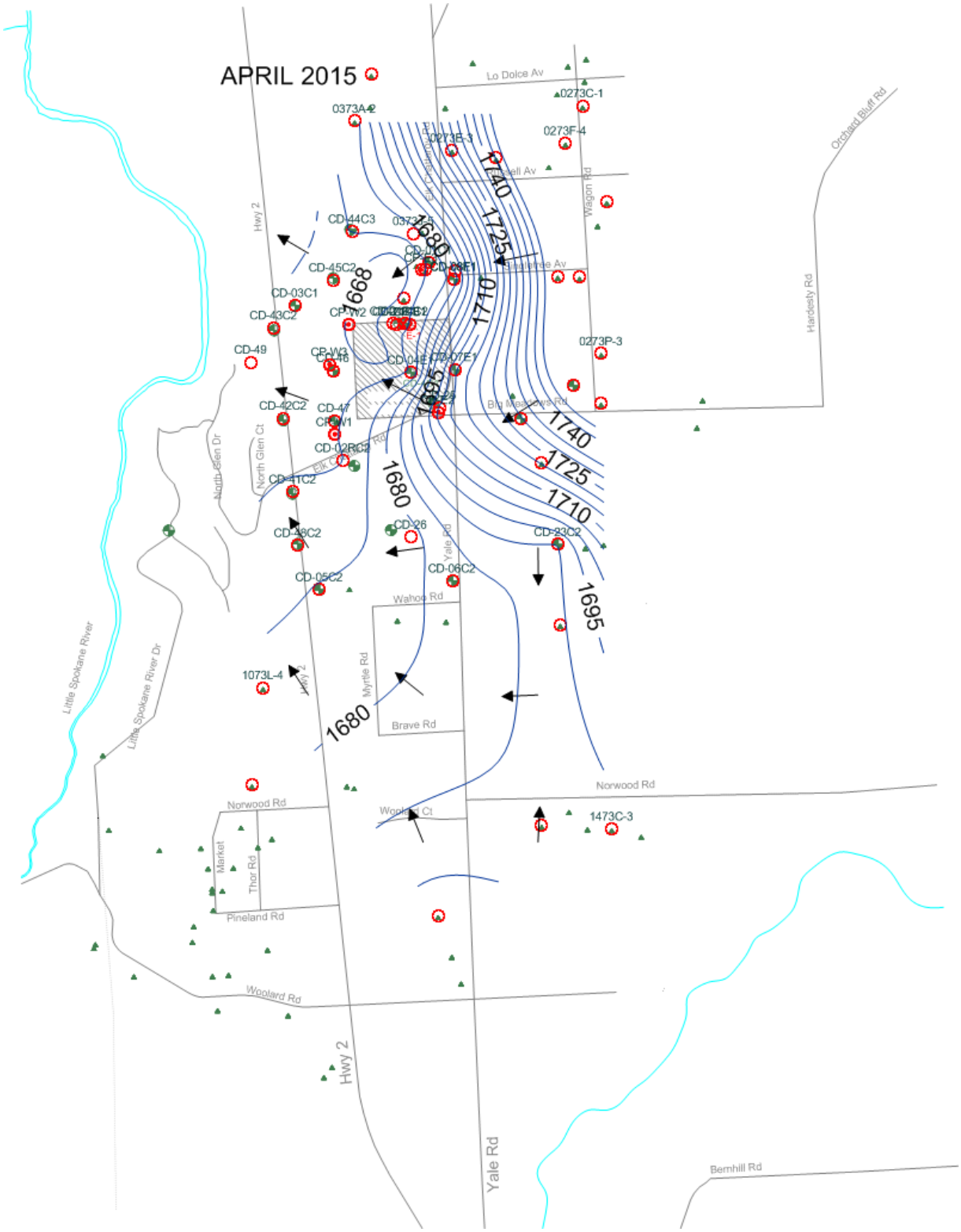


Table 1-2 Shut-down Test Location Field Parameters

StationID	SampleDate	WtrElev	FieldTemp	FieldPH	FieldConduct	FieldTurbidity	Aquifer
CD-41C1	7/8/2014	1671.03	12	8.03	422	0.14	lower
CD-41C1	10/7/2014	1670.72	12.1	7.89	399	0.13	lower
CD-41C1	1/6/2015	1670.61	11.4	7.81	402	0.4	lower
CD-41C1	4/7/2015	1670.74	11.7	7.75	422	0.12	lower
CD-41C2	7/8/2014	1671.01	12.4	8.16	424	0.22	lower
CD-41C2	10/7/2014	1670.76	12	8.02	409	0.19	lower
CD-41C2	1/6/2015	1670.62	11.5	7.95	417	0.54	lower
CD-41C2	4/7/2015	1670.82	11.6	7.86	439	0.16	lower
CD-41C3	7/8/2014	1671.13	12.9	8	469	0.14	lower
CD-41C3	10/7/2014	1670.86	12.7	7.87	443	0.16	lower
CD-41C3	1/6/2015	1670.74	11.8	7.78	454	0.38	lower
CD-41C3	4/7/2015	1671	12	7.72	477	0.13	lower
CD-42C1	7/8/2014	1669.21	12	8.06	475	0.19	lower
CD-42C1	10/7/2014	1668.98	12.4	7.83	450	0.08	lower
CD-42C1	1/6/2015	1668.99	11.7	7.82	459	0.48	lower
CD-42C1	4/7/2015	1669.19	12.1	7.73	481	0.11	lower
CD-42C2	7/8/2014	1669.01	12.5	8.06	471	0.22	lower
CD-42C2	10/7/2014	1668.72	12.6	7.88	451	0.16	lower
CD-42C2	1/6/2015	1668.77	11.7	7.89	452	0.51	lower
CD-42C2	4/7/2015	1669.13	11.8	7.78	480	0.19	lower
CD-42C3	7/8/2014	1669.28	13.1	8.02	409	0.51	lower
CD-42C3	10/7/2014	1669	12.8	7.93	392	0.19	lower
CD-42C3	1/6/2015	1669.02	12.1	7.84	394	1.11	lower
CD-42C3	4/7/2015	1669.46	12.2	7.78	418	0.39	lower
CD-43C1	7/8/2014	1667.99	10.5	7.94	341	0.13	lower
CD-43C1	10/7/2014	1667.91	10.4	7.98	299	0.13	lower
CD-43C1	1/6/2015	1667.99	9.7	8.01	297	0.35	lower
CD-43C1	4/7/2015	1668.39	9.8	7.9	309	0.19	lower
CD-43C2	7/8/2014	1668.3	11.8	8	342	0.17	lower
CD-43C2	10/7/2014	1668.09	11.1	7.96	334	0.1	lower
CD-43C2	1/6/2015	1668.19	10.6	7.96	342	0.34	lower
CD-43C2	4/7/2015	1668.57	10.7	7.87	368	0.11	lower
CD-43C3	7/8/2014	1669.33	11.6	7.79	304	0.38	lower
CD-43C3	10/7/2014	1669.11	11.7	7.77	288	0.17	lower
CD-43C3	1/6/2015	1669.16	11.2	7.8	289	0.54	lower
CD-43C3	4/7/2015	1669.49	11.3	7.71	303	0.28	lower
CD-44C1	7/9/2014	1670.07	16.1	7.55	525	0.38	lower
CD-44C1	10/8/2014	1669.81	16.8	7.68	507	0.16	lower
CD-44C1	1/7/2015	1669.87	15.1	7.59	477	0.14	lower
CD-44C1	4/8/2015	1670.22	16.7	7.49	533	0.13	lower
CD-44C2	7/9/2014	1670.13	11.6	7.47	488	0.11	lower
CD-44C2	10/8/2014	1669.79	11.6	7.58	477	0.13	lower
CD-44C2	1/7/2015	1669.84	11.9	7.51	452	0.1	lower
CD-44C2	4/8/2015	1670.26	11.4	7.44	511	0.09	lower
CD-44C3	7/9/2014	1670.01	11.6	7.57	477	0.81	lower
CD-44C3	10/8/2014	1669.65	11.9	7.64	470	0.59	lower
CD-44C3	1/7/2015	1669.74	10.9	7.61	453	0.39	lower
CD-44C3	4/8/2015	1670.07	11.4	7.53	505	0.63	lower

Temp=degrees C; Conductivity=umhos/cm; Turbidity= NTU

Table 1-2(continued)

StationID	SampleDate	WtrElev	FieldTemp	FieldPH	FieldConduct	FieldTurbidity	Aquifer
CD-45C1	7/9/2014	1669.53	10.6	7.62	409	0.13	lower
CD-45C1	10/8/2014	1669.22	10.1	7.75	412	0.09	lower
CD-45C1	1/7/2015	1669.26	9.7	7.73	410	0.11	lower
CD-45C1	4/8/2015	1669.74	9.8	7.64	481	0.13	lower
CD-45C2	7/9/2014	1669.53	10.8	7.62	410	0.09	lower
CD-45C2	10/8/2014	1669.18	10.3	7.81	472	0.09	lower
CD-45C2	1/7/2015	1669.36	9.8	7.74	459	0.12	lower
CD-45C2	4/8/2015	1669.63	9.9	7.64	510	0.1	lower
CD-45C3	7/9/2014	1669.53	11.5	7.85	413	0.17	lower
CD-45C3	10/8/2014	1669.26	10.4	7.95	393	0.12	lower
CD-45C3	1/7/2015	1669.4	10	7.95	365	0.14	lower
CD-45C3	4/8/2015	1669.88	10.1	7.85	400	0.12	lower
CD-48C1	7/8/2014	1673.04	12	7.91	496	0.22	lower
CD-48C1	10/7/2014	1672.74	12.2	7.83	468	0.1	lower
CD-48C1	1/6/2015	1672.67	11.4	7.8	472	0.42	lower
CD-48C1	4/7/2015	1672.82	11.7	7.68	496	0.08	lower
CD-48C2	7/8/2014	1673.2	12.6	7.98	504	0.32	lower
CD-48C2	10/7/2014	1672.76	12.4	7.85	477	0.19	lower
CD-48C2	1/6/2015	1672.68	11.5	7.78	484	0.45	lower
CD-48C2	4/7/2015	1672.83	11.8	7.69	497	0.16	lower
CD-48C3	7/8/2014	1673.07	12.6	8	466	0.25	lower
CD-48C3	10/7/2014	1672.61	12.2	7.84	444	0.11	lower
CD-48C3	1/6/2015	1672.52	11.7	7.8	444	0.47	lower
CD-48C3	4/7/2015	1672.72	12	7.72	468	0.15	lower
CD-49	7/9/2014	1667.78	13.1	7.76	500	0.1	lower
CD-49	10/6/2014	1667.46	13	7.69	441	0.33	lower
CD-49	1/6/2015	1667.75	12.3	7.7	501	0.99	lower
CD-49	4/7/2015	1667.97	12.5	7.49	436	0.19	lower
CP-E1	7/10/2014	1669.54	11.9	7.04	986	1.24	lower
CP-E1	10/8/2014	1669.31	12	6.95	1390	1.8	lower
CP-E1	1/7/2015	1669.54	11.8	6.87	1125	3.08	lower
CP-E1	4/8/2015	1669.68	11.8	7.02	1100	2.03	lower
CP-E2	7/10/2014	1707.61	13.7	7.04	1165	0.63	lower
CP-E2	10/8/2014	1707.38	13.6	7.03	1520	0.45	lower
CP-E2	1/7/2015	1707.68	11.9	6.93	1199	1.64	lower
CP-E2	4/8/2015	1707.09	12.5	7.05	1159	2.62	lower
CP-E3	7/10/2014		11.9	7.19	844	1.8	lower
CP-E3	10/8/2014	1669.1	11.3	7.06	899	1.39	lower
CP-E3	1/7/2015	1669.49	9.9	7.08	871	1.22	lower
CP-E3	4/8/2015	1669.66	11.7	7.13	832	1.1	lower
CP-W1	7/10/2014	1669.15	13	7.97	510	1.32	lower
CP-W1	10/8/2014	1669.57	12	7.7	537	1.07	lower
CP-W1	1/7/2015	1669.47	11.3	7.61	530	0.94	lower
CP-W1	4/8/2015	1669.71	11.6	7.79	531	1.24	lower
CP-W2	7/10/2014	1669.19	10.8	8.06	450	1.33	lower
CP-W2	10/8/2014	1668.81	10.6	7.65	624	2.29	lower
CP-W2	1/7/2015	1669.13	9.7	7.68	506	1.96	lower
CP-W2	4/8/2015	1669.45	10.2	7.84	503	2.21	lower
CP-W3	7/10/2014		12.6	7.82	532	1.46	lower
CP-W3	10/8/2014	1668.58	11.1	7.58	741	0.32	lower
CP-W3	1/7/2015	1668.9	10.8	7.52	625	0.37	lower
CP-W3	4/8/2015	1669.24	11.3	7.68	641	0.68	lower

Temp=degrees C; Conductivity=umhos/cm; Turbidity= NTU

Table 1-3 Colbert Landfill Shut-down Test Criteria

	SHUT-DOWN TEST CRITERIA	
COC	ACTION LEVEL CRITERIA (ug/L)	CONSENT DECREE EVALUATION CRITERIA (ug/L)
TCA	130	200
DCA	2632	4050
DCE	4.55	7
MC	1.6	2.5
PCE	0.5	0.7
TCE	3.25	5

Table 1-4 Shut-down Test Location Analytical Results

StationID	Date	DCA	DCE	MC	PCE	TCA	TCE
CD-41C1	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C1	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C1	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C1	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C2	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C2	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C2	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C2	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C3	Jul-14	<0.5	<0.5	<0.5	<0.5	0.68	<0.5
CD-41C3	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-41C3	Jan-15	<0.5	<0.5	<0.5	<0.5	0.58	<0.5
CD-41C3	Apr-15	<0.5	<0.5	<0.5	<0.5	0.59	<0.5
CD-42C1	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C1	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C1	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C1	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C2	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C2	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C2	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C2	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C3	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C3	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C3	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-42C3	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C1	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C1	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C1	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C1	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C2	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C2	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C2	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C2	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C3	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C3	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C3	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-43C3	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-44C1	Jul-14	<0.5	<0.5	<0.5	<0.5	2.35	<0.5
CD-44C1	Oct-14	<0.5	<0.5	<0.5	<0.5	3.01	<0.5
CD-44C1	Jan-15	<0.5	<0.5	<0.5	<0.5	2.6	<0.5
CD-44C1	Apr-15	<0.5	<0.5	<0.5	<0.5	3.13	<0.5
CD-44C2	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-44C2	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-44C2	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-44C2	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

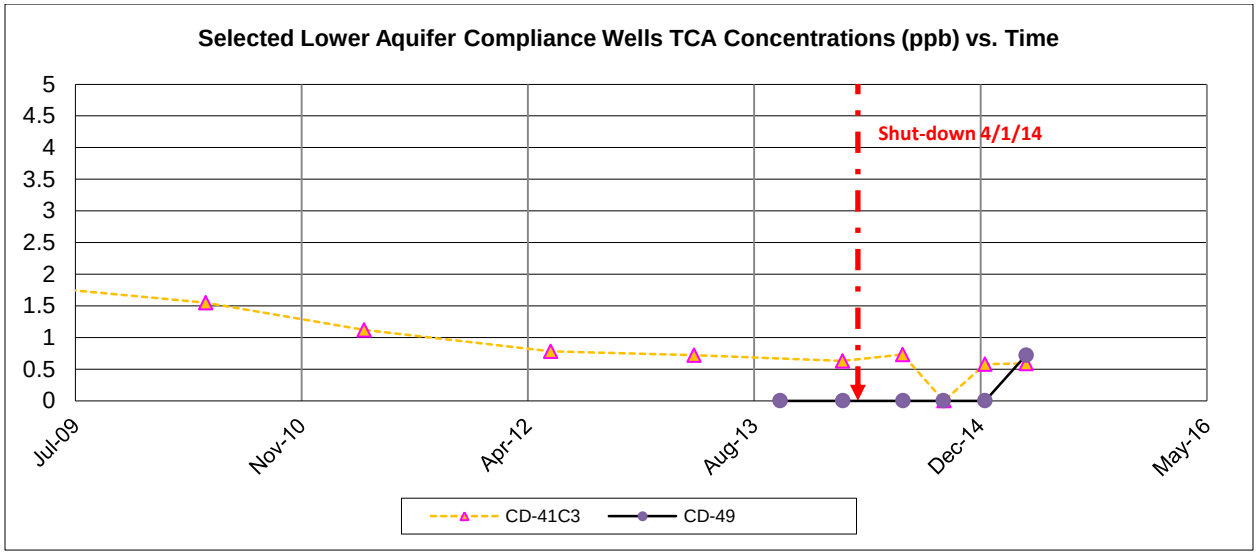
Table 1-4 Shut-down Test Location Analytical Results (Continued)

StationID	Date	DCA	DCE	MC	PCE	TCA	TCE
CD-44C3	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-44C3	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-44C3	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-44C3	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C1	Jul-14	<0.5	<0.5	<0.5	<0.5	1.11	<0.5
CD-45C1	Oct-14	<0.5	<0.5	<0.5	<0.5	0.97	<0.5
CD-45C1	Jan-15	<0.5	<0.5	<0.5	<0.5	0.94	<0.5
CD-45C1	Apr-15	<0.5	<0.5	<0.5	<0.5	1	<0.5
CD-45C2	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C2	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C2	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C2	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C3	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C3	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C3	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-45C3	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C1	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C1	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C1	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C1	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C2	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C2	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C2	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C2	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C3	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C3	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C3	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-48C3	Apr-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-49	Jul-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-49	Oct-14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-49	Jan-15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
CD-49	Apr-15	<0.5	<0.5	<0.5	<0.5	0.72	<0.5

Table 1-5 Lower Aquifer Extraction Well Analytical Results

StationID	Date	DCA	DCE	MC	PCE	TCA	TCE
CP-E1	Jul-14	5.75	11.2	<0.5	1.15	17.6	4.38
CP-E1	Oct-14	6.53	11.4	<0.5	1.42	13.5	5.39
CP-E1	Jan-15	7.09	12.8	<0.5	1.18	10.5	5.46
CP-E1	Apr-15	7.18	12.8	<0.5	1.18	9.87	5.89
CP-E2	Jul-14	28.2	85	<0.5	0.76	67.1	89.7
CP-E2	Oct-14	30.2	87.3	<0.5	0.83	66.8	81.5
CP-E2	Jan-15	26.5	73.8	<0.5	0.53	51.3	63.9
CP-E2	Apr-15	26.9	76.9	<0.5	0.56	52	75.2
CP-E3	Jul-14	3.79	18.2	<0.5	<0.5	27.6	1.32
CP-E3	Oct-14	3.68	18	<0.5	<0.5	23.5	1.35
CP-E3	Jan-15	3	15.7	<0.5	<0.5	16.4	0.98
CP-E3	Apr-15	2.85	16.4	<0.5	<0.5	16.8	0.97
CP-W1	Jul-14	<0.5	2.62	<0.5	<0.5	4.1	<0.5
CP-W1	Oct-14	<0.5	3.16	<0.5	<0.5	4.97	<0.5
CP-W1	Jan-15	<0.5	4.03	<0.5	<0.5	5.99	<0.5
CP-W1	Apr-15	<0.5	4.55	<0.5	<0.5	6.61	<0.5
CP-W2	Jul-14	<0.5	<0.5	<0.5	<0.5	0.88	<0.5
CP-W2	Oct-14	<0.5	<0.5	<0.5	<0.5	1.16	<0.5
CP-W2	Jan-15	<0.5	<0.5	<0.5	<0.5	0.85	<0.5
CP-W2	Apr-15	<0.5	0.63	<0.5	<0.5	1.64	<0.5
CP-W3	Jul-14	3.85	6.53	<0.5	<0.5	20.3	5.66
CP-W3	Oct-14	6.29	14	<0.5	<0.5	26.6	9.88
CP-W3	Jan-15	6.74	20.1	<0.5	<0.5	38.8	11.6
CP-W3	Apr-15	9.32	27.6	<0.5	<0.5	48	14.8

Figure 1-4 Lower Aquifer Monitoring Well COC Concentrations



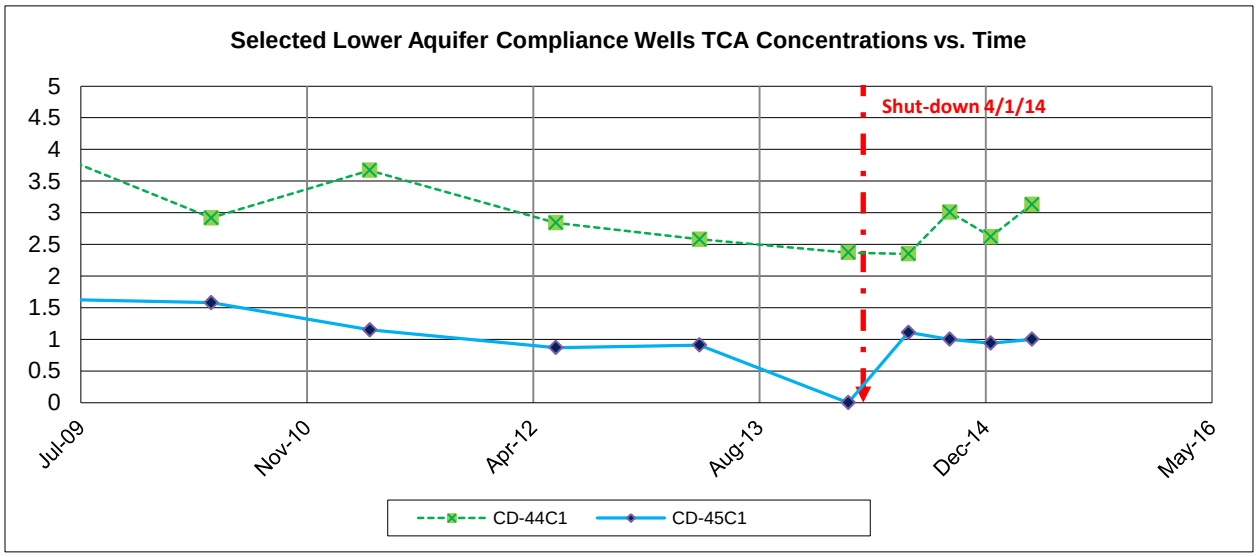
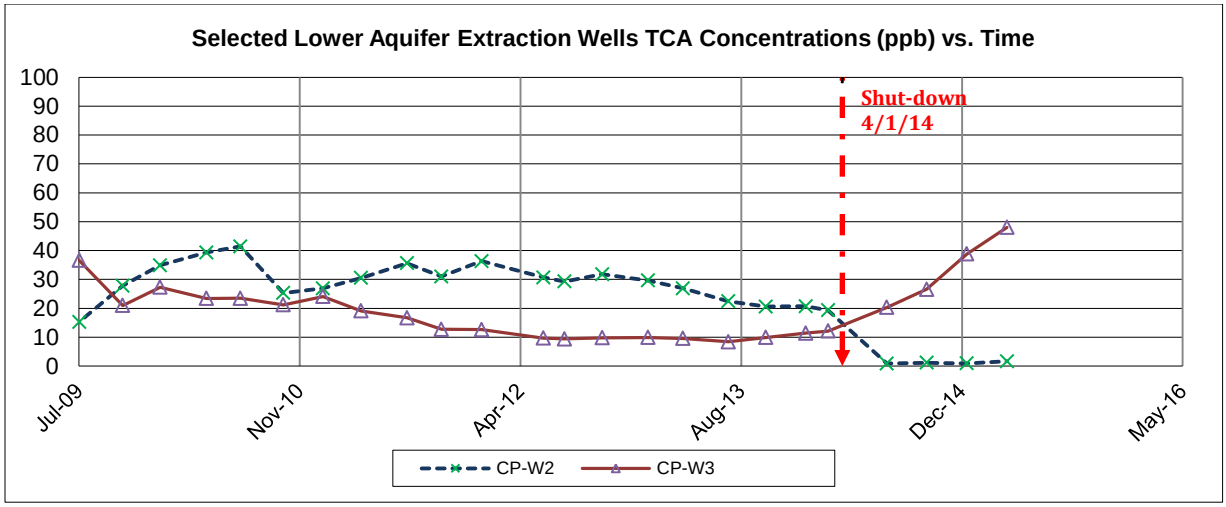


