ERID-210343

LA-UR-12-0086
January 2012
EP2012-0002

# Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area G, at Technical Area 54, Fiscal Year 2011

Prepared by the Environmental Programs Directorate

EP2012-0002

# Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area G, at Technical Area 54, Fiscal Year 2011

January 2012

Responsible project manager:

| Printed Name | Signature | Title | Organization | Date |
|---|---|---|---|---|
| Mitchell S. Goldberg | | Project Manager | Environmental Programs | 1/23/2012 |

Responsible LANS representative:

| Printed Name | Signature | Title | Organization | Date |
|---|---|---|---|---|
| Michael J. Graham | | Associate Director | Environmental Programs | 1/24/12 |

Responsible DOE representative:

| Printed Name | Signature | Title | Organization | Date |
|---|---|---|---|---|
| George J. Rael | Edwin P. Wirth for | Manager | DOE-LASO | 1/24/12 |

## EXECUTIVE SUMMARY

This periodic monitoring report summarizes vapor-monitoring activities conducted during fiscal year (FY) 2011 at Material Disposal Area (MDA) G, in Technical Area 54, at Los Alamos National Laboratory. The objectives of vapor monitoring at MDA G are to (1) collect additional vapor samples from vapor-monitoring wells at MDA G and (2) compare sampling results with previously detected volatile organic compound (VOC) concentrations and tritium activities in pore gas beneath and surrounding MDA G.

Vapor monitoring included field screening and collecting vapor samples from 21 and 19 vapor-monitoring wells, respectively. Vapor samples were submitted for laboratory analysis of VOCs and tritium. The results of the detected VOCs in MDA G pore gas during FY2011 were similar to previous sampling results. The VOC screening evaluation identified five VOCs in MDA G pore gas at concentrations exceeding screening levels that are based on groundwater screening levels.

The results of the detected tritium activities in MDA G during FY2011 were generally similar to previous sampling results. An increase in tritium activity was reported in vapor-monitoring well 54-01111.

A letter was received from the New Mexico Environment Department on November 14, 2011, granting the suspension of vapor-sampling activities until the implementation phase for the selected remedy at MDA G.

## CONTENTS



### Figures



### Tables



### Appendixes



### Plates

# 1.0 INTRODUCTION

This periodic monitoring report (PMR) presents the results of vapor-monitoring activities conducted during FY2011 at Material Disposal Area (MDA) G, in Technical Area 54 (TA-54), at Los Alamos National Laboratory (LANL or the Laboratory). These activities are being conducted per the requirements outlined in the vapor-monitoring plan (Appendix D of the corrective measures evaluation plan for MDA G [LANL 2007, 098608]).

The objectives of the MDA G vapor-monitoring activities are to (1) collect additional vapor samples from vapor-monitoring wells at MDA G and (2) compare sampling results with previously detected volatile organic compound (VOC) concentrations and tritium activities in pore gas beneath and surrounding MDA G.

This report discusses the results obtained during the latest monitoring activities; however, for comparison, vapor data from the previous three annual PMRs, FY2008, FY2009, and FY2010 (LANL 2008, 104513; LANL 2010, 108496; LANL 2011, 111729), at MDA G are also included in the data evaluation section of this report. Vapor monitoring included field screening and collecting vapor samples from stainless-steel and Flexible Liner Underground Technology (FLUTe) sampling ports in vapor-monitoring wells. All pore-gas samples were submitted for off-site analysis of VOCs and tritium.

No regulatory criteria exist for vapor-phase contaminants; therefore, this report presents the results of a screening evaluation of the pore-gas VOC data. This screening evaluation compares maximum concentrations of VOCs in pore gas with pore-gas screening levels (SLs) derived from groundwater SLs. This conservative screening process evaluates the potential for the detected VOC concentrations to result in contamination of groundwater above applicable regulatory criteria.

Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to the New Mexico Environment Department (NMED) in accordance with U.S. Department of Energy (DOE) policy.

## 1.1 Site Location and Description

MDA G is located in the east-central portion of the Laboratory at TA-54, Area G, on Mesita del Buey (Figure 1.1-1). MDA G consists of inactive subsurface disposal units located within Area G that include 32 pits, 193 shafts, and 4 trenches with depths ranging from 10 to 65 ft below the original ground surface (Figure 1.1-2). The pits, trenches, and shafts are constructed in unit 2 (caprock) and unit 1 (subsurface) of the Tshirege Member of the Bandelier Tuff (consolidated tuff units). The regional aquifer is estimated to be at an average depth of approximately 930 ft below ground surface (bgs) at MDA G, based on data from wells near the area and the predictions of the hydrogeologic conceptual model for the Pajarito Plateau (LANL 1998, 059599). The surface topography of Area G is relatively flat. Portions of the disposal units at MDA G are covered with concrete and asphalt. Surface runoff from the site is controlled and discharges into drainages to the north (toward Cañada del Buey) and the south (toward Pajarito Canyon). Storm water and sediment monitoring stations are distributed throughout Area G and in drainages leading to the canyons.

## 2.0 SCOPE OF ACTIVITIES

The following activities were completed at MDA G during FY2011. Vapor-monitoring activities were conducted from August 30 to September 30, 2011. Table 2.0-1 outlines the NMED-approved vapor-monitoring locations, port depths, and corresponding sampling intervals.

- Samples were field screened and collected in accordance with the current version of Standard Operating Procedure 5074, Sampling Subsurface Vapor.
- Field screening was conducted using a MultiRAE IR Multi-Gas Monitor equipped with a photoionization detector (PID) to measure percent carbon dioxide ($\%CO_2$), percent oxygen ($\%O_2$), and VOC concentrations in parts per million.
- Vapor samples were submitted to off-site analytical laboratories in SUMMA canisters for VOC analysis using U.S. Environmental Protection Agency (EPA) Method TO-15 and in silica-gel columns for tritium analysis using EPA Method 906.
- A total of 136 ports in 21 vapor-monitoring wells were field screened for VOCs using the MultiRAE IR PID.
- A total of 49 pore-gas samples (39 characterization and 10 quality assurance [QA]/quality control [QC]) were collected for VOC analysis from 39 ports in 19 vapor-monitoring wells.
- A total of 47 samples (39 characterization and 8 QA/QC) were collected for tritium analysis from 39 ports in 19 vapor-monitoring wells.

All analytical data were subject to QA/QC and data validation reviews in accordance with Laboratory guidance and procedures. Field duplicate samples were collected at a minimum frequency of 1 for every 10 samples. The QA/QC and data validation reviews for MDA G pore-gas data are presented in Appendix C.

No investigation-derived waste was generated at the time vapor-monitoring activities were conducted at MDA G.

Further discussion of the field methods used for pore-gas field screening and sample collection is presented in Appendix B. Field chain-of-custody forms and sample collection logs are provided in Attachment D-1 of Appendix D (on CD).

The pore-gas field-screening results are discussed in section 4, and the pore-gas analytical results are discussed in section 5. Any deviations from the scope of activities presented in the MDA G vapor-monitoring plan (Appendix D of the corrective measures evaluation plan for MDA G [LANL 2007, 098608]) are presented in the following section.

### 2.1 Deviations

Samples were not collected from vapor-monitoring well 54-25105 because the sampling team inadvertently attempted to sample a different nearby borehole. The Laboratory is fairly certain that the incorrect borehole was borehole 54-24375. The field team was unable to advance the packer to the 485-ft-bgs sampling interval because they reached the total depth of the incorrect borehole at 170 ft bgs. During future sampling, the field team will confirm that they are sampling the correct borehole.

## 3.0 REGULATORY CRITERIA

The Compliance Order on Consent does not identify any cleanup standards, risk-based SLs, risk-based cleanup goals, or other regulatory criteria for pore gas at MDA G. Because the primary pathway of concern for subsurface VOC vapors is migration to groundwater, an analysis was conducted to evaluate the potential for contamination of groundwater by VOCs in pore gas using SLs based on groundwater SLs. The analysis evaluated the groundwater concentration that would be in equilibrium with the maximum pore-gas concentrations of VOCs detected at MDA G.

The equilibrium relationship between air (pore-gas) and water concentrations is described by the following equation:

$$C_{water} = C_{air} / H' \qquad \textbf{Equation 3.0-1}$$

where $C_{water}$ = the volumetric concentration of contaminant in water,
$C_{air}$ = the volumetric concentration of contaminant in air, and
$H'$ = the dimensionless form of Henry's law constant.

If the predicted concentration of a particular VOC in groundwater is less than the SL, then no potential exists for exceedances above applicable regulatory criteria at the vapor contaminant/groundwater interface.

