Stoller

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Task Order LM00-712
Control Number: 11-0477

March 24, 2011

U.S. Department of Energy
Office of Legacy Management
ATTN: Arthur W. Kleinrath
Site Manager
955 Mound Road
Miamisburg, OH 45342

Subject: Contract No. DE-AM01-07LM00060, S.M. Stoller Corporation (Stoller)
Parcel 6,7 and 8 Groundwater Monitoring Report – Calendar Year 2010

Reference: LM712-06-508, Mound, OH, Support, Reporting

Dear Mr. Kleinrath:

Enclosed are14 copies of the *Parcel 6, 7, and 8 Groundwater Monitoring Report—Calendar Year 2010* for issue to regulators and other interested parties. This report is due to the regulators by March 31, 2011. All sampling procedures and data analyses were performed in accordance with the *Parcel 6, 7, and 8 Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan.*

The report includes data collected during the four quarterly groundwater sampling events performed during 2010. Data are presented in both time-series plots and map-view plots. Trend analysis was performed on selected wells using the nonparametric Mann-Kendal test to confirm trends in contaminant concentrations over time. The time-series plots are also used to evaluate changes in groundwater quality over time. Additional information includes documentation of any operational changes and maintenance or repair activities that were performed during 2010.

The monitoring results continue to show TCE in source wells 0315 and 0347 as well as in downgradient BVA wells 0386 and 0389. TCE concentrations in source wells 0315 and 0347 continue to exceed the MCL. Variability of the TCE concentrations in wells 0315 and 0347 are the result of surface water infiltration on the Main Hill.

TCE concentrations in some of the Main Hill seeps continue to exceed the MCL, with the highest concentrations measured in on-site seep 0602. Several TCE breakdown products are also detected in the seeps. Increases in TCE in seep 0602 are the result of surface water infiltration on the Main Hill. Monitoring of downgradient wells indicates elevated concentrations of TCE in wells 0347 and 0379. Wells farther off site in the BVA do not indicate impact from the TCE originating from the Main Hill.

Tritium levels are elevated in the Main Hill seeps, and one downgradient monitoring well continues to show tritium impact. The highest tritium levels are measured in on-site seep 0601, which had levels greater than the MCL at times in 2010. Tritium levels are higher in the seeps; levels in the downgradient groundwater are lower and do not exceed the MCL. Analysis of tritium data collected since 2005 indicates decreasing levels in all the seeps and several downgradient wells.

Ra-226, Ra-228, and Sr-90 continue to be present in seep 0601 but at levels significantly lower than the trigger level of 20 pCi/L. Trend analysis indicates a downward tend in Sr-90 levels.

Monitoring for VOCs and tritium associated with source wells 0315/0347 and the Main Hill seeps and monitoring wells, and monitoring for Ra-226/Ra-228 at seep 0601 will continue. The evaluation of the 2010 data does not suggest that the monitoring program should be significantly changed at this time. Quarterly sampling will continue at the seeps and monitoring wells in 2011. Monitoring results for Sr-90 in seep 0601 indicate that levels have been similar to background since 2006, and statistical analysis indicates a downward trend in the data. It is recommended that sampling for Sr-90 be discontinued in this seep in 2011.

If you have any questions or comments, please contact Rebecca Cato at (636) 926-7038.

Sincerely,

Robert C. Ransbottom

Robert C. Ransbottom
Stoller Site Manager

RCR:jp

Enclosures

cc: Paul Lucas, EM
Rebecca Cato, Stoller
Charles Friedman, Stoller
Joyce Massie, Stoller
rc-mound
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Department of Energy
Office of Legacy Management

March 29, 2011

Mr. Tim Fischer
U.S. Environmental Protection Agency
77 W. Jackson Blvd.
Chicago, IL 60604

Mr. Brian Nickel
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, OH 45402-2911

Subject: Parcel 6, 7 and 8 Groundwater Monitoring Report – Calendar Year 2010

Dear Sirs:

Enclosed is the Mound Site Parcel 6, 7 and 8 Groundwater Monitoring Report Calendar Year 2010. Because Sr-90 results have been similar to background consistently since 2006, we are recommending to discontinue sampling for Sr-90 in Seep 601 in the future.

Sincerely,

Arthur W. Kleinrath
DOE LM Mound Site Manager

AWK:jp

Enclosure

Joe Crombie
Paul Lucas
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Frank Bullick
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REPLY TO: Miamisburg Office		

LMS/MND/S07540

Mound Site

Parcel 6, 7, and 8 Groundwater Monitoring Report Calendar Year 2010

March 2011

U.S. DEPARTMENT OF ENERGY | Legacy Management

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Mound Site

Parcel 6, 7, and 8 Groundwater Monitoring Report Calendar Year 2010

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Abbreviations

BVA	Buried Valley Aquifer
DCE	dichloroethylene
DOE	U.S. Department of Energy
MCL	maximum contaminant level
µg/L	micrograms per liter
MNA	monitored natural attenuation
nCi/L	nanocuries per liter
PCE	tetrachloroethylene
pCi/L	picocuries per liter
TCE	trichloroethylene
VOC	volatile organic compound

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1.0 Introduction

Parcels 6, 7, and 8 occupy approximately 101 acres of the northern portion of the Mound Plant site. The main production facilities were located within parcels 6 and 8, and this area is called the Main Hill area. A tributary valley runs between these two parcels and parcel 7; it contains a narrow tongue of glacial deposits that are in hydraulic communication with the Buried Valley Aquifer (BVA). Groundwater within the fractured bedrock beneath the Main Hill area, and in topographic highs within parcel 7, flows along horizontal bedding planes and fractures and ultimately discharges to seeps or to the downgradient BVA.

Two monitoring wells in the BVA indicate volatile organic compound (VOC) impact, primarily trichloroethylene (TCE) that exceeds maximum contaminant levels (MCLs) established in the Safe Drinking Water Act. Monitored natural attenuation (MNA) is being proposed as the remedy for the VOCs in the groundwater associated with the Main Hill (DOE 2009). Sampling is being performed to assess the contaminant concentrations and to ensure that the downgradient BVA is not being affected.

Also associated with this area are seeps located along the Main Hill of the plant property. Two seeps are within the plant property boundary, and the remaining four seeps are off site to the north. Several seeps in this area have elevated levels of tritium and VOCs. One seep also has elevated levels of radium (Ra)-226, Ra-228, and strontium (Sr)-90. These seeps and several downgradient wells are being monitored to verify that source removal (buildings and soil) on the Main Hill will result in decreasing concentrations over time.

1.1 Purpose

This Groundwater Monitoring Report was prepared to summarize the data collected in 2010. This report is the eighth submittal of an annual report documenting the groundwater quality in the Parcel 6, 7, and 8 area. All sampling and data analyses were performed in accordance with the *Parcel 6, 7, and 8 Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan* (Final Draft) (DOE 2006), unless noted otherwise.

The report includes data collected in the four quarterly groundwater sampling events performed in 2010. Data are presented in time-series plots and map-view plots. Trend analysis was performed on selected wells using the nonparametric Mann-Kendall test. This type of long-term trend analysis can be used to confirm downward trends in contaminant concentrations. The time-series plots will also be used to evaluate changes in data over time.

The report also documents operational changes that occurred during the reporting period and identifies maintenance or repair activities associated with the monitoring wells being sampled.

1.2 Summary of 2009 Report

The conclusions from the 2009 Annual Report (DOE 2010a) were as follows:

- VOC data demonstrated that the highest TCE impact continued to be associated with wells 0315 and 0347, where concentrations exceeded the MCL of 5 micrograms per liter (µg/L). TCE impact extended to five wells screened in the BVA immediately downgradient of this

area. TCE remained undetected in the remainder of the downgradient BVA wells. Concentrations of TCE in wells 0315 and 0347 were variable since monitoring started. Statistical analysis indicated an upward trend in source well 0315. A downward trend in the TCE concentrations was determined in well 0386. The concentrations in the five BVA wells remained below the MCL.

- TCE concentrations in some of the Main Hill seeps continued to exceed the MCL in 2009; however, no locations had concentrations that exceeded the trigger level of 150 µg/L (established for seep 0605). The highest concentrations were in seep 0602, which is on site. Concentrations of *cis*-1,2-dichloroethylene (DCE) were reported in all of the seeps. Statistical analysis using data collected since 2005 indicated an upward trend in TCE for seep 0602. Monitoring results indicated elevated concentrations of TCE in downgradient wells 0347 and 0379.
- Tetrachloroethylene (PCE) concentrations continued to exceed the MCL of 5 µg/L at seep 0601; however, concentrations at this location did not exceed the trigger level of 75 µg/L.
- Tritium levels in the Main Hill seeps continued to be elevated during 2009 and were higher than the levels in the downgradient groundwater wells. The highest tritium activity was observed in seep 0601, which is on site. None of the seep locations had tritium levels that exceeded the trigger level of 1,500 nanocuries per liter (nCi/L). Tritium levels in seeps 0601, 0602, and 0605 exceeded the MCL of 20 nCi/L at some time in 2009. Tritium was detected in four wells downgradient of the Main Hill area. The highest levels were observed in well 0347, which is downgradient of seeps 0601 and 0602. None of the groundwater wells had tritium levels that exceeded the MCL of 20 nCi/L. Statistical analysis using data collected since 2005 indicated downward trends in several seeps and two downgradient wells.
- Ra-226, Ra-228, and Sr-90 continued to be present in seep 0601. The activities observed at this location did not exceed the trigger level of 20 picocuries per liter (pCi/L) for Sr-90 or combined Ra-226/228. Statistical analysis of data collected since 2005 indicated a downward trend in Sr-90 and combined Ra-226/228 in this seep.

2.0 Monitoring Program

Groundwater in the Parcel 6, 7, and 8 area is monitored for TCE and its degradation products to verify that the downgradient BVA is not affected and that concentrations are decreasing. In addition, groundwater discharging from seeps is monitored for TCE and its degradation products, tritium, and radioisotopes (Sr-90, Ra-226, and Ra-228) to verify that source removal will result in decreasing concentrations over time.

The sampling is separated into the following programs that relate to the areas of impact:

- *Well 0315/0347 Area*—Wells at the edge of the BVA on the southwestern corner of parcel 8 that have elevated concentrations of VOCs. The program consists of wells that have TCE greater than the MCL and downgradient wells to the west.
- *Main Hill Seeps*—Seeps on the northern and southern sides of the Main Hill that have elevated concentrations of VOCs and tritium. The program consists of seeps and downgradient wells to the west.

Under the Parcel 6, 7, and 8 MNA monitoring program, samples are collected quarterly for selected wells and seeps (Figure 1) and analyzed as outlined in Sections 4.1 and 4.2 of the *Parcel 6, 7, and 8 Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan* (Final Draft) (DOE 2006).

2.1 Well 0315/0347 Monitoring

The two source wells and other selected downgradient BVA wells are monitored for VOCs—namely, PCE, DCE, TCE, and vinyl chloride. A summary of the monitoring locations is provided in Table 1.

Table 1. Monitoring for the Well 0315/0347 Area

Monitoring Location	Area	VOC
Well 0315	Source Wells	TCE PCE DCE Vinyl Chloride
Well 0347		
Well 0124	Downgradient BVA Monitoring	
Well 0126		
Well 0386		
Well 0387		
Well 0389		
Well 0392		

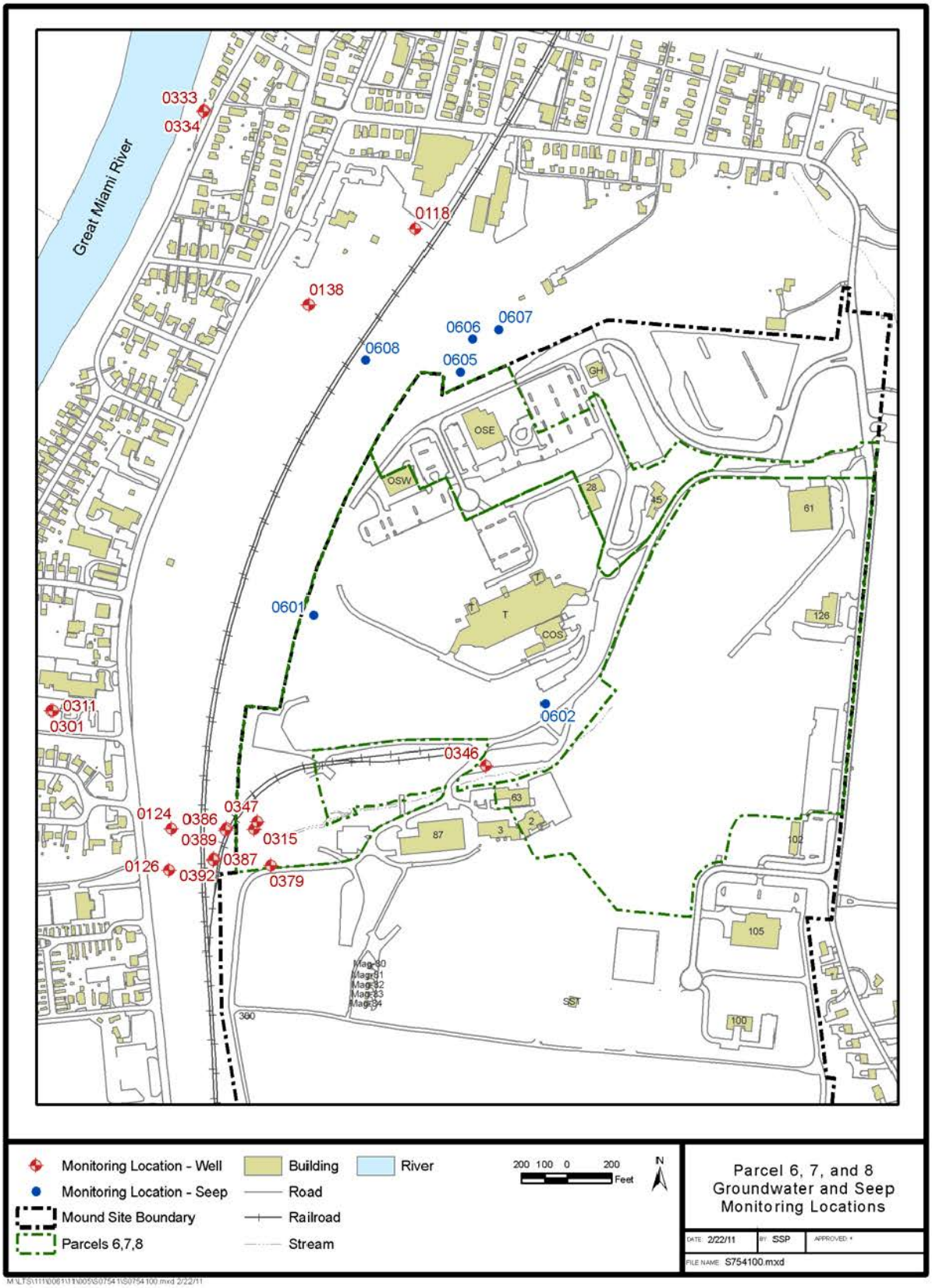

Figure 1. Parcel 6, 7, and 8 Groundwater and Seep Monitoring Locations

2.2 Main Hill Seep Monitoring

Water from seeps 0601, 0602, 0605, 0606, 0607, and 0608 is collected and analyzed for VOCs and the radiological constituents shown in Table 2. Wells within the BVA that are downgradient of the bedrock groundwater discharge area of the Main Hill will also be sampled to monitor the levels of tritium and VOC contamination.

Table 2. Monitoring for the Main Hill Seeps and Groundwater

Monitoring Location	Area	Parameters
Seep 0601	Main Hill Seeps	TCE PCE DCE Vinyl Chloride Ra-226 and Ra-228 Tritium Sr-90
Seep 0602		TCE PCE DCE Vinyl Chloride Tritium
Seep 0605		
Seep 0606		
Seep 0607		
Seep 0608		
Well 0118	Downgradient BVA Monitoring Wells	TCE PCE DCE Vinyl Chloride Tritium
Well 0138		
Well 0301		
Well 0346		
Well 0379		

2.3 Triggers

The contaminant data are evaluated against previous data collected at each location to determine if downward trends are occurring. Trigger levels and response actions have been established for each contaminant as presented in the *Parcel 6, 7, and 8 Remedy (Monitored Natural Attenuation) Groundwater Monitoring Plan* (Final Draft) (DOE 2006). The triggers are summarized in Table 3.

The U.S. Environmental Protection Agency and the Ohio Environmental Protection Agency must be notified if these trigger levels are exceeded. After notification, the core team (the U.S. Environmental Protection Agency, the Ohio Environmental Protection Agency, and the U.S. Department of Energy [DOE]) will determine an appropriate course of action.

Table 3. Trigger Levels for Parcel 6, 7, and 8 Monitoring Locations

Location	TCE (µg/L)	PCE (µg/L)	Tritium (nCi/L)	Ra-226/228 (pCi/L)	Sr-90 (pCi/L)
0315	30				
0347	30				
0124	5				
0126	5				
0386	5				
0387	5				
0389	5				
0392	5				
0601 (seep)		75	1,500	20	20
0605 (seep)	150				

2.4 Groundwater Flow

Static water level measurements are collected prior to sampling at each well location. Since these measurements were made within a short time frame, the data were used to depict the general groundwater flow in the area (Figure 2). Two groundwater regimes are present at the site: groundwater in the bedrock and groundwater in the BVA. Groundwater flow in the bedrock typically mimics the topography, with groundwater discharging to the BVA or at seeps from the upper bedrock. Groundwater flow in the BVA flows south, following the course of the Great Miami River.

2.5 Deviations from the Sampling Plan

All required locations were sampled in 2010, except seep 0602. Seep 0602 was dry during the third and fourth quarters of 2010, and no samples were collected.

Updated sampling methods for the Mound site were developed by the Mound Groundwater Technical Team and approved by the Mound Core Team. These methods are included in Appendix A.

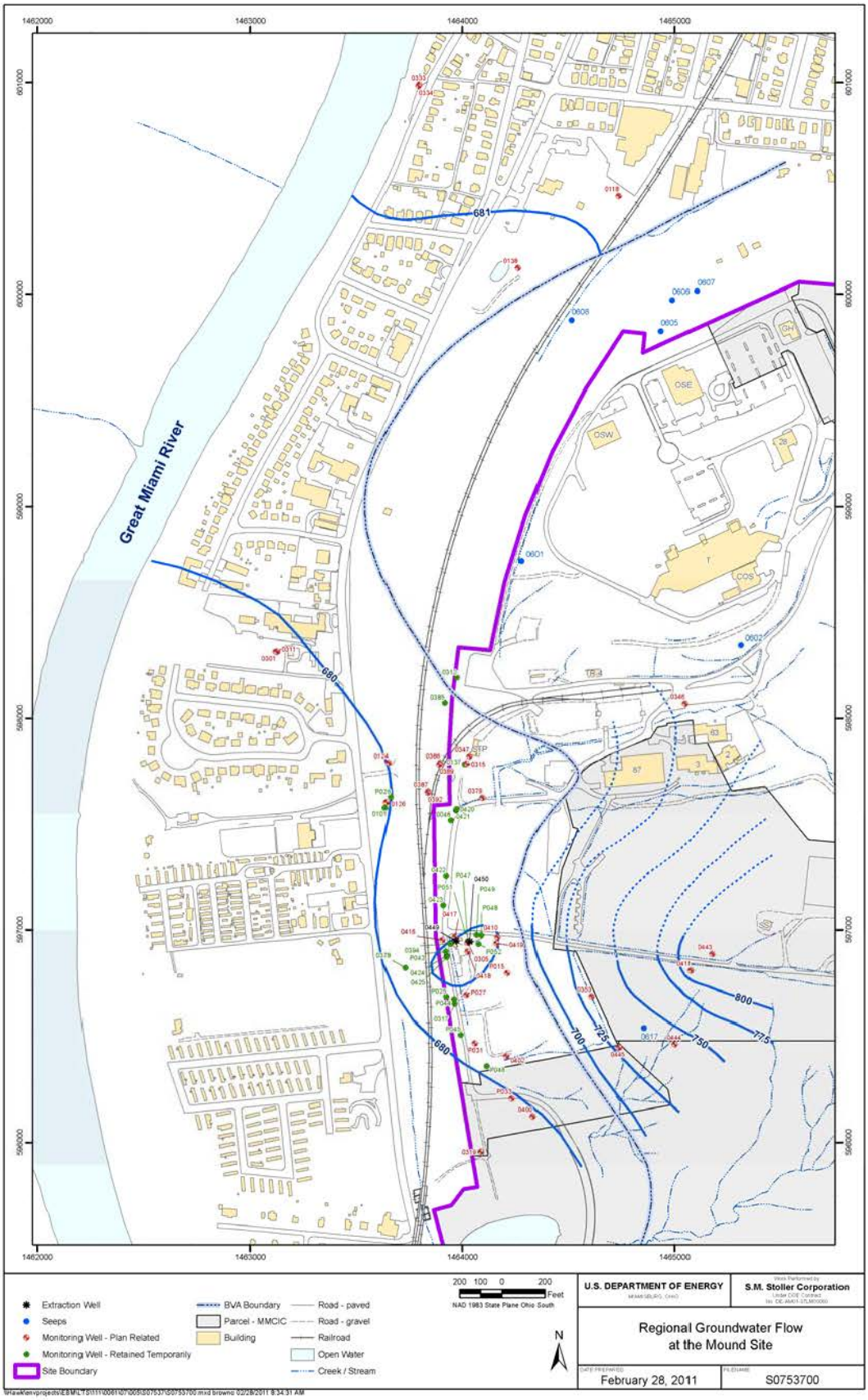

Figure 2. Regional Groundwater Flow at the Mound Site

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3.0 Well 0315/0347 Area

3.1 Monitoring Results

Monitoring results for 2010 (Table 4) continue to show detection of TCE in wells 0315, 0347, 0386, and 0389; the highest concentrations are detected in wells 0315 and 0347 (source wells), where concentrations also exceed the MCL. The concentration of TCE reported in well 0347 during the first quarter was greater than the trigger level of 30 µg/L for the source area wells. In accordance with the groundwater monitoring plan, the U.S. Environmental Protection Agency and the Ohio Environmental Protection Agency were notified on March 10, 2010, that the trigger was exceeded (DOE 2010b). Estimated detections of TCE were reported in wells 0387 and 0392. No detectable concentrations of TCE were measured in the other wells. All TCE concentrations were below applicable trigger levels.