Figure 1-5 Lower Aquifer Extraction Well COC Concentrations



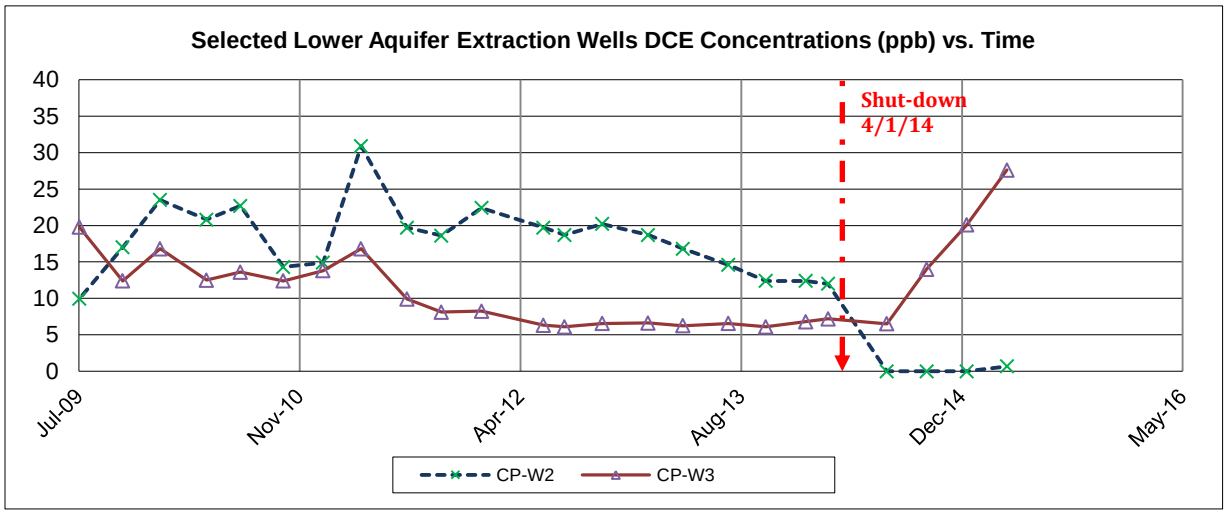
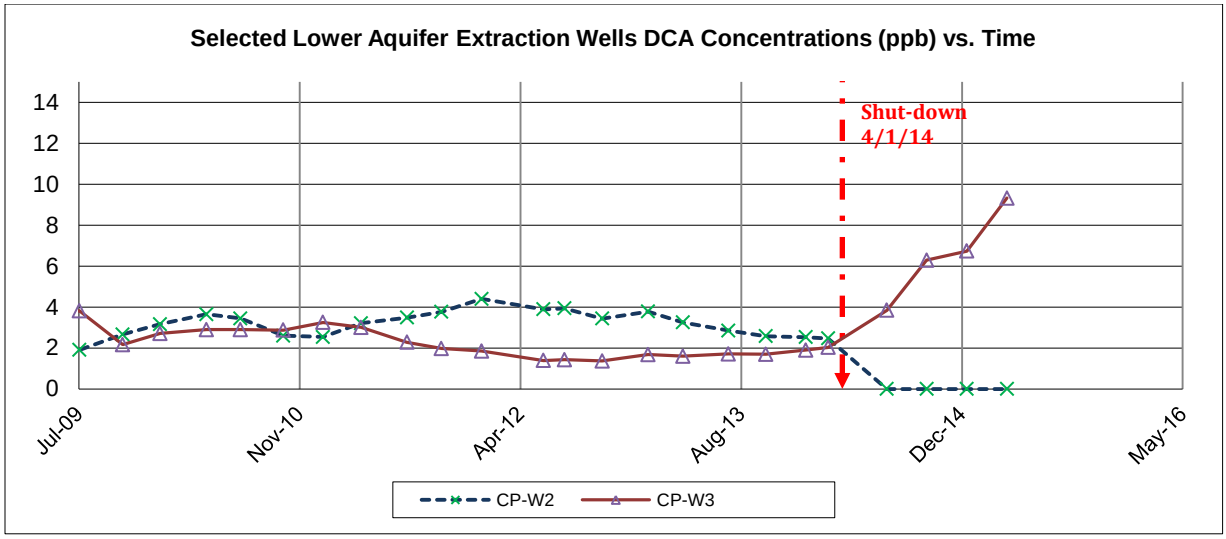


Figure 1-6 Lower Aquifer Extraction Well COC Concentrations



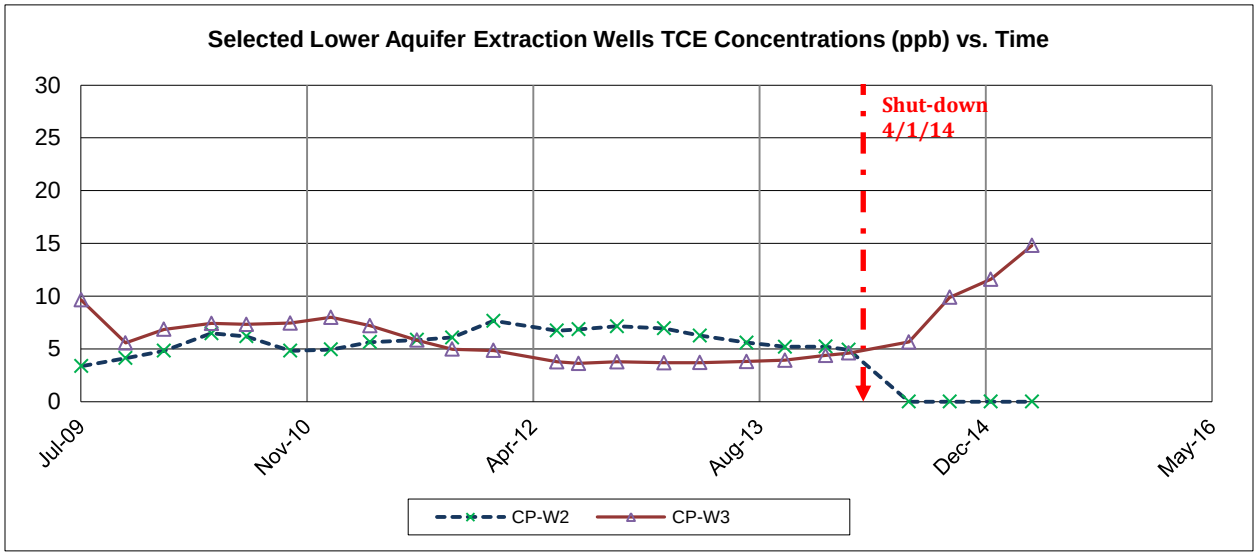


Figure 1-7 Lower Aquifer Extraction Well COC Concentrations

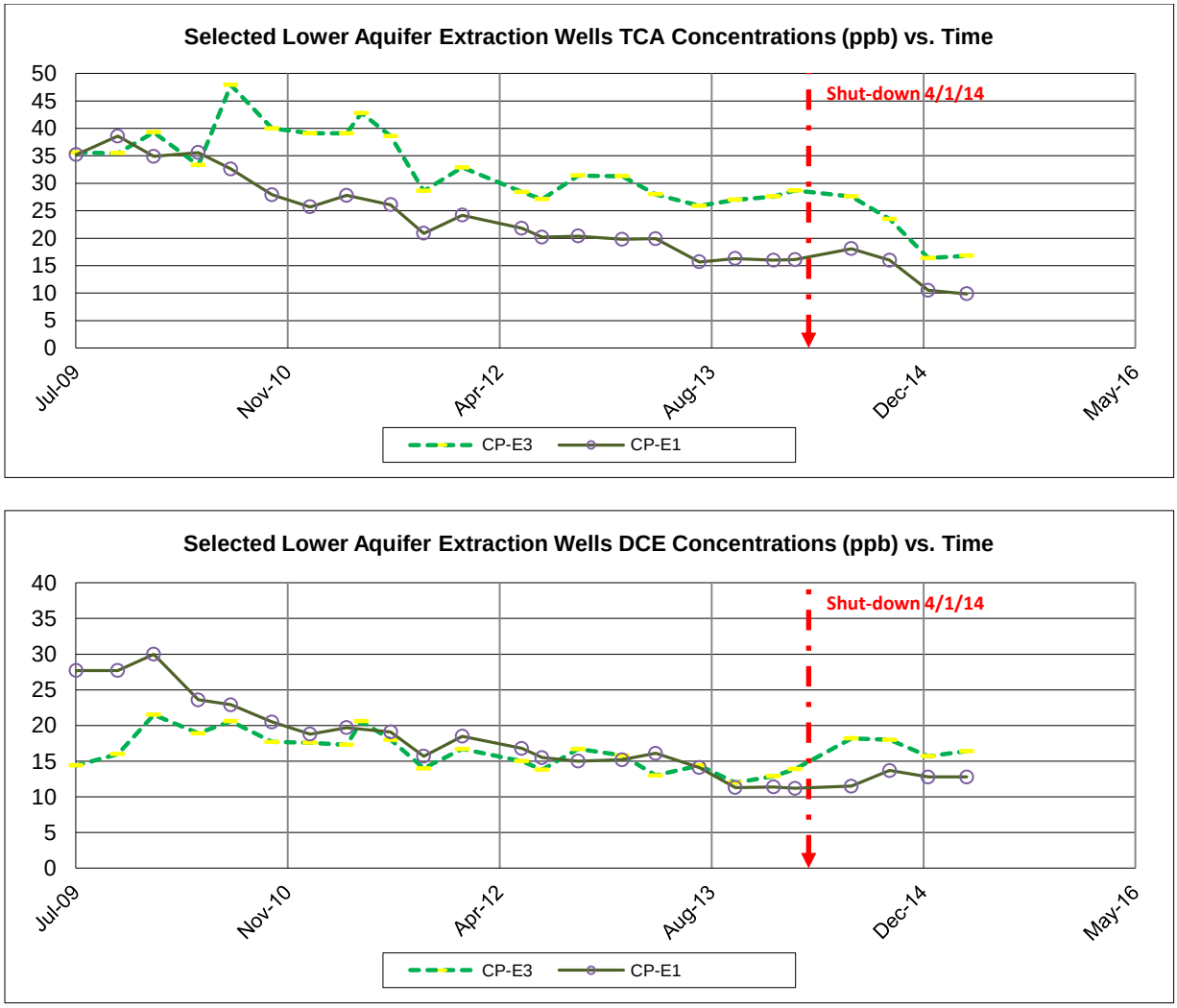
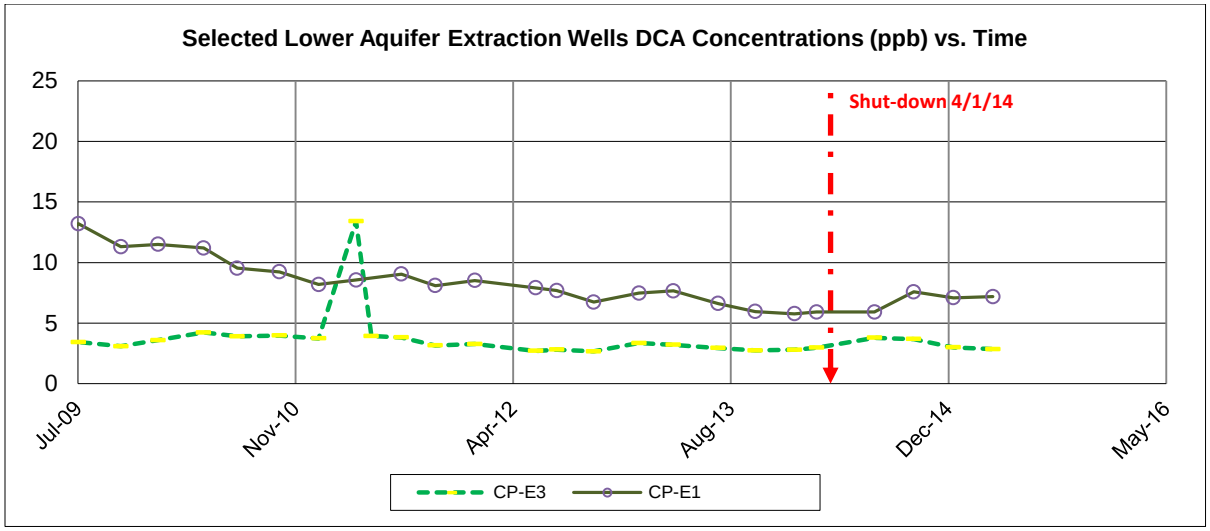
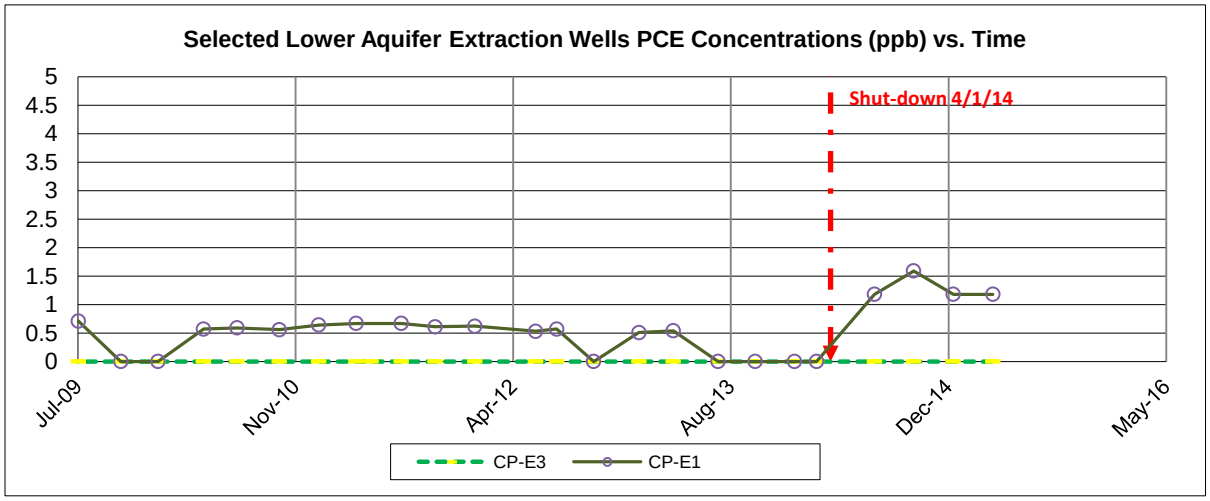


Figure 1-8 Lower Aquifer Extraction Well Concentrations





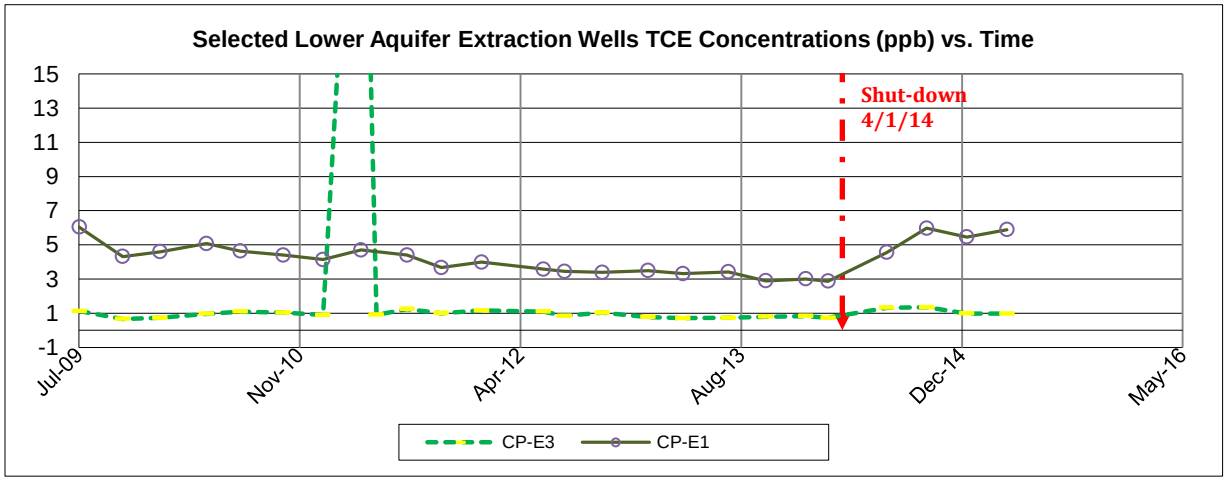


Figure 1-9 Lower Aquifer Estimated TCA Plume

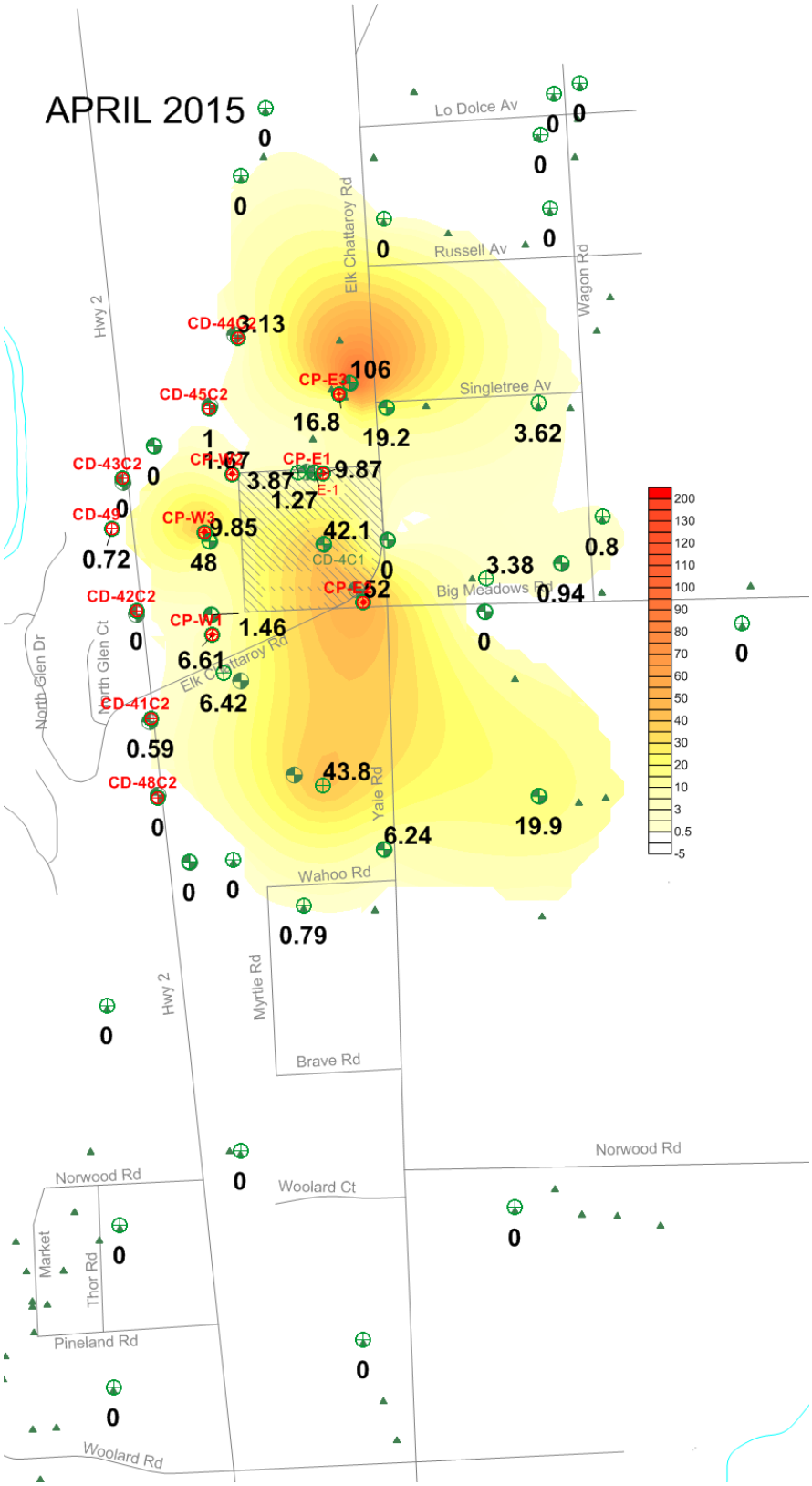


Table 1-6 Shut-down Test Location Monitoring Schedule Changes for Year 2

System	Well ID	Monitoring Frequency for 2015		Shut-down Criteria Applies?
		Water Levels	Sampling	
West	CD-41C1	SA	SA	Yes
	CD-41C2	Q	SA	
	CD-41C3	SA	SA	
	CD-42C1	SA	SA	Yes
	CD-42C2	Q	SA	
	CD-42C3	SA	SA	
	CD-43C1	SA	SA	Yes
	CD-43C2	Q	SA	
	CD-43C3	SA	SA	
	CD-44C1	SA	SA	Yes
	CD-44C2	Q	SA	
	CD-44C3	SA	SA	
	CD-45C1	SA	SA	Yes
	CD-45C2	Q	SA	
	CD-45C3	SA	SA	
	CD-48C1	SA	SA	Yes
	CD-48C2	Q	SA	
	CD-48C3	SA	SA	
	CD-49	Q	SA	Yes
	CP-W1	Q	Q	No
	CP-W2	Q	Q	
	CP-W3	Q	Q	
East	CP-E1	Q	Q	No
	CP-E2	Q	Q	
	CP-E3	Q	Q	

Changes to program schedule shown in RED

2 Upper Aquifer Monitoring

The upper aquifer monitoring program includes the sampling of compliance indicator COC's (VOC's), 1,4-dioxane sample collection, and MFS sampling from selected monitoring wells. Table 2-1 presents all wells located in the upper aquifer monitoring program and the sample anlayses assigned to each well. Upper aquifer monitoring locations are presented in Figure 2-1. All upper aquifer monitoring occurs on an annual basis with the exception of extraction wells, which are operated and sampled quarterly.