The screening evaluation was based on groundwater standards or tap water SLs and Henry's law constants that describe the equilibrium relationship between vapor and water concentrations. The source of the Henry's law constants is the NMED technical background document (NMED 2009, 108070) or the EPA regional screening tables (http://www.epa.gov/region6/6pd/rcra_c/pd-n/screen.htm). The following dimensionless form of Henry's law constant was used:

$$H' = \frac{C_{air}}{C_{water}} \qquad \textbf{Equation 3.0-2}$$

Equation 3.0-2 can be used to calculate the screening value (SV):

$$SV = \frac{C_{air}}{1000 \times H' \times SL} \qquad \textbf{Equation 3.0-3}$$

where $C_{air}$ is in units of µg/m$^3$, $SL$ is in units of µg/L, and 1000 is a conversion factor from L to m$^3$. The SLs are the groundwater standards or tap water SLs. The groundwater standards are the EPA maximum contaminant level (MCL) or New Mexico Water Quality Control Commission (NMWQCC) groundwater standard, whichever is lower. If no MCL or NMWQCC standard is available, the NMED tap water SL should be used (NMED 2009, 108070). If no NMED tap water SL is available, the EPA regional tap water SL (http://www.epa.gov/region6/6pd/rcra_c/pd-n/screen.htm) is used. If EPA SLs for carcinogens are used, they should be adjusted to $10^{-5}$ risk. The numerator in Equation 3.0-3 is the actual concentration of the VOC in pore gas, and the denominator represents the pore-gas concentration needed to exceed the groundwater SL. Therefore, if the SV is less than 1, the concentration of the VOC in groundwater would not exceed the SL, even if the VOC plume were to come in contact with groundwater. Table 3.0-1 presents the calculated concentrations of contaminants in pore gas corresponding to groundwater SLs for the latest and previous three monitoring periods.

Results of the pore-gas screening evaluation are presented in section 5. No applicable standards for tritium in pore vapor are available, and the screening analysis described above does not apply to tritium.

## 4.0 FIELD-SCREENING RESULTS

Field screening for the FY2011 sampling event was conducted using a MultiRAE IR Multi-Gas Monitor equipped with a PID to measure $\%CO_2$, $\%O_2$, and VOC concentrations in parts per million. Before each port was sampled, it was purged of stagnant air to ensure formation air was being collected. Each sampling port was then monitored until $CO_2$ and $O_2$ readings stabilized at levels representative of subsurface pore-gas conditions. Tables of all field-screening results obtained during the FY2008, FY2009, FY2010, and FY2011 sampling events at MDA G are provided in Appendix D and sorted by vapor-monitoring well ID and depth. The $CO_2$, $O_2$, and PID field-screening methods and results are discussed further in Appendix B.

## 5.0 ANALYTICAL DATA RESULTS

All vapor analytical sampling data presented in this report are available at the Risk Analysis, Communication, Evaluation, and Reduction (RACER) website (http://www.racernm.com/). Samples were submitted to off-site analytical laboratories in SUMMA canisters for VOC analysis using EPA Method TO-15 and in silica-gel columns for tritium analysis using EPA Method 906. The VOC pore-gas sampling results, VOC screening evaluation, and tritium sampling results are discussed below.

### 5.1 VOC Results and Screening Evaluation

VOC results from the FY2011 sampling event and the previous three sampling events are summarized in tables and provided in Appendix D. Plate 1 shows VOCs detected by vapor-monitoring well location during the FY2011 sampling event. Data associated with the previous three sampling events (FY2008, FY2009, and FY2010) are included for comparison purposes only.

A total of 12 VOCs were detected in MDA G pore gas during the FY2011 sampling activities, and the results are similar to previous sampling results. The VOCs consistently detected during each event and at most locations include dichlorodifluoromethane; 1,1-dichloroethane; 1,1-dichloroethene; tetrachloroethene; 1,2,2-trichloro-1,1,2-trifluoroethane; 1,1,1-trichloroethane; and trichloroethene. VOC concentrations decrease with depth to total depth (TD) in the deeper ports sampled (277 ft bgs in 54-02033, 280 ft bgs in 54-22116, and 300.5 ft bgs in 54-24394).

The screening evaluation included the 12 detected VOCs in MDA G samples for which there are MCLs, NMWQCC standards, NMED tap water SLs, or EPA regional tap water SLs (Table 3.0-1). The results of the VOC screening evaluation are presented in Table 5.1-1 and discussed below. Five detected VOCs had SVs greater than 1.

- Trichloroethene was detected in 36 of 39 samples. An SV greater than 1 was observed in 15 samples. The maximum SV calculated was 28 in vapor-monitoring well 54-24394 at 50 ft bgs.
- 1,1,1-Trichloroethane was detected in 39 of 39 samples. An SV greater than 1 was observed in 18 samples. The maximum SV calculated was 17.5 in vapor-monitoring well 54-01116 at 22.5 ft bgs.
- Tetrachloroethene was detected in 35 of 39 samples. An SV greater than 1 was observed in nine samples. The maximum SV calculated was 8.89 in vapor-monitoring well 54-22116 at 190 ft bgs.

- 1,1-Dichloroethene was detected in 34 of 39 samples. An SV greater than 1 was observed in 11 samples. The maximum SV calculated was 4.55 in vapor-monitoring well 54-01121 at 20 ft bgs.
- 1,1-Dichloroethane was detected in 36 of 39 samples. An SV greater than 1 was observed in 12 samples. The maximum SV calculated was 4.17 in vapor-monitoring well 54-22116 at 190 ft bgs.

SVs calculated during the FY2011 sampling period were generally similar to SVs presented in previous PMRs. VOCs with SVs greater than 1 decrease in concentration with depth in the deeper ports sampled (277 ft bgs in 54-02033, 280 ft bgs in 54-22116, and 300.5 ft bgs in 54-24394).

### 5.2 Tritium Results

Tritium results from the FY2011 sampling event and the previous three sampling events are summarized in tables and provided in Appendix D. Plate 2 shows tritium detected during the latest sampling event by vapor-monitoring well location. Tritium was detected in 37 of 39 vapor samples taken, and the reported activities were generally similar to activities reported during previous sampling events. An increase in tritium activity was reported in vapor-monitoring well 54-01111.

## 6.0 SUMMARY

The objectives of the MDA G vapor-monitoring activities are to (1) collect additional vapor samples from vapor-monitoring wells at MDA G and (2) compare sampling results with previously detected VOC concentrations and tritium activities in pore gas beneath and surrounding MDA G. The results of the most recent vapor-monitoring activities are similar to results reported during previous vapor-monitoring activities.

- A total of 12 VOCs were detected in the pore gas beneath MDA G. Seven of the 12 VOCs are consistently detected each sampling period and at most locations at MDA G. VOC concentrations decrease with depth to TD in the deeper ports sampled (277 ft bgs in 54-02033, 280 ft bgs in 54-22116, and 300.5 ft bgs in 54-24394).
- Five detected VOCs had SVs greater than 1. The maximum SV calculated was for trichloroethene. No regulatory criteria exist for pore gas; therefore, the screening evaluation is a conservative comparison with groundwater SLs to help evaluate any potential for groundwater contamination by VOCs.
- Tritium was detected in the pore vapor beneath MDA G. The results are generally similar to previous sampling results. An increase in tritium activity was reported in vapor-monitoring well 54-01111.

A letter was received from NMED on November 14, 2011 (NMED 2011, 207574), granting the suspension of vapor-sampling activities until the implementation phase for the selected remedy at MDA G.