Table 4. Summary of VOC Results in the 0315 and 0347 Area for 2010

Well ID	Location	VOC	Q1	Q2	Q3	Q4
0124	BVA	TCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0126	BVA	TCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		PCE (µg/L)	1.1	1.1	0.73 (J)	1.0
0315	Source Area	TCE (µg/L)	**11.8**	**11.1**	**9.5**	**15.2**
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0347	Source Area	TCE (µg/L)	**32.3**	**26.9**	**18.9**	**27.9**
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0386	BVA	TCE (µg/L)	ND (<1)	0.94 (J)	1.9	3.1
		PCE (µg/L)	ND (<1)	ND (<1)	0.36 (J)	0.27 (J)
0387	BVA	TCE (µg/L)	0.11 (J)	0.13 (J)	ND (<1)	0.12 (J)
		PCE (µg/L)	0.22 (J)	0.23 (J)	ND (<1)	0.27 (J)
0389	BVA	TCE (µg/L)	1.5	0.59 (J)	0.33 (J)	1.4
		PCE (µg/L)	0.38 (J)	0.22 (J)	ND (<1)	0.53 (J)
0392	BVA	TCE (µg/L)	0.17 (J)	0.12 (J)	ND (<1)	ND (<1)
		PCE (µg/L)	0.32 (J)	0.36 (J)	ND (<1)	0.45 (J)

ND = Not detected
J = Estimated value that is less than the reporting limit
Q = Quarter
TCE trigger level for 0315 and 0347 = 30 µg/L
TCE trigger level for other wells = 5 µg/L

TCE concentrations in wells 0315 and 0347 have been variable. Changes in concentrations in these two wells were similar until the end of 2006, when a substantial increase was identified in well 0347 while TCE concentrations decreased in well 0315 (Figure 3). Data were highly variable in well 0347, and starting in 2008 TCE concentrations increased in this well. TCE concentrations were lower in well 0315 during 2006 and then rebounded and remained steady. Site improvements began in late 2006 on the Main Hill, and the changes in TCE concentrations may be due to surface water infiltration into the exposed tritium capture pits near the location of the SW building. These pits extend into the bedrock and surface water was infiltrating into the

subsurface. The access into the pits was covered in October 2009. Starting in 2000, the concentrations in the two downgradient BVA wells (0386 and 0389) decreased below the MCL.

PCE was detected in well 0126 and was less than the MCL (Figure 3). Estimated detections of PCE (less than 1 µg/L) were reported in wells 0386, 0387, 0389, and 0392. No trigger levels are established for PCE. No *cis*-1,2-DCE, *trans*-1,2-DCE, or vinyl chloride was detected in any of these wells.

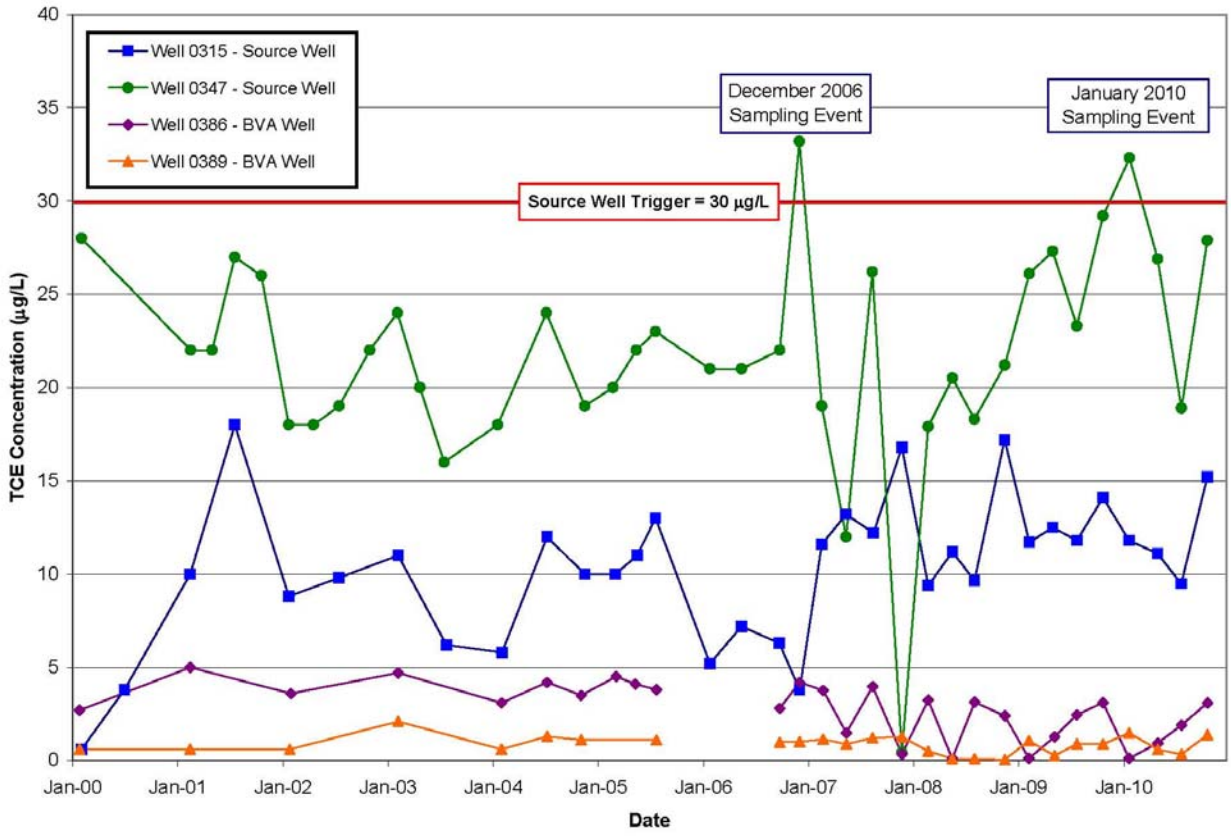

Figure 3. TCE Concentrations in Well 0315/0347 Area (2000–2010)

The distribution of TCE in groundwater (Figure 4) indicates that the greatest impact is still associated with wells 0315 and 0347. TCE concentrations in these wells continue to exceed the MCL. The two BVA wells immediately downgradient of this area have TCE concentrations below the MCL, with slight impact extending downgradient. Figure 4 depicts the 2010 annual averages of TCE in the monitoring network.

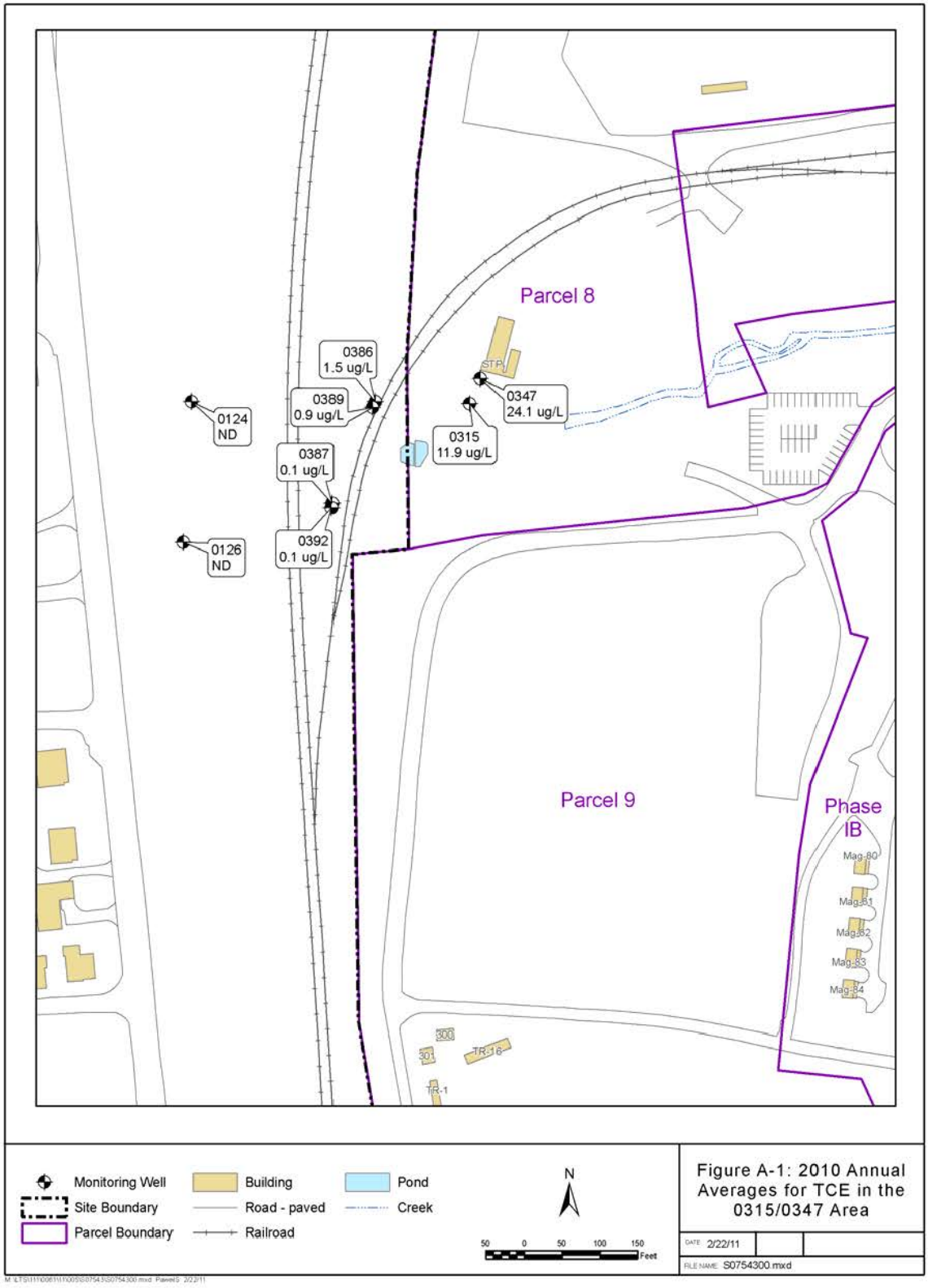

Figure 4. 2010 Annual Average TCE Concentrations in Well 0315/0347 Area

3.2 Trend Analysis

The nonparametric Mann-Kendall test was used to analyze trends in TCE data. This test is used for temporal trend identification because it does not require the data to conform to a particular distribution (such as a normal or log-normal distribution). This type of long-term trend analysis can be used to confirm downward trends in contaminant concentrations.

Statistical analysis of the TCE data collected since 2005 from wells 0315, 0347, 0386, and 0389 indicates increasing concentrations of TCE in source wells 0315 and 0347, as indicated by positive slopes (Table 5). No statistical trends, upward or downward, were identified in these two wells. Decreasing TCE concentrations are indicated for wells 0386 and 0389, as indicated by negative slopes. A downward trend was calculated for well 0386. Trend analysis was not performed on data from the remainder of the wells because results consistently showed nondetects or sporadic estimated detections.

Table 5. Summary of Trend Analysis Results for TCE in the Source Area and Downgradient Wells (2005−2010)

Location	Number of Samples	Trend	Slope (μg/L/year)	Confidence Interval (μg/L/year)	
				Lower	Upper
0315	23	None	0.68	-0.12	1.74
0347	23	None	1.26	-0.27	2.48
0386	21	**Down**	- 0.43	-0.83	-0.17
0389	19	None	-0.04	-0.23	0.12

3.3 Recommendations

No changes to the 0315 and 0347 area monitoring program are warranted at this time. Source wells 0315 and 0347 are influenced by surface water that infiltrated on the Main Hill and flushed residual VOCs into the groundwater. Data will continue to be evaluated to determine whether surface water infiltration caused long-term increases in VOC concentrations.

4.0 Main Hill Seeps

4.1 Volatile Organic Compounds Results

Although TCE concentrations in some Main Hill seeps continued to exceed the MCL in 2010 (Table 6), no locations had concentrations that exceeded the trigger level of 150 µg/L (established for seep 0605). The highest concentrations in 2010 were in seep 0602, which is on site. This seep was dry during the third and fourth quarters of 2010. PCE concentrations continued to exceed the MCL of 5 µg/L in seep 0601; however, PCE concentrations at this location did not exceed the trigger level of 75 µg/L. Estimated detections of PCE were reported in seeps 0602 and 0605. Detectable concentrations of *cis*-1,2-DCE were observed in seeps 0602, 0605, 0607, and 06087; seep 0602 had the highest concentrations. Estimated detections of *cis*-1,2-DCE (less than 1 µg/L) were reported in seeps 0601 and 0606. Estimated detections of *trans*-1,2-DCE (less than 1 µg/L) were reported in seeps 0602 and 0605. No vinyl chloride was detected in the seeps.

Monitoring results (Table 6) showed low concentrations of TCE in well 0379 downgradient of the Main Hill seeps. Elevated concentrations of TCE are reported in well 0347 (discussed in Section 3.0). Estimated detections of PCE were reported in wells 0311 and 0379. No trigger levels have been set for these locations. Only the concentrations of TCE in well 0347 exceeded the MCL of 5 µg/L. Neither DCE nor vinyl chloride was detected in the downgradient wells.

A graph of TCE concentrations in the seeps since 2005 (Figure 5) shows that concentrations in seep 0602 have increased since the end of the remediation of contaminated buildings and soil on the Main Hill (mid-2006). The concentration measured in the fourth quarter of 2009 and the second quarter of 2010 were lower than previous values. A possible cause for the sudden changes and subsequent increases may be surface water infiltration upgradient of the seeps resulting in flushing of residual VOCs. Site improvements started in 2006 on the Main Hill, and a new parking lot was constructed where the SW building was located. It was discovered in late 2009 that grading in the area had exposed two manholes over a large tritium capture pit that was located along the western side of the building. These test pits extend into the weathered bedrock. Surface water had been infiltrating into these uncovered access ports and was lost to the subsurface. The access ports were covered in October 2009.

In seep 0601, PCE concentrations (Figure 6) are slightly higher than TCE concentrations. The concentrations of PCE have ranged between 10 and 20 µg/L but showed a general decrease in 2010 and are similar to those measured prior to remediation on the Main Hill. Estimated detections of PCE (less than 1 µg/L) were reported in seeps 0602 and 0605.

Table 6. Summary of VOC Results in the Main Hill Area for 2010

Location	Area	VOC Concentrations				
		VOC	Q1	Q2	Q3	Q4
Seeps						
0601	On site	TCE (µg/L)	2.0	ND (<1)	**7.5**	**7.5**
		PCE (µg/L)	**6.2**	ND (<1)	**11.4**	**6.1**
		cis-1,2-DCE (µg/L)	0.25 (J)	ND (<1)	0.80 (J)	0.84 (J)
		trans-1,2-DCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0602	On site	TCE (µg/L)	**54.5**	**23.3**	Dry	Dry
		PCE (µg/L)	0.22 (J)	ND (<1)		
		cis-1,2-DCE (µg/L)	34.7	12.2		
		trans-1,2-DCE (µg/L)	0.53 (J)	0.26 (J)		
0605	Off site	TCE (µg/L)	**9.5**	**17.6**	**14.4**	**10.0**
		PCE (µg/L)	ND (<1)	0.23 (J)	ND (<1)	ND (<1)
		cis-1,2-DCE (µg/L)	7.9	8.8	6.8	4.4
		trans-1,2-DCE (µg/L)	ND (<1)	0.31 (J)	0.27 (J)	ND (<1)
0606	Off site	TCE (µg/L)		3.7	3.2	1.8
		PCE (µg/L)		ND (<1)	ND (<1)	ND (<1)
		cis-1,2-DCE (µg/L)		0.51 (J)	0.61 (J)	0.28 (J)
		trans-1,2-DCE (µg/L)		ND (<1)	ND (<1)	ND (<1)
0607	Off site	TCE (µg/L)	2.7	**11.0**	4.8	4.0
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		cis-1,2-DCE (µg/L)	0.48 (J)	3.1	0.74 (J)	0.52 (J)
		trans-1,2-DCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0608	Off site	TCE (µg/L)	0.38 (J)	0.68 (J)	0.28 (J)	3.1
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		cis-1,2-DCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	0.43 (J)
		trans-1,2-DCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
Downgradient Wells						
0118	Off site	TCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0138	Off site	TCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0301	Off site	TCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0311	Off site	TCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		PCE (µg/L)	0.20 (J)	0.21 (J)	ND (<1)	0.27 (J)
0346	On site	TCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0347	On site	TCE (µg/L)	**32.3**	**26.9**	**18.9**	**27.9**
		PCE (µg/L)	ND (<1)	ND (<1)	ND (<1)	ND (<1)
0379	On site	TCE (µg/L)	1.8	2.1	2.0	1.8
		PCE (µg/L)	0.63 (J)	0.51 (J)	ND (<1)	0.45 (J)

ND = Not detected
J = Estimated value that is less than the reporting limit
Q = Quarter
PCE trigger level at 0601 = 75 µg/L
TCE trigger level at the seeps = 150 µg/L
Values in **bold** exceed the MCL