2.1 Field Data and Groundwater Elevations

All upper aquifer compliance monitoring field parameters and groundwater elevations for this reporting period are shown in Table 2-3. Conductivity values ranged from 367 to 765 umhos/cm. Field pH values ranged from 6.62 to 7.61. Upper aquifer groundwater elevation contours and flow paths are presented in Figure 2-3.

2.2 Compliance Monitoring (VOC's)

All wells in the upper aquifer have VOC samples collected from them and analyzed, even though the VOC analysis is not required in the MFS or 1,4-Dioxane work plan specifications.

2.2.1 Chemical Data

Constituent of concern concentrations at the south system extraction wells were consistent with previous quarters (see Table 2-4). Selected upper aquifer wells TCA concentrations versus time are presented in Figure 2-4. Upper aquifer TCA plume boundaries are shown in Figure 2-5.

2.2.2 Criteria

Criteria for the upper aquifer programs are presented in Table 2-2. There were no criteria exceeded in any of the upper aquifer compliance monitoring wells or extraction wells during this reporting period.

2.3 1,4-Dioxane Sampling

As outlined in the *1,4-Dioxane Workplan for the Colbert Landfill (December 2007)*, five locations were selected for one year of quarterly 1,4-dioxane sampling to further evaluate the extent of this analyte as well as protect residential wells at the Colbert Landfill site (see Table 2-1). In April 2009, that sample event concluded the year of quarterly sampling at these locations. Since then, Spokane County has continued sampling these wells on an annual basis. The 2015 1,4-dioxane sampling was performed during the month of April.

2.3.1 Chemical Data

The results for April 2015 1,4-dioxane sampling are shown in Table 2-5. Concentrations versus time are presented Figure 2-6.

2.4 Upper Aquifer MFS Monitoring

Upper aquifer locations designated in the MFS groundwater monitoring program were sampled during in April 2014, with the exception of CS-04A1. This well had a groundwater level below the dedicated pump intakes and a sample could not be obtained.

2.4.1 Chemical Data

Concentrations of analytes tested for under MFS monitoring were consistent with previous results (see Figure 2-7 and Figure 2-8). Zinc was not detected in the MFS wells during this reporting period.

2.4.2 Criteria

None of the MFS sampling locations exceeded any of the applicable criteria during this reporting period.

2.4.3 Statistical Analysis

The MFS Groundwater Monitoring Plan (Landau Assoc., 1996) requires three statistical methods be used when evaluating groundwater quality in accordance with MFS requirements. Time series plots were performed and discussed previously. Box plots were required after one year of data was collected. Box plots are presented in Figure 2-9.

The third statistical method required is the Mann-Whitney nonparametric significance test. The summary results for this test are presented in Table 2-6 . Although lower aquifer locations are no longer scheduled for sampling, previous results are shown here as well. A statistically significant change (less than 0.05 level of significance) from this test indicates that a difference may exist between background and downgradient wells but does not differentiate between sets. While it is true that a difference in nitrate and chloride concentrations may exist between background and downgradient wells, when taking time series plots and box plots into consideration, it is not likely these differences were due to influence by the landfill.

Table 2-1 Upper Aquifer Monitoring Programs and Locations

Program	Schedule	Parameters	Wells
Compliance Monitoring	Annual Quarterly at extraction wells	VOC's	CD-31A1, CD-34A1, CD-36A1, CD-37A1, CD-38A1, CP-S1, CP-S3, CP-S4, CP-S5, CP-S6
1,4-Dioxane Sampling	Annual	1,4-Dioxane	CP-S1, 1073D-1*, 1473M-1*, 1573A-1*, CD-40C1**
MFS Monitoring	Annual	Cl/NH3/NO2/NH3/SO4 /Fe/Mn/Zn/TOC/COD	CD-03A1, CD-60A1, CD-61A1, CS-04A1

* Residential use wells

**Well considered to be screened in fluvial aquifer and COC source is from upper aquifer west of Hwy 2 (see *Phase 1 Engineering Report. Landau Assoc, 1991*.)

Table 2-2 Upper Aquifer Criteria

PROGRAM	CRITERIA	TCA	DCE	DCA	TCE	PCE	MC	1,4-Dioxane		Units
CONSENT DECREE	Performance	200	7	4050	5	0.7	2.5			ug/L
(Compliance)	Evaluation	200	7	4050	5	0.7	2.5	7		
		Cl	Fe	Mn	Zn	TOC	COD	SO4	NO3	
MFS	(mg/L)	250	0.3	0.05	5	NA	NA	250	10	mg/L

Figure 2-1 Upper Aquifer Compliance Monitoring Locations

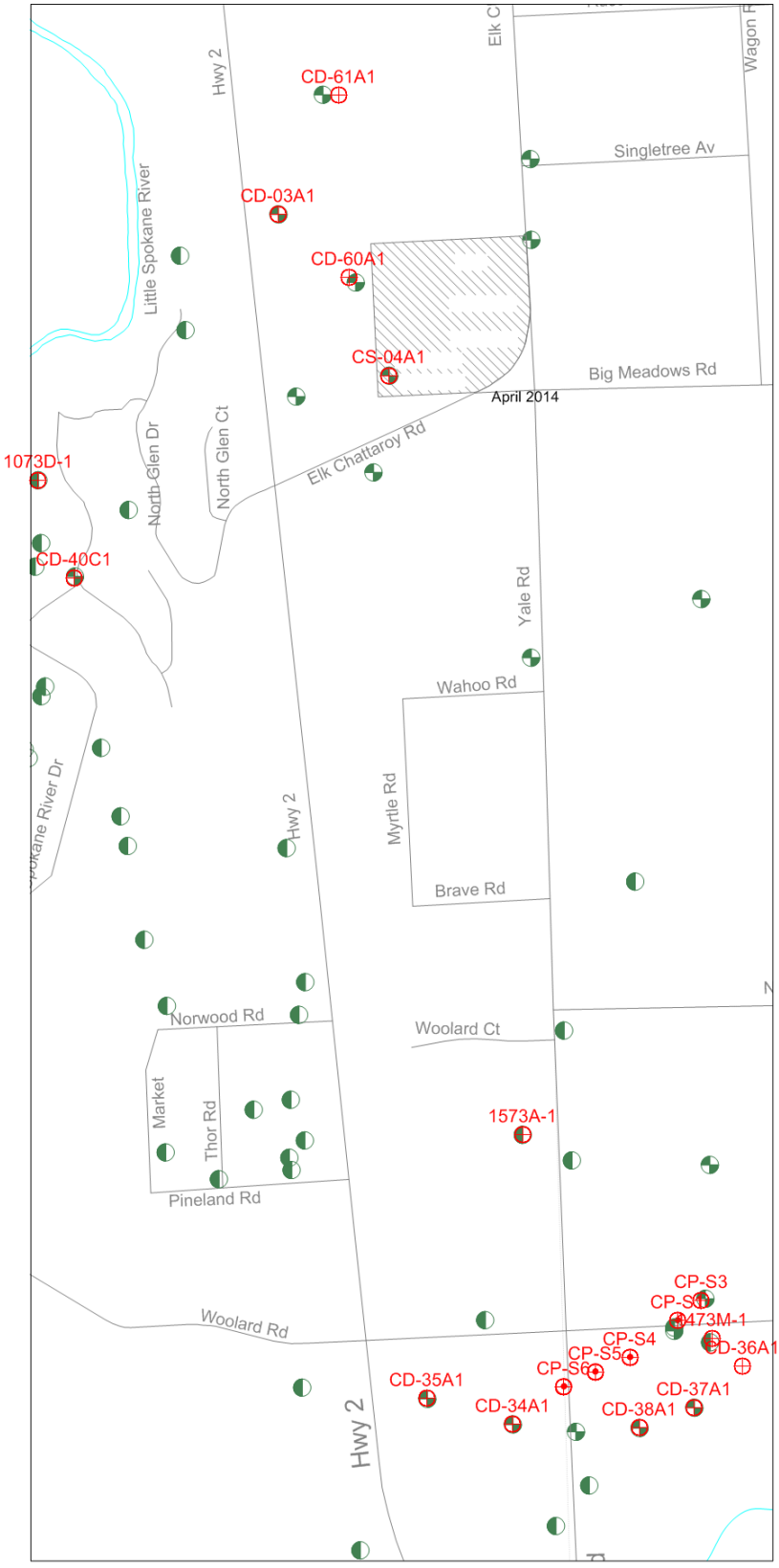
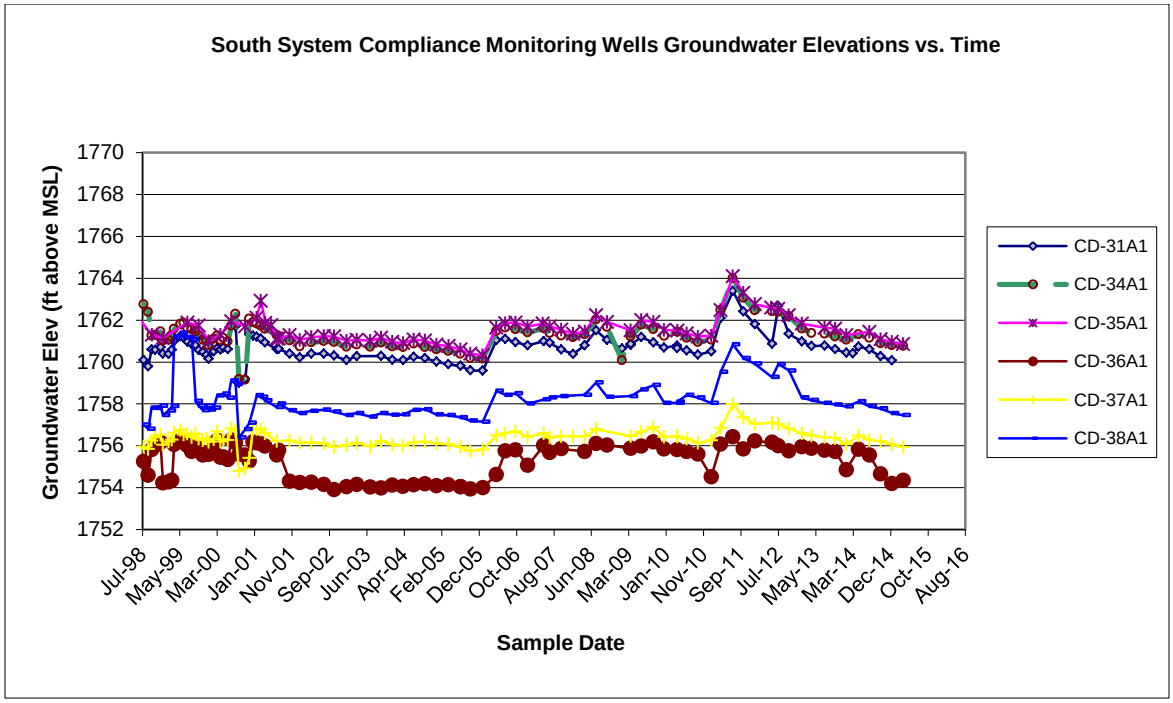


Table 2-3 Upper Aquifer Field Parameters

StationID	SampleDate	WtrElev	FieldTemp	FieldPH	FieldConductivity	FieldTurbidity
1073D-1	4/8/2015		10.6	7.9	467	
1473M-1	4/8/2015		10	7.49	640	
1573A-1	4/8/2015	1760.59	9.7	7.46	561	
CD-03A1	4/9/2015	1772.9	9	7.73	373	0.17
CD-31A1	4/7/2015	1766.43	9.9	7.57	639	0.17
CD-34A1	4/7/2015	1760.76	10.2	7.27	629	0.19
CD-36A1	4/7/2015	1754.35	10.1	7.71	635	2.49
CD-37A1	4/7/2015	1755.93	10.4	7.45	715	0.17
CD-38A1	4/7/2015	1757.46	11.1	7.3	592	0.11
CD-60A1	4/9/2015	1772.58	10.2	6.92	538	0.09
CD-61A1	4/9/2015	1773.33	10	7.29	409	0.17
CP-S3	4/7/2015	1759.32	10.6	7.51	652	0.59
CP-S4	4/8/2015	1760.5	10.3	7.11	706	1.44
CP-S4	1/7/2015	1757.41	11	7.11	800	2.01
CP-S4	10/8/2014	1760.46	10.4	7.19	801	0.6
CP-S4	7/10/2014	1760.6	10.8	7.25	778	1.35
CP-S5	10/8/2014		10.4	7.17	736	1.18
CP-S5	7/10/2014		10.9	7.09	708	3.5
CP-S6	4/8/2015	1760.59	10.3	7.22	762	8.97
CP-S6	1/7/2015	1760.76	9.8	7.16	775	6.74
CP-S6	10/8/2014	1760.72	10.4	7.24	764	1.88
CP-S6	7/10/2014	1761.17	10.7	7.26	732	4.83
CD-40C1	4/9/15	1662.35	9.7	7.94	508	0.89

Figure 2-2 Upper Aquifer Groundwater Elevations vs. Time



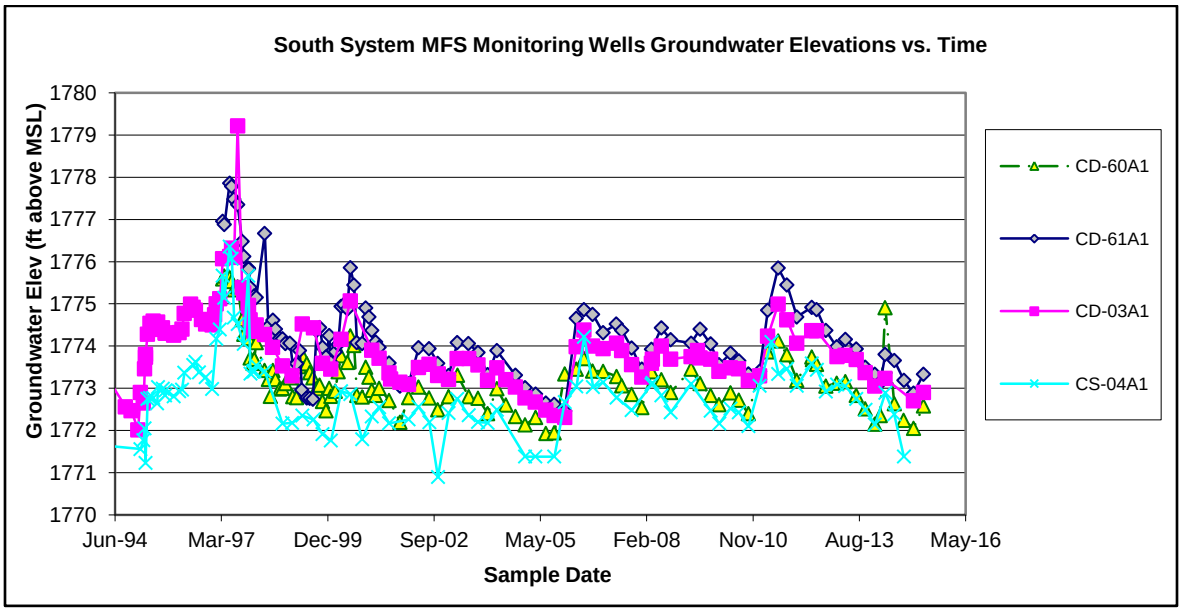


Figure 2-3 Upper Aquifer Estimated Groundwater Elevation Contours

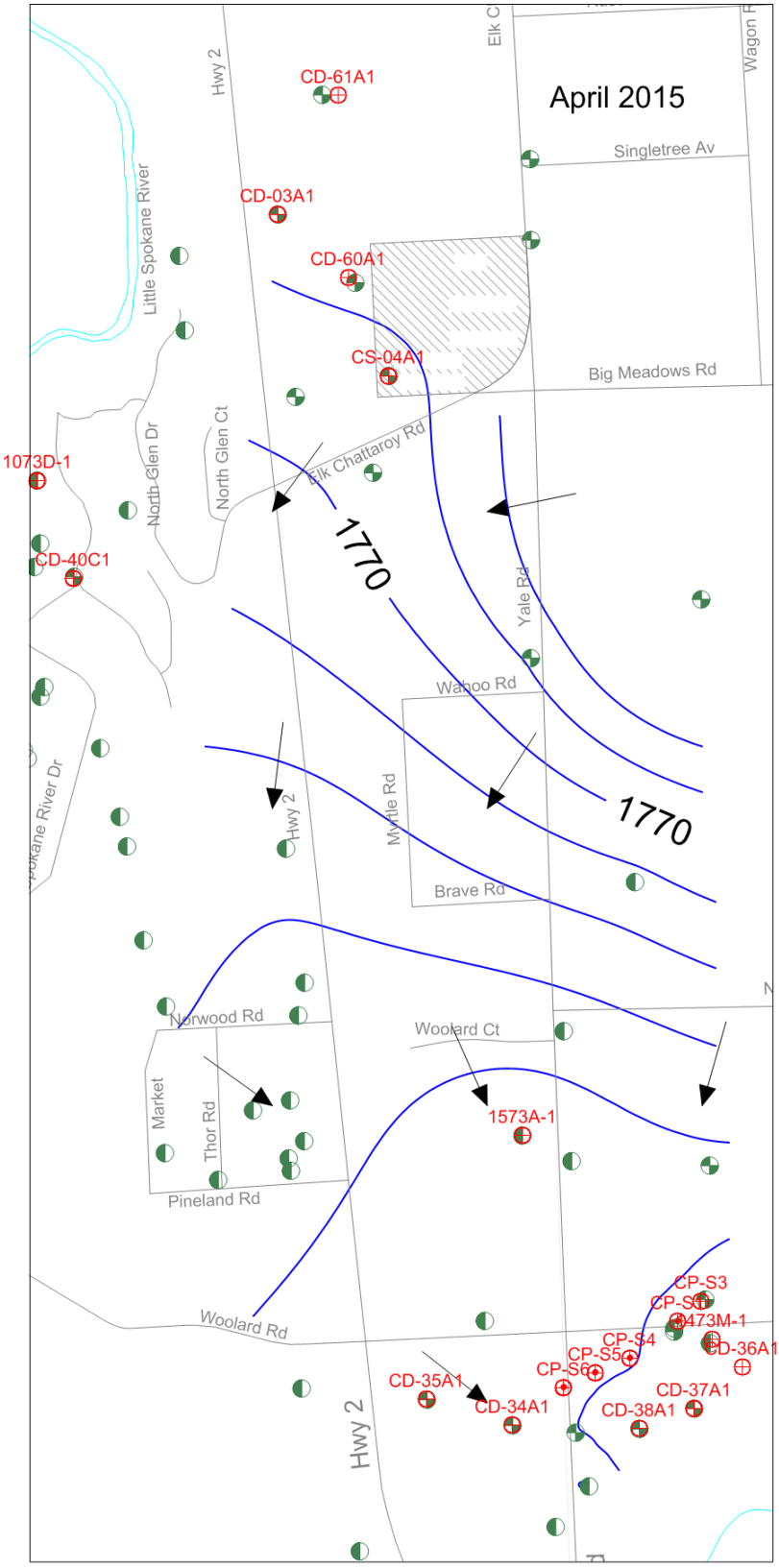


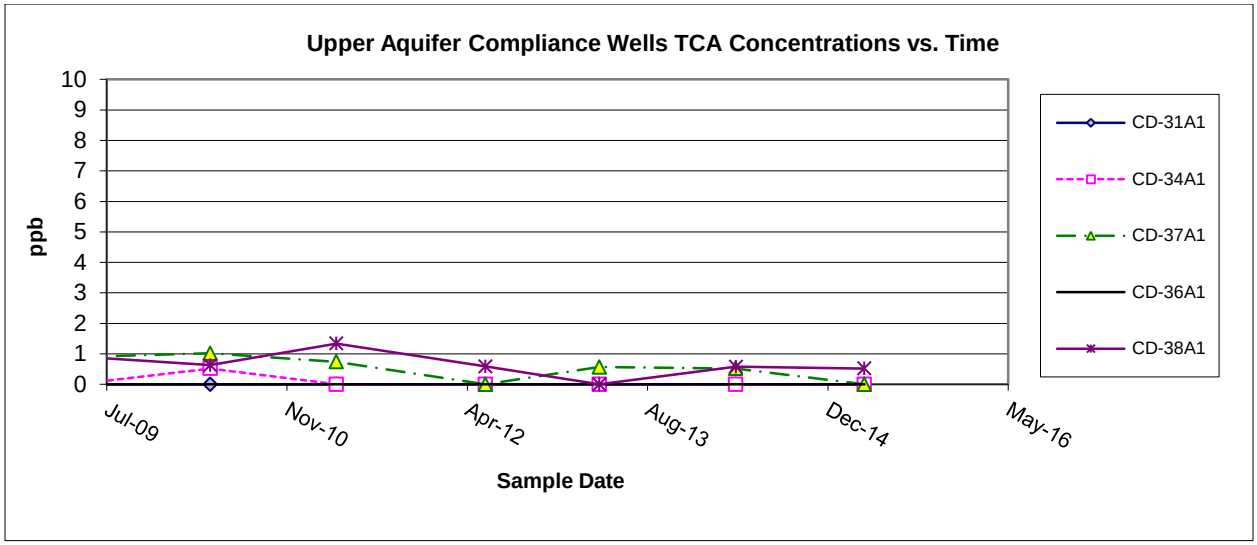
Table 2-4 Upper Aquifer Groundwater Monitoring Results