## 7.0 REFERENCES AND MAP DATA SOURCES

### 7.1 References

*The following list includes all documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text*

*citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.*

*Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.*

LANL (Los Alamos National Laboratory), May 22, 1998. "Hydrogeologic Workplan," Los Alamos National Laboratory document LA-UR-01-6511, Los Alamos, New Mexico. (LANL 1998, 059599)

LANL (Los Alamos National Laboratory), October 2007. "Corrective Measures Evaluation Plan for Material Disposal Area G at Technical Area 54, Revision 2," Los Alamos National Laboratory document LA-UR-07-6882, Los Alamos, New Mexico. (LANL 2007, 098608)

LANL (Los Alamos National Laboratory), December 2008. "Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area G, Technical Area 54, for Fiscal Year 2008," Los Alamos National Laboratory document LA-UR-08-7862, Los Alamos, New Mexico. (LANL 2008, 104513)

LANL (Los Alamos National Laboratory), January 2010. "Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area G, Technical Area 54, for Fiscal Year 2009," Los Alamos National Laboratory document LA-UR-10-0269, Los Alamos, New Mexico. (LANL 2010, 108496)

LANL (Los Alamos National Laboratory), January 2011. "Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area G, Technical Area 54, for Fiscal Year 2010," Los Alamos National Laboratory document LA-UR-11-0263, Los Alamos, New Mexico. (LANL 2011, 111729)

NMED (New Mexico Environment Department), December 2009. "Technical Background Document for Development of Soil Screening Levels, Revision 5.0," with revised Table A-1, New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2009, 108070)

NMED (New Mexico Environment Department), November 14, 2011. "Approval, Request to Discontinue Annual Vapor Sampling at Material Disposal Area G," New Mexico Environment Department letter to G.J. Rael (DOE-LASO) and M.J. Graham (LANL) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico. (NMED 2011, 207574)

## 7.2 Map Data Sources

Data sources used in original figures created for this report are described below and identified by legend title.

| Legend Item/Type | Data Source |
|---|---|
| LANL boundary | LANL Areas Used and Occupied; Los Alamos National Laboratory, Site Planning & Project Initiation Group, Infrastructure Planning Office; 19 September 2007; as published 13 August 2010. |
| TA boundary | Technical Area Boundaries; Los Alamos National Laboratory, Site Planning & Project Initiation Group, Infrastructure Planning Office; September 2007; as published 13 August 2010. |
| ER projects | ER Project Locations; Los Alamos National Laboratory, ESH&Q Waste and Environmental Services Division, 2010-2E; 1:2,500 Scale Data; 04 October 2010. |
| MDAs | Materials Disposal Areas; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program; ER2004-0221; 1:2,500 Scale Data; 23 April 2004. |
| Paved parking | Paved Parking; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010. |
| Paved road | Paved Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010. |
| Dirt road | Dirt Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010. |
| Road centerlines | Road Centerlines; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 15 December 2005; as published 29 November 2010. |
| Structure | Structures; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010. |
| Contours | Hypsography, 10 and 100 Foot Contour Interval; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program; 1991. |
| Fence | Security and Industrial Fences and Gates; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 29 November 2010. |
| Drainage | Modeled Surface Drainage, 1991; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program, ER2002-0591; 1:24,000 Scale Data; Unknown publication date. |