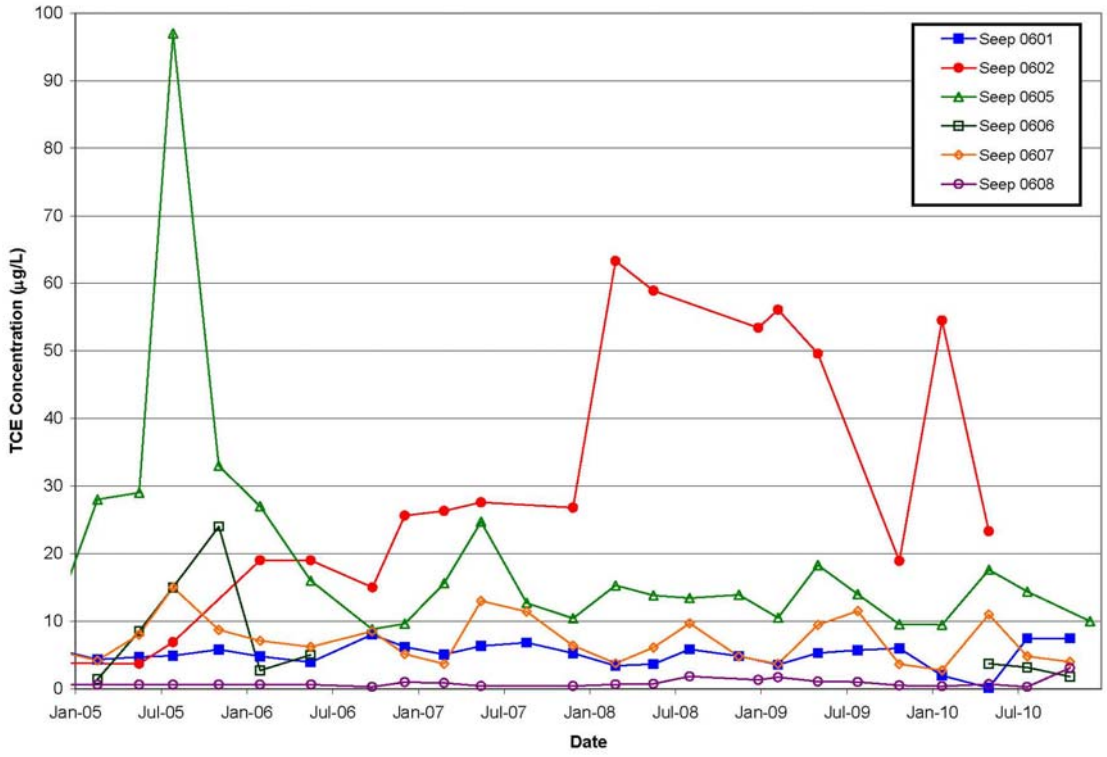

Figure 5. TCE Concentrations in the Main Hill Seeps (2005–2010)

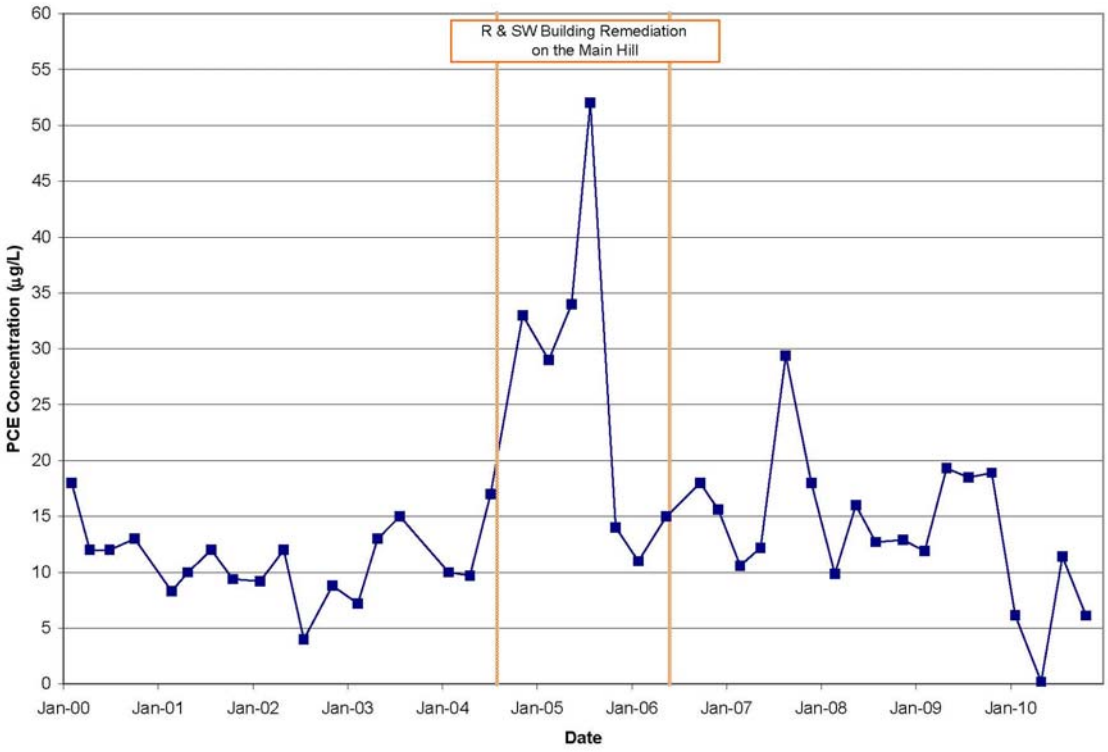

Figure 6. PCE Concentrations in Seep 0601 (2000–2010)

Concentrations of *cis*-1,2-DCE were reported in all of the seeps. The highest concentrations were reported in seeps 0602 and 0605. A comparison of TCE and *cis*-1,2-DCE concentrations (Figure 7) in these two seeps indicates that the concentration changes in the two contaminants generally behaved similarly. Although an increase in *cis*-1,2-DCE concentrations is an expected indicator of TCE degradation, in this instance, it is likely the result of flushing of residual DCE from the system. When degradation occurs, TCE concentrations typically decrease as *cis*-1,2-DCE concentrations increase. Subsequent data will continue to be evaluated for evidence of TCE degradation.

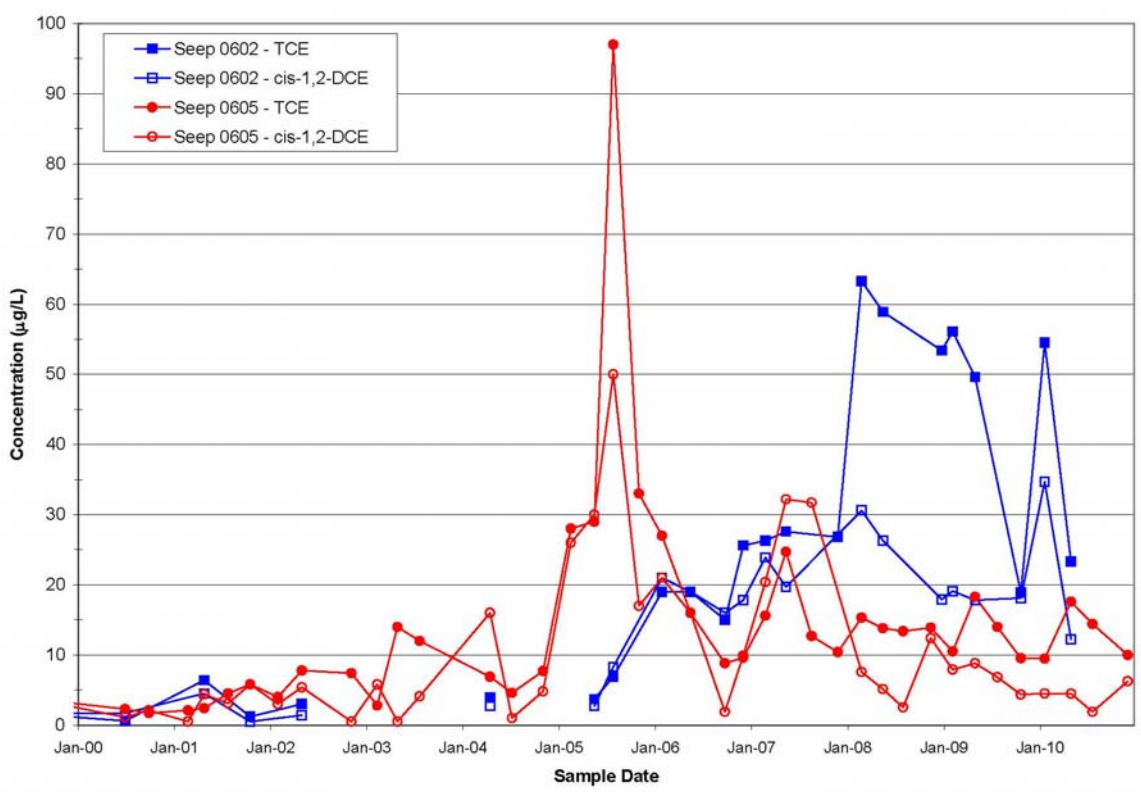

Figure 7. TCE and cis-1,2-DCE Concentrations in Seeps 0602 and 0605 (2000–2010)

The distribution of TCE in groundwater (Figure 8) in the Main Hill area indicates that the highest area of impact is associated with the seeps, particularly seep 0602. Downgradient well 0347 has TCE levels that exceed the MCL of 5 µg/L. Figure 8 depicts the 2010 annual averages of TCE in the monitoring network.

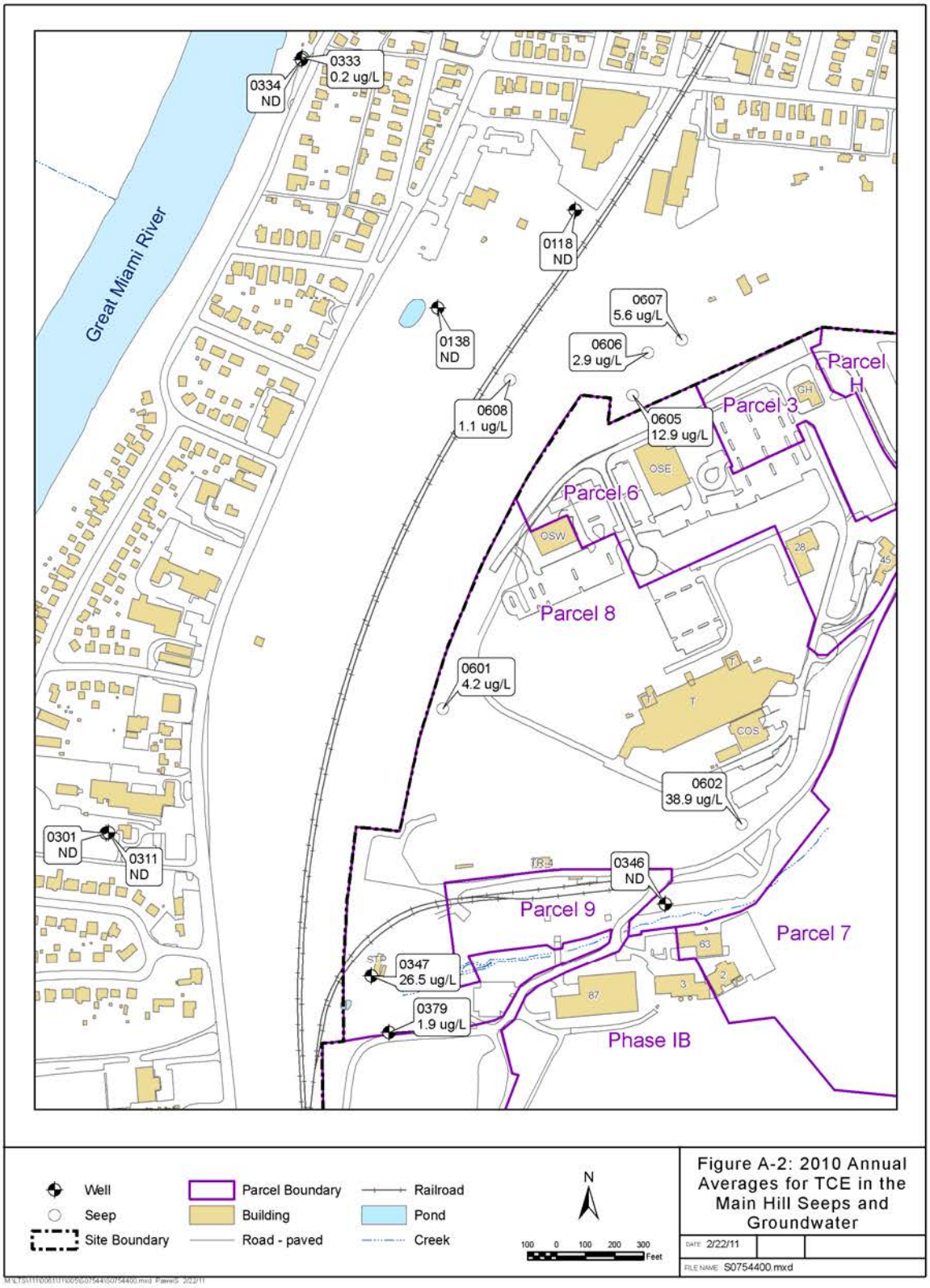

Figure 8. 2010 Annual Average TCE Concentrations in the Main Hill Seeps

4.2 Tritium Results

Tritium levels in the Main Hill seeps continued to be elevated in 2010 and were higher than those in the downgradient groundwater wells (Table 7). The highest tritium activity was observed in seep 0601, which is located on site. Seep 0601 is the only location that exceeded the MCL of 20 nCi/L during 2010. None of the seeps had tritium levels that exceeded the trigger level of 1,500 nCi/L.

Five wells downgradient of the Main Hill area continued to show detectable levels of tritium in 2010 (Table 7). The highest levels were observed in well 0347, downgradient of seeps 0601 and 0602. The four remaining wells had tritium levels similar to background (1.5 nCi/L). None of the groundwater wells had tritium levels that exceeded the MCL of 20 nCi/L.

Table 7. Summary of Tritium Results in the Main Hill Area for 2010

Location	Tritium Activity (nCi/L)			
	Q1	Q2	Q3	Q4
Seeps				
0601	**27.4**	ND (< 0.28)	**68.1**	**96.1**
0602	11.9	14.7	Dry	Dry
0605	12.5	16.0	18.5	16.7
0606		13.2	14.6	13.2
0607	2.9	3.9	6.6	8.8
0608	10.8	11.8	14.9	12.8
Downgradient Wells				
0118	ND (<0.36)	ND (<0.28)	ND (<0.34)	ND (<0.22)
0138	1.2	1.6	1.8	0.88
0301	ND (<0.36)	ND (<0.28)	ND (<0.34)	ND (<0.22)
0311	1.3	0.76	0.65	0.58
0346	1.3	1.8	1.7	1.7
0347	6.5	3.7	6.7	6.5
0379	1.7	0.48	1.6	1.6

Q = Quarter
ND = Not detected
Tritium trigger level at the seeps = 1,500 nCi/L
Values in **bold** exceed the MCL of 20 nCi/L

Tritium levels in the seeps were highest during remediation activities on the Main Hill (2004−2006). Tritium data collected after building demolition and soil removal indicate decreasing levels in all of the seeps (Figure 8). The decreasing tritium levels from post-remediation data suggest that the majority of the source was removed from the Main Hill area and that, with continued flushing, levels should continue to decline. Changes in tritium levels in seep 0601 indicate a seasonal effect as levels typically increase in the fall due to more precipitation and flushing. Variation in tritium levels in seep 0602 may also follow a similar seasonal pattern but is less pronounced. Comparisons of tritium concentrations in the seeps with those measured in downgradient monitoring wells indicate that the seeps responded more quickly than the wells because they are direct discharge points for groundwater originating beneath the Main Hill.

A graph of tritium levels in downgradient wells (Figure 9) illustrates that groundwater impact lagged behind that of the seeps. Groundwater impact increased near the end of remediation activities on the Main Hill, and impact in the seeps occurred as remediation activities were being performed and began to decrease as activities were completed. Wells 0138 and 0347 had the highest levels of tritium and responded rapidly to remediation activities. Tritium levels in wells 0138, 0346, and 0379 have leveled off and are similar to background.

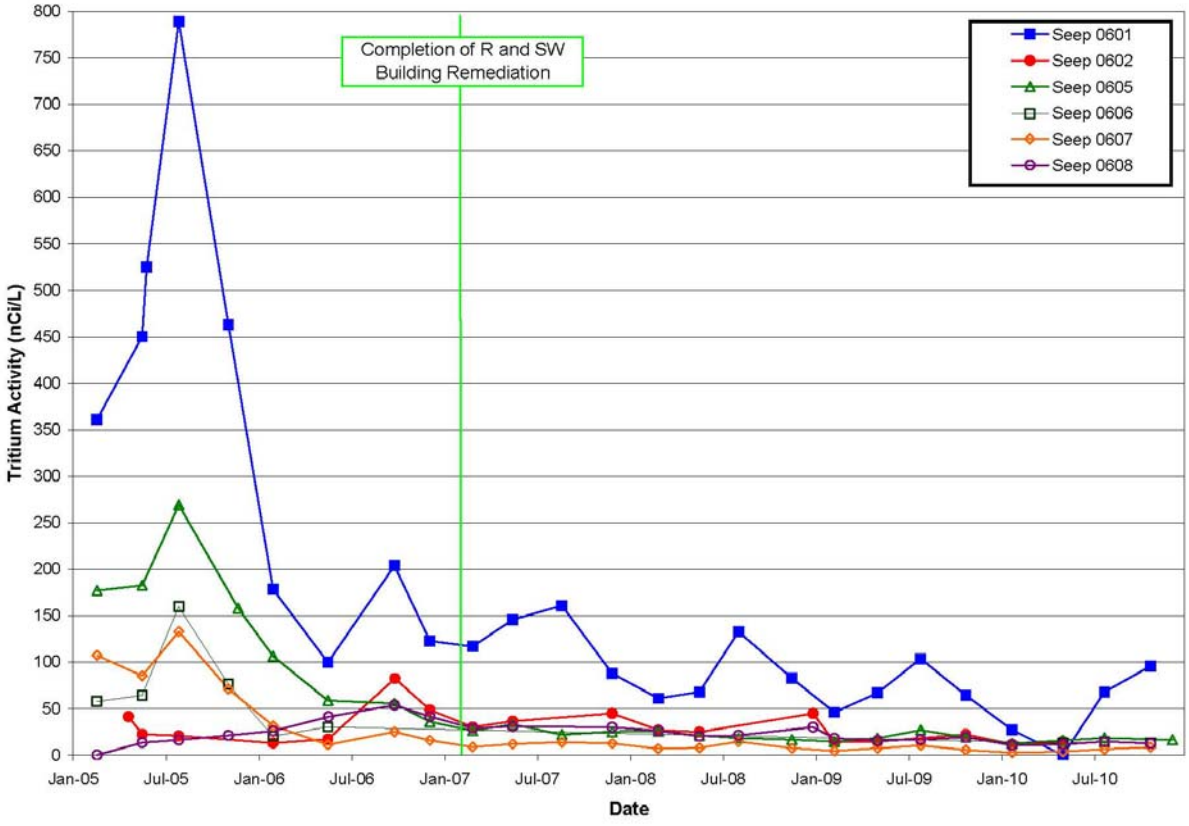

Figure 9. Tritium Activity in Seeps (2005−2010)

The distribution of tritium in groundwater (Figure 10) in the Main Hill area indicates that the greatest impact is still associated with the seeps, particularly seep 0601. Downgradient well 0347 also had elevated levels of tritium. Figure 11 depicts the 2010 annual averages of tritium in the monitoring network.