StationID	SampleDate	TCA	DCA	DCE	PCE	TCE	MC	Cl	COD	Fe	Mn	NO3	SO4	TOC	Zn
1073D-1	4/8/2015	0.51	<0.5	<0.5	<0.5	<0.5	<0.5								
1573A-1	4/8/2015	1.91	0.93	0.68	<0.5	0.73	<0.5								
CD-03A1	4/9/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.74	<5	<0.06	<0.004		6.75	<1	<0.01
CD-31A1	4/7/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5								
CD-34A1	4/7/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5								
CD-36A1	4/7/2015	<0.5	13.5	1.08	<0.5	<0.5	<0.5								
CD-37A1	4/7/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5								
CD-38A1	4/7/2015	0.52	<0.5	<0.5	<0.5	<0.5	<0.5								
CD-60A1	4/9/2015	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	6.43	<5	<0.06	<0.004		10.4	<1	<0.01
CD-61A1	4/9/2015	3.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.75	<5	<0.06	<0.004		9.61	<1	<0.01
CP-S1	4/8/2015	1.32	1.34	<0.5	<0.5	1.39	<0.5								
CP-S3	4/7/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5								
CP-S4	4/8/2015	0.95	1.85	<0.5	0.51	2.05	<0.5								
CP-S5	4/8/2015	0.51	<0.5	<0.5	<0.5	<0.5	<0.5								
CP-S6	4/8/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5								
CD-40C1	4/9/2015	6.44	3.51	2.38	<0.5	<0.5	<0.5								

Table 2-5 1,4-Dioxane Monitoring Results

Aquifer	StationID	Date	Analyte	Result	Qualifier	Units
lower	CD-40C1	4/9/2015	1,4-Dioxane	7.8		ug/L
lower	CD-40C1	4/9/2015	1,4-Dioxane	5.6		ug/L
upper	1073D-1	4/8/2015	1,4-Dioxane	2	U	ug/L
upper	1473M-1	4/8/2015	1,4-Dioxane	2	U	ug/L
upper	1573A-1	4/8/2015	1,4-Dioxane	2	U	ug/L

Figure 2-4 Upper Aquifer COC Concentrations vs Time



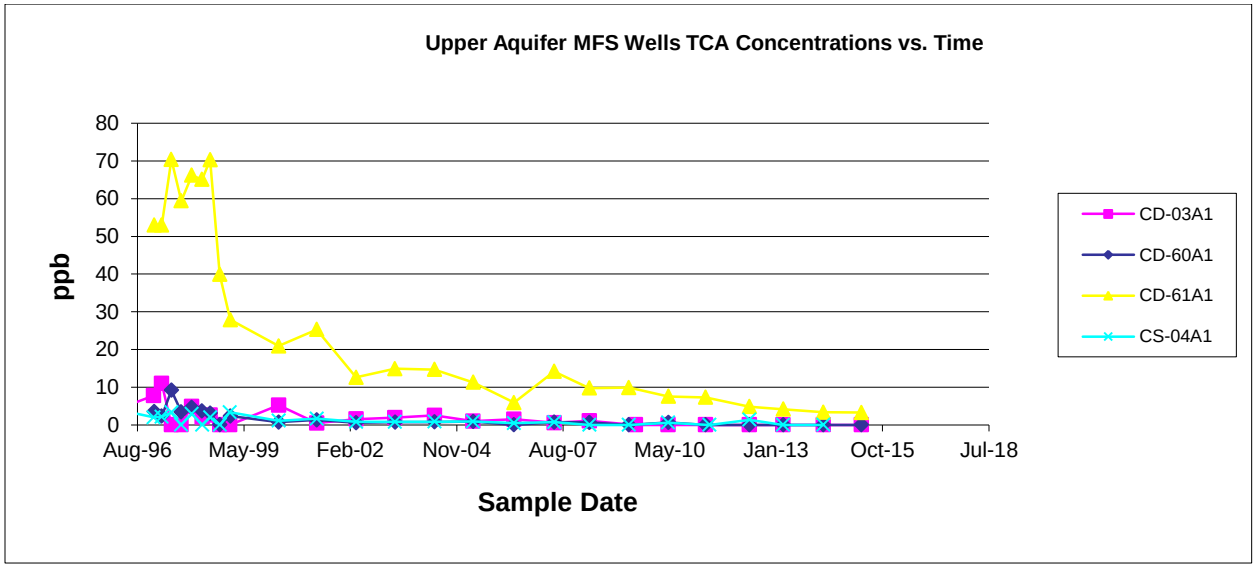


Figure 2-5 Upper Aquifer Estimated TCA Plume Boundaries

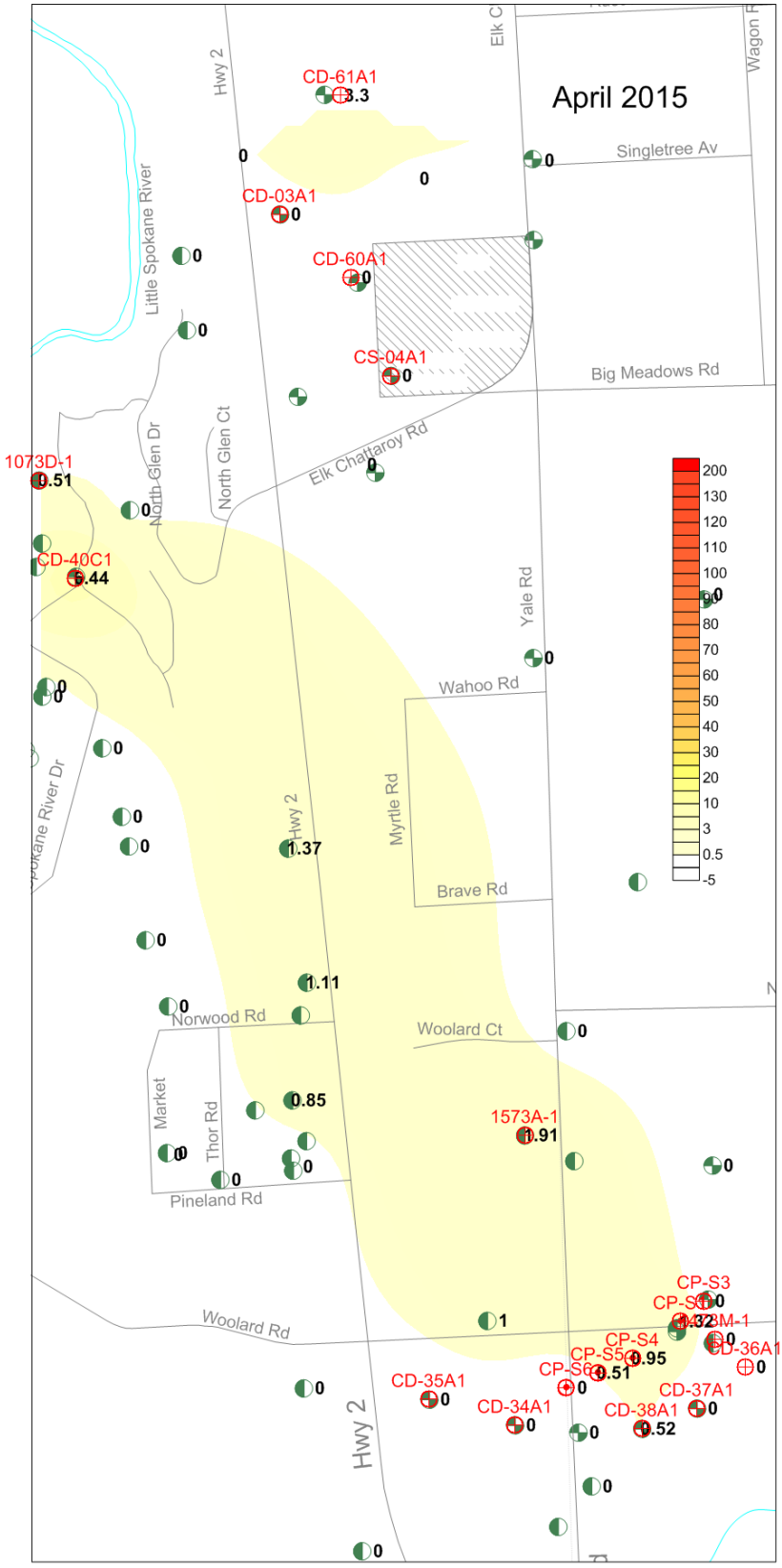
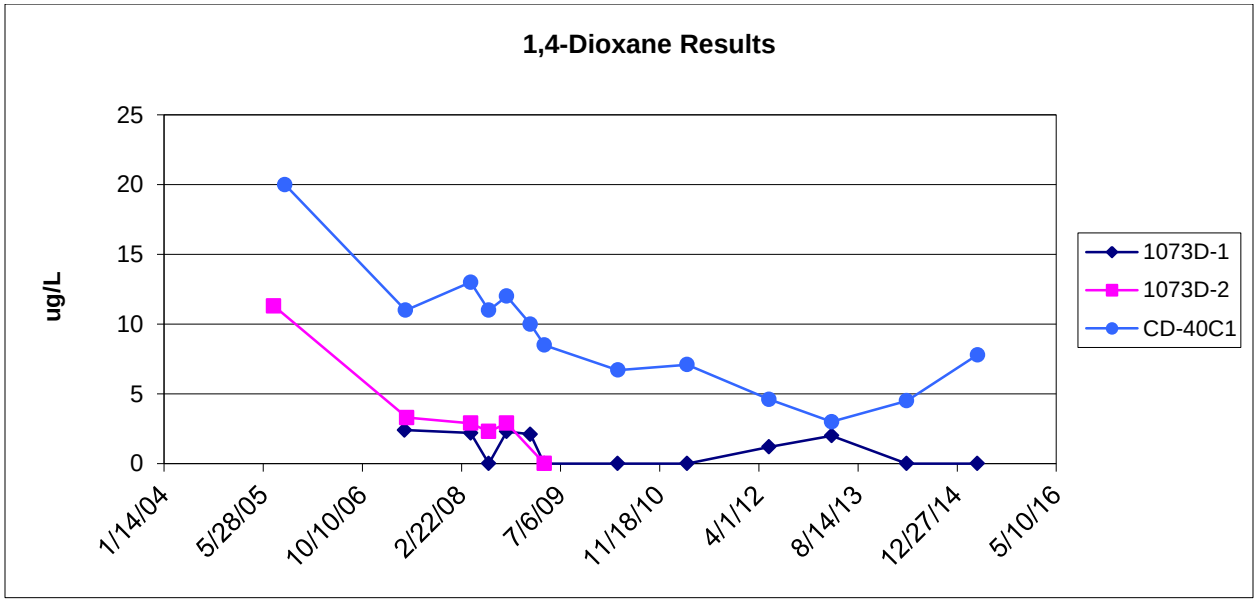


Figure 2-6 1,4-Dioxane Concentrations vs Time



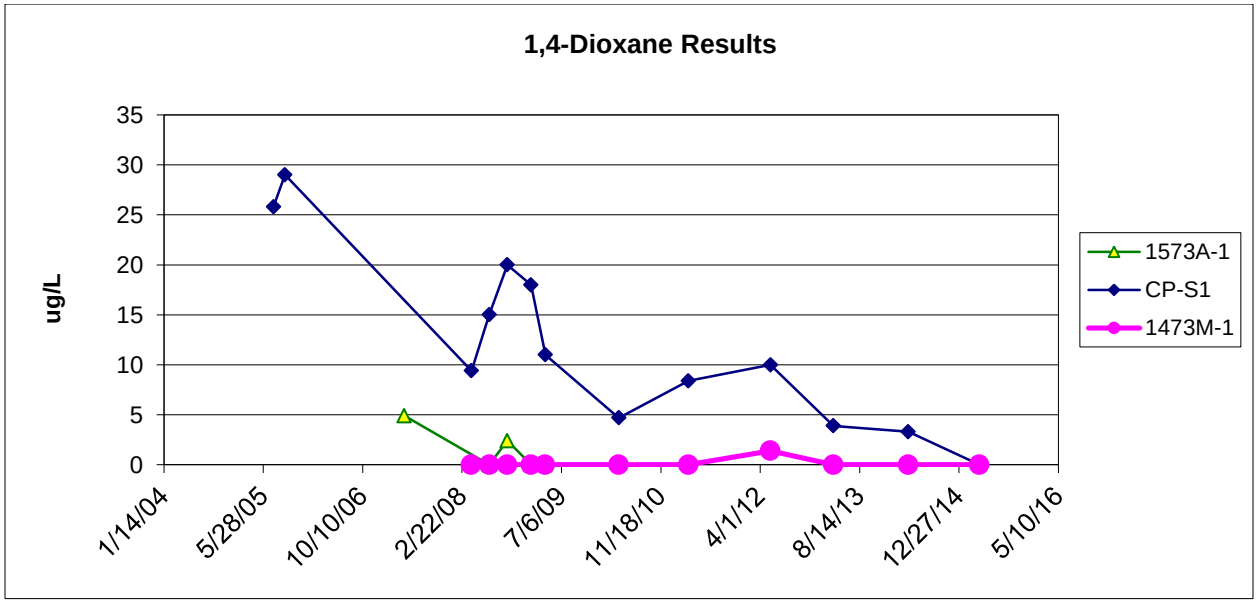
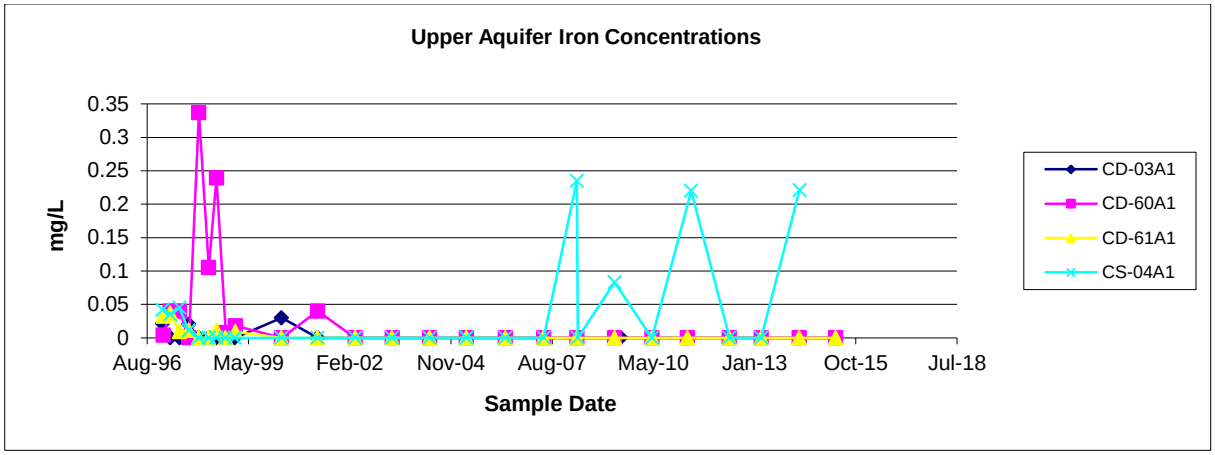
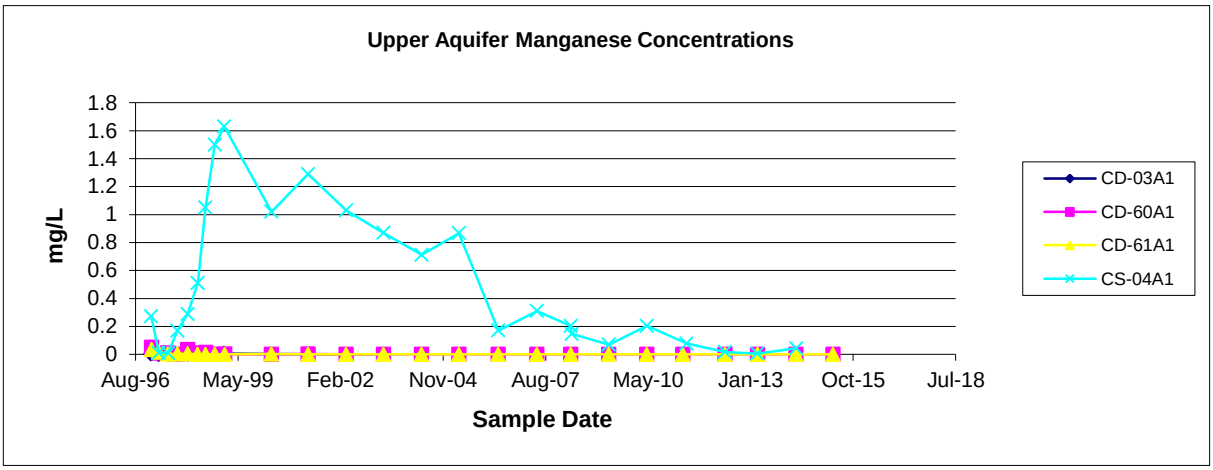


Figure 2-7 Upper Aquifer MFS Parameters vs Time





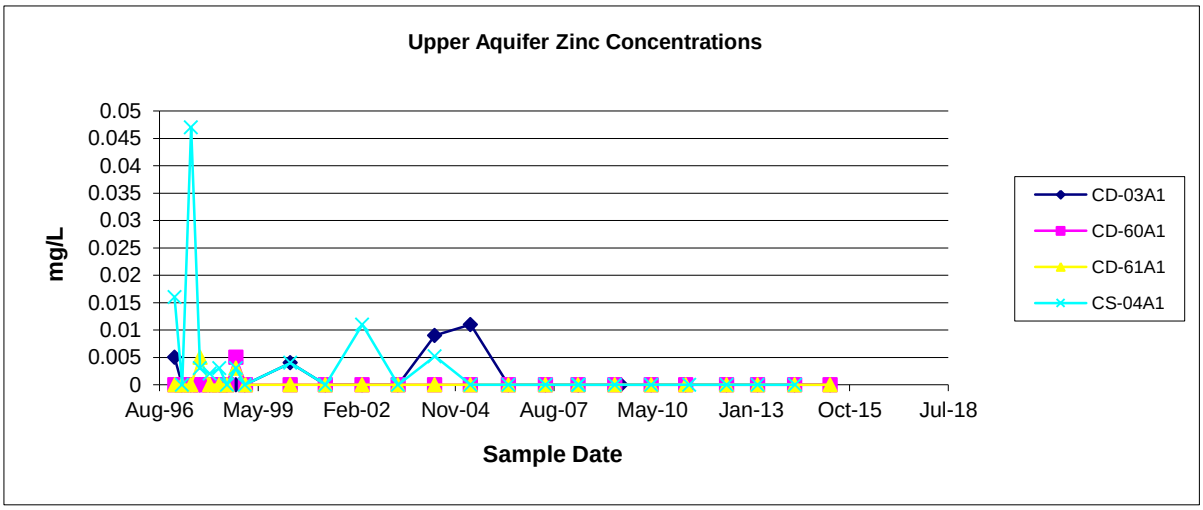
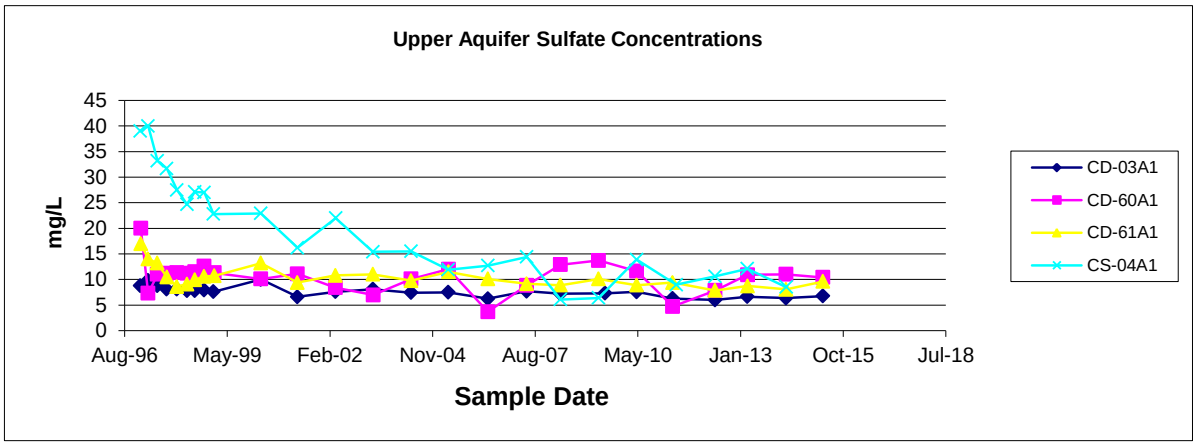
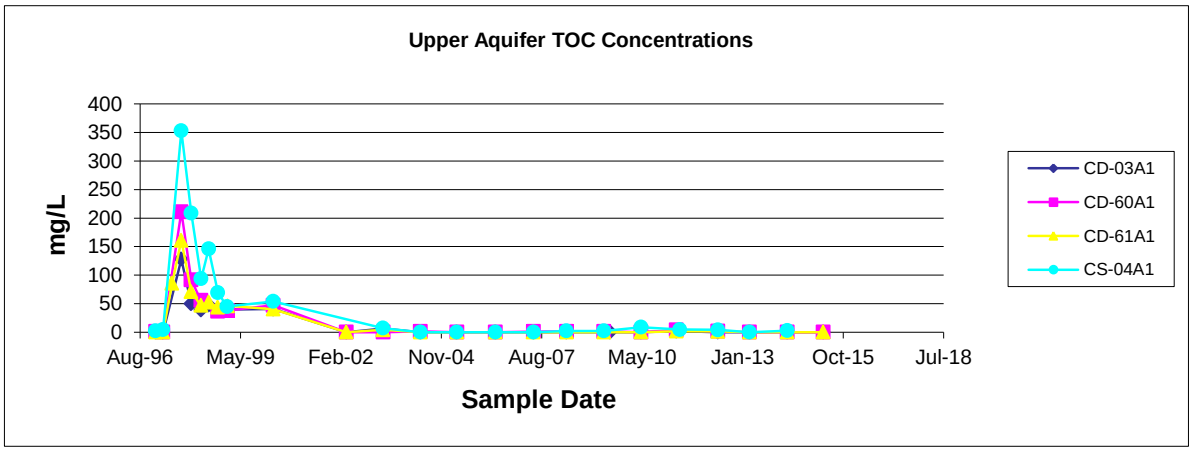


Figure 2-8 Upper Aquifer MFS Parameters vs Time





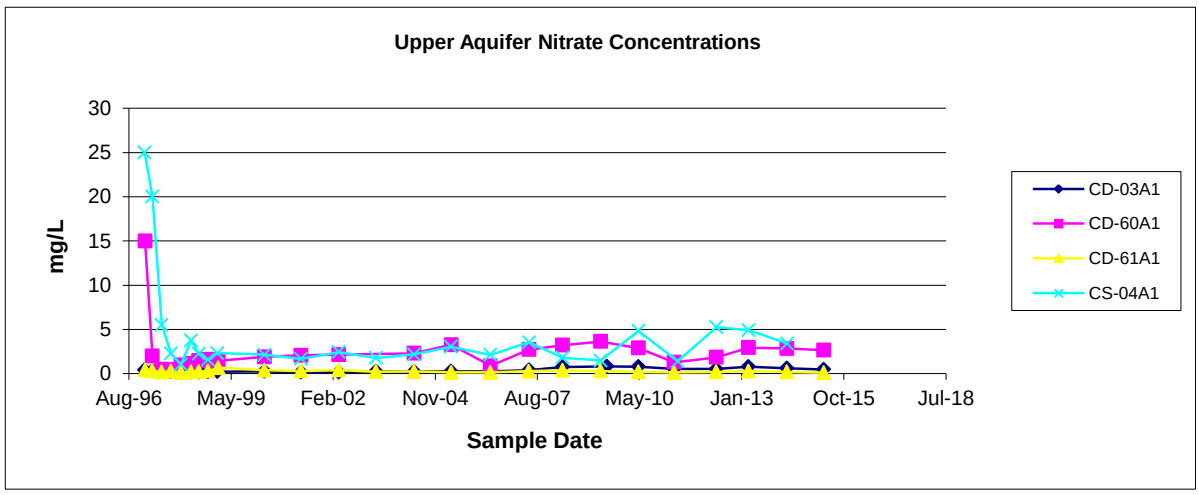


Table 2-6 Summary Results for the Mann-Whitney Nonparametric Significance Test (2015)

	Level of Significance (p)	
Constituent	**Upper Aquifer**	***Lower Aquifer (1999)**
Chloride	**0.0004**	**0.006**
Chemical Oxygen Demand	0.734	0.48
Iron	0.260	0.17
Manganese	0.090	0.86
Ammonia	0.728	0.42
Nitrite	0.841	1.13
Nitrate	**0.00004**	0.08
Sulfate	0.608	**0.0006**
Total Organic Carbon	0.709	0.32
Zinc	0.230	0.06

*Lower aquifer results from January 1999 using CP-E2 and CD-48C2 analytical results for calculations.