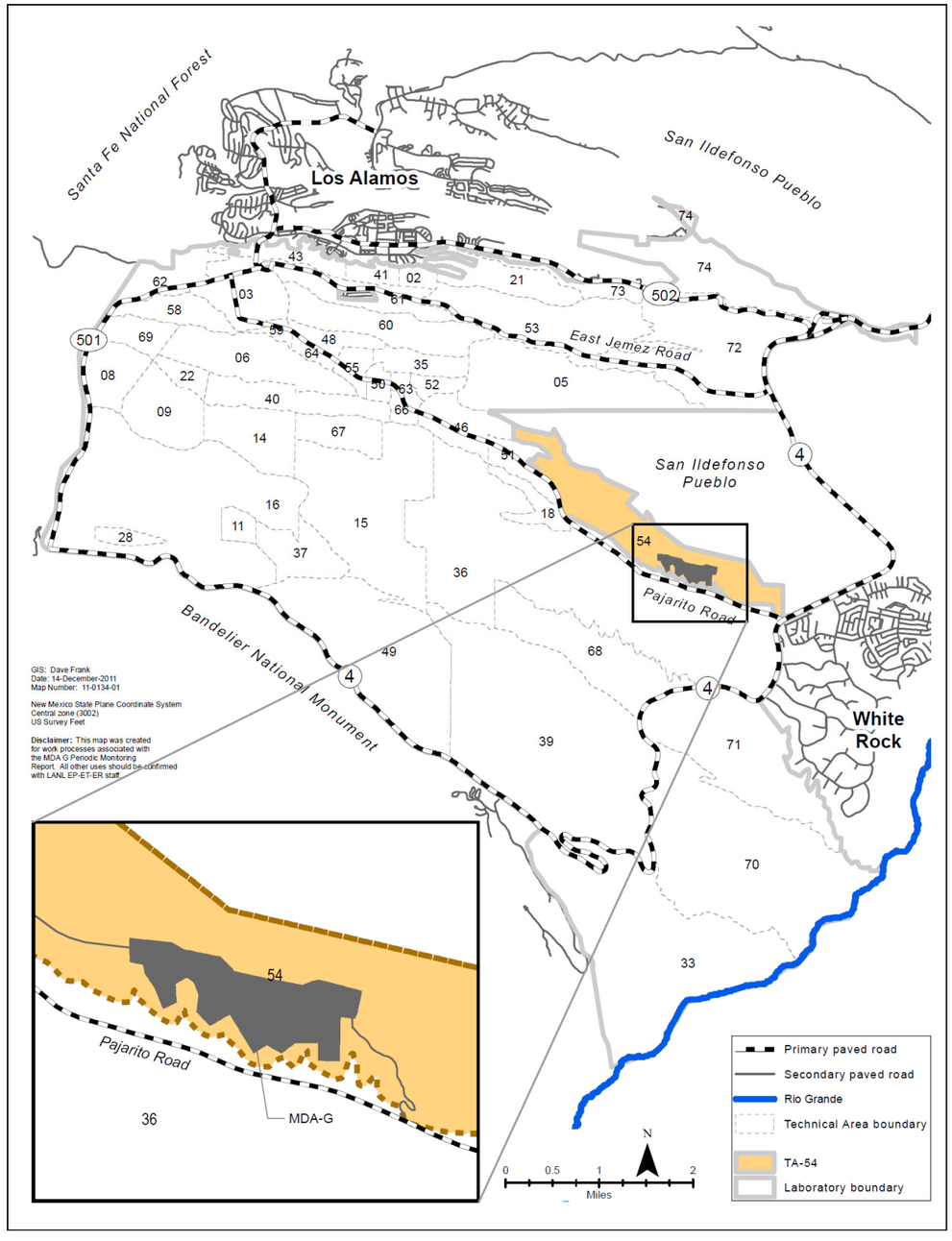


**Figure 1.1-1 Location of MDA G in TA-54 with respect to Laboratory TAs and surrounding landholdings**

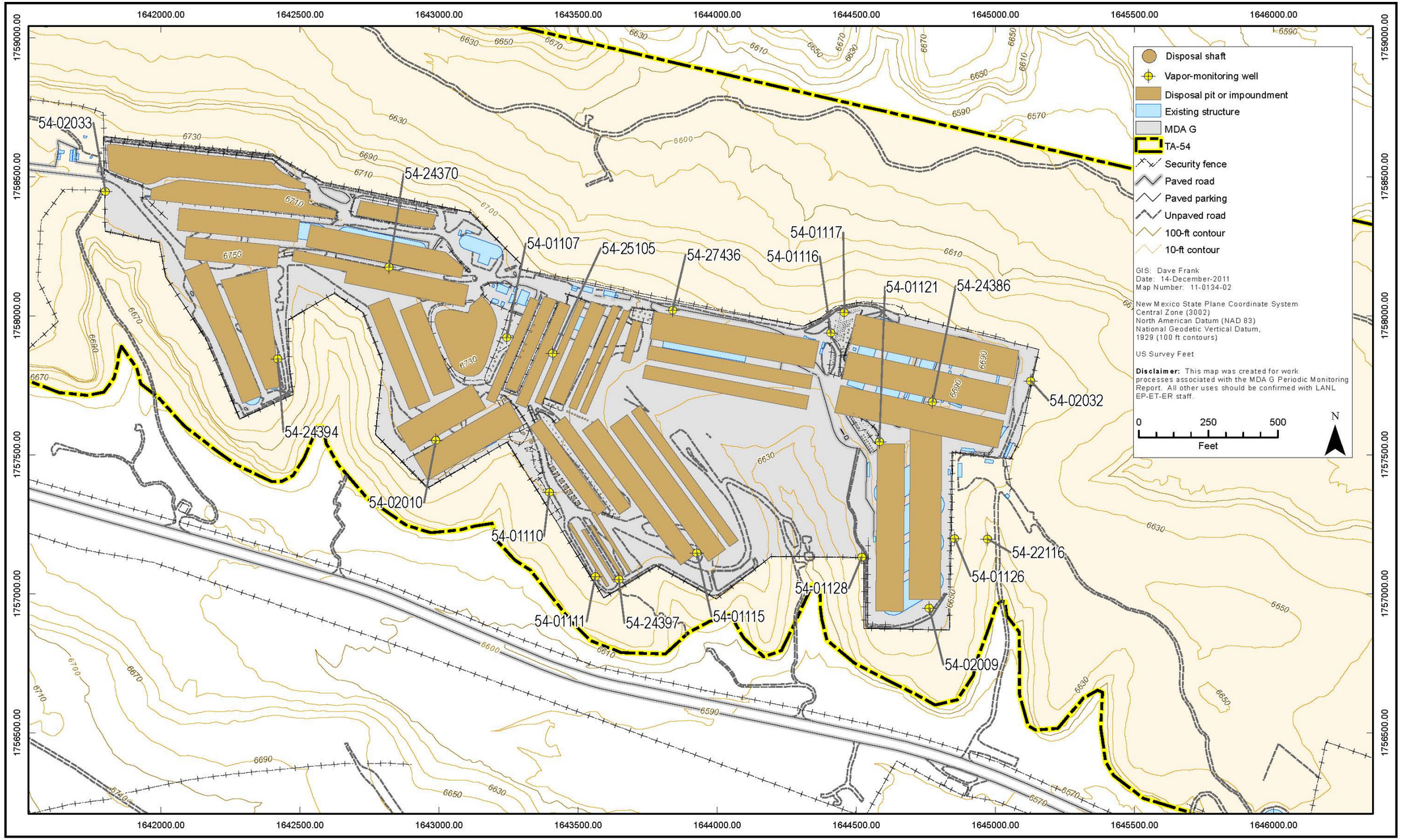


**Figure 1.1-2 Locations of MDA G vapor-monitoring wells and associated structures and features**

**Table 2.0-1**
**NMED-Approved MDA G Vapor-Monitoring Locations, Port Depths, and Corresponding Sampling Intervals**

| Vapor-Monitoring Well ID | VOC and Tritium Sampling Port Depths and Intervals (ft bgs) |
|---|---|
| 54-01107 | 20 (19–21), 44.5 (43.5–45.5), **56.5 (55.5–57.5)**, 74 (73–75), 91 (90–92), **100 (99–101)** |
| 54-01110 | 20 (19–20), 48 (47–49), **60 (59–61)**, 70 (69–71), 85 (84–86), **90 (89–91)** |
| 54-01111 | **20 (19–21)**, 39.5 (38.5–40.5), 50 (49–51), 70 (69–71), 78 (77–79), 100 (99-–01), **139 (138–140)** |
| 54-01115[a] | 7 (6–8), 26 (25–27), **40 (39–41)**, 53 (52–54), 63 (62–64), **68 (67–69)** |
| 54-01116 | **22.5 (20–25)**, 42.5 (40–45), 67.5 (65–70), 82.5 (80–85), 97.5 (95–100), 132.5 (130–135), 151.5 (149–154), 165 (162.5–167.5), **187.8 (185.3–190.3)** |
| 54-01117 | **20 (18.5–22.5)**, 42.5 (40–45), 67.5 (65–70), 82.5 (80–85), 97.5 (95–100), 132.5 (130–135), 150 (147.5–152.5), 159.5 (157–162), **179.8 (177.3–182.3)** |
| 54-01121 | **20 (19–21)**, 26 (25–27), 61.5 (60.5–62.5), 70 (69–71), 76 (75–77), 98 (97–99), **121 (120–122)** |
| 54-01126[a] | 7 (6–8), 17 (16–18), 28 (27–29), **35 (34–36)**, 42 (41–43), **49 (48–50)** |
| 54-01128[a] | 7.5 (6.5–8.5), 15(14–16), **20 (19–21)**, 30 (29–31), **39 (38–40)** |
| 54-02009 | **37 (34.5–39.5)**, 62 (59.5–64.5), 79 (76.5–81.5), **92 (89.5–94.5)** |
| 54-02010 | **30 (27.5–32.5)**, 53 (51.5–55.5), **95 (92.5–97.5)** |
| 54-02032 | **20 (20)**, 60 (60), 100 (100), 130 (130), **156 (156)** |
| 54-02033 | 20 (20), **60 (60)**, 100 (100), 160 (160), 200 (200), 220 (220), 260 (260), **277 (277)** |
| 54-22116[b] | 28 (27–29), 46 (45–47), 64 (63–65), 82 (81–83), 100 (99–101), 118 (117–119), 136 (135–137), 154 (153–155), **172 (171–173), 190 (189–191),** 208 (207–209), 226 (225–227), 244 (243–245), 262 (261–263), **280 (279–281)** |
| 54-24370 | **40 (35–45)**, 72.5 (67.5–77.5), 120 (115–125), 174.7 (169.7–179.7), 200 (195–205), **243.7 (238.7–248.7)** |
| 54-24386 | **40 (37.5–42.5)**, 83 (80.5–85.5), 117 (114.5–119.5), 135 (132.5–137.5), **195 (192.5–197.5)** |
| 54-24394 | **50 (45–55)**, 100 (95–105), 150 (145–155), 192.5 (187.5–197.5), 245.25 (240.25–250.25), **300.5 (295.5–305.5)** |
| 54-24397 | **50 (45–55)**, 90 (85–95), 130 (125–135), 165 (160–170), 188 (183–193), **239.75 (234.75–244.3)** |
| 54-25105[c] | **485 (485–701)** |
| 54-27436 | **45 (40–50)**, 70 (65–75), 115 (110–120), 163 (158–168), **185 (180–190)** |
| 54-612257 | 66.5 (64–69), 85 (82.5–87.5), 97.5 (95–100), 132.5 (130–135) |
| 54-612258 | 22.5 (20–25), 42.5 (40–45), 58.7 (56.2–61.2), 69 (66.5–71.5), 97.5 (95–100), 132.5 (130–135), 146.7 (144.2–149.2), 172.7 (170.2–175.2) |

Note: Depths highlighted in bold denote intervals where VOC and tritium samples were collected.

[a] Borehole location is an angled borehole. Port depth and interval is depth below ground surface.

[b] Borehole location is horizontal borehole. Port depths and intervals are length from borehole head.

[c] Not sampled during FY2011.

**Table 3.0-1**
**Henry's Law Constants, Groundwater SLs, and Calculated Concentrations Corresponding to Groundwater SLs for Historically Detected VOCs in Pore Gas**

| VOC | Henry's Law Constant[a] (dimensionless) | Groundwater SL (µg/L) | Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard[b] (µg/m$^3$) |
|---|---|---|---|
| Acetone | 0.0016 | 21,800[a] | 34,900 |
| Benzene | 0.228 | 5[c] | 1140 |
| Butadiene[1,3-] | 3 | 0.176[a] | 529 |
| Butanol[1-] | 0.00036[d] | 3700[d] | 1330 |
| Butanone[2-] | 0.0023 | 7060[a] | 16,200 |
| Carbon Disulfide | 0.59 | 1040[a] | 615,000 |
| Carbon Tetrachloride | 1.1 | 5c | 5500 |
| Chlorodifluoromethane | 1.7 | 104,000[a] | 177,000,000 |
| Chloroform | 0.15 | 80[c] | 15,000 |
| Cyclohexane | 6.1[d] | 13,000[d] | 79,300,000 |
| Dichlorobenzene[1,2-] | 0.0779 | 600[c] | 46,700 |
| Dichlorodifluoromethane | 14 | 395[a] | 5,520,000 |
| Dichloroethane[1,1-] | 0.23 | 25[e] | 5750 |
| Dichloroethane[1,2-] | 0.048 | 5[c] | 240 |
| Dichloroethene[1,1-] | 1.1 | 5e | 5500 |
| Dichloroethene[cis-1,2-] | 0.17 | 70[c] | 11,900 |
| Ethanol | na[f] | na | na |
| Ethylbenzene | 0.323 | 700[c] | 226,000 |
| Ethyltoluene[4-] | na | na | na |
| Hexane | 74 | 876a | 64,800,000 |
| Methanol | 0.00019[d] | 18,000[d] | 3420 |
| Methylene Chloride | 0.13 | 5[c] | 650 |
| n-Heptane | na | na | na |
| Propylene | 8[d] | na | na |
| Tetrachloroethene | 0.72 | 5[c] | 3600 |
| Toluene | 0.272 | 750[e] | 204,000 |
| Trichloro-1,2,2-trifluoroethane[1,1,2-] | 22 | 59,200[a] | 1,300,000,000 |
| Trichloroethane[1,1,1-] | 0.705 | 60[e] | 42,300 |
| Trichloroethane[1,1,2-] | 0.034 | 5[c] | 170 |

**Table 3.0-1 (continued)**

| VOC | Henry's Law Constant[a] (dimensionless) | Groundwater SL (µg/L) | Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard[b] (µg/m³) |
|---|---|---|---|
| Trichloroethene | 0.4 | 5[c] | 2000 |
| Trichlorofluoromethane | 4 | 1290[a] | 5,150,000 |
| Trimethylbenzene[1,2,4-] | 0.25[d] | 15[d] | 3750 |
| Trimethylbenzene[1,3,5-] | 0.36 | 370[d] | 133,000 |
| Xylene[1,2-] | 0.213 | 620[e] | 132,000 |
| Xylene[1,3-]+Xylene[1,4-] | 0.28 | 620[e] | 174,000 |

[a] Henry's law constants and SLs from NMED (2009, 108070) unless otherwise noted.