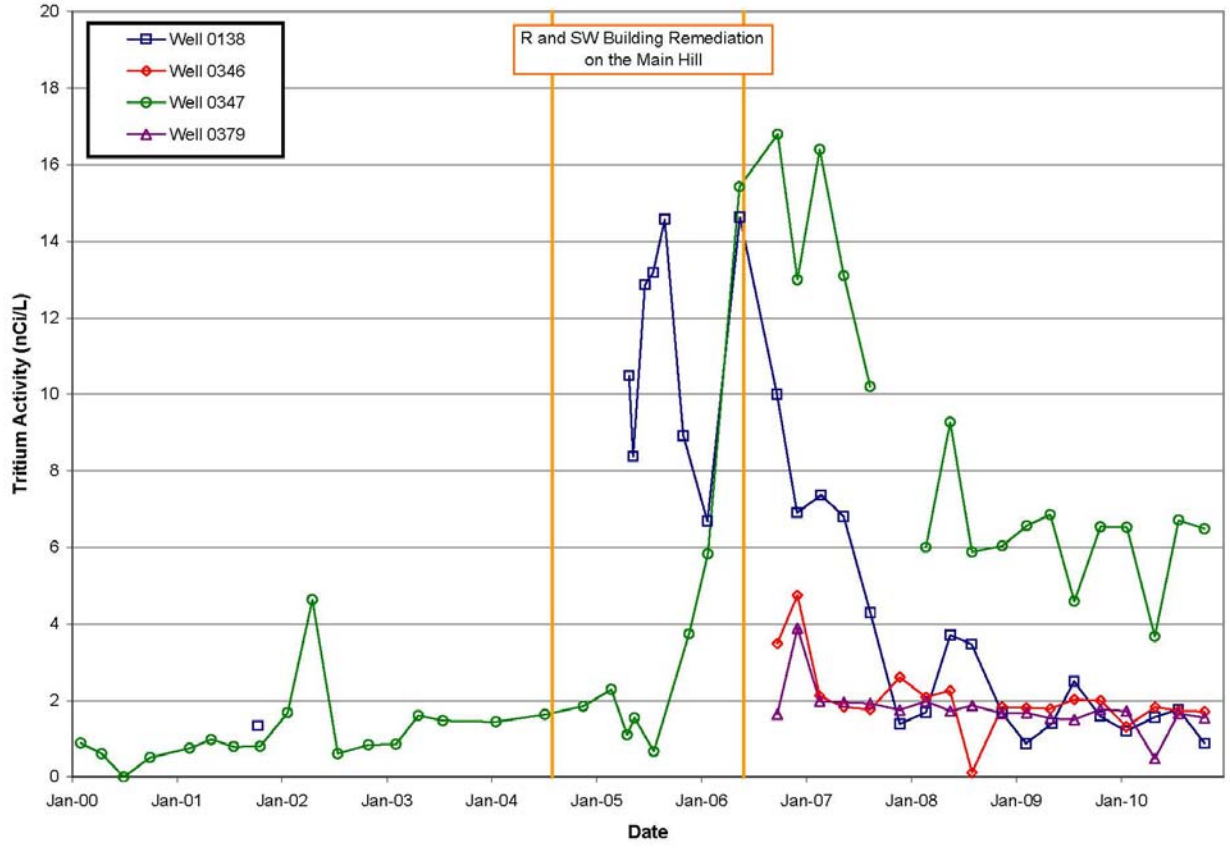

Figure 10. Tritium Activity in Wells 0138, 0346, 0347, and 0379 (2000–2010)

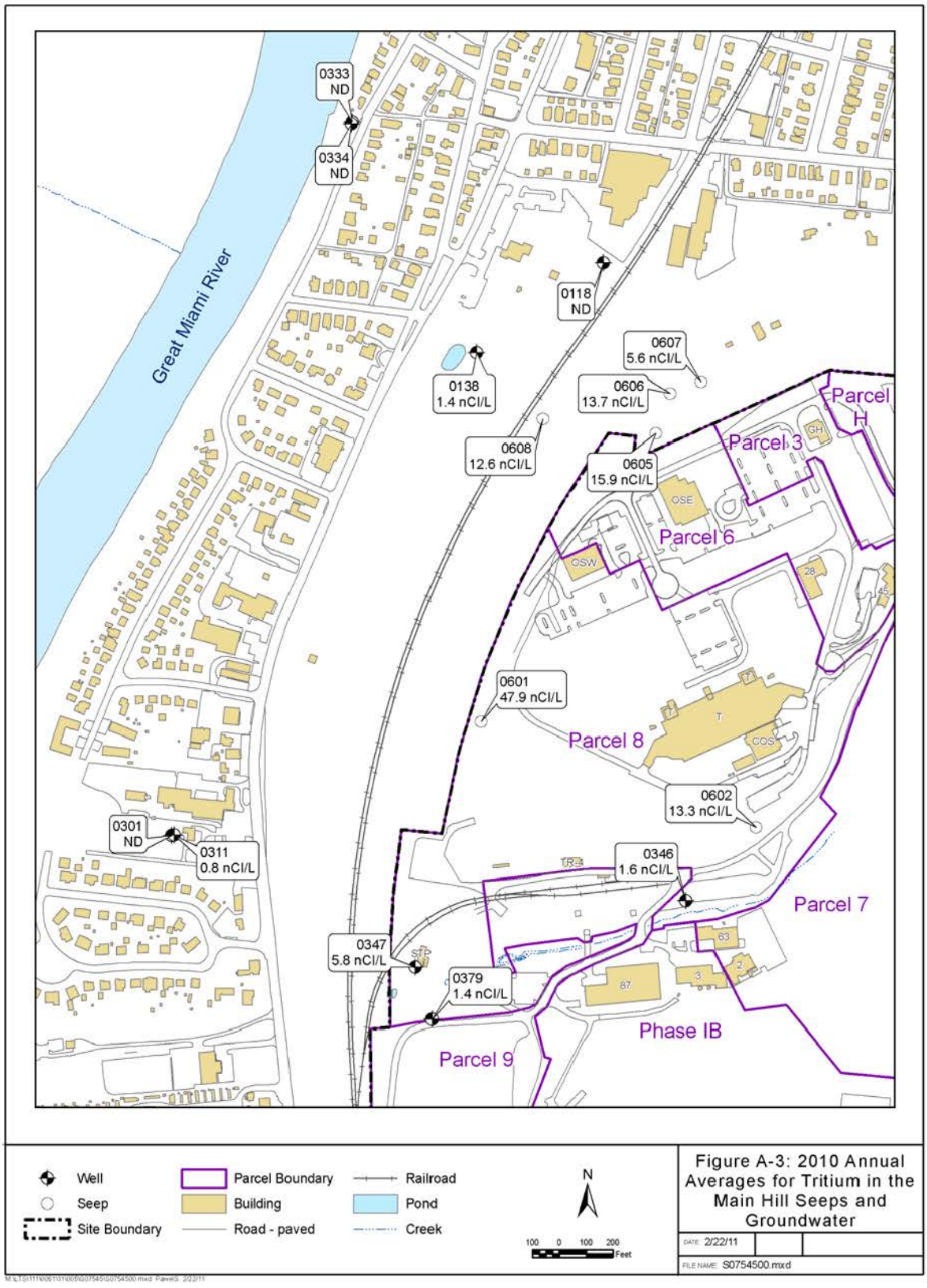

Figure 11. 2010 Annual Average Tritium Levels in the Main Hill Seeps

4.3 Other Radionuclides Results

Ra-226, Ra-228, and Sr-90 continued to be present in seep 0601 (Table 8). The activities observed at this location did not exceed the trigger level of 20 pCi/L for Sr-90 or combined Ra-226/228. Graphs of the concentrations over time (Figure 12 and Figure 13) indicate that levels have decreased since 2004. An increase in combined Ra-226/228 was observed at the end of 2009; however, levels decreased in 2010. Data from unimpacted seeps in Parcel 4 were used to estimate background levels for these isotopes in the bedrock aquifer. The maximum Ra-226 level measured in the Parcel 4 seeps was 0.81 pCi/L, and the maximum Sr-90 level was 2.8 pCi/L. The levels of Sr-90 in seep 0601 are similar to those measured in Parcel 4 seeps. Levels of Ra-226 are slightly greater than those measured in Parcel 4 seeps.

Table 8. Summary of Radionuclides in Seep 0601 for 2010

Location	Radionuclide	Q1	Q2	Q3	Q4
0601	Ra-226 (pCi/L)	1.5	1.1	1.3	ND (< 0.30)
	Ra-228 (pCi/L)	0.85	ND (< 0.99)	ND (< 0.74)	1.2
	Sr-90 (pCi/L)	0.69	ND (< 0.87)	1.4 (J)	2.9

J = Estimated value that is less than the reporting limit
Q = Quarter
Ra-226/228 trigger level at seep 0601 = 20 pCi/L
Sr-90 trigger level at seep 0601 = 20 pCi/L

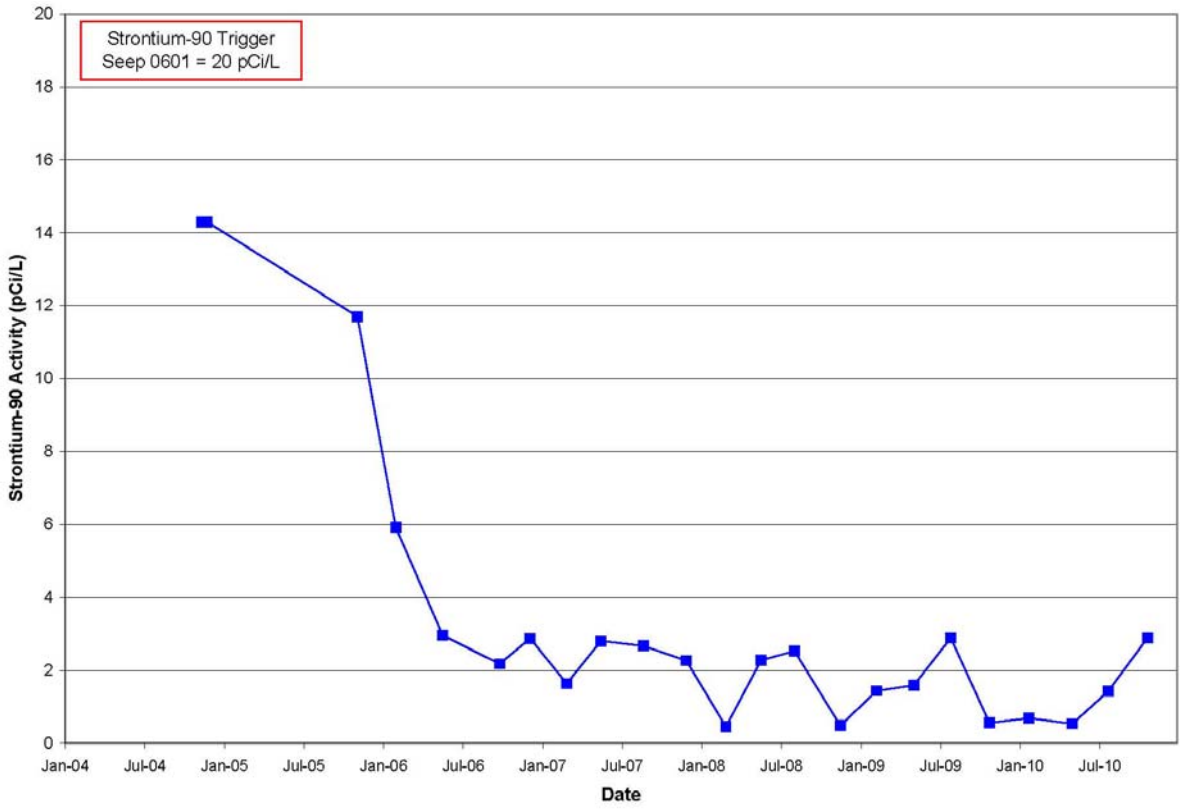

Figure 12. Sr-90 Activity over Time in Seep 0601 (2004–2010)

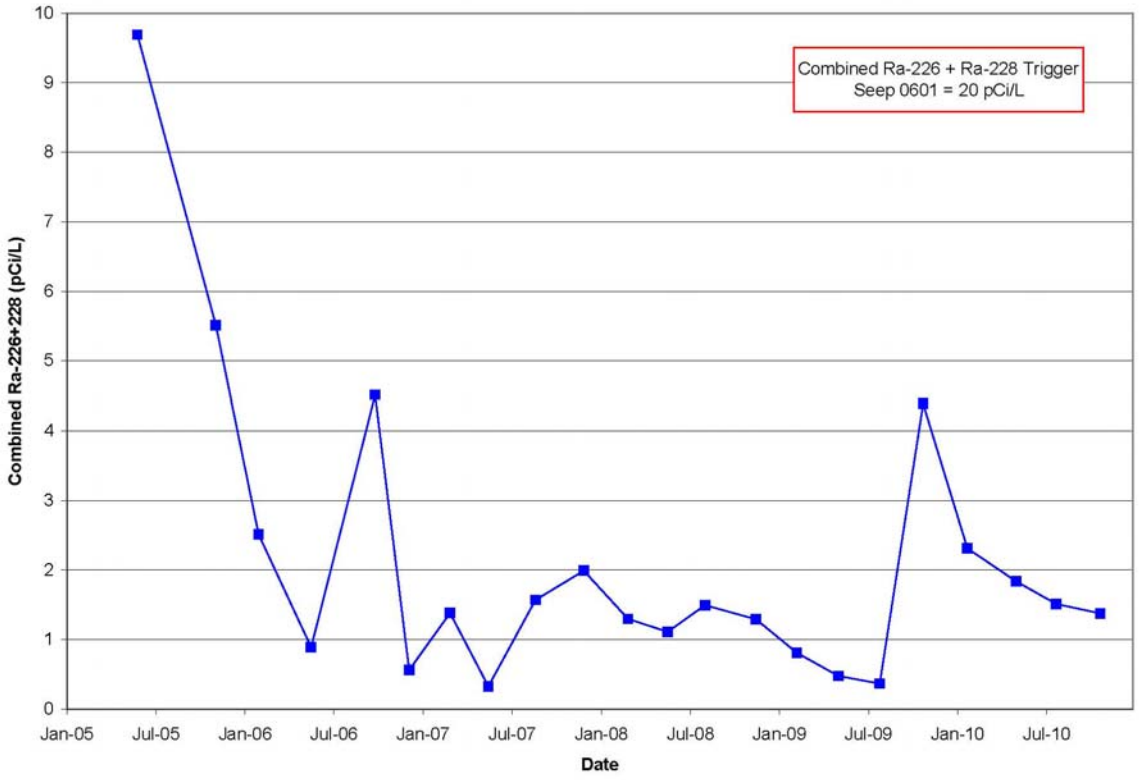

Figure 13. Combined Ra-226/228 Activity over Time in Seep 0601 (2005–2010)

4.4 Trend Analysis

Trend analysis was performed on VOC, tritium, and other radionuclide data using the nonparametric Mann-Kendall test. This test is used for temporal trend identification because it does not require the data to conform to a particular distribution (such as a normal or log-normal distribution). This type of long-term trend analysis can be used to confirm downward trends in contaminant concentrations. Trend analysis is reported for data collected since 2005. This period was selected to represent data collected since the completion of remediation activities on the Main Hill.

4.4.1 Volatile Organic Compounds

Trend analysis for TCE data collected since 2005 indicates increasing TCE concentrations in seeps 0601, 0602, and 0608, as indicated by positive slopes (Table 9). An upward trend was calculated for TCE in seep 0602. TCE concentrations are decreasing in seeps 0605, 0606, and 0607, as indicated by negative slopes. A downward trend was calculated for seep 0605. No trend was indicated in the PCE data from seep 0601.

Data from the downgradient wells were not used in trend analysis. TCE concentrations have been sporadic in these wells, with the exception of well 0347, which are discussed in Section 3.0.

Table 9. Summary of Trend Analysis Results for TCE in the Main Hill Seeps (2005–2010)

Location	Number of Samples	Trend	Slope (µg/L/year)	Confidence Interval (µg/L/year)	
				Lower	Upper
0601	24	None	0.11	-0.45	0.38
0602	17	**Up**	9.6	2.4	13.6
0605	24	**Down**	-2.4	-4.4	-0.44
0606	9	None	-0.85	-4.4	2.0
0607	24	None	-0.59	-1.3	0.34
0608	23	None	0.02	-0.03	0.19

4.4.2 Tritium and Other Radionuclides

Trend analysis for tritium data collected since 2005 indicates decreasing tritium levels in all of the seeps and the four wells with detectable tritium levels, as indicated by negative slopes. Downward trends in tritium were calculated in seeps 0601, 0605, 0606, and 0607 and in wells 0138 and 0379 (Table 10).

Table 10. Summary of Trend Analysis Results for Tritium in the Main Hill Seeps and Downgradient Wells (2005−2010)

Location	Number of Samples	Trend	Slope (µg/L/year)	Confidence Interval (nCi/L/year)	
				Lower	Upper
0601	25	**Down**	-47.8	-83.5	-28.0
0602	18	None	-3.0	-9.2	0.61
0605	24	**Down**	-12.4	-30.1	-6.8
0606	9	**Down**	-9.0	-32.0	-0.80
0607	24	**Down**	-5.5	-12.7	-2.6
0608	23	None	-3.0	-6.1	0.09
0138	26	**Down**	-2.0	-2.7	-1.5
0346	18	**Down**	-0.10	-0.17	-0.03
0347	25	**Down**	-0.12	-0.14	-0.09
0379	18	**Down**	-0.22	-0.49	-0.04

Trend analysis for Sr-90 and combined Ra-226/228 from seep 0601 (Table 11) indicates decreasing levels in both constituents, as indicated by negative slopes. A downward trend in Sr-90 was calculated for this location. No trend was reported in the combined radium levels.

Table 11. Summary of Trend Analysis Results for Other Radionuclides in Seep 0601 (2005−2010)

Radionuclide	Number of Samples	Trend	Slope (µg/L/year)	Confidence Interval (nCi/L/year)	
				Lower	Upper
Ra-226/228	12	None	-0.22	-0.89	0.14
Sr-90	10	**Down**	-0.56	-0.98	-0.15

4.5 Recommendations

No changes to the Main Hill seeps monitoring program are warranted at this time. Seep 0602 is influenced by surface water that infiltrated on the Main Hill and flushed residual VOCs into the groundwater. Data will continue to be evaluated to determine whether surface water infiltration has caused long-term increases in VOC concentrations. Also, data will be evaluated to determine if degradation of TCE is occurring as indicated by the presence of the TCE breakdown products in the seeps. Tritium levels in the seeps continue to be elevated. While levels are decreasing, additional data are necessary to confirm downward trends in the seeps and downgradient groundwater.

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5.0 Inspection of the Monitoring System

A routine maintenance program has been established for the long-term groundwater monitoring locations at the Mound Site. This program includes periodic inspections focusing on the integrity of each well and the condition of the protective casing and surface pad, the surrounding area, and the route of access. These inspections are usually performed during each sampling event. If these wells were neglected, the surface seals could fail, and contamination could migrate from surface sources to the subsurface.

Deficiencies identified during 2010 were general maintenance issues, such as drainage and vegetation. A summary of the inspection performed in March 2010, including photos, is in Appendix C.

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6.0 Data Validation

Each quarter's data were validated in accordance with procedures specified in the *Environmental Procedures Catalog*, LMS/POL/S04325, "Standard Practice for Validation of Laboratory Data." This procedure also fulfills the requirements of applicable procedures in the *Mound Methods Compendium* (MD 80045). Data validation was documented in quarterly reports prepared within 90 days of the end of each quarter (DOE 2010b, 2010c, 2010d, and 2011). All 2010 data, including data validation qualifiers, are summarized in Appendix B.

Laboratory performance is assessed by reviewing and evaluating the following quality indicators:

Sample shipping and receiving practices	Holding times
Chain of custody	Instrument calibrations
Laboratory blanks	Interference check samples
Preparation blanks	Radiochemical uncertainty
Laboratory replicates	Laboratory control samples
Serial dilutions	Sample dilutions
Detection limits	Surrogate recoveries
Peak integrations	Confirmation analyses
Matrix spikes and matrix spike duplicates	Electronic data

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7.0 Summary and Recommendations

This report documents the groundwater sampling results for the Parcel 6, 7, and 8 area. Monitoring was performed to assess the changes in TCE concentrations in the groundwater and the changes in tritium levels and VOC concentrations in the seeps since contaminated buildings and soil were removed from the Main Hill area of the site.

Remediation activities, including the excavation of contaminated soil and the demolition of contaminated buildings, significantly affected groundwater quality in the Main Hill area. Substantial increases in contaminant levels were observed in 2004, 2005, and 2006 when remediation was performed. It was discovered in late 2009 that construction activities on the Main Hill had exposed tritium capture pits. These pits extend into the bedrock and allow for surface water to infiltrate into the subsurface. This infiltration may have caused changes in contaminant concentrations in the seeps and groundwater. General decreases in tritium levels were observed in 2010; however, VOC concentrations in some areas have varied and in some instances increased.

Monitoring will continue to evaluate the effect of source removal on groundwater quality, to evaluate the effect of surface water infiltration on contaminant levels, to determine trends in contaminant levels, and to ensure that the BVA is not adversely affected.

7.1 Wells 0315/0347

Monitoring results for 2010 continued to show TCE in wells 0315, 0347, 0386, and 0389, and the highest concentrations are in wells 0315 and 0347 (source wells). All TCE concentrations were below applicable trigger levels. Low levels of PCE were detected in well 0126. None of these wells had detectable concentrations of DCE or vinyl chloride.

TCE concentrations in wells 0315 and 0347 have been variable. Influence of surface water infiltration from the Main Hill into the subsurface was reflected in the data starting in 2006. The access points were addressed in October 2009; however, insufficient data are available to evaluate the long-term impact.