Bold number indicates a level of significance under 0.05

Figure 2-9 Box Plots for Background and Downgradient MFS Wells (2015)

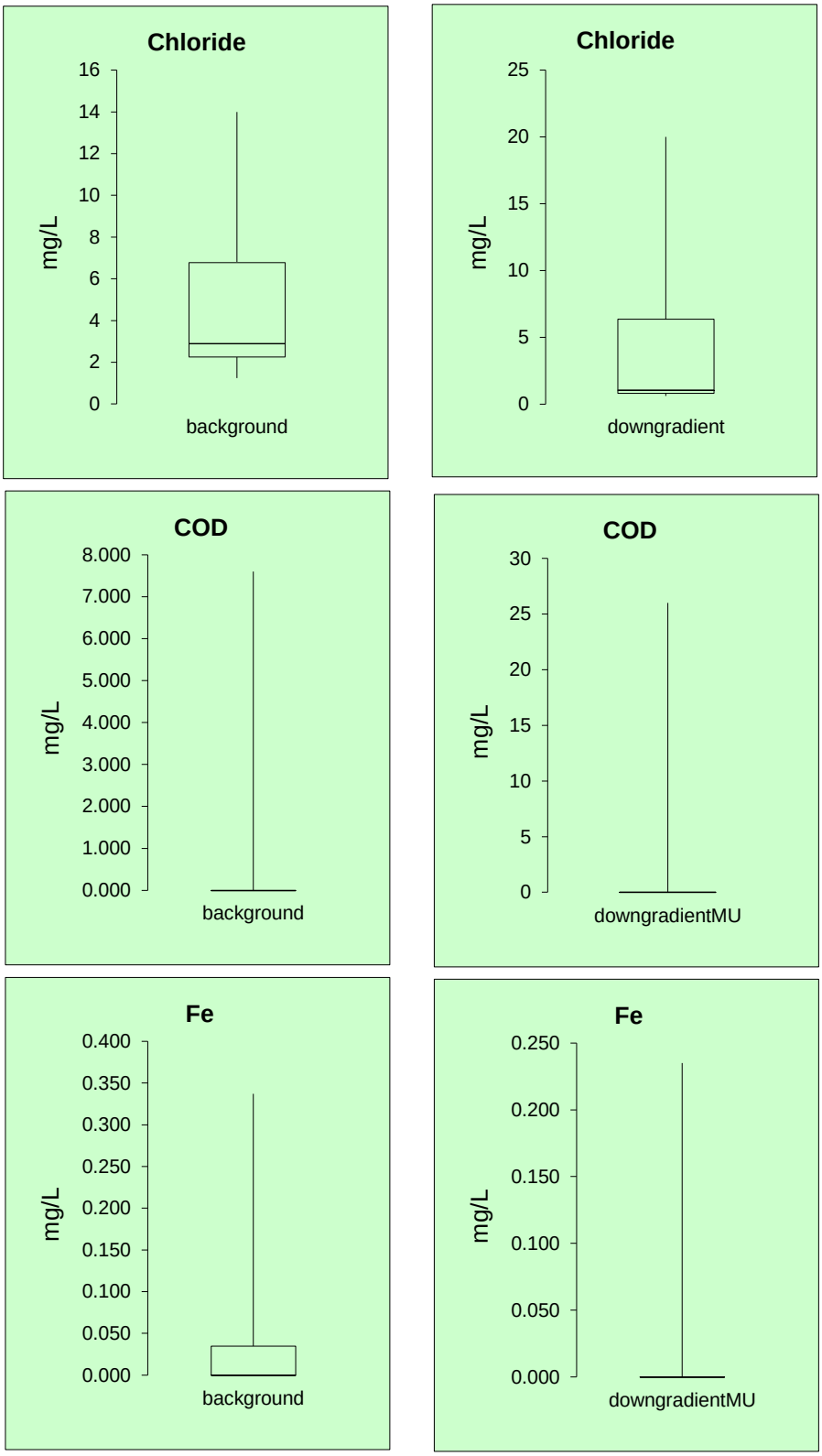


Figure 2-9 continued

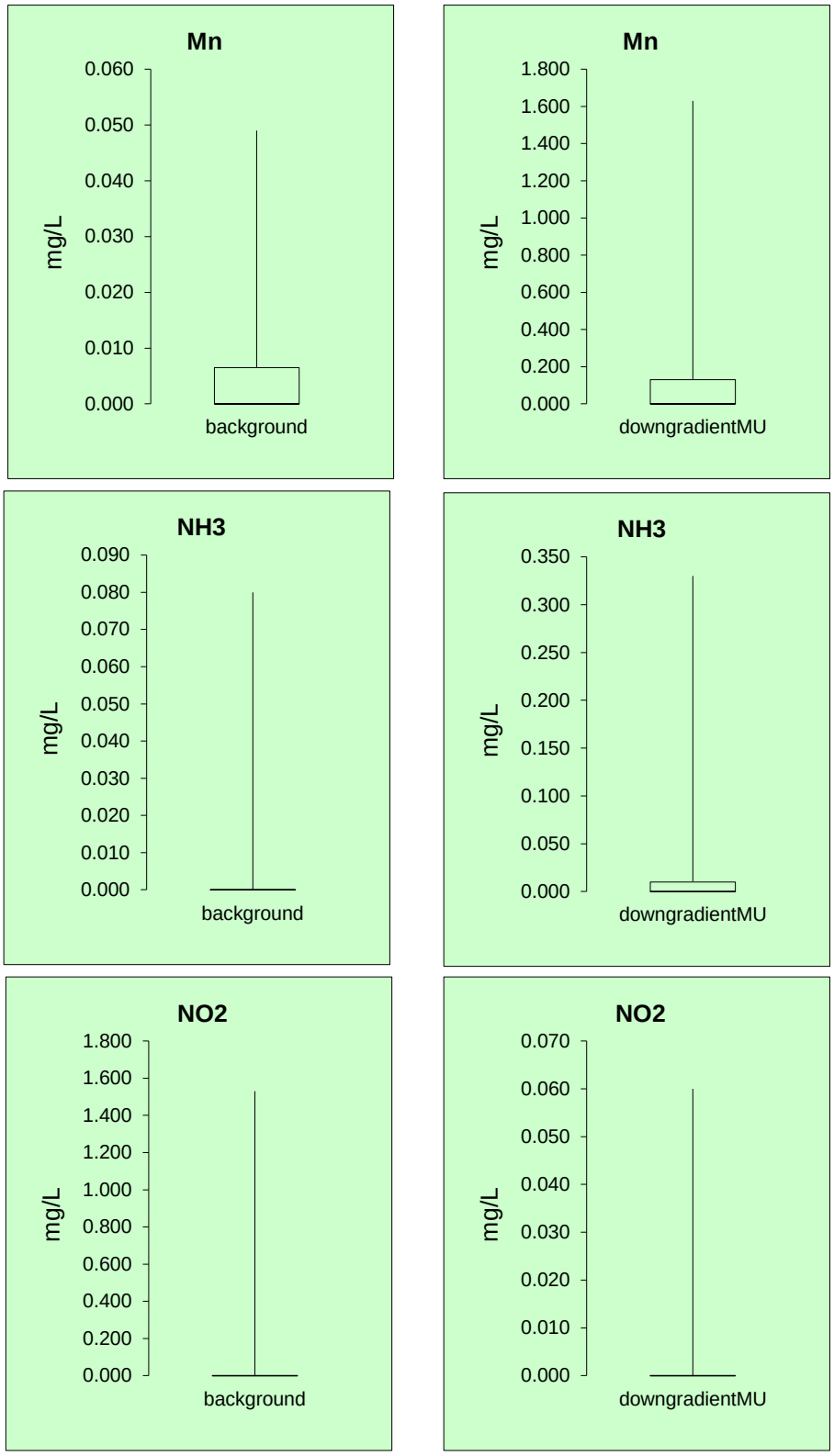


Figure 2-9 continued

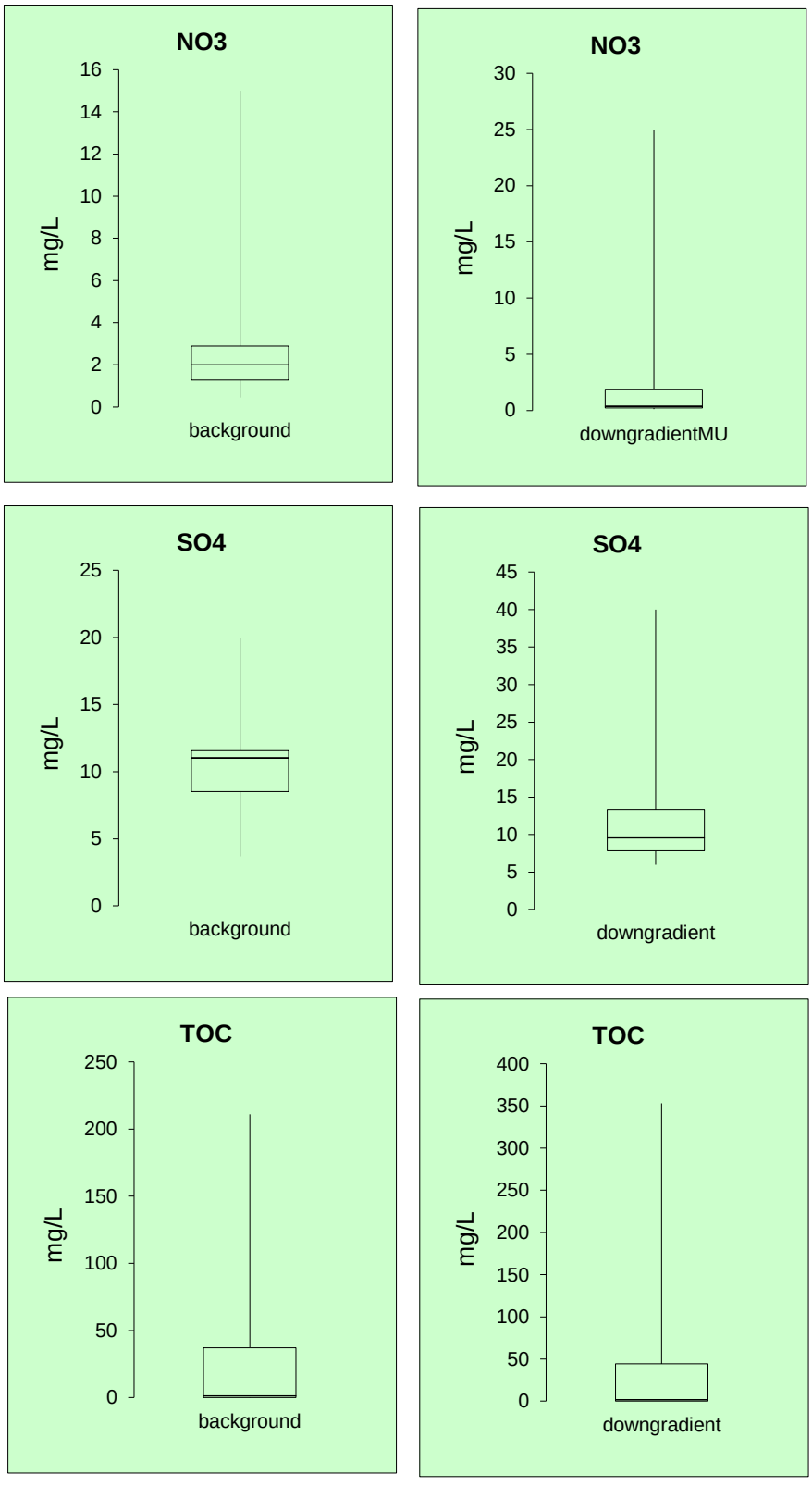
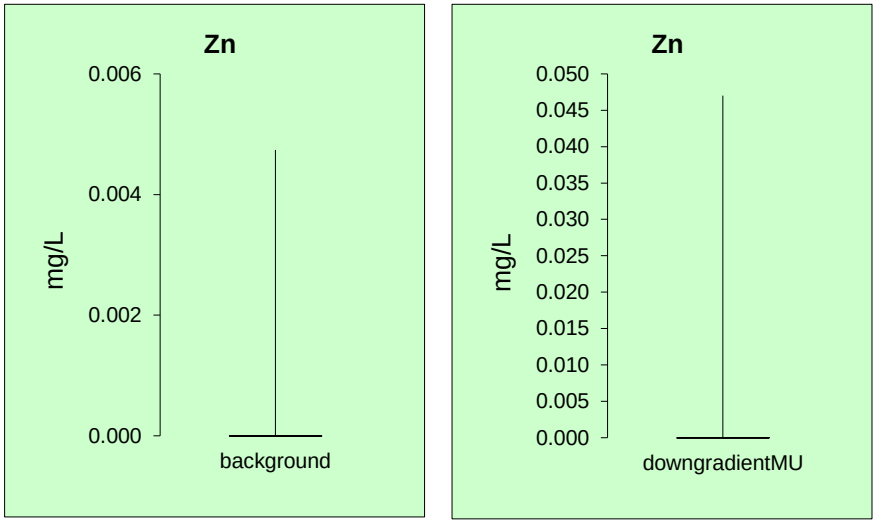


Figure 2-9 continued



3 Residential Program

3.1 Locations and Schedule

Current residential well sampling locations can be found in Figure 3-1. The residential sampling schedule is included in Table 3-1.

3.2 Monitoring Results and Criteria

Criteria for residential use wells were established in the Consent Decree. The Consent Decree states that if any residential well with a concentration over the evaluation criteria OR any residential well that has an average concentration over 65% of the evaluation criteria over a 12 month period, the county shall supply that residence with an alternative water source.

All residential well results were well below established criteria. Results from sampling are presented in Table 3-2. Time series plots for wells with COC detections are shown in Figure 3-2.

3.3 Data Evaluation

There were no concentrations found that exceeded any criteria and concentrations that were found are just above the method detection limits. There were no concentrations found that indicated plume movement or contamination migration.

3.4 Program Modifications

There were no modifications to the schedule as a result of analytical results. On a regular basis, the program schedule is re-evaluated to determine if any changes are needed. With the initiation of the Shut-down test, a re-evaluation was performed comparing plume maps and well locations as well as a list of residences connected to a public water supply. Some modifications to increase sampling in specific areas were made to the schedule to ensure a conservative approach with regard to public health.

The 2015 residential well sampling schedule is presented in Table 3-3.

Figure 3-1 Residential Well Sampling Locations

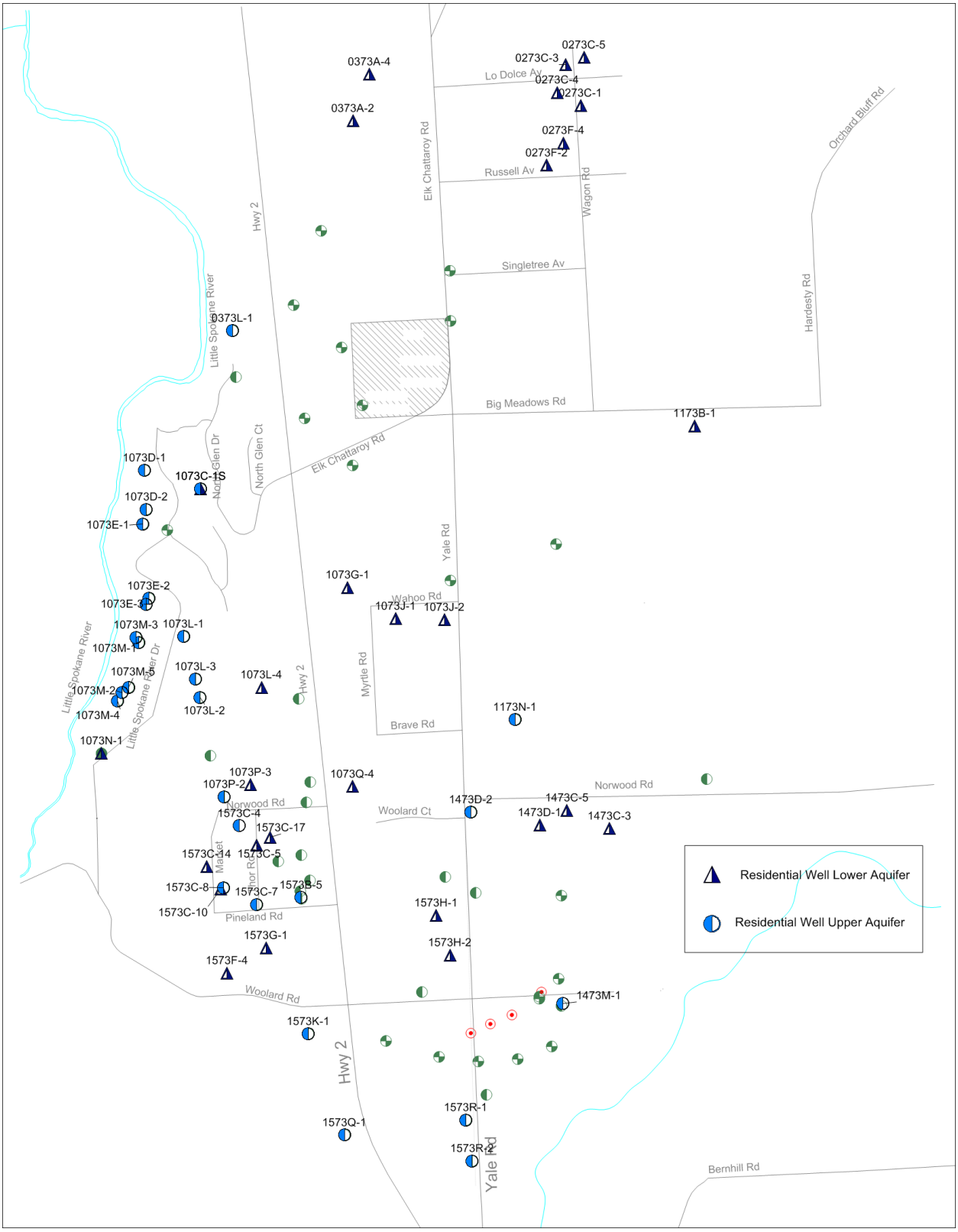


Table 3-1 Residential Well Sampling Schedule for Reporting Period

Colbert Residential Sampling Plan 2013

StationID	LastName	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Sched Comments
0273C-2	Vannatter	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	
0273C-3	Kramer	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	BiAnnual 10'
0273C-4	McQuesten	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	
0273C-5	Hogan	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	many years no detects, wells btwn this and plume
0273D-6	Thornton	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	
0273F-4	Gander	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	
0373A-2	Resseman	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	
0373A-4	Vansickel	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	
0373J-3	Golding	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☐	
0373L-1	Sterling	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	
1073D-1	Coats	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	
1073E-2	Pullen	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	Alt w/1073E-3
1073E-3	Clark	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	Alt w/1073E-2
1073E-4	Carpenter	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	
1073E-4	Carpenter	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☑	
1073G-1	Rux	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	
1073J-1	Moreno	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	
1073L-1	Halpin	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	
1073L-2	Countryman	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	Alt w/1073L-3
1073L-3	Anderson	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	Alt w/1073L-2
1073L-4	Warner	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	
1073M-1	Bertholf	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Alt w/1073M-3
1073M-3	Lane	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Alt w/1073M-1
1073P-1	Ringo	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1073P-2	Petrelli	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	