[b] Derived from denominator of Equation 3.0-3.

[c] EPA MCL (40 Code of Federal Regulations 141.61).

[d] Henry's law constants and SLs from EPA regional screening tables (http://www.epa.gov/region06/6pd/rcra_c/pd-n/screen.htm). Adjusted to $10^{-5}$ risk for carcinogens.

[e] NMWQCC groundwater standard (20.6.2.3103 New Mexico Administrative Code).

[f] na = Not available.

**Table 5.1-1**
**Screening of VOCs in Pore Gas at MDA G, FY2011**

| VOC | Maximum Pore-Gas Concentration (µg/m³) | Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard (µg/m³)[a] | SV (unitless)[b] |
|---|---|---|---|
| Chlorodifluoromethane | 2300 | 177,285,714 | 0.000013 |
| Chloroform | 1200 | 15,000 | 0.08 |
| Dichlorodifluoromethane | 7500 | 5,524,324 | 0.00136 |
| Dichloroethane[1,1-] | 24,000 | 5750 | **4.17** |
| Dichloroethane[1,2-] | 170 | 240 | 0.708 |
| Dichloroethene[1,1-] | 25,000 | 5500 | **4.55** |
| Methylene Chloride | 80 | 650 | 0.123 |
| Tetrachloroethene | 32,000 | 3600 | **8.89** |
| Trichloro-1,2,2-trifluoroethane[1,1,2-] | 170,000 | 1,302,162,162 | 0.000131 |
| Trichloroethane[1,1,1-] | 740,000 | 42,300 | 17.5 |
| Trichloroethene | 56,000 | 2000 | **28** |
| Trichlorofluoromethane | 11,000 | 5,152,941 | 0.00213 |

[a] Derived from denominator of Equation 3.0-3.

[b] Calculated using Equation 3.0-3. If the SV is less than 1, the concentration of the VOC in pore gas does not have the potential to exceed the groundwater SL. Screening values greater than 1 are in bold.

# Appendix A

*Acronyms and Abbreviations,*
*Metric Conversion Table, and Data Qualifier Definitions*

## A-1.0 ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ADEP | Environmental Programs Directorate |
| bgs | below ground surface |
| COC | chain of custody |
| DER | duplicate error ratio |
| DOE | Department of Energy (U.S.) |
| EPA | Environmental Protection Agency (U.S.) |
| FLUTe | Flexible Liner Underground Technology |
| FY | fiscal year |
| LANL | Los Alamos National Laboratory |
| LCS | laboratory control sample |
| MCL | maximum contaminant level |
| MDA | material disposal area |
| NMED | New Mexico Environment Department |
| NMWQCC | New Mexico Water Quality Control Commission |
| PID | photoionization detector |
| PMR | periodic monitoring report |
| QA | quality assurance |
| QC | quality control |
| RACER | Risk Analysis, Communication, Evaluation, and Reduction |
| RPD | relative percent difference |
| RPF | Records Processing Facility |
| SCL | sample collection log |
| SL | screening level |
| SMO | sample management office |
| SOP | standard operating procedure |
| SV | screening value |
| TA | technical area |
| TD | total depth |
| TPU | total propagated uncertainty |
| VOC | volatile organic compound |

## A-2.0 METRIC CONVERSION TABLE

| Multiply SI (Metric) Unit | by | To Obtain U.S. Customary Unit |
|---|---|---|
| kilometers (km) | 0.622 | miles (mi) |
| kilometers (km) | 3281 | feet (ft) |
| meters (m) | 3.281 | feet (ft) |
| meters (m) | 39.37 | inches (in.) |
| centimeters (cm) | 0.03281 | feet (ft) |
| centimeters (cm) | 0.394 | inches (in.) |
| millimeters (mm) | 0.0394 | inches (in.) |
| micrometers or microns (µm) | 0.0000394 | inches (in.) |
| square kilometers ($km^2$) | 0.3861 | square miles ($mi^2$) |
| hectares (ha) | 2.5 | acres |
| square meters ($m^2$) | 10.764 | square feet ($ft^2$) |
| cubic meters ($m^3$) | 35.31 | cubic feet ($ft^3$) |
| kilograms (kg) | 2.2046 | pounds (lb) |
| grams (g) | 0.0353 | ounces (oz) |
| grams per cubic centimeter ($g/cm^3$) | 62.422 | pounds per cubic foot ($lb/ft^3$) |
| milligrams per kilogram (mg/kg) | 1 | parts per million (ppm) |
| micrograms per gram (µg/g) | 1 | parts per million (ppm) |
| liters (L) | 0.26 | gallons (gal.) |
| milligrams per liter (mg/L) | 1 | parts per million (ppm) |
| degrees Celsius (°C) | 9/5 + 32 | degrees Fahrenheit (°F) |

## A-3.0 DATA QUALIFIER DEFINITIONS

| Data Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for but not detected. |
| J | The analyte was positively identified, and the associated numerical value is estimated to be more uncertain than would normally be expected for that analysis. |
| J+ | The analyte was positively identified, and the result is likely to be biased high. |
| J- | The analyte was positively identified, and the result is likely to be biased low. |
| UJ | The analyte was not positively identified in the sample, and the associated value is an estimate of the sample-specific detection or quantitation limit. |
| R | The data are rejected as a result of major problems with quality assurance/quality control parameters. |

# Appendix B

*Field Methods*

## B-1.0 INTRODUCTION

This appendix summarizes the field methods used during the fiscal year (FY) 2011 sampling activities at Material Disposal Area (MDA) G, in Technical Area 54, at Los Alamos National Laboratory (LANL or the Laboratory). All activities were conducted in accordance with the applicable standard operating procedures (SOPs), quality procedures, and Laboratory implementation and procedural requirements. Table B-1.0-1 summarizes the field methods used, and Table B-1.0-2 lists the applicable procedures.

## B-2.0 FIELD METHODS

All work was conducted according to site-specific health and safety documents and an integrated work document. The field activities conducted according to SOPs are discussed below.

### B-2.1 Pore-Gas Field Screening

All samples were field screened in accordance with the current version of SOP-5074, Sampling Subsurface Vapor. This procedure covers the use of the Brüel and Kjær Type 1302 multigas analyzer and the MultiRAE IR Multi-Gas Monitor. All field-screening results were recorded on the appropriate sample collection logs (SCLs) and/or in the field logbook and are provided in Attachment D-1 of Appendix D (on CD).

#### B-2.1.1 MultiRAE IR Multi-Gas Monitor

Before each sampling event, each sampling port was purged of stagnant air and then monitored with a MultiRAE IR Multi-Gas Monitor until the percent carbon dioxide (%$CO_2$) and percent oxygen (%$O_2$) levels stabilized at values representative of subsurface pore-gas conditions. In addition, volatile organic compound (VOC) concentrations were estimated in parts per million using the MultiRAE IR Multi-Gas Monitor equipped with an 11.7–electronvolt lamp photoionization detector (PID). Each rented instrument was shipped factory-calibrated to the subcontractor, and the calibration was checked daily.

The MultiRAE IR Multi-Gas Monitor can also be calibrated using a two-point process using “fresh air” and a standard gas. The first point calibration is the fresh air calibration that determines the zero point of the calibration curve for lower explosive limit, VOC, and toxic gas sensors. The fresh air calibration uses air containing a 20.9% oxygen concentration and is void of toxic gases and other impurities. The standard gas calibration sets the second point of the sensor calibration curve. The CO, $CO_2$, and $O_2$ sensors are zeroed during this two-point calibration process.

Calibration information is reported below for the MultiRAE IR Multi-Gas Monitor used to generate results presented in this periodic monitoring report.

- Unit 2616 was calibrated on July 22, 2011, at Geotech Environmental Equipment, Inc., in Denver, Colorado. The zero points were set for $CO_2$ and $O_2$. Percent oxygen was set to read ambient air at 20.9%.