Statistical analysis of the TCE data indicated increasing TCE concentrations in source wells 0315 and 0347; however, no trends were calculated for these two wells. Decreasing TCE concentrations were indicated in wells 0386 and 0389. A downward trend was calculated for well 0386. Starting in 2000, the concentrations in BVA wells 0386 and 0389, which have consistently shown TCE impact, have remained below the MCL.

Monitoring associated with TCE in wells 0315 and 0347 will continue. The evaluation of the 2010 data does not suggest that the monitoring program should be changed at this time. Quarterly sampling will continue in 2011.

7.2 Main Hill Seeps

7.2.1 VOC Monitoring

Although TCE concentrations in some of the Main Hill seeps continued to exceed the MCL in 2010, no locations exceeded the trigger level of 150 µg/L (established for seep 0605). The highest concentrations were in seep 0602, which is on site. PCE concentrations continued to exceed the MCL of 5 µg/L at seep 0601; however, this location did not exceed the trigger level of 75 µg/L. Detectable concentrations of *cis*-1,2-DCE were also observed in seeps 0602, 0605, 0607, and 0608. Estimated detections of *trans*-1,2-DCE were reported in seeps 0602 and 0605. No vinyl chloride was detected in 2010.

Monitoring of downgradient wells indicated elevated concentrations of TCE in wells 0347 and 0379. Low-level detections of VOCs were reported in well 0311. Concentrations of TCE exceeded the MCL of 5 µg/L in well 0347. None of the other wells had concentrations that exceeded the MCL for TCE. No DCE or vinyl chloride was detected in the downgradient wells.

The presence of *cis*-1,2-DCE was reported in all of the seeps. The highest concentrations were reported for seeps 0602 and 0605 and have generally increased at both locations in recent years. Evaluation of TCE and *cis*-1,2-DCE concentrations in these two seeps indicate that the contaminants behaved similarly. Although an increase in *cis*-1,2-DCE concentrations is an expected indicator of TCE degradation, in this instance, it is likely the result of flushing of residual DCE from the system.

Trend analysis for TCE data collected since 2005 indicated increasing TCE concentrations primarily in seep 0602 where an upward trend in concentrations was calculated. This seep was influenced by the infiltration of surface water through an exposed tritium capture pit on the Main Hill.

VOC monitoring associated with seeps and downgradient monitoring wells will continue. The evaluation of the 2010 data does not suggest that the monitoring program should be significantly changed. Quarterly sampling will continue at the seep and monitoring well locations in 2011.

7.2.2 Tritium and Other Radionuclide Monitoring

Elevated tritium levels are present in the Main Hill seeps, and one downgradient groundwater monitoring well showed tritium impact. Tritium levels in the Main Hill seeps continued to be higher than those of the downgradient groundwater wells. The highest tritium activity was observed in seep 0601, which is on site. No locations had tritium levels that exceeded the trigger level of 1,500 nCi/L. Levels in seep 0601 exceeded the MCL of 20 nCi/L at some time in 2010. Tritium was detected in five wells (0138, 0311, 0346, 0347, and 0379) downgradient of the seeps; however, most of the data were similar to background. The highest tritium levels in groundwater are in well 0347, which is downgradient of seeps 0601 and 0602. None of the groundwater wells had tritium levels that exceeded the MCL of 20 nCi/L.

Statistical analysis of tritium data collected since 2005 indicated decreasing levels in all of the seeps and wells 0138, 0346, 0347, and 0379. Downward trends were calculated for seeps 0601, 0605, 0606, and 00607 and the monitoring wells. The downward trends determined from post-remediation data suggest that the majority of the source has been removed from the Main Hill

area and that continued flushing should continue to lower the levels. Also, tritium levels will likely decrease more rapidly than the VOCs because tritium does not attenuate through degradation or sorption in the natural environment; therefore, it moves more quickly in the groundwater system.

Ra-226, Ra-228, and Sr-90 continued to be present in seep 0601. The activities observed at this location did not exceed the trigger level of 20 pCi/L for Sr-90 or combined Ra-226/228. Trend analysis indicated a downward trend in Sr-90 levels.

Tritium monitoring associated with seeps and downgradient monitoring wells, and Ra-226/228 monitoring at seep 0601, will continue. The evaluation of the 2010 data for these constituents does not suggest that the monitoring program should be significantly changed at this time. Quarterly sampling for these constituents will continue at the other seep and monitoring well locations in 2011.

Results of the Sr-90 monitoring in seep 0601 indicate that levels have been similar to background since 2006. Statistical analysis indicates a downward trend in data collected since 2005. It is recommended to discontinue the sampling for Sr-90 in seep 0601 in 2011.

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8.0 References

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Appendix A

Mound-Specific Sampling Protocols

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Procedure A1 – Sampling Method for BVA Wells

The following procedure will be utilized for collection of groundwater samples from wells at the Mound Site screened in the BVA using a low-flow method.

Field parameter measurements to be recorded:

- Water quality indicators (pH, dissolved oxygen, and specific conductance)
- Temperature
- Oxidation-reduction potential (ORP)
- Turbidity
- Water level

Groundwater samples will be collected using the following procedural steps for low-flow sampling:

1. Measure the depth to water prior to purging or portable sampling pump.

   If a portable pump is used for sampling of wells, the water level should be measured again for monitoring of drawdown during purging. Purging can commence immediately. Pumps should be lowered to approximately 2 ft above the bottom of the screened interval. Efforts should be made to slowly lower pumps into wells to prevent agitation of the water column.

2. Turn pump on at lowest setting and slowly increase the flow rate until water begins to emerge from the discharge tube. Adjust the flow rate to approximately 500 mL/min.

3. After 1 pump/tubing volume has been purged, water quality indicators, DO, ORP, and turbidity will be measured at regular intervals based on volume purged (1 pump/tubing volume) or time (at least 3 minutes apart).

4. Monitor the water level in the well. If drawdown is occurring, the purge rate should be decreased until drawdown stops or a purge rate of 100 mL/min is obtained. If a purge rate of 100 mL/min cannot be maintained, contact the project lead to determine appropriate action for the well.

5. Sample collection can begin as soon as the drawdown and the water quality indicators have stabilized. Stability will be considered achieved when the criteria in Table A–1 are achieved and the turbidity of the water has reached 50 NTUs. A lower NTU level is required when chromium and nickel are analytes.

Table A–1. Stabilization Criteria for Field Parameters

Parameter	Criteria
Water Level	< 0.05 ft
pH	± 0.2 units
Dissolved Oxygen	±10 %
Specific Conductance	±10 %
Turbidity	≤ 50 NTU
Turbidity – Cr & Ni analyses	≤ 10 NTU

Procedure A2 – Sampling Method for Wells 0411 and 0443

The following procedure will be utilized for collection of groundwater samples from low-yield bedrock wells 0411 and 0443 in Phase I at the Mound Site.

Field parameter measurements to be recorded:

- Water quality indicators (pH, dissolved oxygen, and specific conductance)
- Temperature
- Oxidation-reduction potential (ORP)
- Turbidity
- Water level

Groundwater samples will be collected using the following procedural steps:

1. Measure the depth to water prior to purging or portable sampling pump.

   If a portable pump is used for sampling of wells, the water level should be measured again for monitoring of drawdown during purging. Purging can commence immediately. Pumps should be lowered to approximately 2 ft above the bottom of the screened interval. Efforts should be made to slowly lower pumps into wells to prevent agitation of the water column.

2. Turn pump on at a flow rate of 100 mL/min to 200 mL/min until water begins to emerge from the discharge tube.

3. After 1 pump/tubing volume has been purged, water quality indicators, temperature, ORP, and turbidity will be measured at regular intervals based on volume purged (1 pump/tubing volume) or time (at least 3 minutes apart).

4. Monitor the water level in the well. If drawdown in the wells is greater than 3 ft, stop purging water and contact the project lead to determine appropriate action for the well. Sampling method will likely be changed to that in Procedure A3.

5. Sample collection can begin as soon as the drawdown and the water quality indicators have stabilized. Stability will be considered achieved when the criteria in Table A–2 are achieved and the turbidity of the water has reached 50 NTUs. A lower NTU level is required when chromium and nickel are analytes. If the turbidity criteria cannot be attained and the other parameters meet criteria, contact the project lead to determine appropriate action for the well.

Table A–2. Stabilization Criteria for Field Parameters

Parameter	Criteria
Water Level	< 3 ft
pH	± 0.2 units
Dissolved Oxygen	±10 %
Specific Conductance	±10 %
Turbidity	≤ 50 NTU
Turbidity – Cr & Ni analyses	≤ 10 NTU

Procedure A3 – Sampling Method for Wells 0353, 0444, and 0445

The following procedure will be utilized for collection of groundwater samples from low-yield bedrock wells 0353, 0444, and 0445 in Phase I at the Mound Site.

Field parameter measurements to be recorded:

- Water quality indicators (pH, dissolved oxygen, and specific conductance)
- Temperature
- Oxidation-reduction potential (ORP)
- Turbidity
- Water level

Groundwater samples will be collected using the following procedural steps:

1. Measure the depth to water prior to purging or portable sampling pump.

   If a portable pump is used for sampling of wells, the water level should be measured again for monitoring of drawdown during purging. Purging can commence immediately. Pumps should be lowered to approximately 2 ft from the bottom of the screened interval. Efforts should be made to slowly lower pumps into wells to prevent agitation of the water column.

2. Turn pump on at a flow rate of 100 mL/min.

3. Sample collection can begin after 1 pump/tubing volume has been purged.

4. Water quality indicators, DO, ORP, and turbidity will be measured after the removal of 1 pump/tubing volume and at the end of sampling, and recorded.

5. Measure and record the depth of water after collecting samples.

Procedure A4 – Sampling Method for Seeps

The following procedure will be utilized for collection of surface water samples from seeps at the Mound Site.

Field parameter measurements to be recorded:

- pH
- specific conductance
- Oxidation-reduction potential (ORP)

1. Note condition of seep water (qualitative description of flow, color, turbidity, etc.) prior to sampling.

2. Create a surface basin for ponding of seep water if one is not present.

3. Allow water to flush through the basin until water becomes clear (similar condition prior to creating basin).

4. Samples may be collected by using a transfer container or by submerging the sample bottle into the basin. This is not acceptable for pre-preserved sample bottles; a transfer container will be used for collecting samples.