StationID	LastName	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Sched Comments
1073Q-4	NORTH MEADOWS W	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	
1173B-1	Bise	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	
1473C-5	Overmyer	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	BiAnnual (11) Alt w/1473D-1
1473D-1	Farris	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Alt w/1473C-5
1473D-2	Wardian	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	Alt w/1473C
1473M-1	Ennis	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	
1573C-10	Lake	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	
1573C-17	RESIDENT	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1573C-5	Nelson	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	
1573C-7	Brown	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1573C-8	Williams	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	BiAnnual (10)
1573G-1	SHAI	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	BiAnnual (11)
1573H-1	Hunter	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	
1573K-1	Tender	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1573Q-1	Saunder	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	
1573R-2	Hunter	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	
3483M-1	Campbell	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	

Table 3-2 Residential Groundwater Monitoring Program Results

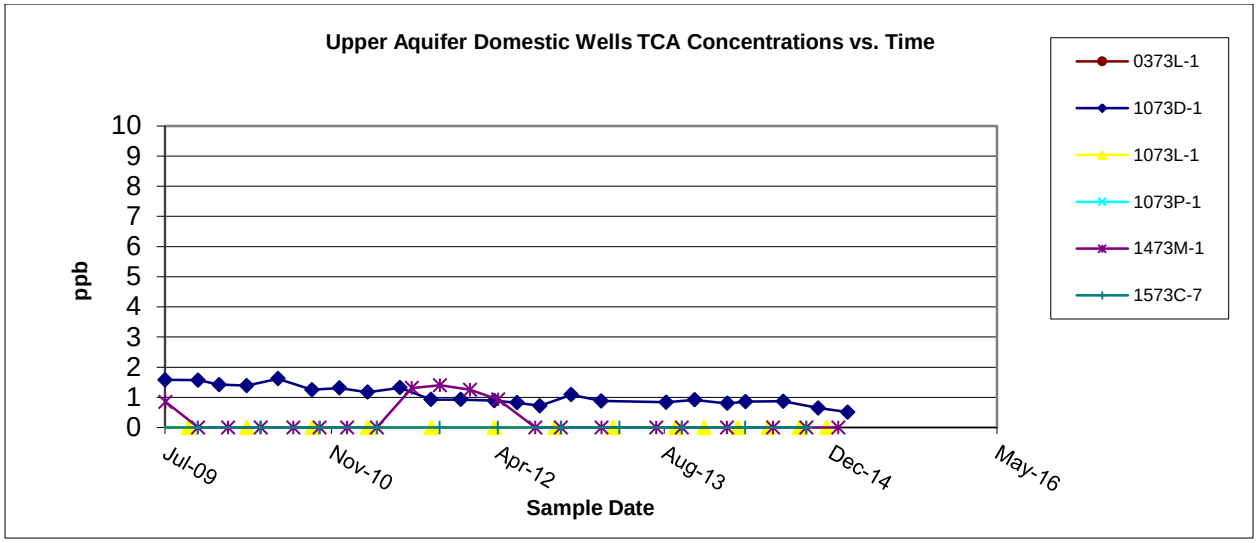
(July 2014 through April 2015)

StationID	Aquifer	SampleDate	LastName	TCA	DCA	DCE	MC	PCE	TCE
0273C-2	lower	3/30/2015	Vannatter	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0273C-4	lower	11/20/2014	McQuesten	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0273C-5	lower	3/30/2015	Hogan	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0273D-6	lower	8/6/2014	Thornton	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0273D-6	lower	2/17/2015	Thornton	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0273F-4	lower	12/15/2014	Gander	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0373A-2	lower	9/25/2014	Resseman	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0373A-2	lower	12/16/2014	Resseman	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0373A-2	lower	3/30/2015	Resseman	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0373A-4	lower	8/6/2014	Vansickel	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
0373L-1	upper	11/19/2014	Sterling	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073D-1	upper	8/7/2014	Coats	**0.85**	<0.5	<0.5	<0.5	<0.5	<0.5
1073D-1	upper	8/7/2014	Coats	**0.87**	<0.5	<0.5	<0.5	<0.5	<0.5
1073D-1	upper	11/20/2014	Coats	**0.65**	<0.5	<0.5	<0.5	<0.5	<0.5
1073D-1	upper	2/17/2015	Coats	**0.51**	<0.5	<0.5	<0.5	<0.5	<0.5
1073D-1	upper	2/17/2015	Coats	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073D-1	upper	4/8/2015	Coats	**0.51**	<0.5	<0.5	<0.5	<0.5	<0.5
1073E-2	upper	7/8/2014	Pullen	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073E-2	upper	1/20/2015	Pullen	**0.59**	<0.5	<0.5	<0.5	<0.5	<0.5
1073E-3	upper	10/15/2014	Clark	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073E-3	upper	4/7/2015	Clark	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073G-1	lower	9/24/2014	Rux	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073G-1	lower	3/31/2015	Rux	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073J-1	lower	7/8/2014	Moreno	**0.68**	<0.5	<0.5	<0.5	<0.5	<0.5
1073J-1	lower	10/16/2014	Moreno	**0.58**	<0.5	<0.5	<0.5	<0.5	<0.5
1073J-1	lower	1/20/2015	Moreno	**0.58**	<0.5	<0.5	<0.5	<0.5	<0.5
1073L-1	upper	9/25/2014	Halpin	<0.5	**0.68**	<0.5	<0.5	<0.5	<0.5
1073L-1	upper	12/15/2014	Halpin	<0.5	**1.13**	<0.5	<0.5	<0.5	<0.5
1073L-1	upper	3/31/2015	Halpin	<0.5	**0.6**	<0.5	<0.5	<0.5	<0.5
1073L-1	upper	3/31/2015	Halpin	<0.5	**0.61**	<0.5	<0.5	<0.5	<0.5
1073L-2	upper	10/15/2014	Countryman	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073L-3	upper	8/7/2014	Anderson	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073L-3	upper	11/19/2014	Anderson	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Table 3-2 Continued..

StationID	Aquifer	SampleDate	LastName	TCA	DCA	DCE	MC	PCE	TCE
1073L-3	upper	2/17/2015	Anderson	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073L-4	lower	9/24/2014	Crabb	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073M-1	upper	3/31/2015	Bertholf	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073M-3	upper	9/25/2014	Lane	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073P-1	upper	10/15/2014	Ringo	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073P-1	upper	4/7/2015	Ringo	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073P-2	upper	8/6/2014	Petrelli	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073P-2	upper	2/17/2015	Petrelli	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073Q-4	lower	9/24/2014	NORTH MEADOWS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073Q-4	lower	12/15/2014	NORTH MEADOWS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1073Q-4	lower	3/30/2015	NORTH MEADOWS	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1173B-1	lower	12/15/2014	Bise	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1473C-5	lower	8/6/2014	Overmyer	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1473D-1	lower	2/17/2015	Farris	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1473M-1	upper	7/8/2014	Ennis	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1473M-1	upper	10/16/2014	Ennis	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1473M-1	upper	1/20/2015	Ennis	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1473M-1	upper	4/7/2015	Ennis	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573C-17	lower	11/19/2014	RESIDENT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573C-17	lower	4/7/2015	RESIDENT	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573C-5	lower	8/6/2014	Nelson	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573C-7	upper	10/16/2014	Brown	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573C-7	upper	4/7/2015	Brown	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573C-8	upper	2/17/2015	Williams	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573K-1	upper	10/16/2014	Tender	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573K-1	upper	4/7/2015	Tender	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573Q-1	upper	7/8/2014	Saunder	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1573R-2	upper	11/20/2014	Hunter	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Figure 3-2 Residential Wells Concentrations vs Time



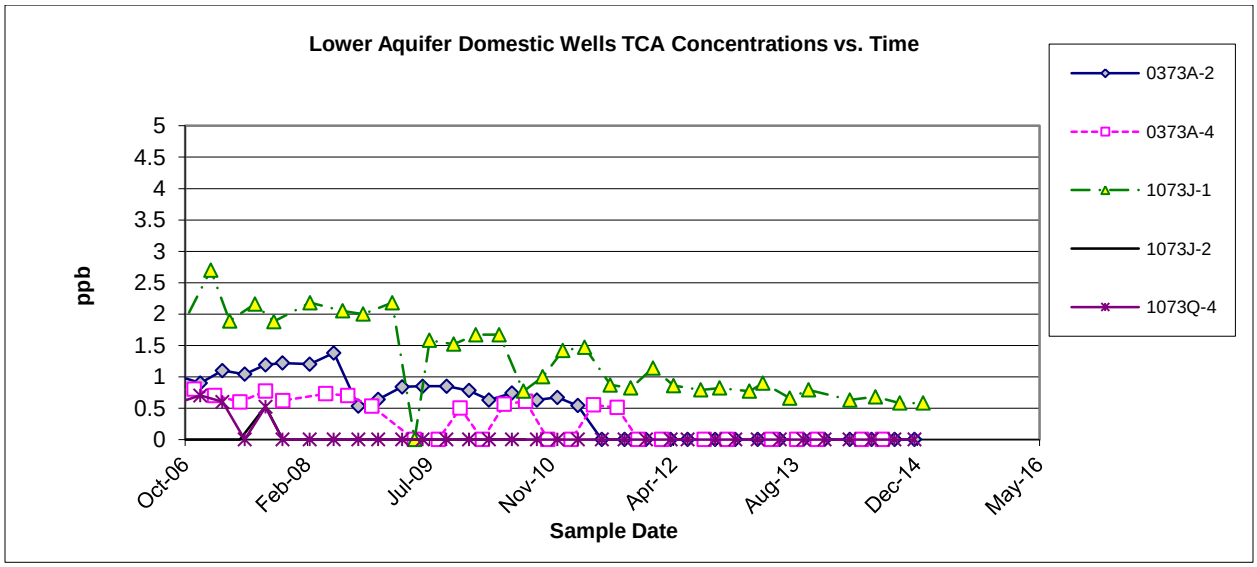


Table 3-3 Colbert Residential Sampling Plan 2015

StationID	LastName	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Sched Comments
0273C-2	Vannatter	☐	☐	☑	☐	☐	☐	☐	☐	☐	☑	☐	☐	
0273C-3	Kramer	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	BiAnnual 10'
0273C-4	McQuesten	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	
0273C-5	Hogan	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	many years no detects, wells btwn this and plume
0273D-6	Thornton	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	
0273F-4	Gander	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	
0373A-2	Resseman	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	
0373A-4	Vansickel	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	
0373J-3	Golding	☐	☐	☐	☐	☑	☑	☐	☐	☐	☐	☐	☐	
0373L-1	Sterling	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	
1073D-1	Coats	☐	☑	☐	☑	☐	☐	☐	☑	☐	☐	☑	☐	
1073E-2	Pullen	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	Alt w/1073E-3
1073E-3	Clark	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	Alt w/1073E-2
1073E-4	Carpenter	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
1073E-4	Carpenter	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☑	
1073G-1	Rux	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	
1073J-1	Moreno	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	
1073L-1	Halpin	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	
1073L-2	Countryman	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	Alt w/1073L-3
1073L-3	Anderson	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	Alt w/1073L-2
1073L-4	Crabb	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	
1073M-1	Bertholf	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	Alt w/1073M-3
1073M-3	Lane	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	Alt w/1073M-1
1073P-1	Ringo	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1073P-2	Petrelli	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	

StationID	LastName	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Sched Comments
1073Q-4	NORTH MEADOWS W	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	
1173B-1	Bise	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑	
1473C-5	Overmyer	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	BiAnnual (11) Alt w/1473D-1
1473D-1	Farris	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Alt w/1473C-5
1473D-2	Wardian	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	Alt w/1473C
1473M-1	Ennis	☑	☐	☐	☑	☐	☐	☑	☐	☐	☑	☐	☐	
1573C-10	Lake	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	
1573C-17	RESIDENT	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1573C-5	Nelson	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	
1573C-7	Brown	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1573C-8	Williams	☐	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	BiAnnual (10)
1573G-1	SHAI	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	BiAnnual (11)
1573H-1	Hunter	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☐	☐	
1573K-1	Tender	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	☐	
1573Q-1	Saunder	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	
1573R-2	Hunter	☐	☐	☐	☐	☑	☐	☐	☐	☐	☐	☑	☐	
3483M-1	Campbell	☐	☐	☐	☐	☐	☐	☐	☐	☑	☐	☐	☐	

4 Landfill Operations and Maintenance

From July 1, 2014 through June 30, 2015 the following routine landfill cover and gas system monitoring and maintenance was accomplished at the Colbert Landfill. Data collected is included in this section.

- Monthly monitoring at gas probes and exhaust system
- Monthly condensate tank levels
- Monthly gas fan maintenance (greasing, belt tension adjustments, etc.)
- Landfill gas sampling and analysis (Method TO-15) was performed in April 2015.
- Quarterly monitoring of trench risers (June, October, February and April).

Other notable items include:

- Cover and ditch weed control was ongoing throughout the growing season.
- carbon tub change outs were performed.

Landfill Operations and Maintenance Field Data

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 51 **Barometer:** 30.02

Tech MT **Calibration:** Zeroed CH4 to AB air-> cal gas-> CH4 15.1% calibrated to 15.0; CO2 reads 15.2% calibrated to 15.0%; Zeroed O2 to cal gas-> calibrated to 20.9% AB air

Weather Partly Cloudy 70

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CGE00001	5/21/2014		5.1	14.6	2.5	77.8	0	0.14					
CGE00001	6/10/2014		4.7	14.6	2.6	78.1	0	0.12					
CGE00001	7/21/2014		4.8	15	2.5	77.7	0	0.08					
CGE00001	8/27/2014		5	15.9	1.9	77.2	0	0.18					
CGE00001	9/29/2014		5.4	15.8	2	76.8	0	0.17					
CGE00001	9/29/2014		5.3	15.8	1.9	77	0	0					
CGE00001	10/27/2014		4.1	14.3	2.8	78.8	0	0.14	0				
CGE00001	11/26/2014		4.7	15.9	2.2	77.2	0	0.15					
CGE00001	12/12/2014		5.2	13.9	1.5	79.6	0	0.04					
CGE00001	1/28/2015		4.1	13.2	3	79.7	0	0.18					
CGE00001	2/25/2015		5.2	13.2	2.6	79	0	0.09					
CGE00001	3/20/2015		6	14	1.7	78.3	0	0.06					
CGI00001	8/27/2014		5.2	16	1.8	77	0	-8.23					
CGI00001	10/27/2014		4.2	14.5	2.6	78.7	0	-10.22					
CGI00001	2/25/2015		5.3	13.7	1.8	79.2	0	-9.97					
CGI00001	3/20/2015		6	14.1	1.5	78.4	0	-10.02					
CGI00002	10/27/2014		4.2	14.5	2.5	78.8	0	-10.25					
CGI00002	2/25/2015		5.3	13.6	2.4	78.7	0	-9.93					
CGI00002	3/20/2015		5.9	14	1.4	78.7	0	-10.03					
CGI00003	5/21/2014		5.3	14.1	2.5	78.1	0	0.34					
CGI00003	6/10/2014		4.8	14.5	2.5	78.2	0	0.28					
CGI00003	7/21/2014		4.6	15	2.5	77.9	0	0.28					
CGI00003	8/27/2014		5.2	16	1.9	76.9	0	0.4					
CGI00003	9/29/2014		5.4	15.9	2	76.7	0	0.38					
CGI00003	10/27/2014		4.1	14.3	2.7	78.9	0	0.32	0				
CGI00003	11/26/2014		5.2	16	1.9	76.9	0	0.4					
CGI00003	12/12/2014		5.2	13.9	1.4	79.5	0	0.21					
CGI00003	1/28/2015		4	13.1	3	79.9	0	0.34					
CGI00003	2/25/2015		5.1	13.4	2.6	78.9	0	0.32					
CGI00003	3/20/2015		6	13.9	1.7	78.4	0	0.26					
CGP00006	5/21/2014		4.7	17.5	0	77.8	0	-0.02					

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 50 **Barometer:** 29.98

Tech M Terr **Calibration:** Zeroed CH4 to AB air; gas calibration CH4 read 14.8% calibrated to 15.0%; CO2 reads 15.2% calbrated to 15.0%; Zeroed O2 to cal gas then calibrated to AB air

Weather Partly Cloudy to Mostly Cloudy 60's

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CGP00006	6/10/2014		5	17.8	0	77.2	0	-0.03					
CGP00006	7/21/2014		4.7	18.4	0	76.9	0	-0.06					
CGP00006	8/27/2014		4.4	18.6	0	77	0	-0.03	0				
CGP00006	9/29/2014		5.6	19.6	0	74.8	0	-0.04					
CGP00006	10/27/2014		5.3	19.6	0	75.1	0	-0.03					
CGP00006	11/26/2014		4.1	18.9	0	77	0	-0.01	0				
CGP00006	12/12/2014		5.9	18.1	0	76	0	-0.05					
CGP00006	1/28/2015		6.3	18.8	0	74.9	0	-0.01					
CGP00006	2/25/2015		5.9	18.4	0	75.7	0	-0.02					
CGP00006	3/20/2015		6.1	18.1	0	75.8	0	-0.02					
CGP00009	5/21/2014		0	3.4	5.3	91.3	0	0					
CGP00009	6/10/2014		0	3.9	12.4	83.7	0	0					
CGP00009	7/21/2014		0	5	12.3	82.7	0	-0.02					
CGP00009	8/27/2014		0	3	15.1	81.9	0	0					
CGP00009	9/29/2014		0	3.8	14.9	81.3	0	-0.03					
CGP00009	10/27/2014		0	5.4	13.4	81.2	0	-0.03					
CGP00009	11/26/2014		0	2.9	15.2	81.9	0	0					
CGP00009	12/12/2014		0	3.1	5.2	91.7	0	0	0				
CGP00009	1/28/2015		0	3.5	14.6	81.9	0	-0.02					
CGP00009	2/25/2015		0	3.4	13.2	83.4	0	-0.01					
CGP00009	3/20/2015		0	3.7	14.6	81.7	0	-0.02					
CGP00012	5/21/2014		0	10.1	2.8	87.1	0	-0.02					
CGP00012	6/10/2014		0	11.5	2.3	86.2	0	-0.04					
CGP00012	7/21/2014		0.2	14.4	0.3	85.1	0	-0.01					
CGP00012	8/27/2014		0	15.5	0	84.5	0	0					
CGP00012	9/29/2014		0	16.3	0.4	83.3	0	-0.01					
CGP00012	10/27/2014		0	15.1	1.8	83.1	0	-0.01					
CGP00012	11/26/2014		0	9.5	6.1	84.4	0	0					
CGP00012	12/12/2014		0	11.9	1.7	86.4	0	0	0				
CGP00012	1/28/2015		0	9.9	6.3	83.8	0	-0.01					
CGP00012	2/25/2015		0	10.2	4.1	85.7	0	0					

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 44 **Barometer:** 30.01

Tech MT **Calibration:** Zeroed CH4 to AB air; cal gas-> reading 14.8% CH4 calibrated to 15.0%; CO2 reading 14.9% calibrated to 15.0%; Zeroed O2 to cal gas-> calibrated O2 to AB air at

Weather Cloudy Low 50's

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CGP00012	3/20/2015		0	10.9	2.7	86.4	0	0					
CGP0013L	5/21/2014		1.9	16	0	82.1	0	-0.01					
CGP0013L	6/10/2014		2.7	16.4	0	80.9	0	-0.06					
CGP0013L	7/21/2014		4	17.5	0	78.5	0	-0.05					
CGP0013L	8/27/2014		3.7	17.7	0	78.6	0	-0.02					
CGP0013L	9/29/2014		3.1	18.3	0	78.6	0	-0.06					
CGP0013L	10/27/2014		2	17.3	0.9	79.8	0	-0.06					
CGP0013L	11/26/2014		3.5	17.9	0	78.6	0	-0.02					
CGP0013L	12/12/2014		1.5	17.2	0	81.3	0	-0.04					
CGP0013L	1/28/2015		1.3	16.7	0.7	81.3	0	-0.02					
CGP0013L	2/25/2015		1.7	16.4	0	81.9	0	-0.03					
CGP0013L	3/20/2015		1.7	17.1	0	81.2	0	-0.03					
CGP0013U	5/21/2014		1.4	15.4	0	83.2	0	-0.02					
CGP0013U	6/10/2014		1.6	16.3	0	82.1	0	-0.04					
CGP0013U	7/21/2014		3.8	18.1	0	78.1	0	-0.08					
CGP0013U	8/27/2014		4.3	18.7	0	77	0	-0.01					
CGP0013U	9/29/2014		5	19.1	0	75.9	0	-0.04					
CGP0013U	10/27/2014		4.4	17.7	0.9	77	0	-0.06					
CGP0013U	11/26/2014		4.2	18.8	0	77	0	-0.01					
CGP0013U	12/12/2014		3.6	16.8	0	79.6	0	-0.06					
CGP0013U	1/28/2015		1.3	16	0	82.7	0	-0.02					
CGP0013U	2/25/2015		3.1	15.8	0	81.1	0	-0.02					
CGP0013U	3/20/2015		3.6	14.9	0	81.5	0	-0.04					
CMS00001	7/21/2014		0	5.2	14	80.8	0	-9	0				
CMS00002	7/21/2014		2.5	10	5.5	82	0	-9.93	0				
CMS00003	7/21/2014		3.4	12.3	3.6	80.7	0	-9.7	0				
CMS00004	7/21/2014		4.6	14.9	1.7	78.8	0	-9.17	0				
CMS00005	7/21/2014		3.9	12.4	3.3	80.4	0	-9.14	0				
CMV00001	7/21/2014		3.9	12.9	3.2	80	0	-9.38	0				
CMV00002	7/21/2014		4.5	14.9	1.9	78.7	0	-9.12	0				
CTR00001	7/21/2014		0	3.7	15.6	80.7	0	0	59	0	0		

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 52 **Barometer:** 30.01

Tech M Terr **Calibration:** Zeroed Ch4 to AB air-> gas calibration Ch4 reading 15.2% -> calibrated to 15.0%; CO2 reading 14.9% -> calibrated 15.0%; Zeroed O2 -> O2 reading 20.7 ->