Oxygen values should be near the zero point for $O_2$. The $CO_2$ reading should be near zero. Readings deviating from the zero points for $O_2$ and $CO_2$ may be because of subsurface conditions or a need for calibration.

The vapor-sample tubing was purged of stagnant air by drawing sufficient air from the sampling interval through the line. To ensure that the sample collected was representative of the subsurface air at depth, every sampling activity included a purge cycle.

The $\%CO_2$ and $\%O_2$ screening levels are presented in Appendix D. The FY2011 $\%CO_2$ and $\%O_2$ levels ranged from 0% to >5% and from 7.2% to 20.9%, respectively. These values are within acceptable limits and are representative of subsurface pore-gas conditions.

VOC screening data using a PID are presented in Appendix D. The VOC concentrations using the PID ranged from 0 to 13.8 ppm during FY2011.

### B-2.2 VOC Pore-Gas Sample Collection

All VOC samples were collected in accordance with the current version of SOP-5074.

Upon completion of purging and field screening, VOC samples were taken using a sample train setup along with a SUMMA canister. Information was recorded on the appropriate SCLs. Field chain-of-custody (COC) forms and SCLs are provided in Attachment D-1 of Appendix D (on CD).

All samples were submitted to the Sample Management Office (SMO) for processing and transport to off-site contract analytical laboratories.

### B-2.3 Tritium Pore-Gas Sample Collection

All tritium samples were collected in accordance with the current version of SOP-5074 and were submitted to the SMO for processing and transport to off-site contract analytical laboratories. Water vapor intended for tritium analysis was collected from pore gas by pulling a pore-gas sample through a canister of silica gel (silica-gel column), and the sample information was recorded on the appropriate SCL in Attachment D-1 of Appendix D (on CD). Silica gel was the medium used at the Laboratory to collect moisture from pore-gas samples. The moisture was analyzed for tritium using liquid scintillation counting. Silica-gel column field duplicate samples were also collected at a frequency greater than or equal to 10% per sampling event in accordance with the current version of SOP-5059, Field Quality Control Samples.

Silica gel was prepared for sampling by drying it at a temperature above 100°C. Drying removes moisture from the silica gel but does not remove bound water that is accounted for by measuring the bound water percentage in each batch of silica gel. Before sample collection, the amount of silica gel used in each sample was weighed (typically about 135 g). The sample canister with silica gel was also weighed before sampling. SOP-5074 requires that at least 5 g of moisture be collected. After sampling, the sample canister with silica gel was weighed again to verify that 5 g of water vapor had been collected.

The sample (canister plus silica gel) was shipped to the analytical laboratory where it was weighed again. The silica gel was emptied into a distillation apparatus and heated to 110°C, driving moisture off the silica gel. This moisture was collected and analyzed for tritium by liquid scintillation. The laboratory also weighed the empty canister and calculated the percent moisture of the sample, as the amount of moisture collected divided by the calculated weight of the wet silica gel. The value of the tritium activity and the calculated percent moisture were reported to the Laboratory in the analytical data package and the electronic data deliverable.

**Table B-1.0-1**
**Summary of Field Methods**

| Method | Summary |
|---|---|
| General Instructions for Field Investigations | This procedure provides an overview of instructions regarding activities performed before, during, and after field investigations. It is assumed field investigations involve standard sampling equipment, personal protective equipment, waste management, and site-control equipment/materials. The procedure covers premobilization activities, mobilization to the site, documentation and sample collection activities, sample media evaluation, surveillance, and completion of lessons learned. |
| Sample Containers and Preservation | Specific requirements/processes for sample containers, preservation techniques, and holding times are based on the U.S. Environmental Protection Agency guidance for environmental sampling, preservation, and quality assurance. Specific requirements were met for each sample and were printed in the SCLs provided by the Laboratory's SMO (size and type of container, preservatives, etc.). |
| Handling, Packaging, and Transporting Field Samples | Field team members sealed and labeled samples before packing to ensure sample and transport containers were free of external contamination. All environmental samples were collected, preserved, packaged, and transported to the SMO under COC. The SMO arranged for shipping of the samples to analytical laboratories. Any levels of radioactivity (i.e., action-level or limited-quantity ranges) were documented in SCLs submitted to the SMO. |
| Sample Control and Field Documentation | The collection, screening, and transport of samples were documented in standard forms generated by the SMO. These forms include SCLs, COC forms, sample container labels, and custody seals. Collection logs were completed at the time of sample collection and were signed by the sampler and a reviewer who verified the logs for completeness and accuracy. Corresponding labels were initialed and applied to each sample container, and custody seals were placed around container lids or openings. COC forms were completed and signed to verify that the samples were not left unattended. |
| Field Quality Control Samples | Field quality control samples were collected as follows:<br>Field duplicates were collected at a frequency of 10% and at the same time as a regular sample and submitted for the same analyses.<br>Field blanks required for all field events that include collecting samples for VOC analyses were collected. Field blanks were kept with the other sample containers during the sampling process and were submitted for laboratory analyses. |
| Sampling Subsurface Vapor | Vapor sampling was performed at 19 monitoring wells in accordance with the current version of SOP-5074, and samples were analyzed for VOCs and tritium. This SOP describes the process of sampling subsurface air from vapor ports in monitoring wells and boreholes. The procedure covers presampling activities, sampling to detect and quantify gaseous organic concentration in air, SUMMA sampling (a passive collection and containment system of laboratory-quality air samples), adsorbent column sampling, and sampling through the packer system (a sampling system that uses inflatable bladders to seal off a desired interval in an open borehole or at the end of a drill casing to obtain a sample from a discrete section), and postsampling activities. |

**Table B-1.0-2**
**List of Applicable General Procedures for MDA G Pore-Gas Monitoring Activities**

| Document Number | LANL Procedure Title |
|---|---|
| SOP-5055 | General Instructions for Field Investigations |
| SOP-5056 | Sample Containers and Preservation |
| SOP-5057 | Handling, Packaging, and Transporting Field Samples |
| WES-EDA-QP-219 | Sample Control and Field Documentation |
| SOP-5059 | Field Quality Control Samples |
| SOP-5061 | Field Decontamination of Equipment |
| SOP-5074 | Sampling Subsurface Vapor |
| P101-6 | Personal Protective Equipment |
| SOP-01.12 | Field Site Closeout Checklist |
| SOP-01.13 | Initiating and Managing Data Set Requests |
| SOP-5181 | Notebook and Logbook Documentation for Environmental Directorate Technical and Field Activities |
| SOP-5228 | ADEP* Reporting Requirements for Abnormal Events |
| SOP-5269 | Chain-of-Custody for Analytical Data Record Packages |

*ADEP = Environmental Programs Directorate.

# Appendix C

*Quality Assurance/Quality Control Program*

## C-1.0 INTRODUCTION

This appendix presents the analytical methods and summarizes the data quality review for the fiscal year (FY) 2011 pore-gas samples collected at Material Disposal Area (MDA) G, in Technical Area 54, at Los Alamos National Laboratory (LANL or the Laboratory).

Quality assurance (QA), quality control (QC), and data validation procedures were implemented in accordance with the Laboratory's "Quality Assurance Project Plan Requirements for Sampling and Analysis" (LANL 1996, 054609) and the Laboratory's scope of work for analytical services (LANL 2008, 109962). The results of the QA/QC activities were used to estimate the accuracy, bias, and precision of the analytical measurements. QC samples, including method blanks, blank spikes, matrix spikes, laboratory control samples (LCSs), internal standards, initial and continuing calibrations, and surrogates, were used to assess laboratory accuracy and bias.

The type and frequency of QC analyses are described in the analytical services scope of work (LANL 2008, 109962). Other QC factors, such as sample preservation and holding times, were also assessed. The requirements for sample preservation and holding times are presented in Standard Operating Procedure (SOP) 5056, Sample Containers and Preservation. Evaluating these QC indicators allows estimates to be made of the accuracy, bias, and precision of the analytical suites. A focused data validation was also performed for all the data packages (identified by request number) that included a more detailed review of the raw data. The SOPs used for data validation are presented in Table C-1.0-1. Copies of the analytical data, laboratory logbooks, and instrument printouts are provided in Attachment D-1 of Appendix D (on CD).

Analytical data were reviewed and evaluated based on U.S. Environmental Protection Agency (EPA) National Functional Guidelines for organic and inorganic chemical data review where applicable (EPA 1994, 048639; EPA 1999, 066649). Data have also been assessed using guidelines established in Method SW-846 (EPA 1997, 057589). As a result of the data validation and assessment efforts, qualifiers have been assigned to the appropriate analytical records. Definitions of the data qualifiers are presented in Appendix A.