Appendix B

2009 Data for Parcel 6, 7, and 8 Groundwater Monitoring

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Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0118	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	0.1	0.1	ug/L	U	
0118	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0118	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0118	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0118	Main Hill Seeps	Dissolved Oxygen	1/25/2010	5.1		mg/L		
0118	Main Hill Seeps	Dissolved Oxygen	5/5/2010	6.11		mg/L		F
0118	Main Hill Seeps	Dissolved Oxygen	7/26/2010	5.95		mg/L		F
0118	Main Hill Seeps	Dissolved Oxygen	10/25/2010	6.04		mg/L		
0118	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	97.8		mV		
0118	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	98.8		mV		F
0118	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	144.3		mV		F
0118	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	34.3		mV		
0118	Main Hill Seeps	pH	1/25/2010	7.09		s.u.		
0118	Main Hill Seeps	pH	5/5/2010	7.24		s.u.		F
0118	Main Hill Seeps	pH	7/26/2010	7.29		s.u.		F
0118	Main Hill Seeps	pH	10/25/2010	7.6		s.u.		
0118	Main Hill Seeps	Specific Conductance	1/25/2010	1259		umhos/cm		
0118	Main Hill Seeps	Specific Conductance	5/5/2010	1282		umhos/cm		F
0118	Main Hill Seeps	Specific Conductance	7/26/2010	1319		umhos/cm		F
0118	Main Hill Seeps	Specific Conductance	10/25/2010	1277		umhos/cm		
0118	Main Hill Seeps	Temperature	1/25/2010	12.8		C		
0118	Main Hill Seeps	Temperature	5/5/2010	13.52		C		F
0118	Main Hill Seeps	Temperature	7/26/2010	14.21		C		F
0118	Main Hill Seeps	Temperature	10/25/2010	14.11		C		
0118	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.2	0.2	ug/L	U	
0118	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0118	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0118	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0118	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0118	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0118	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0118	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0118	Main Hill Seeps	Trichloroethene	1/25/2010	0.11	0.11	ug/L	U	
0118	Main Hill Seeps	Trichloroethene	5/5/2010	0.11	0.11	ug/L	U	F
0118	Main Hill Seeps	Trichloroethene	7/26/2010	0.11	0.11	ug/L	U	F
0118	Main Hill Seeps	Trichloroethene	10/25/2010	0.11	0.11	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0118	Main Hill Seeps	Tritium	1/25/2010	53.6	357	pCi/L	U	
0118	Main Hill Seeps	Tritium	5/5/2010	-81.3	278	pCi/L	U	F
0118	Main Hill Seeps	Tritium	7/26/2010	25.3	343	pCi/L	U	F
0118	Main Hill Seeps	Tritium	10/25/2010	42.3	221	pCi/L	U	
0118	Main Hill Seeps	Turbidity	1/25/2010	52.2		NTU		
0118	Main Hill Seeps	Turbidity	5/5/2010	9		NTU		F
0118	Main Hill Seeps	Turbidity	7/26/2010	9.45		NTU		F
0118	Main Hill Seeps	Turbidity	10/25/2010	24.4		NTU		
0118	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0118	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0118	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0118	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0138	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	0.1	0.1	ug/L	U	
0138	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0138	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0138	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0138	Main Hill Seeps	Dissolved Oxygen	1/25/2010	2.85		mg/L		
0138	Main Hill Seeps	Dissolved Oxygen	5/5/2010	3.47		mg/L		F
0138	Main Hill Seeps	Dissolved Oxygen	7/26/2010	3.2		mg/L		F
0138	Main Hill Seeps	Dissolved Oxygen	10/25/2010	3.6		mg/L		
0138	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	99.5		mV		
0138	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	57.1		mV		F
0138	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	144.9		mV		F
0138	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	43		mV		
0138	Main Hill Seeps	pH	1/25/2010	7.08		s.u.		
0138	Main Hill Seeps	pH	5/5/2010	7.18		s.u.		F
0138	Main Hill Seeps	pH	7/26/2010	7.26		s.u.		F
0138	Main Hill Seeps	pH	10/25/2010	7.45		s.u.		
0138	Main Hill Seeps	Specific Conductance	1/25/2010	1350		umhos/cm		
0138	Main Hill Seeps	Specific Conductance	5/5/2010	1375		umhos/cm		F
0138	Main Hill Seeps	Specific Conductance	7/26/2010	1404		umhos/cm		F
0138	Main Hill Seeps	Specific Conductance	10/25/2010	1344		umhos/cm		
0138	Main Hill Seeps	Temperature	1/25/2010	11.56		C		
0138	Main Hill Seeps	Temperature	5/5/2010	12.73		C		F
0138	Main Hill Seeps	Temperature	7/26/2010	13.77		C		F
0138	Main Hill Seeps	Temperature	10/25/2010	13.47		C		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0138	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.2	0.2	ug/L	U	
0138	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0138	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0138	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0138	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0138	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0138	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0138	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0138	Main Hill Seeps	Trichloroethene	1/25/2010	0.11	0.11	ug/L	U	
0138	Main Hill Seeps	Trichloroethene	5/5/2010	0.11	0.11	ug/L	U	F
0138	Main Hill Seeps	Trichloroethene	7/26/2010	0.11	0.11	ug/L	U	F
0138	Main Hill Seeps	Trichloroethene	10/25/2010	0.11	0.11	ug/L	U	
0138	Main Hill Seeps	Tritium	1/25/2010	1200	357	pCi/L		
0138	Main Hill Seeps	Tritium	5/5/2010	1570	281	pCi/L		F
0138	Main Hill Seeps	Tritium	7/26/2010	1770	348	pCi/L		F
0138	Main Hill Seeps	Tritium	10/25/2010	880	223	pCi/L		
0138	Main Hill Seeps	Turbidity	1/25/2010	30.2		NTU		
0138	Main Hill Seeps	Turbidity	5/5/2010	9.56		NTU		F
0138	Main Hill Seeps	Turbidity	7/26/2010	18.5		NTU		F
0138	Main Hill Seeps	Turbidity	10/25/2010	30		NTU		
0138	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0138	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0138	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0138	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0301	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	0.1	0.1	ug/L	U	
0301	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0301	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0301	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0301	Main Hill Seeps	Dissolved Oxygen	1/25/2010	0.7		mg/L		
0301	Main Hill Seeps	Dissolved Oxygen	5/5/2010	0.97		mg/L		F
0301	Main Hill Seeps	Dissolved Oxygen	7/26/2010	0.31		mg/L		F
0301	Main Hill Seeps	Dissolved Oxygen	10/25/2010	0.57		mg/L		
0301	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	34.4		mV		
0301	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	66.3		mV		F
0301	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	115.4		mV		F
0301	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	50.4		mV		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0301	Main Hill Seeps	pH	1/25/2010	11.38		s.u.		
0301	Main Hill Seeps	pH	5/5/2010	11.43		s.u.		F
0301	Main Hill Seeps	pH	7/26/2010	10.93		s.u.		F
0301	Main Hill Seeps	pH	10/25/2010	11.21		s.u.		
0301	Main Hill Seeps	Specific Conductance	1/25/2010	1529		umhos/cm		
0301	Main Hill Seeps	Specific Conductance	5/5/2010	1388		umhos/cm		F
0301	Main Hill Seeps	Specific Conductance	7/26/2010	1496		umhos/cm		F
0301	Main Hill Seeps	Specific Conductance	10/25/2010	1348		umhos/cm		
0301	Main Hill Seeps	Temperature	1/25/2010	13.39		C		
0301	Main Hill Seeps	Temperature	5/5/2010	14.7		C		F
0301	Main Hill Seeps	Temperature	7/26/2010	16.35		C		F
0301	Main Hill Seeps	Temperature	10/25/2010	15.76		C		
0301	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.2	0.2	ug/L	U	
0301	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0301	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0301	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0301	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0301	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0301	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0301	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0301	Main Hill Seeps	Trichloroethene	1/25/2010	0.11	0.11	ug/L	U	
0301	Main Hill Seeps	Trichloroethene	5/5/2010	0.11	0.11	ug/L	U	F
0301	Main Hill Seeps	Trichloroethene	7/26/2010	0.11	0.11	ug/L	U	F
0301	Main Hill Seeps	Trichloroethene	10/25/2010	0.11	0.11	ug/L	U	
0301	Main Hill Seeps	Tritium	1/25/2010	-38.2	357	pCi/L	U	
0301	Main Hill Seeps	Tritium	5/5/2010	103	279	pCi/L	U	F
0301	Main Hill Seeps	Tritium	7/26/2010	-98.2	342	pCi/L	U	F
0301	Main Hill Seeps	Tritium	10/25/2010	-11.1	224	pCi/L	U	
0301	Main Hill Seeps	Turbidity	1/25/2010	2.24		NTU		
0301	Main Hill Seeps	Turbidity	5/5/2010	2.22		NTU		F
0301	Main Hill Seeps	Turbidity	7/26/2010	4.74		NTU		F
0301	Main Hill Seeps	Turbidity	10/25/2010	2.15		NTU		
0301	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0301	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0301	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0301	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0311	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	0.1	0.1	ug/L	U	
0311	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0311	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0311	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0311	Main Hill Seeps	Dissolved Oxygen	1/25/2010	3.03		mg/L		
0311	Main Hill Seeps	Dissolved Oxygen	5/5/2010	1.67		mg/L		F
0311	Main Hill Seeps	Dissolved Oxygen	7/26/2010	4.12		mg/L		F
0311	Main Hill Seeps	Dissolved Oxygen	10/25/2010	2.99		mg/L		
0311	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	99		mV		
0311	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	69.9		mV		F
0311	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	119.3		mV		F
0311	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	68.1		mV		
0311	Main Hill Seeps	pH	1/25/2010	7.18		s.u.		
0311	Main Hill Seeps	pH	5/5/2010	7.29		s.u.		F
0311	Main Hill Seeps	pH	7/26/2010	7.5		s.u.		F
0311	Main Hill Seeps	pH	10/25/2010	7.8		s.u.		
0311	Main Hill Seeps	Specific Conductance	1/25/2010	1077		umhos/cm		
0311	Main Hill Seeps	Specific Conductance	5/5/2010	1102		umhos/cm		F
0311	Main Hill Seeps	Specific Conductance	7/26/2010	1123		umhos/cm		F
0311	Main Hill Seeps	Specific Conductance	10/25/2010	1136		umhos/cm		
0311	Main Hill Seeps	Temperature	1/25/2010	13.97		C		
0311	Main Hill Seeps	Temperature	5/5/2010	14.62		C		F
0311	Main Hill Seeps	Temperature	7/26/2010	16.04		C		F
0311	Main Hill Seeps	Temperature	10/25/2010	16.71		C		
0311	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.205	0.2	ug/L	J	
0311	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.21	0.2	ug/L	J	F
0311	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0311	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.27	0.2	ug/L	J	
0311	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0311	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0311	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0311	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0311	Main Hill Seeps	Trichloroethene	1/25/2010	0.11	0.11	ug/L	U	
0311	Main Hill Seeps	Trichloroethene	5/5/2010	0.11	0.11	ug/L	U	F
0311	Main Hill Seeps	Trichloroethene	7/26/2010	0.11	0.11	ug/L	U	F
0311	Main Hill Seeps	Trichloroethene	10/25/2010	0.11	0.11	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0311	Main Hill Seeps	Tritium	1/25/2010	1260	357	pCi/L		
0311	Main Hill Seeps	Tritium	5/5/2010	763	279	pCi/L		FJ
0311	Main Hill Seeps	Tritium	7/26/2010	653	345	pCi/L		FJ
0311	Main Hill Seeps	Tritium	10/25/2010	581	219	pCi/L		J
0311	Main Hill Seeps	Turbidity	1/25/2010	35		NTU		
0311	Main Hill Seeps	Turbidity	5/5/2010	9.41		NTU		F
0311	Main Hill Seeps	Turbidity	7/26/2010	9.24		NTU		F
0311	Main Hill Seeps	Turbidity	10/25/2010	9.68		NTU		
0311	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0311	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0311	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0311	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0346	Main Hill Seeps	cis-1,2-Dichloroethene	1/26/2010	0.1	0.1	ug/L	U	
0346	Main Hill Seeps	cis-1,2-Dichloroethene	5/6/2010	0.1	0.1	ug/L	U	F
0346	Main Hill Seeps	cis-1,2-Dichloroethene	7/27/2010	0.1	0.1	ug/L	U	F
0346	Main Hill Seeps	cis-1,2-Dichloroethene	10/26/2010	0.1	0.1	ug/L	U	
0346	Main Hill Seeps	Dissolved Oxygen	1/26/2010	1.55		mg/L		
0346	Main Hill Seeps	Dissolved Oxygen	5/6/2010	0.55		mg/L		F
0346	Main Hill Seeps	Dissolved Oxygen	7/27/2010	0.4		mg/L		F
0346	Main Hill Seeps	Dissolved Oxygen	10/26/2010	0.63		mg/L		
0346	Main Hill Seeps	Oxidation Reduction Potential	1/26/2010	46.2		mV		
0346	Main Hill Seeps	Oxidation Reduction Potential	5/6/2010	34.1		mV		F
0346	Main Hill Seeps	Oxidation Reduction Potential	7/27/2010	126.3		mV		F
0346	Main Hill Seeps	Oxidation Reduction Potential	10/26/2010	53.8		mV		
0346	Main Hill Seeps	pH	1/26/2010	7.26		s.u.		
0346	Main Hill Seeps	pH	5/6/2010	7.3		s.u.		F
0346	Main Hill Seeps	pH	7/27/2010	7.25		s.u.		F
0346	Main Hill Seeps	Specific Conductance	1/26/2010	1374		umhos/cm		
0346	Main Hill Seeps	Specific Conductance	5/6/2010	1888		umhos/cm		F
0346	Main Hill Seeps	Specific Conductance	7/27/2010	1878		umhos/cm		F
0346	Main Hill Seeps	Specific Conductance	10/26/2010	1843		umhos/cm		
0346	Main Hill Seeps	Temperature	1/26/2010	12.24		C		
0346	Main Hill Seeps	Temperature	5/6/2010	13.98		C		F
0346	Main Hill Seeps	Temperature	7/27/2010	15.21		C		F
0346	Main Hill Seeps	Temperature	10/26/2010	15.19		C		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0346	Main Hill Seeps	Tetrachloroethene	1/26/2010	0.2	0.2	ug/L	U	
0346	Main Hill Seeps	Tetrachloroethene	5/6/2010	0.2	0.2	ug/L	U	F
0346	Main Hill Seeps	Tetrachloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0346	Main Hill Seeps	Tetrachloroethene	10/26/2010	0.2	0.2	ug/L	U	
0346	Main Hill Seeps	trans-1,2-Dichloroethene	1/26/2010	0.2	0.2	ug/L	U	
0346	Main Hill Seeps	trans-1,2-Dichloroethene	5/6/2010	0.2	0.2	ug/L	U	F
0346	Main Hill Seeps	trans-1,2-Dichloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0346	Main Hill Seeps	trans-1,2-Dichloroethene	10/26/2010	0.2	0.2	ug/L	U	
0346	Main Hill Seeps	Trichloroethene	1/26/2010	0.11	0.11	ug/L	U	
0346	Main Hill Seeps	Trichloroethene	5/6/2010	0.11	0.11	ug/L	U	F
0346	Main Hill Seeps	Trichloroethene	7/27/2010	0.11	0.11	ug/L	U	F
0346	Main Hill Seeps	Trichloroethene	10/26/2010	0.11	0.11	ug/L	U	
0346	Main Hill Seeps	Tritium	1/26/2010	1320	357	pCi/L		
0346	Main Hill Seeps	Tritium	5/6/2010	1830	280	pCi/L		F
0346	Main Hill Seeps	Tritium	7/27/2010	1730	344	pCi/L		F
0346	Main Hill Seeps	Tritium	10/26/2010	1710	227	pCi/L		
0346	Main Hill Seeps	Turbidity	1/26/2010	22.1		NTU		
0346	Main Hill Seeps	Turbidity	5/6/2010	3.35		NTU		F
0346	Main Hill Seeps	Turbidity	7/27/2010	9.3		NTU		F
0346	Main Hill Seeps	Turbidity	10/26/2010	49.3		NTU		
0346	Main Hill Seeps	Vinyl chloride	1/26/2010	0.2	0.2	ug/L	U	
0346	Main Hill Seeps	Vinyl chloride	5/6/2010	0.2	0.2	ug/L	U	F
0346	Main Hill Seeps	Vinyl chloride	7/27/2010	0.2	0.2	ug/L	U	F
0346	Main Hill Seeps	Vinyl chloride	10/26/2010	0.2	0.2	ug/L	U	
0379	Main Hill Seeps	cis-1,2-Dichloroethene	1/26/2010	0.1	0.1	ug/L	U	
0379	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0379	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0379	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0379	Main Hill Seeps	Dissolved Oxygen	1/26/2010	0.7		mg/L		
0379	Main Hill Seeps	Dissolved Oxygen	5/5/2010	1.86		mg/L		F
0379	Main Hill Seeps	Dissolved Oxygen	7/26/2010	1.65		mg/L		F
0379	Main Hill Seeps	Dissolved Oxygen	10/25/2010	1.3		mg/L		
0379	Main Hill Seeps	Oxidation Reduction Potential	1/26/2010	17.9		mV		
0379	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	15.4		mV		F
0379	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	71.9		mV		F
0379	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	30.3		mV		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0379	Main Hill Seeps	pH	1/26/2010	7.27		s.u.		
0379	Main Hill Seeps	pH	5/5/2010	7.31		s.u.		F
0379	Main Hill Seeps	pH	7/26/2010	7.22		s.u.		F
0379	Main Hill Seeps	pH	10/25/2010	7.38		s.u.		
0379	Main Hill Seeps	Specific Conductance	1/26/2010	2039		umhos/cm		
0379	Main Hill Seeps	Specific Conductance	5/5/2010	1995		umhos/cm		F
0379	Main Hill Seeps	Specific Conductance	7/26/2010	2106		umhos/cm		F
0379	Main Hill Seeps	Specific Conductance	10/25/2010	2027		umhos/cm		
0379	Main Hill Seeps	Temperature	1/26/2010	12.09		C		
0379	Main Hill Seeps	Temperature	5/5/2010	15.59		C		F
0379	Main Hill Seeps	Temperature	7/26/2010	16.28		C		F
0379	Main Hill Seeps	Temperature	10/25/2010	15.37		C		
0379	Main Hill Seeps	Tetrachloroethene	1/26/2010	0.632	0.2	ug/L	J	
0379	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.51	0.2	ug/L	J	F
0379	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0379	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.45	0.2	ug/L	J	
0379	Main Hill Seeps	trans-1,2-Dichloroethene	1/26/2010	0.2	0.2	ug/L	U	
0379	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0379	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0379	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0379	Main Hill Seeps	Trichloroethene	1/26/2010	1.84	0.11	ug/L		
0379	Main Hill Seeps	Trichloroethene	5/5/2010	2.09	0.11	ug/L		F
0379	Main Hill Seeps	Trichloroethene	7/26/2010	1.99	0.11	ug/L		F
0379	Main Hill Seeps	Trichloroethene	10/25/2010	1.84	0.11	ug/L		
0379	Main Hill Seeps	Tritium	1/26/2010	1720	357	pCi/L		
0379	Main Hill Seeps	Tritium	5/5/2010	479	279	pCi/L		FJ
0379	Main Hill Seeps	Tritium	7/26/2010	1660	341	pCi/L		F
0379	Main Hill Seeps	Tritium	10/25/2010	1550	221	pCi/L		
0379	Main Hill Seeps	Turbidity	1/26/2010	18		NTU		
0379	Main Hill Seeps	Turbidity	5/5/2010	9.9		NTU		F
0379	Main Hill Seeps	Turbidity	7/26/2010	19.4		NTU		F
0379	Main Hill Seeps	Turbidity	10/25/2010	69.8		NTU		
0379	Main Hill Seeps	Vinyl chloride	1/26/2010	0.2	0.2	ug/L	U	
0379	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0379	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0379	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0601	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	0.25	0.1	ug/L	J	
0601	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	
0601	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.8	0.1	ug/L	J	
0601	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.84	0.1	ug/L	J	
0601	Main Hill Seeps	Dissolved Oxygen	1/25/2010	4.7		mg/L		
0601	Main Hill Seeps	Dissolved Oxygen	5/5/2010	8.61		mg/L		
0601	Main Hill Seeps	Dissolved Oxygen	7/26/2010	7.97		mg/L		
0601	Main Hill Seeps	Dissolved Oxygen	10/25/2010	7.07		mg/L		
0601	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	213.8		mV		
0601	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	123.2		mV		
0601	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	86.1		mV		
0601	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	71.6		mV		
0601	Main Hill Seeps	pH	1/25/2010	6.02		s.u.		
0601	Main Hill Seeps	pH	5/5/2010	8.5		s.u.		
0601	Main Hill Seeps	pH	7/26/2010	7.2		s.u.		
0601	Main Hill Seeps	pH	10/25/2010	7.3		s.u.		
0601	Main Hill Seeps	Radium-226	1/25/2010	1.46	0.392	pCi/L		
0601	Main Hill Seeps	Radium-226	5/5/2010	1.12	0.347	pCi/L		
0601	Main Hill Seeps	Radium-226	7/26/2010	1.31	0.475	pCi/L		J
0601	Main Hill Seeps	Radium-226	10/25/2010	0.147	0.302	pCi/L	U	
0601	Main Hill Seeps	Radium-228	1/25/2010	0.853	0.766	pCi/L		J
0601	Main Hill Seeps	Radium-228	5/5/2010	0.72	0.993	pCi/L	U	
0601	Main Hill Seeps	Radium-228	7/26/2010	0.203	0.743	pCi/L	U	
0601	Main Hill Seeps	Radium-228	10/25/2010	1.23	0.5	pCi/L		J
0601	Main Hill Seeps	Specific Conductance	1/25/2010	1472		umhos/cm		
0601	Main Hill Seeps	Specific Conductance	5/5/2010	1747		umhos/cm		
0601	Main Hill Seeps	Specific Conductance	7/26/2010	1.642		umhos/cm		
0601	Main Hill Seeps	Specific Conductance	10/25/2010	1793		umhos/cm		
0601	Main Hill Seeps	Strontium-90	1/25/2010	0.691	0.418	pCi/L		J
0601	Main Hill Seeps	Strontium-90	5/5/2010	0.539	0.872	pCi/L	U	
0601	Main Hill Seeps	Strontium-90	7/26/2010	1.43	0.97	pCi/L		J
0601	Main Hill Seeps	Strontium-90	10/25/2010	2.9	0.614	pCi/L		
0601	Main Hill Seeps	Temperature	1/25/2010	12.07		C		
0601	Main Hill Seeps	Temperature	5/5/2010	19.88		C		
0601	Main Hill Seeps	Temperature	7/26/2010	16.52		C		
0601	Main Hill Seeps	Temperature	10/25/2010	16.7		C		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0601	Main Hill Seeps	Tetrachloroethene	1/25/2010	6.15	0.2	ug/L		
0601	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	Tetrachloroethene	7/26/2010	11.4	0.2	ug/L		
0601	Main Hill Seeps	Tetrachloroethene	10/25/2010	6.13	0.2	ug/L		
0601	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	Trichloroethene	1/25/2010	1.95	0.11	ug/L		
0601	Main Hill Seeps	Trichloroethene	5/5/2010	0.11	0.11	ug/L	U	
0601	Main Hill Seeps	Trichloroethene	7/26/2010	7.46	0.11	ug/L		
0601	Main Hill Seeps	Trichloroethene	10/25/2010	7.48	0.11	ug/L		
0601	Main Hill Seeps	Tritium	1/25/2010	27400	357	pCi/L		
0601	Main Hill Seeps	Tritium	5/5/2010	89.3	279	pCi/L	U	
0601	Main Hill Seeps	Tritium	7/26/2010	68100	341	pCi/L		
0601	Main Hill Seeps	Tritium	10/25/2010	96100	224	pCi/L		
0601	Main Hill Seeps	Turbidity	1/25/2010	81.6		NTU		
0601	Main Hill Seeps	Turbidity	10/25/2010	61.6		NTU		
0601	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	
0601	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0602	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	34.7	0.1	ug/L		
0602	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	12.2	0.1	ug/L		
0602	Main Hill Seeps	Dissolved Oxygen	1/25/2010	8.6		mg/L		
0602	Main Hill Seeps	Dissolved Oxygen	5/5/2010	11.69		mg/L		
0602	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	220		mV		
0602	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	128.2		mV		
0602	Main Hill Seeps	pH	1/25/2010	5.61		s.u.		
0602	Main Hill Seeps	pH	5/5/2010	7.39		s.u.		
0602	Main Hill Seeps	Specific Conductance	1/25/2010	1028		umhos/cm		
0602	Main Hill Seeps	Specific Conductance	5/5/2010	1896		umhos/cm		
0602	Main Hill Seeps	Temperature	1/25/2010	5.57		C		
0602	Main Hill Seeps	Temperature	5/5/2010	17.49		C		
0602	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.221	0.2	ug/L	J	
0602	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0602	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.529	0.2	ug/L	J	
0602	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.26	0.2	ug/L	J	
0602	Main Hill Seeps	Trichloroethene	1/25/2010	54.5	0.11	ug/L		
0602	Main Hill Seeps	Trichloroethene	5/5/2010	23.3	0.11	ug/L		
0602	Main Hill Seeps	Tritium	1/25/2010	11900	356	pCi/L		
0602	Main Hill Seeps	Tritium	5/5/2010	14700	278	pCi/L		
0602	Main Hill Seeps	Turbidity	1/25/2010	14.7		NTU		
0602	Main Hill Seeps	Vinyl chloride	1/25/2010	0.805	0.2	ug/L	J	
0602	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	4.52	0.1	ug/L		
0605	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	4.49	0.1	ug/L		
0605	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	1.91	0.1	ug/L		
0605	Main Hill Seeps	cis-1,2-Dichloroethene	12/7/2010	6.25	0.1	ug/L		
0605	Main Hill Seeps	Dissolved Oxygen	1/25/2010	7.39		mg/L		
0605	Main Hill Seeps	Dissolved Oxygen	5/5/2010	11.08		mg/L		
0605	Main Hill Seeps	Dissolved Oxygen	7/26/2010	9.29		mg/L		
0605	Main Hill Seeps	Dissolved Oxygen	12/8/2010	8.85		mg/L		
0605	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	235		mV		
0605	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	133.5		mV		
0605	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	43.8		mV		
0605	Main Hill Seeps	Oxidation Reduction Potential	12/8/2010	131.8		mV		
0605	Main Hill Seeps	pH	1/25/2010	5.82		s.u.		
0605	Main Hill Seeps	pH	5/5/2010	7.67		s.u.		
0605	Main Hill Seeps	pH	7/26/2010	7.99		s.u.		
0605	Main Hill Seeps	pH	12/8/2010	7.1		s.u.		
0605	Main Hill Seeps	Specific Conductance	1/25/2010	2119		umhos/cm		
0605	Main Hill Seeps	Specific Conductance	5/5/2010	2410		umhos/cm		
0605	Main Hill Seeps	Specific Conductance	7/26/2010	1.952		umhos/cm		
0605	Main Hill Seeps	Specific Conductance	12/8/2010	1726		umhos/cm		
0605	Main Hill Seeps	Temperature	1/25/2010	7.82		C		
0605	Main Hill Seeps	Temperature	5/5/2010	13.51		C		
0605	Main Hill Seeps	Temperature	7/26/2010	18.08		C		
0605	Main Hill Seeps	Temperature	12/8/2010	8.37		C		
0605	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.23	0.2	ug/L	J	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0605	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	Tetrachloroethene	12/7/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.31	0.2	ug/L	J	
0605	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.27	0.2	ug/L	J	
0605	Main Hill Seeps	trans-1,2-Dichloroethene	12/7/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	Trichloroethene	1/25/2010	9.47	0.11	ug/L		
0605	Main Hill Seeps	Trichloroethene	5/5/2010	17.6	0.11	ug/L		
0605	Main Hill Seeps	Trichloroethene	7/26/2010	14.4	0.11	ug/L		
0605	Main Hill Seeps	Trichloroethene	12/7/2010	10	0.11	ug/L		
0605	Main Hill Seeps	Tritium	1/25/2010	12500	356	pCi/L		
0605	Main Hill Seeps	Tritium	5/5/2010	16000	278	pCi/L		
0605	Main Hill Seeps	Tritium	7/26/2010	18500	344	pCi/L		
0605	Main Hill Seeps	Tritium	12/7/2010	16700	303	pCi/L		
0605	Main Hill Seeps	Turbidity	1/25/2010	57.3		NTU		
0605	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	
0605	Main Hill Seeps	Vinyl chloride	12/7/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.51	0.1	ug/L	J	
0606	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.61	0.1	ug/L	J	
0606	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.28	0.1	ug/L	J	
0606	Main Hill Seeps	Dissolved Oxygen	5/5/2010	11.01		mg/L		
0606	Main Hill Seeps	Dissolved Oxygen	7/26/2010	6.36		mg/L		
0606	Main Hill Seeps	Dissolved Oxygen	10/25/2010	7.61		mg/L		
0606	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	140.4		mV		
0606	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	41.7		mV		
0606	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	66		mV		
0606	Main Hill Seeps	pH	5/5/2010	6.97		s.u.		
0606	Main Hill Seeps	pH	7/26/2010	7.69		s.u.		
0606	Main Hill Seeps	Specific Conductance	5/5/2010	1117		umhos/cm		
0606	Main Hill Seeps	Specific Conductance	7/26/2010	2.2		umhos/cm		
0606	Main Hill Seeps	Specific Conductance	10/25/2010	2130		umhos/cm		
0606	Main Hill Seeps	Temperature	5/5/2010	13.05		C		
0606	Main Hill Seeps	Temperature	7/26/2010	20.1		C		
0606	Main Hill Seeps	Temperature	10/25/2010	16.09		C		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0606	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	Trichloroethene	5/5/2010	3.69	0.11	ug/L		
0606	Main Hill Seeps	Trichloroethene	7/26/2010	3.16	0.11	ug/L		
0606	Main Hill Seeps	Trichloroethene	10/25/2010	1.78	0.11	ug/L		
0606	Main Hill Seeps	Tritium	5/5/2010	13200	279	pCi/L		
0606	Main Hill Seeps	Tritium	7/26/2010	14600	343	pCi/L		
0606	Main Hill Seeps	Tritium	10/25/2010	13200	221	pCi/L		
0606	Main Hill Seeps	Turbidity	10/25/2010	48.7		NTU		
0606	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	
0606	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	0.485	0.1	ug/L	J	
0607	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	3.11	0.1	ug/L		
0607	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.74	0.1	ug/L	J	
0607	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.52	0.1	ug/L	J	
0607	Main Hill Seeps	Dissolved Oxygen	1/25/2010	5.73		mg/L		
0607	Main Hill Seeps	Dissolved Oxygen	5/5/2010	6.52		mg/L		
0607	Main Hill Seeps	Dissolved Oxygen	7/26/2010	6.87		mg/L		
0607	Main Hill Seeps	Dissolved Oxygen	10/25/2010	7.68		mg/L		
0607	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	249		mV		
0607	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	129.5		mV		
0607	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	59.4		mV		
0607	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	72		mV		
0607	Main Hill Seeps	pH	1/25/2010	5.91		s.u.		
0607	Main Hill Seeps	pH	5/5/2010	7.17		s.u.		
0607	Main Hill Seeps	pH	7/26/2010	7.53		s.u.		
0607	Main Hill Seeps	pH	10/25/2010	7.6		s.u.		
0607	Main Hill Seeps	Specific Conductance	1/25/2010	2236		umhos/cm		
0607	Main Hill Seeps	Specific Conductance	5/5/2010	1875		umhos/cm		
0607	Main Hill Seeps	Specific Conductance	7/26/2010	1.791		umhos/cm		
0607	Main Hill Seeps	Specific Conductance	10/25/2010	2173		umhos/cm		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0607	Main Hill Seeps	Temperature	1/25/2010	11.13		C		
0607	Main Hill Seeps	Temperature	5/5/2010	11.97		C		
0607	Main Hill Seeps	Temperature	7/26/2010	15.64		C		
0607	Main Hill Seeps	Temperature	10/25/2010	15.32		C		
0607	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	Trichloroethene	1/25/2010	2.74	0.11	ug/L		
0607	Main Hill Seeps	Trichloroethene	5/5/2010	11	0.11	ug/L		
0607	Main Hill Seeps	Trichloroethene	7/26/2010	4.79	0.11	ug/L		
0607	Main Hill Seeps	Trichloroethene	10/25/2010	3.98	0.11	ug/L		
0607	Main Hill Seeps	Tritium	1/25/2010	2910	357	pCi/L		
0607	Main Hill Seeps	Tritium	5/5/2010	3880	277	pCi/L		
0607	Main Hill Seeps	Tritium	7/26/2010	6630	349	pCi/L		
0607	Main Hill Seeps	Tritium	10/25/2010	8840	217	pCi/L		
0607	Main Hill Seeps	Turbidity	1/25/2010	29.3		NTU		
0607	Main Hill Seeps	Turbidity	10/25/2010	174		NTU		
0607	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	
0607	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	cis-1,2-Dichloroethene	1/25/2010	0.1	0.1	ug/L	U	
0608	Main Hill Seeps	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	
0608	Main Hill Seeps	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	
0608	Main Hill Seeps	cis-1,2-Dichloroethene	10/25/2010	0.43	0.1	ug/L	J	
0608	Main Hill Seeps	Dissolved Oxygen	1/25/2010	11.41		mg/L		
0608	Main Hill Seeps	Dissolved Oxygen	5/5/2010	9.8		mg/L		
0608	Main Hill Seeps	Dissolved Oxygen	7/26/2010	8.2		mg/L		
0608	Main Hill Seeps	Dissolved Oxygen	10/25/2010	7.56		mg/L		
0608	Main Hill Seeps	Oxidation Reduction Potential	1/25/2010	202		mV		
0608	Main Hill Seeps	Oxidation Reduction Potential	5/5/2010	119.9		mV		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0608	Main Hill Seeps	Oxidation Reduction Potential	7/26/2010	81.2		mV		
0608	Main Hill Seeps	Oxidation Reduction Potential	10/25/2010	84.4		mV		
0608	Main Hill Seeps	pH	1/25/2010	6.15		s.u.		
0608	Main Hill Seeps	pH	5/5/2010	7.97		s.u.		
0608	Main Hill Seeps	pH	7/26/2010	7.72		s.u.		
0608	Main Hill Seeps	pH	10/25/2010	7.52		s.u.		
0608	Main Hill Seeps	Specific Conductance	1/25/2010	1374		umhos/cm		
0608	Main Hill Seeps	Specific Conductance	5/5/2010	1922		umhos/cm		
0608	Main Hill Seeps	Specific Conductance	7/26/2010	2.074		umhos/cm		
0608	Main Hill Seeps	Specific Conductance	10/25/2010	2045		umhos/cm		
0608	Main Hill Seeps	Temperature	1/25/2010	4.39		C		
0608	Main Hill Seeps	Temperature	5/5/2010	16.04		C		
0608	Main Hill Seeps	Temperature	7/26/2010	22.89		C		
0608	Main Hill Seeps	Temperature	10/25/2010	15.1		C		
0608	Main Hill Seeps	Tetrachloroethene	1/25/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	Trichloroethene	1/25/2010	0.378	0.11	ug/L	J	
0608	Main Hill Seeps	Trichloroethene	5/5/2010	0.68	0.11	ug/L	J	
0608	Main Hill Seeps	Trichloroethene	7/26/2010	0.28	0.11	ug/L	J	
0608	Main Hill Seeps	Trichloroethene	10/25/2010	3.07	0.11	ug/L		
0608	Main Hill Seeps	Tritium	1/25/2010	10800	357	pCi/L		
0608	Main Hill Seeps	Tritium	5/5/2010	11800	278	pCi/L		
0608	Main Hill Seeps	Tritium	7/26/2010	14900	345	pCi/L		
0608	Main Hill Seeps	Tritium	10/25/2010	12800	218	pCi/L		
0608	Main Hill Seeps	Turbidity	1/25/2010	1000		NTU		
0608	Main Hill Seeps	Turbidity	10/25/2010	47.3		NTU		
0608	Main Hill Seeps	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	
0608	Main Hill Seeps	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0124	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/25/2010	0.1	0.1	ug/L	U	
0124	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0124	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0124	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0124	Wells 0315-0347 Area	Dissolved Oxygen	1/25/2010	1.5		mg/L		
0124	Wells 0315-0347 Area	Dissolved Oxygen	5/5/2010	0.48		mg/L		F
0124	Wells 0315-0347 Area	Dissolved Oxygen	7/26/2010	1.31		mg/L		F
0124	Wells 0315-0347 Area	Dissolved Oxygen	10/25/2010	0.35		mg/L		
0124	Wells 0315-0347 Area	Oxidation Reduction Potential	1/25/2010	115		mV		
0124	Wells 0315-0347 Area	Oxidation Reduction Potential	5/5/2010	71.8		mV		F
0124	Wells 0315-0347 Area	Oxidation Reduction Potential	7/26/2010	96.6		mV		F
0124	Wells 0315-0347 Area	Oxidation Reduction Potential	10/25/2010	65		mV		
0124	Wells 0315-0347 Area	pH	1/25/2010	6.84		s.u.		
0124	Wells 0315-0347 Area	pH	5/5/2010	7.3		s.u.		F
0124	Wells 0315-0347 Area	pH	7/26/2010	7.17		s.u.		F
0124	Wells 0315-0347 Area	pH	10/25/2010	7.75		s.u.		
0124	Wells 0315-0347 Area	Specific Conductance	1/25/2010	1356		umhos/cm		
0124	Wells 0315-0347 Area	Specific Conductance	5/5/2010	1389		umhos/cm		F
0124	Wells 0315-0347 Area	Specific Conductance	7/26/2010	1453		umhos/cm		F
0124	Wells 0315-0347 Area	Specific Conductance	10/25/2010	1416		umhos/cm		
0124	Wells 0315-0347 Area	Temperature	1/25/2010	12.85		C		
0124	Wells 0315-0347 Area	Temperature	5/5/2010	15.03		C		F
0124	Wells 0315-0347 Area	Temperature	7/26/2010	15.83		C		F
0124	Wells 0315-0347 Area	Temperature	10/25/2010	14.62		C		
0124	Wells 0315-0347 Area	Tetrachloroethene	1/25/2010	0.2	0.2	ug/L	U	
0124	Wells 0315-0347 Area	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0124	Wells 0315-0347 Area	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0124	Wells 0315-0347 Area	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0124	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0124	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0124	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0124	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0124	Wells 0315-0347 Area	Trichloroethene	1/25/2010	0.11	0.11	ug/L	U	
0124	Wells 0315-0347 Area	Trichloroethene	5/5/2010	0.11	0.11	ug/L	U	F
0124	Wells 0315-0347 Area	Trichloroethene	7/26/2010	0.11	0.11	ug/L	U	F
0124	Wells 0315-0347 Area	Trichloroethene	10/25/2010	0.11	0.11	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0124	Wells 0315-0347 Area	Turbidity	1/25/2010	9.66		NTU		
0124	Wells 0315-0347 Area	Turbidity	5/5/2010	7.31		NTU		F
0124	Wells 0315-0347 Area	Turbidity	7/26/2010	8.67		NTU		F
0124	Wells 0315-0347 Area	Turbidity	10/25/2010	20.7		NTU		
0124	Wells 0315-0347 Area	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0124	Wells 0315-0347 Area	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0124	Wells 0315-0347 Area	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0124	Wells 0315-0347 Area	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0126	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/25/2010	0.1	0.1	ug/L	U	
0126	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0126	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0126	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0126	Wells 0315-0347 Area	Dissolved Oxygen	1/25/2010	0.46		mg/L		
0126	Wells 0315-0347 Area	Dissolved Oxygen	5/5/2010	0.44		mg/L		F
0126	Wells 0315-0347 Area	Dissolved Oxygen	7/26/2010	0.61		mg/L		F
0126	Wells 0315-0347 Area	Dissolved Oxygen	10/25/2010	0.61		mg/L		
0126	Wells 0315-0347 Area	Oxidation Reduction Potential	1/25/2010	106.9		mV		
0126	Wells 0315-0347 Area	Oxidation Reduction Potential	5/5/2010	77.4		mV		F
0126	Wells 0315-0347 Area	Oxidation Reduction Potential	7/26/2010	123.4		mV		F
0126	Wells 0315-0347 Area	Oxidation Reduction Potential	10/25/2010	52.9		mV		
0126	Wells 0315-0347 Area	pH	1/25/2010	6.75		s.u.		
0126	Wells 0315-0347 Area	pH	5/5/2010	7.26		s.u.		F
0126	Wells 0315-0347 Area	pH	7/26/2010	7.14		s.u.		F
0126	Wells 0315-0347 Area	Specific Conductance	1/25/2010	1457		umhos/cm		
0126	Wells 0315-0347 Area	Specific Conductance	5/5/2010	1500		umhos/cm		F
0126	Wells 0315-0347 Area	Specific Conductance	7/26/2010	1505		umhos/cm		F
0126	Wells 0315-0347 Area	Specific Conductance	10/25/2010	1468		umhos/cm		
0126	Wells 0315-0347 Area	Temperature	1/25/2010	12.71		C		
0126	Wells 0315-0347 Area	Temperature	5/5/2010	15.36		C		F
0126	Wells 0315-0347 Area	Temperature	7/26/2010	15.65		C		F
0126	Wells 0315-0347 Area	Temperature	10/25/2010	14.8		C		
0126	Wells 0315-0347 Area	Tetrachloroethene	1/25/2010	1.09	0.2	ug/L		
0126	Wells 0315-0347 Area	Tetrachloroethene	5/5/2010	1.13	0.2	ug/L		F
0126	Wells 0315-0347 Area	Tetrachloroethene	7/26/2010	0.73	0.2	ug/L	J	F
0126	Wells 0315-0347 Area	Tetrachloroethene	10/25/2010	1.03	0.2	ug/L		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0126	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/25/2010	0.2	0.2	ug/L	U	
0126	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0126	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0126	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0126	Wells 0315-0347 Area	Trichloroethene	1/25/2010	0.11	0.11	ug/L	U	
0126	Wells 0315-0347 Area	Trichloroethene	5/5/2010	0.11	0.11	ug/L	U	F
0126	Wells 0315-0347 Area	Trichloroethene	7/26/2010	0.11	0.11	ug/L	U	F
0126	Wells 0315-0347 Area	Trichloroethene	10/25/2010	0.11	0.11	ug/L	U	
0126	Wells 0315-0347 Area	Turbidity	1/25/2010	4.03		NTU		
0126	Wells 0315-0347 Area	Turbidity	5/5/2010	3.13		NTU		F
0126	Wells 0315-0347 Area	Turbidity	7/26/2010	1.52		NTU		F
0126	Wells 0315-0347 Area	Turbidity	10/25/2010	1.33		NTU		
0126	Wells 0315-0347 Area	Vinyl chloride	1/25/2010	0.2	0.2	ug/L	U	
0126	Wells 0315-0347 Area	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0126	Wells 0315-0347 Area	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0126	Wells 0315-0347 Area	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0315	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/26/2010	0.1	0.1	ug/L	U	
0315	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0315	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/26/2010	0.1	0.1	ug/L	U	F
0315	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0315	Wells 0315-0347 Area	Dissolved Oxygen	1/26/2010	1.84		mg/L		
0315	Wells 0315-0347 Area	Dissolved Oxygen	5/5/2010	0.84		mg/L		F
0315	Wells 0315-0347 Area	Dissolved Oxygen	7/26/2010	1.23		mg/L		F
0315	Wells 0315-0347 Area	Dissolved Oxygen	10/25/2010	1.41		mg/L		
0315	Wells 0315-0347 Area	Oxidation Reduction Potential	1/26/2010	56.3		mV		
0315	Wells 0315-0347 Area	Oxidation Reduction Potential	5/5/2010	30.6		mV		F
0315	Wells 0315-0347 Area	Oxidation Reduction Potential	7/26/2010	84.4		mV		F
0315	Wells 0315-0347 Area	Oxidation Reduction Potential	10/25/2010	30.1		mV		
0315	Wells 0315-0347 Area	pH	1/26/2010	7.05		s.u.		
0315	Wells 0315-0347 Area	pH	5/5/2010	7.32		s.u.		F
0315	Wells 0315-0347 Area	pH	7/26/2010	7.21		s.u.		F
0315	Wells 0315-0347 Area	Specific Conductance	1/26/2010	1586		umhos/cm		
0315	Wells 0315-0347 Area	Specific Conductance	5/5/2010	1771		umhos/cm		F
0315	Wells 0315-0347 Area	Specific Conductance	7/26/2010	1711		umhos/cm		F
0315	Wells 0315-0347 Area	Specific Conductance	10/25/2010	1698		umhos/cm		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0315	Wells 0315-0347 Area	Temperature	1/26/2010	11.48		C		
0315	Wells 0315-0347 Area	Temperature	5/5/2010	14.31		C		F
0315	Wells 0315-0347 Area	Temperature	7/26/2010	15.62		C		F
0315	Wells 0315-0347 Area	Temperature	10/25/2010	14.24		C		
0315	Wells 0315-0347 Area	Tetrachloroethene	1/26/2010	0.2	0.2	ug/L	U	
0315	Wells 0315-0347 Area	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0315	Wells 0315-0347 Area	Tetrachloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0315	Wells 0315-0347 Area	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0315	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/26/2010	0.2	0.2	ug/L	U	
0315	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0315	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/26/2010	0.2	0.2	ug/L	U	F
0315	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0315	Wells 0315-0347 Area	Trichloroethene	1/26/2010	11.8	0.11	ug/L		
0315	Wells 0315-0347 Area	Trichloroethene	5/5/2010	11.1	0.11	ug/L		F
0315	Wells 0315-0347 Area	Trichloroethene	7/26/2010	9.48	0.11	ug/L		F
0315	Wells 0315-0347 Area	Trichloroethene	10/25/2010	15.2	0.11	ug/L		
0315	Wells 0315-0347 Area	Turbidity	1/26/2010	593		NTU		
0315	Wells 0315-0347 Area	Turbidity	5/5/2010	234		NTU		F
0315	Wells 0315-0347 Area	Turbidity	7/26/2010	111		NTU		F
0315	Wells 0315-0347 Area	Turbidity	10/25/2010	48.7		NTU		
0315	Wells 0315-0347 Area	Vinyl chloride	1/26/2010	0.2	0.2	ug/L	U	
0315	Wells 0315-0347 Area	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0315	Wells 0315-0347 Area	Vinyl chloride	7/26/2010	0.2	0.2	ug/L	U	F
0315	Wells 0315-0347 Area	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	
0347	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/27/2010	0.1	0.1	ug/L	U	
0347	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/5/2010	0.1	0.1	ug/L	U	F
0347	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/27/2010	0.1	0.1	ug/L	U	F
0347	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/25/2010	0.1	0.1	ug/L	U	
0347	Wells 0315-0347 Area	Dissolved Oxygen	1/27/2010	0.6		mg/L		
0347	Wells 0315-0347 Area	Dissolved Oxygen	5/5/2010	0.36		mg/L		F
0347	Wells 0315-0347 Area	Dissolved Oxygen	7/27/2010	5.31		mg/L		F
0347	Wells 0315-0347 Area	Dissolved Oxygen	10/25/2010	0.31		mg/L		
0347	Wells 0315-0347 Area	Oxidation Reduction Potential	1/27/2010	143.1		mV		
0347	Wells 0315-0347 Area	Oxidation Reduction Potential	5/5/2010	45.7		mV		F
0347	Wells 0315-0347 Area	Oxidation Reduction Potential	7/27/2010	98		mV		F
0347	Wells 0315-0347 Area	Oxidation Reduction Potential	10/25/2010	25.2		mV		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0347	Wells 0315-0347 Area	pH	1/27/2010	6.97		s.u.		
0347	Wells 0315-0347 Area	pH	5/5/2010	7.2		s.u.		F
0347	Wells 0315-0347 Area	pH	7/27/2010	7.17		s.u.		F
0347	Wells 0315-0347 Area	pH	10/25/2010	7.48		s.u.		
0347	Wells 0315-0347 Area	Specific Conductance	1/27/2010	1656		umhos/cm		
0347	Wells 0315-0347 Area	Specific Conductance	5/5/2010	1631		umhos/cm		F
0347	Wells 0315-0347 Area	Specific Conductance	7/27/2010	1622		umhos/cm		F
0347	Wells 0315-0347 Area	Specific Conductance	10/25/2010	1604		umhos/cm		
0347	Wells 0315-0347 Area	Temperature	1/27/2010	12.29		C		
0347	Wells 0315-0347 Area	Temperature	5/5/2010	14.51		C		F
0347	Wells 0315-0347 Area	Temperature	7/27/2010	14.88		C		F
0347	Wells 0315-0347 Area	Temperature	10/25/2010	14.68		C		
0347	Wells 0315-0347 Area	Tetrachloroethene	1/27/2010	0.2	0.2	ug/L	U	
0347	Wells 0315-0347 Area	Tetrachloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0347	Wells 0315-0347 Area	Tetrachloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0347	Wells 0315-0347 Area	Tetrachloroethene	10/25/2010	0.2	0.2	ug/L	U	
0347	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/27/2010	0.2	0.2	ug/L	U	
0347	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/5/2010	0.2	0.2	ug/L	U	F
0347	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0347	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/25/2010	0.2	0.2	ug/L	U	
0347	Wells 0315-0347 Area	Trichloroethene	1/27/2010	32.3	0.11	ug/L		
0347	Wells 0315-0347 Area	Trichloroethene	5/5/2010	26.9	0.11	ug/L		F
0347	Wells 0315-0347 Area	Trichloroethene	7/27/2010	18.9	0.11	ug/L		FJ
0347	Wells 0315-0347 Area	Trichloroethene	10/25/2010	27.9	0.11	ug/L		
0347	Wells 0315-0347 Area	Tritium	1/27/2010	6530	356	pCi/L		
0347	Wells 0315-0347 Area	Tritium	5/5/2010	3670	278	pCi/L		F
0347	Wells 0315-0347 Area	Tritium	7/27/2010	6710	348	pCi/L		F
0347	Wells 0315-0347 Area	Tritium	10/25/2010	6490	216	pCi/L		
0347	Wells 0315-0347 Area	Turbidity	1/27/2010	52		NTU		
0347	Wells 0315-0347 Area	Turbidity	5/5/2010	9.9		NTU		F
0347	Wells 0315-0347 Area	Turbidity	7/27/2010	34		NTU		F
0347	Wells 0315-0347 Area	Turbidity	10/25/2010	42.4		NTU		
0347	Wells 0315-0347 Area	Vinyl chloride	1/27/2010	0.2	0.2	ug/L	U	
0347	Wells 0315-0347 Area	Vinyl chloride	5/5/2010	0.2	0.2	ug/L	U	F
0347	Wells 0315-0347 Area	Vinyl chloride	7/27/2010	0.2	0.2	ug/L	U	F
0347	Wells 0315-0347 Area	Vinyl chloride	10/25/2010	0.2	0.2	ug/L	U	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0386	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/26/2010	0.1	0.1	ug/L	U	
0386	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/6/2010	0.1	0.1	ug/L	U	F
0386	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/27/2010	0.1	0.1	ug/L	U	F
0386	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/26/2010	0.1	0.1	ug/L	U	
0386	Wells 0315-0347 Area	Dissolved Oxygen	1/26/2010	2.91		mg/L		
0386	Wells 0315-0347 Area	Dissolved Oxygen	5/6/2010	2.07		mg/L		F
0386	Wells 0315-0347 Area	Dissolved Oxygen	7/27/2010	3.34		mg/L		F
0386	Wells 0315-0347 Area	Dissolved Oxygen	10/26/2010	1.77		mg/L		
0386	Wells 0315-0347 Area	Oxidation Reduction Potential	1/26/2010	125.6		mV		
0386	Wells 0315-0347 Area	Oxidation Reduction Potential	5/6/2010	51.3		mV		F
0386	Wells 0315-0347 Area	Oxidation Reduction Potential	7/27/2010	103.4		mV		F
0386	Wells 0315-0347 Area	Oxidation Reduction Potential	10/26/2010	82.4		mV		
0386	Wells 0315-0347 Area	pH	1/26/2010	6.67		s.u.		
0386	Wells 0315-0347 Area	pH	5/6/2010	7.37		s.u.		F
0386	Wells 0315-0347 Area	pH	7/27/2010	7.09		s.u.		F
0386	Wells 0315-0347 Area	Specific Conductance	1/26/2010	955		umhos/cm		
0386	Wells 0315-0347 Area	Specific Conductance	5/6/2010	1119		umhos/cm		F
0386	Wells 0315-0347 Area	Specific Conductance	7/27/2010	1620		umhos/cm		F
0386	Wells 0315-0347 Area	Specific Conductance	10/26/2010	1102		umhos/cm		
0386	Wells 0315-0347 Area	Temperature	1/26/2010	9.8		C		
0386	Wells 0315-0347 Area	Temperature	5/6/2010	12.68		C		F
0386	Wells 0315-0347 Area	Temperature	7/27/2010	15.11		C		F
0386	Wells 0315-0347 Area	Temperature	10/26/2010	13.93		C		
0386	Wells 0315-0347 Area	Tetrachloroethene	1/26/2010	0.2	0.2	ug/L	U	
0386	Wells 0315-0347 Area	Tetrachloroethene	5/6/2010	0.2	0.2	ug/L	U	F
0386	Wells 0315-0347 Area	Tetrachloroethene	7/27/2010	0.36	0.2	ug/L	J	F
0386	Wells 0315-0347 Area	Tetrachloroethene	10/26/2010	0.27	0.2	ug/L	J	
0386	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/26/2010	0.2	0.2	ug/L	U	
0386	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/6/2010	0.2	0.2	ug/L	U	F
0386	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0386	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/26/2010	0.2	0.2	ug/L	U	
0386	Wells 0315-0347 Area	Trichloroethene	1/26/2010	0.11	0.11	ug/L	U	
0386	Wells 0315-0347 Area	Trichloroethene	5/6/2010	0.94	0.11	ug/L	J	F
0386	Wells 0315-0347 Area	Trichloroethene	7/27/2010	1.9	0.11	ug/L		F
0386	Wells 0315-0347 Area	Trichloroethene	10/26/2010	3.09	0.11	ug/L		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0386	Wells 0315-0347 Area	Turbidity	1/26/2010	46.3		NTU		
0386	Wells 0315-0347 Area	Turbidity	5/6/2010	9.9		NTU		F
0386	Wells 0315-0347 Area	Turbidity	7/27/2010	9.42		NTU		F
0386	Wells 0315-0347 Area	Turbidity	10/26/2010	41.5		NTU		
0386	Wells 0315-0347 Area	Vinyl chloride	1/26/2010	0.2	0.2	ug/L	U	
0386	Wells 0315-0347 Area	Vinyl chloride	5/6/2010	0.2	0.2	ug/L	U	F
0386	Wells 0315-0347 Area	Vinyl chloride	7/27/2010	0.2	0.2	ug/L	U	F
0386	Wells 0315-0347 Area	Vinyl chloride	10/26/2010	0.2	0.2	ug/L	U	
0387	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/26/2010	0.1	0.1	ug/L	U	
0387	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/6/2010	0.1	0.1	ug/L	U	F
0387	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/27/2010	0.1	0.1	ug/L	U	F
0387	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/26/2010	0.1	0.1	ug/L	U	
0387	Wells 0315-0347 Area	Dissolved Oxygen	1/26/2010	0.32		mg/L		
0387	Wells 0315-0347 Area	Dissolved Oxygen	5/6/2010	0.47		mg/L		F
0387	Wells 0315-0347 Area	Dissolved Oxygen	7/27/2010	0.39		mg/L		F
0387	Wells 0315-0347 Area	Dissolved Oxygen	10/26/2010	0.5		mg/L		
0387	Wells 0315-0347 Area	Oxidation Reduction Potential	1/26/2010	43.8		mV		
0387	Wells 0315-0347 Area	Oxidation Reduction Potential	5/6/2010	32.2		mV		F
0387	Wells 0315-0347 Area	Oxidation Reduction Potential	7/27/2010	110.6		mV		F
0387	Wells 0315-0347 Area	Oxidation Reduction Potential	10/26/2010	54.2		mV		
0387	Wells 0315-0347 Area	pH	1/26/2010	7		s.u.		
0387	Wells 0315-0347 Area	pH	5/6/2010	7.05		s.u.		F
0387	Wells 0315-0347 Area	pH	7/27/2010	6.94		s.u.		F
0387	Wells 0315-0347 Area	Specific Conductance	1/26/2010	1506		umhos/cm		
0387	Wells 0315-0347 Area	Specific Conductance	5/6/2010	1481		umhos/cm		F
0387	Wells 0315-0347 Area	Specific Conductance	7/27/2010	1492		umhos/cm		F
0387	Wells 0315-0347 Area	Specific Conductance	10/26/2010	1442		umhos/cm		
0387	Wells 0315-0347 Area	Temperature	1/26/2010	11.65		C		
0387	Wells 0315-0347 Area	Temperature	5/6/2010	13.57		C		F
0387	Wells 0315-0347 Area	Temperature	7/27/2010	14.81		C		F
0387	Wells 0315-0347 Area	Temperature	10/26/2010	14.1		C		
0387	Wells 0315-0347 Area	Tetrachloroethene	1/26/2010	0.222	0.2	ug/L	J	
0387	Wells 0315-0347 Area	Tetrachloroethene	5/6/2010	0.23	0.2	ug/L	J	F
0387	Wells 0315-0347 Area	Tetrachloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0387	Wells 0315-0347 Area	Tetrachloroethene	10/26/2010	0.27	0.2	ug/L	J	