Weather Partly Cloudy 70's

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CTR00002	7/21/2014		0	8.7	6.5	84.8	0	0	50	2	2		
CTR00003	7/21/2014		4.5	15	2.3	78.2	0	-0.07	55	0	0		
CTR00003	10/27/2014		4.8	15.5	2.4	77.3	0	0.04	47	5	5		
CTR00004	7/21/2014		0.2	15	1.5	83.3	0	0	64	0	0		
CTR00004	10/27/2014		0	11.3	4	84.7	0	0	52	0	0		
CTR00005	7/21/2014		0	8.2	4.9	86.9	0	0	73	0	0		
CTR00005	10/27/2014		0	7.5	6.2	86.3	0	0	55	0	0		
CTR00006	7/21/2014		6	18.1	0	75.9	0	0.06	60	37	40		
CTR00006	10/27/2014		6.3	18.3	0.2	75.2	0	0.02	53	17	17		
CTR00007	7/21/2014		0	6	6.2	87.8	0	0	75	0	0		
CTR00007	10/27/2014		0	5.3	12.2	82.5	0	0	55	0	0		
CTR00008	7/21/2014		6.1	17.6	0	76.3	0	0.06	59	9	8		
CTR00008	10/27/2014		5.8	16.3	1.2	76.7	0	0.04	55	4	4		
CTR00009	7/21/2014		0	6.5	5.6	87.9	0	0	72	0	0		
CTR00009	10/27/2014		0	5.1	12.6	82.3	0	-0.02	52	0	0		
CTR00010	7/21/2014		5.7	17.7	0	76.6	-0.1	0.08	60	50	50		
CTR00010	10/27/2014		5.5	17.9	0.2	76.4	0	0.02	59	20	17		
CTR00011	7/21/2014		0	8.8	4.4	86.8	0	0	73	0	0		
CTR00011	10/27/2014		0	8.1	6.3	85.6	0	0	56	0	0		
CTR00012	7/21/2014		0	5.3	12.5	82.2	0	0	75	0	0		
CTR00012	10/27/2014		0	4.7	14.7	80.6	0	0	49	0	0		
CTR00013	7/21/2014		0	5.1	13	81.9	0	0	75	0	0		
CTR00013	10/27/2014		0	5.4	14.3	80.3	0	0	50	0	0		

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 51 **Barometer:** 30.02

Tech MT **Calibration:** Zeroed CH4 to AB air-> cal gas-> CH4 15.1% calibrated to 15.0; CO2 reads 15.2% calibrated to 15.0%; Zeroed O2 to cal gas-> calibrated to 20.9% AB air

Weather Partly Cloudy 70

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CGE00001	5/21/2014		5.1	14.6	2.5	77.8	0	0.14					
CGE00001	6/10/2014		4.7	14.6	2.6	78.1	0	0.12					
CGE00001	7/21/2014		4.8	15	2.5	77.7	0	0.08					
CGE00001	8/27/2014		5	15.9	1.9	77.2	0	0.18					
CGE00001	9/29/2014		5.4	15.8	2	76.8	0	0.17					
CGE00001	9/29/2014		5.3	15.8	1.9	77	0	0					
CGE00001	10/27/2014		4.1	14.3	2.8	78.8	0	0.14	0				
CGE00001	11/26/2014		4.7	15.9	2.2	77.2	0	0.15					
CGE00001	12/12/2014		5.2	13.9	1.5	79.6	0	0.04					
CGE00001	1/28/2015		4.1	13.2	3	79.7	0	0.18					
CGE00001	2/25/2015		5.2	13.2	2.6	79	0	0.09					
CGE00001	3/20/2015		6	14	1.7	78.3	0	0.06					
CGI00001	8/27/2014		5.2	16	1.8	77	0	-8.23					
CGI00001	10/27/2014		4.2	14.5	2.6	78.7	0	-10.22					
CGI00001	2/25/2015		5.3	13.7	1.8	79.2	0	-9.97					
CGI00001	3/20/2015		6	14.1	1.5	78.4	0	-10.02					
CGI00002	10/27/2014		4.2	14.5	2.5	78.8	0	-10.25					
CGI00002	2/25/2015		5.3	13.6	2.4	78.7	0	-9.93					
CGI00002	3/20/2015		5.9	14	1.4	78.7	0	-10.03					
CGI00003	5/21/2014		5.3	14.1	2.5	78.1	0	0.34					
CGI00003	6/10/2014		4.8	14.5	2.5	78.2	0	0.28					
CGI00003	7/21/2014		4.6	15	2.5	77.9	0	0.28					
CGI00003	8/27/2014		5.2	16	1.9	76.9	0	0.4					
CGI00003	9/29/2014		5.4	15.9	2	76.7	0	0.38					
CGI00003	10/27/2014		4.1	14.3	2.7	78.9	0	0.32	0				
CGI00003	11/26/2014		5.2	16	1.9	76.9	0	0.4					
CGI00003	12/12/2014		5.2	13.9	1.4	79.5	0	0.21					
CGI00003	1/28/2015		4	13.1	3	79.9	0	0.34					
CGI00003	2/25/2015		5.1	13.4	2.6	78.9	0	0.32					
CGI00003	3/20/2015		6	13.9	1.7	78.4	0	0.26					
CGP00006	5/21/2014		4.7	17.5	0	77.8	0	-0.02					

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 50 **Barometer:** 29.98

Tech M Terr **Calibration:** Zeroed CH4 to AB air; gas calibration CH4 read 14.8% calibrated to 15.0%; CO2 reads 15.2% calbrated to 15.0%; Zeroed O2 to cal gas then calibrated to AB air

Weather Partly Cloudy to Mostly Cloudy 60's

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CGP00006	6/10/2014		5	17.8	0	77.2	0	-0.03					
CGP00006	7/21/2014		4.7	18.4	0	76.9	0	-0.06					
CGP00006	8/27/2014		4.4	18.6	0	77	0	-0.03	0				
CGP00006	9/29/2014		5.6	19.6	0	74.8	0	-0.04					
CGP00006	10/27/2014		5.3	19.6	0	75.1	0	-0.03					
CGP00006	11/26/2014		4.1	18.9	0	77	0	-0.01	0				
CGP00006	12/12/2014		5.9	18.1	0	76	0	-0.05					
CGP00006	1/28/2015		6.3	18.8	0	74.9	0	-0.01					
CGP00006	2/25/2015		5.9	18.4	0	75.7	0	-0.02					
CGP00006	3/20/2015		6.1	18.1	0	75.8	0	-0.02					
CGP00009	5/21/2014		0	3.4	5.3	91.3	0	0					
CGP00009	6/10/2014		0	3.9	12.4	83.7	0	0					
CGP00009	7/21/2014		0	5	12.3	82.7	0	-0.02					
CGP00009	8/27/2014		0	3	15.1	81.9	0	0					
CGP00009	9/29/2014		0	3.8	14.9	81.3	0	-0.03					
CGP00009	10/27/2014		0	5.4	13.4	81.2	0	-0.03					
CGP00009	11/26/2014		0	2.9	15.2	81.9	0	0					
CGP00009	12/12/2014		0	3.1	5.2	91.7	0	0	0				
CGP00009	1/28/2015		0	3.5	14.6	81.9	0	-0.02					
CGP00009	2/25/2015		0	3.4	13.2	83.4	0	-0.01					
CGP00009	3/20/2015		0	3.7	14.6	81.7	0	-0.02					
CGP00012	5/21/2014		0	10.1	2.8	87.1	0	-0.02					
CGP00012	6/10/2014		0	11.5	2.3	86.2	0	-0.04					
CGP00012	7/21/2014		0.2	14.4	0.3	85.1	0	-0.01					
CGP00012	8/27/2014		0	15.5	0	84.5	0	0					
CGP00012	9/29/2014		0	16.3	0.4	83.3	0	-0.01					
CGP00012	10/27/2014		0	15.1	1.8	83.1	0	-0.01					
CGP00012	11/26/2014		0	9.5	6.1	84.4	0	0					
CGP00012	12/12/2014		0	11.9	1.7	86.4	0	0	0				
CGP00012	1/28/2015		0	9.9	6.3	83.8	0	-0.01					
CGP00012	2/25/2015		0	10.2	4.1	85.7	0	0					

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 44 **Barometer:** 30.01

Tech MT **Calibration:** Zeroed CH4 to AB air; cal gas-> reading 14.8% CH4 calibrated to 15.0%; CO2 reading 14.9% calibrated to 15.0%; Zeroed O2 to cal gas-> calibrated O2 to AB air at

Weather Cloudy Low 50's

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CGP00012	3/20/2015		0	10.9	2.7	86.4	0	0					
CGP0013L	5/21/2014		1.9	16	0	82.1	0	-0.01					
CGP0013L	6/10/2014		2.7	16.4	0	80.9	0	-0.06					
CGP0013L	7/21/2014		4	17.5	0	78.5	0	-0.05					
CGP0013L	8/27/2014		3.7	17.7	0	78.6	0	-0.02					
CGP0013L	9/29/2014		3.1	18.3	0	78.6	0	-0.06					
CGP0013L	10/27/2014		2	17.3	0.9	79.8	0	-0.06					
CGP0013L	11/26/2014		3.5	17.9	0	78.6	0	-0.02					
CGP0013L	12/12/2014		1.5	17.2	0	81.3	0	-0.04					
CGP0013L	1/28/2015		1.3	16.7	0.7	81.3	0	-0.02					
CGP0013L	2/25/2015		1.7	16.4	0	81.9	0	-0.03					
CGP0013L	3/20/2015		1.7	17.1	0	81.2	0	-0.03					
CGP0013U	5/21/2014		1.4	15.4	0	83.2	0	-0.02					
CGP0013U	6/10/2014		1.6	16.3	0	82.1	0	-0.04					
CGP0013U	7/21/2014		3.8	18.1	0	78.1	0	-0.08					
CGP0013U	8/27/2014		4.3	18.7	0	77	0	-0.01					
CGP0013U	9/29/2014		5	19.1	0	75.9	0	-0.04					
CGP0013U	10/27/2014		4.4	17.7	0.9	77	0	-0.06					
CGP0013U	11/26/2014		4.2	18.8	0	77	0	-0.01					
CGP0013U	12/12/2014		3.6	16.8	0	79.6	0	-0.06					
CGP0013U	1/28/2015		1.3	16	0	82.7	0	-0.02					
CGP0013U	2/25/2015		3.1	15.8	0	81.1	0	-0.02					
CGP0013U	3/20/2015		3.6	14.9	0	81.5	0	-0.04					
CMS00001	7/21/2014		0	5.2	14	80.8	0	-9	0				
CMS00002	7/21/2014		2.5	10	5.5	82	0	-9.93	0				
CMS00003	7/21/2014		3.4	12.3	3.6	80.7	0	-9.7	0				
CMS00004	7/21/2014		4.6	14.9	1.7	78.8	0	-9.17	0				
CMS00005	7/21/2014		3.9	12.4	3.3	80.4	0	-9.14	0				
CMV00001	7/21/2014		3.9	12.9	3.2	80	0	-9.38	0				
CMV00002	7/21/2014		4.5	14.9	1.9	78.7	0	-9.12	0				
CTR00001	7/21/2014		0	3.7	15.6	80.7	0	0	59	0	0		

COLBERT INTERIOR GAS MONITORING REPORT

FanFlow: 52 **Barometer:** 30.01

Tech M Terr **Calibration:** Zeroed Ch4 to AB air-> gas calibration Ch4 reading 15.2% -> calibrated to 15.0%; CO2 reading 14.9% -> calibrated 15.0%; Zeroed O2 -> O2 reading 20.7 ->

Weather Partly Cloudy 70's

Equipment: Gem 500 #410

Location	Date	Time	CH4	CO2	O2	Balance	Static Pres	Diff. Press.	Temp	Ref. Flow	Adj. Flow	Comments	Valve Pos.
CTR00002	7/21/2014		0	8.7	6.5	84.8	0	0	50	2	2		
CTR00003	7/21/2014		4.5	15	2.3	78.2	0	-0.07	55	0	0		
CTR00003	10/27/2014		4.8	15.5	2.4	77.3	0	0.04	47	5	5		
CTR00004	7/21/2014		0.2	15	1.5	83.3	0	0	64	0	0		
CTR00004	10/27/2014		0	11.3	4	84.7	0	0	52	0	0		
CTR00005	7/21/2014		0	8.2	4.9	86.9	0	0	73	0	0		
CTR00005	10/27/2014		0	7.5	6.2	86.3	0	0	55	0	0		
CTR00006	7/21/2014		6	18.1	0	75.9	0	0.06	60	37	40		
CTR00006	10/27/2014		6.3	18.3	0.2	75.2	0	0.02	53	17	17		
CTR00007	7/21/2014		0	6	6.2	87.8	0	0	75	0	0		
CTR00007	10/27/2014		0	5.3	12.2	82.5	0	0	55	0	0		
CTR00008	7/21/2014		6.1	17.6	0	76.3	0	0.06	59	9	8		
CTR00008	10/27/2014		5.8	16.3	1.2	76.7	0	0.04	55	4	4		
CTR00009	7/21/2014		0	6.5	5.6	87.9	0	0	72	0	0		
CTR00009	10/27/2014		0	5.1	12.6	82.3	0	-0.02	52	0	0		
CTR00010	7/21/2014		5.7	17.7	0	76.6	-0.1	0.08	60	50	50		
CTR00010	10/27/2014		5.5	17.9	0.2	76.4	0	0.02	59	20	17		
CTR00011	7/21/2014		0	8.8	4.4	86.8	0	0	73	0	0		
CTR00011	10/27/2014		0	8.1	6.3	85.6	0	0	56	0	0		
CTR00012	7/21/2014		0	5.3	12.5	82.2	0	0	75	0	0		
CTR00012	10/27/2014		0	4.7	14.7	80.6	0	0	49	0	0		
CTR00013	7/21/2014		0	5.1	13	81.9	0	0	75	0	0		
CTR00013	10/27/2014		0	5.4	14.3	80.3	0	0	50	0	0		

LABORATORY NARRATIVE
EPA Method TO-15
Spokane County Utilities
Workorder# 1504575

Two 6 Liter Summa Canister samples were received on April 29, 2015. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) information for samples CGE-003-150427 and CGD-001-150427 did not match the entries on the sample tags with regard to sample identification. Therefore the information on the COC was used to process and report the samples.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: CGE-003-150427

Lab ID#: 1504575-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.67	200	3.3	1000
Freon 114	0.67	32	4.7	230
Vinyl Chloride	0.67	170	1.7	440
Chloroethane	2.7	230	7.1	600
Freon 11	0.67	2.1	3.8	12
Ethanol	2.7	14	5.0	26
Methylene Chloride	6.7	9.2	23	32
2-Butanone (Methyl Ethyl Ketone)	2.7	4.3	7.9	13
Toluene	0.67	1.8	2.5	6.9
Ethyl Benzene	0.67	0.70	2.9	3.0
m,p-Xylene	0.67	3.5	2.9	15
o-Xylene	0.67	1.5	2.9	6.6
4-Ethyltoluene	0.67	2.8	3.3	14
1,3,5-Trimethylbenzene	0.67	1.2	3.3	5.9
1,2,4-Trimethylbenzene	0.67	4.7	3.3	23

Client Sample ID: CGD-001-150427

Lab ID#: 1504575-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.67	210	3.3	1000
Freon 114	0.67	34	4.7	240
Vinyl Chloride	0.67	170	1.7	440
Chloroethane	2.7	230	7.1	600
Freon 11	0.67	2.3	3.8	13
Ethanol	2.7	3.3	5.0	6.2
Methylene Chloride	6.7	9.6	23	33
Toluene	0.67	1.3	2.5	4.8
m,p-Xylene	0.67	2.6	2.9	11
o-Xylene	0.67	1.1	2.9	5.0
4-Ethyltoluene	0.67	2.1	3.3	10
1,3,5-Trimethylbenzene	0.67	0.81	3.3	4.0
1,2,4-Trimethylbenzene	0.67	3.6	3.3	18

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Client Sample ID: CGE-003-150427

Lab ID#: 1504575-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a050107**	**Date of Collection:**	**4/27/15 10:30:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**5/2/15 08:57 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.67	200	3.3	1000
Freon 114	0.67	32	4.7	230
Chloromethane	6.7	Not Detected	14	Not Detected
Vinyl Chloride	0.67	170	1.7	440
1,3-Butadiene	0.67	Not Detected	1.5	Not Detected
Bromomethane	6.7	Not Detected	26	Not Detected
Chloroethane	2.7	230	7.1	600
Freon 11	0.67	2.1	3.8	12
Ethanol	2.7	14	5.0	26
Freon 113	0.67	Not Detected	5.1	Not Detected
1,1-Dichloroethene	0.67	Not Detected	2.6	Not Detected
Acetone	6.7	Not Detected	16	Not Detected
2-Propanol	2.7	Not Detected	6.6	Not Detected
Carbon Disulfide	2.7	Not Detected	8.3	Not Detected
3-Chloropropene	2.7	Not Detected	8.4	Not Detected
Methylene Chloride	6.7	9.2	23	32
Methyl tert-butyl ether	0.67	Not Detected	2.4	Not Detected
trans-1,2-Dichloroethene	0.67	Not Detected	2.6	Not Detected
Hexane	0.67	Not Detected	2.4	Not Detected
1,1-Dichloroethane	0.67	Not Detected	2.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.7	4.3	7.9	13
cis-1,2-Dichloroethene	0.67	Not Detected	2.6	Not Detected
Tetrahydrofuran	0.67	Not Detected	2.0	Not Detected
Chloroform	0.67	Not Detected	3.3	Not Detected
1,1,1-Trichloroethane	0.67	Not Detected	3.6	Not Detected
Cyclohexane	0.67	Not Detected	2.3	Not Detected
Carbon Tetrachloride	0.67	Not Detected	4.2	Not Detected
2,2,4-Trimethylpentane	0.67	Not Detected	3.1	Not Detected
Benzene	0.67	Not Detected	2.1	Not Detected
1,2-Dichloroethane	0.67	Not Detected	2.7	Not Detected
Heptane	0.67	Not Detected	2.7	Not Detected
Trichloroethene	0.67	Not Detected	3.6	Not Detected
1,2-Dichloropropane	0.67	Not Detected	3.1	Not Detected
1,4-Dioxane	2.7	Not Detected	9.6	Not Detected
Bromodichloromethane	0.67	Not Detected	4.5	Not Detected
cis-1,3-Dichloropropene	0.67	Not Detected	3.0	Not Detected
4-Methyl-2-pentanone	0.67	Not Detected	2.7	Not Detected
Toluene	0.67	1.8	2.5	6.9
trans-1,3-Dichloropropene	0.67	Not Detected	3.0	Not Detected
1,1,2-Trichloroethane	0.67	Not Detected	3.6	Not Detected
Tetrachloroethene	0.67	Not Detected	4.5	Not Detected
2-Hexanone	2.7	Not Detected	11	Not Detected

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Client Sample ID: CGE-003-150427

Lab ID#: 1504575-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a050107**	**Date of Collection:**	**4/27/15 10:30:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**5/2/15 08:57 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.67	Not Detected	5.7	Not Detected
1,2-Dibromoethane (EDB)	0.67	Not Detected	5.1	Not Detected
Chlorobenzene	0.67	Not Detected	3.1	Not Detected
Ethyl Benzene	0.67	0.70	2.9	3.0
m,p-Xylene	0.67	3.5	2.9	15
o-Xylene	0.67	1.5	2.9	6.6
Styrene	0.67	Not Detected	2.8	Not Detected
Bromoform	0.67	Not Detected	6.9	Not Detected
Cumene	0.67	Not Detected	3.3	Not Detected
1,1,2,2-Tetrachloroethane	0.67	Not Detected	4.6	Not Detected
Propylbenzene	0.67	Not Detected	3.3	Not Detected
4-Ethyltoluene	0.67	2.8	3.3	14
1,3,5-Trimethylbenzene	0.67	1.2	3.3	5.9
1,2,4-Trimethylbenzene	0.67	4.7	3.3	23
1,3-Dichlorobenzene	0.67	Not Detected	4.0	Not Detected
1,4-Dichlorobenzene	0.67	Not Detected	4.0	Not Detected
alpha-Chlorotoluene	0.67	Not Detected	3.5	Not Detected
1,2-Dichlorobenzene	0.67	Not Detected	4.0	Not Detected
1,2,4-Trichlorobenzene	2.7	Not Detected	20	Not Detected
Hexachlorobutadiene	2.7	Not Detected	28	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	95	70-130

eurofins | Air Toxics

Client Sample ID: CGD-001-150427

Lab ID#: 1504575-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a050108**	**Date of Collection:**	**4/27/15 10:45:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**5/2/15 09:25 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.67	210	3.3	1000
Freon 114	0.67	34	4.7	240
Chloromethane	6.7	Not Detected	14	Not Detected
Vinyl Chloride	0.67	170	1.7	440
1,3-Butadiene	0.67	Not Detected	1.5	Not Detected
Bromomethane	6.7	Not Detected	26	Not Detected
Chloroethane	2.7	230	7.1	600
Freon 11	0.67	2.3	3.8	13
Ethanol	2.7	3.3	5.0	6.2
Freon 113	0.67	Not Detected	5.1	Not Detected
1,1-Dichloroethene	0.67	Not Detected	2.6	Not Detected
Acetone	6.7	Not Detected	16	Not Detected
2-Propanol	2.7	Not Detected	6.6	Not Detected
Carbon Disulfide	2.7	Not Detected	8.3	Not Detected
3-Chloropropene	2.7	Not Detected	8.4	Not Detected
Methylene Chloride	6.7	9.6	23	33
Methyl tert-butyl ether	0.67	Not Detected	2.4	Not Detected
trans-1,2-Dichloroethene	0.67	Not Detected	2.6	Not Detected
Hexane	0.67	Not Detected	2.4	Not Detected
1,1-Dichloroethane	0.67	Not Detected	2.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.7	Not Detected	7.9	Not Detected
cis-1,2-Dichloroethene	0.67	Not Detected	2.6	Not Detected
Tetrahydrofuran	0.67	Not Detected	2.0	Not Detected
Chloroform	0.67	Not Detected	3.3	Not Detected
1,1,1-Trichloroethane	0.67	Not Detected	3.6	Not Detected
Cyclohexane	0.67	Not Detected	2.3	Not Detected
Carbon Tetrachloride	0.67	Not Detected	4.2	Not Detected
2,2,4-Trimethylpentane	0.67	Not Detected	3.1	Not Detected
Benzene	0.67	Not Detected	2.1	Not Detected
1,2-Dichloroethane	0.67	Not Detected	2.7	Not Detected
Heptane	0.67	Not Detected	2.7	Not Detected
Trichloroethene	0.67	Not Detected	3.6	Not Detected
1,2-Dichloropropane	0.67	Not Detected	3.1	Not Detected
1,4-Dioxane	2.7	Not Detected	9.6	Not Detected
Bromodichloromethane	0.67	Not Detected	4.5	Not Detected
cis-1,3-Dichloropropene	0.67	Not Detected	3.0	Not Detected
4-Methyl-2-pentanone	0.67	Not Detected	2.7	Not Detected
Toluene	0.67	1.3	2.5	4.8
trans-1,3-Dichloropropene	0.67	Not Detected	3.0	Not Detected
1,1,2-Trichloroethane	0.67	Not Detected	3.6	Not Detected
Tetrachloroethene	0.67	Not Detected	4.5	Not Detected
2-Hexanone	2.7	Not Detected	11	Not Detected

eurofins | Air Toxics

Client Sample ID: CGD-001-150427

Lab ID#: 1504575-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**a050108**	**Date of Collection:**	**4/27/15 10:45:00 AM**
Dil. Factor:	**1.34**	**Date of Analysis:**	**5/2/15 09:25 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.67	Not Detected	5.7	Not Detected
1,2-Dibromoethane (EDB)	0.67	Not Detected	5.1	Not Detected
Chlorobenzene	0.67	Not Detected	3.1	Not Detected
Ethyl Benzene	0.67	Not Detected	2.9	Not Detected
m,p-Xylene	0.67	2.6	2.9	11
o-Xylene	0.67	1.1	2.9	5.0
Styrene	0.67	Not Detected	2.8	Not Detected
Bromoform	0.67	Not Detected	6.9	Not Detected
Cumene	0.67	Not Detected	3.3	Not Detected
1,1,2,2-Tetrachloroethane	0.67	Not Detected	4.6	Not Detected
Propylbenzene	0.67	Not Detected	3.3	Not Detected
4-Ethyltoluene	0.67	2.1	3.3	10
1,3,5-Trimethylbenzene	0.67	0.81	3.3	4.0
1,2,4-Trimethylbenzene	0.67	3.6	3.3	18
1,3-Dichlorobenzene	0.67	Not Detected	4.0	Not Detected
1,4-Dichlorobenzene	0.67	Not Detected	4.0	Not Detected
alpha-Chlorotoluene	0.67	Not Detected	3.5	Not Detected
1,2-Dichlorobenzene	0.67	Not Detected	4.0	Not Detected
1,2,4-Trichlorobenzene	2.7	Not Detected	20	Not Detected
Hexachlorobutadiene	2.7	Not Detected	28	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	98	70-130

7/31/14

- WEEK GAS FLOW READINGS 57 CFM @ 27.9°C Ø

8/8/14

- WEEKLY GAS FLOW READING = 54 CFM @ 24.4°C

8-13 - Weekly flow meas. not taken — meter not available.