### C-1.1 Maintenance of Chain of Custody

To maintain chain of custody is to document or demonstrate the possession of an item by only authorized individuals. The chain-of-custody process, described in SOP-5269, Chain of Custody for Analytical Data Record Packages, provides confidence in, and documentation of, analytical data integrity by establishing the traceability of the sample from the time of collection through processing to final maintenance as a record. The chain-of-custody forms are provided in Attachment D-1 of Appendix D (on CD).

### C-1.2 Sample Documentation

Establishing sample documentation acceptability, as described in WES-EDA-QP-219, Sample Control and Field Documentation, is the first step toward verifying that an analytical system has produced data of known quality. Documentation depends on the accessibility of review items that accurately and completely describe the work performed. In the absence of adequate sample documentation, data quality cannot be independently verified.

### C-1.3 Sample Preservation

Sample preservation is the use of specific types of sample containers and preservation techniques, as described in SOP-5056. Sample preservation is mandatory for hazardous site investigations because the integrity of any sample decreases over time. Physical factors (e.g., light, pressure, or temperature), chemical factors (e.g., changes in pH or volatilization), and biological factors may alter the original quality of a sample. Because the various target parameters are uniquely altered at varying rates, distinct sample containers, preservation techniques, and holding times have been established to maintain sample integrity for a reasonable and acceptable period of time.

### C-1.4 Holding Time

Holding time, the maximum amount of time a sample can be stored without potential unacceptable changes in analyte concentrations, is described in SOP-5056. Extraction holding time refers to the time that elapses between sample collection and sample preparation; analytical holding time refers to the time that elapses between sample preparation and analysis.

### C-1.5 Initial and Continuing Calibration Verification (Including Interference-Check Standards)

Calibration verification establishes a quantitative relationship between the response of the analytical procedure and the concentration of the target analyte. There are two aspects of calibration verification: initial and continuing. The initial calibration verifies the accuracy of the calibration curve and the individual calibration standards being used to perform the calibration. The continuing calibration ensures that the initial calibration is still holding and correct as the instrument is used to process samples. Interference-check samples are used to determine if a high concentration of a single analyte in a sample interferes with the accurate quantitation of other analytes.

### C-1.6 Analyte Identification (Including Spectra Review and Thermal Ionization Cavity Review)

Analyte identification is the process of associating an instrument signal with a compound or analyte of interest. Evaluation of signal retention times, spectral overlap, multipeak pattern matching, and mass spectral library searches are tools for making analyte identification determinations.

### C-1.7 Analyte Quantitation

Analyte quantitation is the association of an instrument signal with a concentration and the determination that a recorded signal is detected or not detected. Detection limits, instrument calibration linear ranges, internal standards, and carrier recoveries are tools for making analyte quantitation evaluations.

Organic chemical results are not detected if reported results are less than or equal to the method detection limit adjusted by sample-specific dilution or concentration factors.

Tritium results reported at less than the minimum detectable concentration are not detected. Each tritium result is also compared with the corresponding 1-sigma total propagated uncertainty (TPU). If the result is not greater than 3 times the TPU, it is also qualified as not detected (U).

### C-1.8 Method Blank

A method blank is an analyte-free matrix to which all reagents are added in the same volumes or proportions as those used in the environmental sample processing and is extracted and analyzed in the

same manner as the corresponding environmental samples. Method blanks are used to assess the potential for sample contamination during extraction and analysis. All target analytes should be below the contract-required detection limit in the method blank (LANL 2008, 109962).

### C-1.9 Matrix Spike Recoveries

A matrix spike is an aliquot of a sample spiked with a known concentration of the target analyte(s). Matrix spike samples are used to measure the ability to recover prescribed analytes from a native sample matrix. Spiking typically occurs before sample preparation and analysis. Acceptable percentage recoveries for matrix spikes vary by method but should generally be greater than 10% for an analytical result to be usable (LANL 2008, 109962).

### C-1.10 Surrogate

Surrogates (organic chemical compounds) are similar in composition and behavior to target analytes but are not typically found in environmental samples. Surrogates are added to every blank, sample, and spike to evaluate the efficiency with which target analytes are recovered during extraction and analysis. The recovery percentages of the surrogates vary by method but should generally be greater than 10% for an analytical result to be usable (LANL 2008, 109962).

### C-1.11 Internal Standard Responses and Carrier Recoveries

Internal standards are chemical compounds added to blank, sample, and standard extracts at known concentrations. They are used to compensate for (1) analyte concentration changes that might occur during storage of the extract and (2) quantitation variations that can occur during analysis. Internal standard responses are used to adjust the reported concentrations for the quantitation of target analytes. The response factors for internal standards vary by method but should generally be within the range of $\geq$50% to $\leq$200% (LANL 2008, 109962).

### C-1.12 LCS Recoveries

An LCS is a known matrix that has been spiked with compound(s) representative of the target analytes. The LCS is used to document laboratory performance. The acceptance criteria for LCSs are method specific but should generally be greater than 10% for an analytical result to be usable (LANL 2008, 109962).

### C-1.13 Laboratory and Field Duplicates (Including Serial Dilutions)

Laboratory duplicates are two portions of a sample taken from the same sample container (prepared for analysis and analyzed independently but under identical conditions) that are used to assess or demonstrate acceptable laboratory-method precision at the time of analysis. For radionuclide laboratory duplicates, the duplicate error ratio (DER) is also used to quantify precision. The DER is defined by the equation $DER = |S - D|/\sqrt{[(2\sigma_S)^2 + (2\sigma_D)^2]}$, where S represents the original sample value, D represents the duplicate value, and $2\sigma_S$ and $2\sigma_D$ represent the 2-sigma uncertainties surrounding the original and duplicate samples, respectively. A DER below 3 indicates sample-to-field duplicate precision that is in control.

Field duplicates are samples taken as close as possible to the same time and from the same location. They are analyzed as two separate samples at the laboratory. Each duplicate sample is equally representative of the original material. All relative percent differences (RPDs) between samples and field duplicates should be ±35% (LANL 2008, 109962). The RPD is defined by the equation

RPD = [|D1 – D2|/(D1 + D2)/2] × 100%, where D1 and D2 represent analytical measurements on duplicate samples. Field duplicates are collected for both volatile organic compound (VOC) and radionuclide analytes.

The field duplicate samples were collected at a frequency greater than or equal to 10% per sampling event in accordance with the current version of SOP-5059, Field Quality Control Samples.

### C-1.14 Field Blanks, Equipment Blanks, and Performance Evaluations

A field blank is a sample of analyte-free medium taken to the sampling site and exposed to the atmosphere during sample-collection activities. Field blanks are used to measure contamination introduced during sample collection. The field blank samples were collected at a frequency greater than or equal to 10% per sampling event in accordance with the current version of SOP-5059.

An equipment blank is a sample used to verify cleanliness of the sampling equipment. It is collected after completion of decontamination and before sampling.

A performance evaluation is a sample of the field-screening instrument (Brüel and Kjær) operational check gas. The operational check gas consists of known quantities of mixed organic analytes in nitrogen.

## C-2.0 LABORATORY ANALYSIS SUMMARY

During the FY2011 sampling period, 39 VOC pore-gas samples, 5 field blank samples, and 5 field duplicate samples were collected at MDA G. Additionally, 39 tritium samples, 4 field blank samples, and 4 field duplicate samples were collected. Analysis of pore gas was conducted for VOCs using EPA Method TO-15, and analysis for tritium was conducted using EPA Method 906.0. Table C-2.0-1 lists the analytical methods used for VOC and tritium analyses. All QC procedures were followed, as required by the analytical services scope of work (LANL 2008, 109962).

Sampling locations, sampling ports, and validated analytical results for VOCs and tritium are presented in Appendix D of this periodic monitoring report. The entire data set meets the standards for use in this report.

The tritium and VOC analyses are summarized in the following sections. The required minimum detectable concentration or estimated quantitation limit is prescribed in the analytical services scope of work (LANL 2008, 109962).

## C-3.0 ORGANIC CHEMICAL ANALYSES

Chain of custody, field documentation, and holding times were properly maintained for all samples. No sample preservation is required for VOCs. Analyte identification criteria were met for all VOC results. Method blanks, surrogate recoveries, and internal standards responses were all within acceptable limits. The data qualifiers are defined in Appendix A.

A total of 12 VOC results were qualified as J+ because the LCS percent recovery was greater than the upper acceptance limit.