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0387	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/26/2010	0.2	0.2	ug/L	U	
0387	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/6/2010	0.2	0.2	ug/L	U	F
0387	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0387	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/26/2010	0.2	0.2	ug/L	U	
0387	Wells 0315-0347 Area	Trichloroethene	1/26/2010	0.113	0.11	ug/L	J	
0387	Wells 0315-0347 Area	Trichloroethene	5/6/2010	0.13	0.11	ug/L	J	F
0387	Wells 0315-0347 Area	Trichloroethene	7/27/2010	0.11	0.11	ug/L	U	F
0387	Wells 0315-0347 Area	Trichloroethene	10/26/2010	0.12	0.11	ug/L	J	
0387	Wells 0315-0347 Area	Turbidity	1/26/2010	11.6		NTU		
0387	Wells 0315-0347 Area	Turbidity	5/6/2010	9.5		NTU		F
0387	Wells 0315-0347 Area	Turbidity	7/27/2010	8.52		NTU		F
0387	Wells 0315-0347 Area	Turbidity	10/26/2010	8.51		NTU		
0387	Wells 0315-0347 Area	Vinyl chloride	1/26/2010	0.2	0.2	ug/L	U	
0387	Wells 0315-0347 Area	Vinyl chloride	5/6/2010	0.2	0.2	ug/L	U	F
0387	Wells 0315-0347 Area	Vinyl chloride	7/27/2010	0.2	0.2	ug/L	U	F
0387	Wells 0315-0347 Area	Vinyl chloride	10/26/2010	0.2	0.2	ug/L	U	
0389	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/26/2010	0.1	0.1	ug/L	U	
0389	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/6/2010	0.1	0.1	ug/L	U	F
0389	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/27/2010	0.1	0.1	ug/L	U	F
0389	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/26/2010	0.1	0.1	ug/L	U	
0389	Wells 0315-0347 Area	Dissolved Oxygen	1/26/2010	4.03		mg/L		
0389	Wells 0315-0347 Area	Dissolved Oxygen	5/6/2010	3.15		mg/L		F
0389	Wells 0315-0347 Area	Dissolved Oxygen	7/27/2010	2.95		mg/L		F
0389	Wells 0315-0347 Area	Dissolved Oxygen	10/26/2010	3.27		mg/L		
0389	Wells 0315-0347 Area	Oxidation Reduction Potential	1/26/2010	87.6		mV		
0389	Wells 0315-0347 Area	Oxidation Reduction Potential	5/6/2010	66.2		mV		F
0389	Wells 0315-0347 Area	Oxidation Reduction Potential	7/27/2010	108.3		mV		F
0389	Wells 0315-0347 Area	Oxidation Reduction Potential	10/26/2010	81.9		mV		
0389	Wells 0315-0347 Area	pH	1/26/2010	6.86		s.u.		
0389	Wells 0315-0347 Area	pH	5/6/2010	7.23		s.u.		F
0389	Wells 0315-0347 Area	pH	7/27/2010	7.01		s.u.		F
0389	Wells 0315-0347 Area	Specific Conductance	1/26/2010	1077		umhos/cm		
0389	Wells 0315-0347 Area	Specific Conductance	5/6/2010	1342		umhos/cm		F
0389	Wells 0315-0347 Area	Specific Conductance	7/27/2010	1414		umhos/cm		F
0389	Wells 0315-0347 Area	Specific Conductance	10/26/2010	1049		umhos/cm		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0389	Wells 0315-0347 Area	Temperature	1/26/2010	10.32		C		
0389	Wells 0315-0347 Area	Temperature	5/6/2010	13.66		C		F
0389	Wells 0315-0347 Area	Temperature	7/27/2010	15.45		C		F
0389	Wells 0315-0347 Area	Temperature	10/26/2010	14.12		C		
0389	Wells 0315-0347 Area	Tetrachloroethene	1/26/2010	0.381	0.2	ug/L	J	
0389	Wells 0315-0347 Area	Tetrachloroethene	5/6/2010	0.22	0.2	ug/L	J	F
0389	Wells 0315-0347 Area	Tetrachloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0389	Wells 0315-0347 Area	Tetrachloroethene	10/26/2010	0.53	0.2	ug/L	J	
0389	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/26/2010	0.2	0.2	ug/L	U	
0389	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/6/2010	0.2	0.2	ug/L	U	F
0389	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0389	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/26/2010	0.2	0.2	ug/L	U	
0389	Wells 0315-0347 Area	Trichloroethene	1/26/2010	1.48	0.11	ug/L		
0389	Wells 0315-0347 Area	Trichloroethene	5/6/2010	0.59	0.11	ug/L	J	F
0389	Wells 0315-0347 Area	Trichloroethene	7/27/2010	0.33	0.11	ug/L	J	F
0389	Wells 0315-0347 Area	Trichloroethene	10/26/2010	1.39	0.11	ug/L		
0389	Wells 0315-0347 Area	Turbidity	1/26/2010	123		NTU		
0389	Wells 0315-0347 Area	Turbidity	5/6/2010	31.3		NTU		F
0389	Wells 0315-0347 Area	Turbidity	7/27/2010	49.8		NTU		F
0389	Wells 0315-0347 Area	Turbidity	10/26/2010	48.9		NTU		
0389	Wells 0315-0347 Area	Vinyl chloride	1/26/2010	0.2	0.2	ug/L	U	
0389	Wells 0315-0347 Area	Vinyl chloride	5/6/2010	0.2	0.2	ug/L	U	F
0389	Wells 0315-0347 Area	Vinyl chloride	7/27/2010	0.2	0.2	ug/L	U	F
0389	Wells 0315-0347 Area	Vinyl chloride	10/26/2010	0.2	0.2	ug/L	U	
0392	Wells 0315-0347 Area	cis-1,2-Dichloroethene	1/26/2010	0.1	0.1	ug/L	U	
0392	Wells 0315-0347 Area	cis-1,2-Dichloroethene	5/6/2010	0.1	0.1	ug/L	U	F
0392	Wells 0315-0347 Area	cis-1,2-Dichloroethene	7/27/2010	0.1	0.1	ug/L	U	F
0392	Wells 0315-0347 Area	cis-1,2-Dichloroethene	10/26/2010	0.1	0.1	ug/L	U	
0392	Wells 0315-0347 Area	Dissolved Oxygen	1/26/2010	3.44		mg/L		
0392	Wells 0315-0347 Area	Dissolved Oxygen	5/6/2010	3.38		mg/L		F
0392	Wells 0315-0347 Area	Dissolved Oxygen	7/27/2010	3.64		mg/L		F
0392	Wells 0315-0347 Area	Dissolved Oxygen	10/26/2010	1.03		mg/L		
0392	Wells 0315-0347 Area	Oxidation Reduction Potential	1/26/2010	106.6		mV		
0392	Wells 0315-0347 Area	Oxidation Reduction Potential	5/6/2010	73.3		mV		F
0392	Wells 0315-0347 Area	Oxidation Reduction Potential	7/27/2010	120.9		mV		F
0392	Wells 0315-0347 Area	Oxidation Reduction Potential	10/26/2010	76		mV		