8-21-14 Weekly gas flow = 52 CFM Readings ranged from 47 to 59 CFM. DG

8-27-14 WEEKLY FLOW = 47 CFM RANGING 45-48

MONTHLY GAS "PROBES"

8/27/14 (WED)
WEATHER: CLEAR WARM MID-80's BP 30.04↓
TECH: M. TERRIS GAS FLOW 47 RANGING 45-49 cf
GAS TEMP 24.7°c KNOCKOUT COUNTER: Ø
Ø CONDENSATE. FAN HR: 93535
FILE NAME: CP140827.XLS GEM 500 & 410

MT SAMPLED ALL 21 GAS PROBE LOCATIONS & 4 EXTRACTION SYSTEM LOCATION. SAMPLED %CH4, %CO2, %O2 & PRESSURE. ALL READING ARE IN THE NORMAL RANGE NOTHING OUT OF THE ORDINARY WAS OBSERVED SO NO ADJUSTMENT WERE MADE. FIRE DAMAGE EAST SIDE OF LANDFILL NO DAMAGE OBSERVED TO GAS SYSTEM.

MONTHLY MAINT PERFORMED:

* GAS FAN MAINT 4-5 STROKES IN EACH BEARING (FRONT & BACK) √ TENSION ON BELT 5 LBS SPAN BELT STILL LOOKS GOOD.

* COND. TANK .5" @ 9.25" INNER SPACE

GAS CALIB → ~~O2 CO2 CH4 → GAS CAL →~~
0.0 CH4 → ZEROED → GAS CAL 14.9%
CALIB. 15.0%; CO_2 14.8% → CAL TO 15.0%; O_2 READ 0.2 → CAL TO 20.9%

9/5/14 WEEKLY GAS FLOW READING 48 cfm @ 2

9/11/14 WEEKLY GAS FLOW READING 45 cfm @ 15.2°
COOL OUT

9/19/14 WEEKLY GAS FLOW 46 CFM @ 20.3°C

9/25/14 WEEKLY GAS FLOW 49 CFM @ 22.2°C

MONTHLY GAS READING
"9/2014"

9/29/2014 (MON)
GEM 500 # 410 GAS FLOW: 52 CFM GAS TEMP 20.1°C
WEATHER: CLOUDY TO P. CLOUDY 60S BP 29.91↓
KNOCKOUT COUNTER: Ø Ø CONDENSATE IN EFF LINE.
FILE NAME: CP140929.XLS

GAS CALIBRATION: ZEROED ~~O2~~ CH_4 TO AB AIR → GAS CAL → CH_4 READS 215.5% CALIBRATED 15.0%. CO_2 READS 15.1% CALIBRATED TO 15.0%. ZEROED O_2 TO CAL GAS → 20.2% O_2 → CALIB TO 20.9% AB AIR.

- MT SAMPLED ALL 21 GAS PROBE LOCATIONS + 4 EXTRACTION LOCATIONS. NORMAL READING WERE TAKEN FOR %CH_4, %CO_2, %O_2 + PRESSURE AT ALL LOCATIONS. ALL READINGS ARE IN NORMAL RANGE. AND NOTHING WAS OUT OF THE ORDINARY SO NO CHANGES WERE MADE. NOR ADJUSTMENTS.

MONTHLY GAS MAINT.

- GAS FAN 4-5 STROKES IN EACH BEARING (FRONT/BACK) ✓ TENSION <5 lbs LOOKS GOOD
- COND TANK: 15' @ 9.25" INNER SPACE
- ✓ SUMPS

Rest in the Rain

10/9/14
- GAS FLOW 47CFM @ 19.7°C Ø COND.

10/17/14
- GAS FLOW 45CFM @ 17.1°C Ø COND

10/23/14 (THURS)

- GAS FLOW 51CFM @ 14.2°C 3.5 GAL OF COND IN EFF-GAS LINE

GAS PROBES / TR

10/27/14 (MON) TECH: M. TERRIS
WEATHER: P. CLOUDY TO CLOUDY MID-UPPER 40'S
B. PRESS: 30.16 F GEM 500 #410 FILE: CQ141027.XLS
FLOW: 50 CFM @ 14.7°C FAN HTR 95001

GAS CAL - ZEROED CH4 TO AB AIR → GAS CAL CH4
READING 15.1% CH4 CALIB. TO 15.0%. CO_2
READING 15.4% → CALIB TO 15.0% CO_2. O_2
READING 0.01 ZEROED W/GASGAS → READING
20.1% → CAL TO 20.9% O_2 AB AIR.

- MT SAMPLED ALL 21 GAS PROBE LOCATIONS, 4 EXTRACTION SYSTEM LOCATIONS AND 13 TRENCH RISER LOCATIONS AT EACH LOCATION MONITORED FOR % CH4, % CO_2, % O_2 AND PRESSURE AT TR TEMP OF GAS WAS TAKEN. IN °F. ALL READINGS ARE IN NORMAL RANGE AND NOTHING OUT OF THE ORDINARY WAS OBSERVED SO NO ADJUSTMENTS WERE MADE TO SYSTEM.

MONTHLY MAINT WAS ALSO DONE!
- COND TANKS READING NE CORNER:
CT .5" 1S: 9.25"
- GAS FAN MAINT: 4-5 STROKES IN EACH BEARING (FRONT/BACK) V TENSION WITH MEASURING STICK/VISUAL 45 lbs SOME CHAPPING OCCURING
- COND IN EFF GASLINE 2 GAL - TURNED ALL TR VALVE DOWN POSITION
- KNOCKOUT COUNTER: Ø
- RAPAIRED ALL SIDE

6

11/4/2014 (TUES)

- GAS FLOW 49 CFM @ 14.1°C W/ 4.5 GAL OF CON IN EFF GAS LINE.

11/6/2014 HEAT TRACE TURNED ON

11/14/2014 (FRI) GAS FLOW 45 CFM @ ~~19~~ 12.9°C
5.0 GAL OF CON IN EFF GAS LINE

11/20/14 (THURS) GAS FLOW 43 CFM @ 12.8°C
2.5 GAL OF COND IN EFF GAS LINE.

11/24/14 (MON)

-TYLER WITH EVOQUA WATER TECHNOLOGIES WAS ON SITE @ 1330 TO CLEAN 2 CARBON MEDIA OUT AND REPLACE WITH FRESH MEDIA (CARBON). LEFT SITE @ 1615.

TYLER CLEAN CARBON UNIT #2 & #4 WHILE ON LINE MT TURN FAN OFF AND SHUT ALL VALVES WHIE PROCEDURE WAS TAKEN PLACE.

11/25/14 (TUES)

GAS FLOW 40-42 CFM @ 11.1°C 3.5 GAL ON COND
TEMP IN UPPER 80S

COLBERT GP
'11/2014'

DATE: 11/26/14 (WED)
WEATHER: CLOUDY, FOGGY 30S AM 40S PM 30.17
TECH: M. TERRIS GEM: 500 #410
FAN FLOW 43 CFM TEMP. 11.4°C FILE CP141126.XLS
FAN HR: 95715

GAS CALIBRATION: ZEROED CH4 TO AB AIR → GAS CALIB. ~~READINDING~~ READING 14.9% CH4 → CALIB TO 15.0%; CO2 READING 15.1% → CALIB. TO 15.0%. ZEROED O2 TO CALGAS → O2 READING 20.4 → CALIB TO 20.9% AB AIR

- MT SAMPLED ALL 21 GAS PROBE LOCATIONS & 4 GAS EXTRACTION LOCATIONS). EACH LOCATION WAS SAMPLED FOR %CH4, %CO_2, %O_2 & PRESS. ALL READINGS WERE IN NORMAL RANGE. AND NOTHING WAS OUT OF THE ORDINARY WAS ~~RES~~ OBSERVED, NO ADJUSTMENTS WERE MADE.

MONTHLY MAINT. PERFORMED

- COND TANK READING (MONTHLY)
  TANK C .75" IS 9.25"

- GAS FAN MAINT. 4-5 STROKES OF GREASE FRONT/REAR BEARING √ TENSION ON BELT 4.5 lbs

- COND IN EFF LINE .5 GAL (½)

12/4/14 (THURS)

- GAS FLOW 35 CFM @ 6.9°C W/.5 GAL OF COND.

MONTHLY GAS PROBES
12/2014

12/12/14 (FRI) TECH: M. TERRIS GEM 500 #410
WEATER: CLOUDY, SHOWERS MID-40'S BP 29.73↑
FAN FLOW: 46CFM @ 15.2°C FILENAME: 141212.XLS
FAN HRS: 96699

GAS CALIBRATION: ZEROED CH_4 TO AB AIR → GAS CALIB
READING 14.7% → CALIB. TO 150%;
CO_2 READS 14.9% → CALIB TO 15.%;
ZEROED O_2 TO CALIB. GAS → CALIB
O_2 TO AB AIR 20.9%

- MT SAMPLED ALL 21 GAS PROBE LOCATION + 4 EXTRATION LOCATIONS. ~~for~~ PER REQUIREMENT. EACH LOCATION WAS SAMPLED FOR %CH_4, %CO_2, %O_2 & PRESSURE. ALL READINGS WERE IN THE NORMAL RANGE AND NOTHING WAS OUT OF THE ORNINARY WAS OBSERVED SO NO ADJUSTMENTS WERE MADE.

MONTHLY MAINT! ℞

- COND TANK READING
TANK @ .75' IS 9.25"

- GAS FAN MAINT 5 STROKES OF GREASE IN EACH BEARING (FRONT/REAR) ✓ TENSION ON BELT @ 4.5 lbs
- ✓ EFF GAS LINE FOR COND. ∅
- ✓ SUMPS BOTH SEEM TO BE RUNNING FINE NO AIR LOCK

Rite in the Rain

12/17/14 (WED)
- GAS FLOW 44 CFM @ 10.2°C ∅ COND. IN EFF LINE

~~12~~ 12/24/14 (WED) 46 CFM @ 11.1°C ∅ COND

12/30/14 (TUES) 43 CFM @ 7.1°C ∅ COLD ~~LOW~~

1/9/15 (FRI) 45 CFM @ 11.7°C 1.5 GAL MID-30'S
1400

1/13/15 (TUES) 44 @ @ 11.0°C 1.0 GAL LOW 30'S
1600

1/23/15 (FRI) 44 CFM @ 12.9°C .5 GAL MID-30'S

COLBERT MONTHLY GAS PROBES

1/28/15 (WED)
WEATHER: CLOUDY MID-UPPER 30'S B.P. 30.4 IN
TECH: M. TERRIS GEM 500 #410
FLOW 42 CFM @ 11.8°C FILE CP150128.XLS
FAN HRS: 97207

GAS CALIB. ZERO CH_4 TO AB AIR → GAS CAL. 15.4% CALIB TO 15.0%; CO_2 14.8% CAL. TO 15.0%; ZEROED O_2 ~~GAS~~ O_2 CALIB TO 20.9 AB AIR.

- MT SAMPLED ALL 21 GAS PROBE LOCATIONS + 4 EXTRATION LOCATION PER OUR REQUIRMENT EACH LOCATION WAS SAMPLED FOR %CH_4, %CO_2 %O_2 & PRESSURE. ALL READING ARE IN NORMAL RANGE WITH NOTHING OUT OF THE ORDINARLY OBSERVED. NO ADJUSTMENT WERE MADE

- MONTHLY GAS FAN MAINT √ BELT OK √ TENSION 5.0 + 4 SHOTS OF GREASE IN BOTH BEARINGS.
- KNOCKOUT COUNTER @ ~~0~~ 1 RESET TO ∅
- COND TANKS NE CORNER TANK 1" IS 9.25"
- √ BOTH SUMP OIL HEARD NOISES IN FRONT NOTHING IN REAR
- ∅ COND IN EFF-GAS LINE

2/6/15 (FRI) 46 CFM @ 13.9°C Ø COND IN EFF GAS
WARM MID-UPPER 40'S

2/12/15 (THURS) 51 CFM @ 15.2°C Ø COND
WARM LOWER 50'S

2/20/15 (FRI) 50 CFM @ 14.9°C Ø COND
- MID-40'S

2/25/15 (WED) GAS PROBES/MAINT
WEATHER: CLEAR COOL UPPER 30'S AM MID-40'S PM
B.P. @ 30.29↓ FILE NAME: CP150225.XLS
TECH: M. TERRIS GAS FLOW 47 CFM @ 14.3°C
FAN HRS 97900 KNOCKOUT COUNTER: Ø
GEM 500 # 410

GAS CALIB.: ZEROED CH4 TO AB AIR → GAS CAL; 15.2% CH4, CALIB TO 15.0%; CO_2 READS 15.3% CALIB TO 15.0%; O_2 READS 0.1 ZEROED O_2 TO CAL GAS; CALIB O_2 @ AB AIR 20.9%

- MT SAMPLED ALL 21 GAS PROBE LOCATIONS + 4 EXTRACTION LOCATIONS PER OUR REQUIRMENTS. EACH LOCATION WAS SAMPLED FOR %O_2 %CH_4 %CO_2 & PRESSURE. ALL READING ARE STEADY AS NORMAL RANGE. WITH NOTHING OUT OF THE ORINARY HAPPENING SO NO ADJUSTMENTS WERE MADE

- MONTHLY MAINT ON GAS FAN BELT SHOWING SIGNS OF WEAR TENSION @ 4.5 lbs/SPAN (NEED TO REPLACE FAN THIS SPRING)
- KNOCKOUT COUNTER @ Ø
- COND TANKS NE CORNER READING 1" & 9.25" (F.S.)
- Ø COND IN EFF GAS LINE.

3/5/2015

FLOW RATE 43 CFM @ 13.1°C ∅ COND.

3-13-15 FLOW @ 42 CFM @ 19°C

3-16-15 No condensate in line to exhaust. (∅ COND)

COLBERT GAS PROBES (MONTHLY)

3-20-15

WEATHER: CLOUDY LOW 50S B.P. 30.01

TECH: M. TERRIS GEM 500 #410 FILE NAME CP150320

FLOW 44 CFM @ 17.1°C FAN HR 98451

GAS CALIB. ZEROED CH_4 TO AB AIR → GAS CAL 14.8% CALIB TO 15.0% → CO_2 READS 14.9; CALIB TO 15.0% → ZEROED O_2 TO CAL GAS; CALIB TO 20.9% AB AIR.

- MT SAMPLE ALL 21 GAS PROBE LOCATIONS & 4 EXTRACTION LOCATIONS FOR %CH_4, %CO_2, %O_2 & PRESSURE ALL READING SEEM NORMAL RANGE, NOTHING OUT OF THE ORDINARY OBSERVED ON LANDFILL, NO ADJUSTMENT WERE MADE

- MONTHLY GAS FAN MAINT: BELT TENSION 5.0" OF SPAN, BELT IS SHOWING WEAR 3 SHOTS OF GREASE IN EACH BEARING.

- KNOCKOUT COUNTER @ ∅
- COND TANK LEVEL @ NE CORNER 1.25" IS 9.25"
-

3-25-15 (WED)

- FLOW RATE 43 CFM TEMP 17.4°C Ø COND

4-2-15 (THURS)

- FLOW RATE 41 CFM TEMP 17.0°C Ø COND

4/9/15 (THURS)

- FLOW RATE 40 CFM TEMP @ 16.7°C Ø COND

4/16/15 (THURS)

- FLOW RATE 44 CFM TEMP @ 16.1°C Ø COND

4/23/15 (THURS)

- FLOW RATE 45 CFM TEMP @ 15.9°C Ø COND.

4/27/15 (MON)
FAN HR: 99363 FLOW RATE: 42 CFM @ 16.7°C

* TO-15 SUMMA CANISTERS WERE SAMPLED TODAY OUT OF TUB #2 BEFORE SWITCHING TUBS ~~FOR~~ FROM SAMPLE PORT CGE-003. TO-15 SAMPLE ID CGD-001-150427 & CGE-003-150427 SHIPPED TO EUROFINS AIR TOXICS IN FOLSOM CA FOR ANALYSIS

* ALSO SAMPLED 2 - 1 GAL BAGGIES FROM TUB #2 SPENT AND SENT OFF TO EVOQUA WATER TECH FOR SEIMENS WATER TO RUN A 2-YEAR SPENT CARBON PROFILE.

4/27/15 (MON)

* MT CHANGED OUT TUB #2 SPENT RUNNING SINCE NOV. (6 MONTHS) SWITCHED TO TUB #4 BY CLOSING VALVES ON #2 AND OPENED #4 A CLEAN TUB.

4/28/15 COLBERT ANNUAL SAMPLING 4/2015

WEATHER: CLEAR AND WARM MID-70'S 29.97↓ BP
TECH: M-TERRIS GEM 500±40 FILENAME CA150428.csv
FLOW 48 CFM @ 20.2°C FAN HRS. 99387

GAS CALIB: ZEROED CH_4 TO AB AIR → GAS CAL CH_4 READS 14.9% CALIB. TO 15.0%; CO_2 READS 14.7% CALIB TO 15.0%; ZEROED O_2 TO GAS, CALIB. TO AB AIR @ 20.9%

MT SAMPLED THE FOLLOWING GAS LOCATIONS:

LOCATIONS	CH_4	CO_2	O_2	PRESS	TEMP
13-TRENCH RISERS	X	X	X	X	X
5-MANIFOLD STATIONS	X	X	X	X	
2-VALVE LOCATIONS	X	X	X	X	
5-TRENCH LOCATIONS	X	X	X	X	

- ALL READING ARE IN NORMAL RANGE, NOTHING OUT OF THE ORDINARY WAS OBSERVED NO ADJUSTMENTS WERE MADE

* MONTHLY GAS FAN MAINT., MT DID ~~ANNUAL~~ QT CLEANING of GAS FAN, V TENSION ON BELT @ 5 LBS; BELT SHOWING SIGNS OF WEAR GREASE BOTH BEARING 3 STROKS EACH.
* NO CONDENSATION IN EFF GAS LINE
* KNOCKOUT COUNTOR @ Ø

COLBERT MONTHLY GP

4/29/2015 (WED)
WEATHER: P. CLOUDY MID-50S SW WIND 5-10 MPH
TECH: M. TERRIS GEM 500 #410 FILE NAME CP150429
FLOW: 52 CFM TEMP 21.7°C FAN HRS. 99414

GAS CALIB: ZEROED CH_4 TO AB AIR → GAS CAL 14.9% CALIBRATED TO 15.0%; CO_2 READS 15.0% NO CALIB NEEDED; O_2 ZEROED TO CAL GAS → CALIB. TO ~~15~~ 20.9% AB AIR.

- MT SAMPLED ALL 21 GP LOCATIONS & 4 GAS EXTRACTION LOCATION. ALL READING ARE IN NORMAL RANGE, NO ADJUSTMENTS WERE MADE, NOTHING OUT OF THE ORIDANRY WAS OBSERVED.

- ALL GAS MAINT (MONTHLY WAS TAKEN CARE OF ON 4/28/15

- MT DID V CONDENSATION TANK BACK OF LANDFILL NE CORNER 1.25' WITH 9.25 IS.

5/6/15 PULL KNOCKOUT SUMP PUMP OUT FOR REPAIRS
5/7/15 (THURS)

GAS FLOW 59 CFM @ 23.1° Ø COND.
SUNNY WARM MID-70S

5/11/15 (MON)

GAS FLOW 57 CFM @ 22.9° Ø COND
MID-70S

5/21/15 (THURS)
GAS FLOW 54 CFM @ 21.7° Ø COND