Location	Program	Analyte	Sample Date	Result	DL	Unit	Lab Qualifier	Validation Qualifier
0392	Wells 0315-0347 Area	pH	1/26/2010	6.91		s.u.		
0392	Wells 0315-0347 Area	pH	5/6/2010	6.99		s.u.		F
0392	Wells 0315-0347 Area	pH	7/27/2010	7.09		s.u.		F
0392	Wells 0315-0347 Area	Specific Conductance	1/26/2010	1189		umhos/cm		
0392	Wells 0315-0347 Area	Specific Conductance	5/6/2010	1236		umhos/cm		F
0392	Wells 0315-0347 Area	Specific Conductance	7/27/2010	1223		umhos/cm		F
0392	Wells 0315-0347 Area	Specific Conductance	10/26/2010	1184		umhos/cm		
0392	Wells 0315-0347 Area	Temperature	1/26/2010	10.97		C		
0392	Wells 0315-0347 Area	Temperature	5/6/2010	13.64		C		F
0392	Wells 0315-0347 Area	Temperature	7/27/2010	14.94		C		F
0392	Wells 0315-0347 Area	Temperature	10/26/2010	14.33		C		
0392	Wells 0315-0347 Area	Tetrachloroethene	1/26/2010	0.315	0.2	ug/L	J	
0392	Wells 0315-0347 Area	Tetrachloroethene	5/6/2010	0.36	0.2	ug/L	J	F
0392	Wells 0315-0347 Area	Tetrachloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0392	Wells 0315-0347 Area	Tetrachloroethene	10/26/2010	0.45	0.2	ug/L	J	
0392	Wells 0315-0347 Area	trans-1,2-Dichloroethene	1/26/2010	0.2	0.2	ug/L	U	
0392	Wells 0315-0347 Area	trans-1,2-Dichloroethene	5/6/2010	0.2	0.2	ug/L	U	F
0392	Wells 0315-0347 Area	trans-1,2-Dichloroethene	7/27/2010	0.2	0.2	ug/L	U	F
0392	Wells 0315-0347 Area	trans-1,2-Dichloroethene	10/26/2010	0.2	0.2	ug/L	U	
0392	Wells 0315-0347 Area	Trichloroethene	1/26/2010	0.172	0.11	ug/L	J	
0392	Wells 0315-0347 Area	Trichloroethene	5/6/2010	0.12	0.11	ug/L	J	F
0392	Wells 0315-0347 Area	Trichloroethene	7/27/2010	0.11	0.11	ug/L	U	F
0392	Wells 0315-0347 Area	Trichloroethene	10/26/2010	0.11	0.11	ug/L	U	
0392	Wells 0315-0347 Area	Turbidity	1/26/2010	0.67		NTU		
0392	Wells 0315-0347 Area	Turbidity	5/6/2010	0.98		NTU		F
0392	Wells 0315-0347 Area	Turbidity	7/27/2010	1.42		NTU		F
0392	Wells 0315-0347 Area	Turbidity	10/26/2010	3.1		NTU		
0392	Wells 0315-0347 Area	Vinyl chloride	1/26/2010	0.2	0.2	ug/L	U	
0392	Wells 0315-0347 Area	Vinyl chloride	5/6/2010	0.2	0.2	ug/L	U	F
0392	Wells 0315-0347 Area	Vinyl chloride	7/27/2010	0.2	0.2	ug/L	U	F
0392	Wells 0315-0347 Area	Vinyl chloride	10/26/2010	0.2	0.2	ug/L	U	

DL – Detection limit
µg/L – micrograms per liter
mg/L – milligrams per liter
mV - millivolts
s.u. – standard units
umhos/cm – micromhos per centimeter
C – degrees Celsius
pCi/L – picocuries per liter
NTU – nephelometric turbidity units

LAB QUALIFIERS:

*	Replicate analysis not within control limits.
>	Result above upper detection limit.
A	TIC is a suspected aldol-condensation product.
B	Inorganic: Result is between the IDL and CRDL. Organic: Analyte also found in method blank.
C	Pesticide result confirmed by GC-MS.
D	Analyte determined in diluted sample.
E	Inorganic: Estimate value because of interference, see case narrative. Organic: Analyte exceeded calibration range of the GC-MS.
H	Holding time expired, value suspect.
I	Increased detection limit due to required dilution.
J	Estimated
N	Inorganic or radiochemical: Spike sample recovery not within control limits. Organic: Tentatively identified compound (TIC).
P	> 25% difference in detected pesticide or Aroclor concentrations between 2 columns.
U	Analytical result below detection limit.
W	Post-digestion spike outside control limits while sample absorbance < 50% of analytical spike absorbance.
X,Y,Z	Laboratory defined qualifier, see case narrative.

DATA QUALIFIERS:

F	Low flow sampling method used.	G Possible grout contamination, pH > 9.	J Estimated value.
L	Less than 3 bore volumes purged prior to sampling.	Q Qualitative result due to sampling technique.	R Unusable result.
U	Parameter analyzed for but was not detected.	X Location is undefined.	

Appendix C

March 2010 Monitoring Well Inspection Summary

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Parcel 6, 7, and 8	
Well 0118 • The lid to the flush mount completion should be repainted. • Sod should be cleared from the concrete pad.	
Well 0124 • The protective casing should be painted.	

Well 0126 • The protective casing should be repainted.	
Well 0138 • The lid to the flush mount completion should be repainted. • Sod should be cleared from the concrete pad.	

Wells 0301 and 0311 • The lids to the flush mount completions should be repainted. • Sod should be cleared from the concrete pads	
Well 0315 • The protective casing should be repainted.	

Wells 0333 and 0334 • These wells were removed from the monitoring program in 2009 and are no longer sampled. It is recommended that these wells be considered for abandonment.	
Well 0346 • The lid to the flush mount completion should be repainted.	

Well 0347 • The protective casing should be repainted.	
Well 0379 • The protective casing should be repainted.	

Well 0386 and 0389 • The lids to the flush mount completions should be repainted.	
Well 0387 and 0392 • The lids to the flush mount completions should be repainted.