A total of 2 VOC results were qualified as J because the result was less than the practical quantification limit but greater than the method detection limit.

A total of 156 results were qualified as UJ because the affected analytes were analyzed with an initial calibration curve that exceeded the percent relative standard deviation criteria, and/or the associated multipoint calibration correlation coefficient is less than 0.995.

A total of 30 VOC results were qualified as UJ because the LCS percent recovery was less than the lower acceptance limit but greater than 10%.

A total of 256 results were qualified as UJ because the initial calibration verification and/or continuous calibration verification were recovered outside the method-specific limits.

No field duplicates and their associated analytical samples had an RPD >35%.

Five field blanks had detectable levels of VOCs. The maximum detected VOC in a field blank was trichloroethane at 680 µg/$m^3$ in vapor-monitoring well 54-02009.

## C-4.0 RADIONUCLIDE ANALYSES

Chain of custody, field documentation, and holding times were properly maintained for all samples. No sample preservation is required for tritium. The LCS recoveries were within acceptable limits for all tritium analyses.

A total of 13 results were qualified as J because the associated duplicate sample had a DER or relative error ratio greater than the analytic laboratory's acceptance limits.

A total of 2 results were qualified as U because the result was less than or equal to 5 times the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.

Two field duplicates and their associated analytical samples had an RPD >35%. Table C-4.0-1 summarizes samples containing RPDs >35%.

One field blank had a detectable level of tritium. The activity detected in the field blank was 4227 pCi/L in vapor-monitoring well 54-02009. One field blank was rejected because the associated duplicate sample had a DER or relative error ratio greater than the analytic laboratory's acceptance limits.

## C-5.0 REFERENCES

*The following list includes all documents cited in this appendix. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.*

*Copies of the master reference set are maintained at the New Mexico Environment Department Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.*

EPA (U.S. Environmental Protection Agency), February 1994. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," EPA-540/R-94/013, Office of Emergency and Remedial Response, Washington, D.C. (EPA 1994, 048639)

EPA (U.S. Environmental Protection Agency), 1997. “Test Methods for Evaluating Solid Waste, Laboratory Manual, Physical/Chemical Methods,” SW-846, 3rd ed., Update III, Office of Solid Waste and Emergency Response, Washington, D.C. (EPA 1997, 057589)

EPA (U.S. Environmental Protection Agency), October 1999. “USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,” EPA540/R-99/008, Office of Emergency and Remedial Response, Washington, D.C. (EPA 1999, 066649)

LANL (Los Alamos National Laboratory), March 1996. “Quality Assurance Project Plan Requirements for Sampling and Analysis,” Los Alamos National Laboratory document LA-UR-96-441, Los Alamos, New Mexico. (LANL 1996, 054609)

LANL (Los Alamos National Laboratory), June 30, 2008. “Exhibit 'D' Scope of Work and Technical Specifications, Analytical Laboratory Services for General Inorganic, Organic, Radiochemical, Asbestos, Low-Level Tritium, Particle Analysis, Bioassay, Dissolved Organic Carbon Fractionation, and PCB Congeners,” Los Alamos National Laboratory document RFP No. 63639-RFP-08, Los Alamos, New Mexico. (LANL 2008, 109962)

**Table C-1.0-1**
**Data Validation Procedures**

| Procedure | Title | Effective Date |
|---|---|---|
| SOP-5161, R0 | Routine Validation of Volatile Organic Compound (VOC) Analytical Data | 6/10/2008 |
| SOP-5166, R0 | Routine Validation of Gamma Spectroscopy, Chemical Separation Alpha Spectrometry, Gas Proportional Counting, and Liquid Scintillation Analytical Data | 6/30/2008 |

**Table C-2.0-1**
**Analytical Methods Used for Sample Analyses**

| Analytical Method | Analytical Description | Target Compound List |
|---|---|---|
| EPA Method TO-15 | VOCs in pore gas | See analytical services scope of work (LANL 2008, 109962) |
| EPA Method 906.0 | Tritium in pore gas | Tritium |

**Table C-4.0-1**
**Tritium Sample Record with Field Duplicate**
**Relative Percent Difference above 35%**

| Vapor-Monitoring Well ID | Depth (ft) | Sample Standard Result (pCi/L) | Field Duplicate Result (pCi/L) | RPD (%) |
|---|---|---|---|---|
| 54-01126 | 35 | 68,759,100 | 52,944,500 | 42.7 |
| 54-24394 | 50 | 1925.28 | 1243.61 | 43 |

# Appendix D

*Field-Screening Results and*
*Detected Volatile Organic Compounds and Tritium*

## D-1.0 INTRODUCTION

This appendix summarizes the field-screening results as well as detected volatile organic compound (VOC) concentrations and tritium activities for the fiscal year (FY) 2011 sampling event at Material Disposal Area (MDA) G. The tables listed below are included in this appendix and are organized by vapor-monitoring well ID and depth.

- Table D-1.0-1, Field-Screening Results Using a MultiRAE IR Multi-Gas Monitor at MDA G
- Table D-1.0-2, Summary of VOCs Detected in Pore-Gas Samples at MDA G, in $\mu g/m^3$
- Table D-1.0-3, Summary of VOCs Detected in Pore-Gas Samples at MDA G, in ppbv
- Table D-1.0-4, Summary of Tritium Results at MDA G

Data qualifiers used in these tables are defined in Appendix A of this periodic monitoring report.

Attachment D-1 (on CD included with this document) presents the analytical suites and results and analytical reports for the current and previous three monitoring periods.

**Table D-1.0-1**
**Field-Screening Results Using a MultiRAE IR Multi-Gas Monitor at MDA G**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01107 | Ambient | Ambient | $CO_2$ (%) | 7/23/08 | 0 | 8/11/09 | 0 | 9/21/10 | 0 | 9/6/11 | 0 |
| | | | $O_2$ (%) | 7/23/08 | 21.2 | 8/11/09 | 20.8 | 9/21/10 | 19.2 | 9/6/11 | 20.9 |
| | | | PID[c] (ppm) | 7/23/08 | NS[d] | 8/11/09 | NS | 9/21/10 | NS | 9/6/11 | 0.0 |
| | 19 | 21 | $CO_2$ (%) | 7/23/08 | 2.3 | 8/11/09 | 2.1 | 9/21/10 | 3 | 9/6/11 | 0.59 |
| | | | $O_2$ (%) | 7/23/08 | 18.6 | 8/11/09 | 17.1 | 9/21/10 | 15.7 | 9/6/11 | 18.3 |
| | | | PID (ppm) | 7/23/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/6/11 | 0.2 |
| | 43.5 | 45.5 | $CO_2$ (%) | 7/23/08 | 2.1 | 8/11/09 | 1.9 | 9/21/10 | 2.7 | 9/6/11 | 0.50 |
| | | | $O_2$ (%) | 7/23/08 | 18.9 | 8/11/09 | 17.3 | 9/21/10 | 16 | 9/6/11 | 18.8 |
| | | | PID (ppm) | 7/23/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/6/11 | 0.1 |
| | 55.5 | 57.5 | $CO_2$ (%) | 7/23/08 | 2.3 | 8/11/09 | 2.1 | 9/21/10 | 2.9 | 9/6/11 | 0.51 |
| | | | $O_2$ (%) | 7/23/08 | 18.3 | 8/11/09 | 17 | 9/21/10 | 15.5 | 9/6/11 | 18.7 |
| | | | PID (ppm) | 7/23/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/6/11 | 0.0 |
| | 73 | 75 | $CO_2$ (%) | 7/23/08 | 2.3 | 8/11/09 | 2.2 | 9/21/10 | 3 | 9/6/11 | 0.59 |
| | | | $O_2$ (%) | 7/23/08 | 18.2 | 8/11/09 | 17 | 9/21/10 | 15.4 | 9/6/11 | 18.3 |
| | | | PID (ppm) | 7/23/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/6/11 | 0.1 |
| | 90 | 92 | $CO_2$ (%) | 7/23/08 | 1.5 | 8/11/09 | 1.1 | 9/21/10 | 1.6 | 9/6/11 | 0.53 |
| | | | $O_2$ (%) | 7/23/08 | 19.4 | 8/11/09 | 18.6 | 9/21/10 | 16.8 | 9/6/11 | 18.3 |
| | | | PID (ppm) | 7/23/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/6/11 | 0.1 |
| | 99 | 101 | $CO_2$ (%) | 7/23/08 | 2.2 | 8/11/09 | 2 | 9/21/10 | 2.7 | 9/6/11 | 0.13 |
| | | | $O_2$ (%) | 7/23/08 | 18.2 | 8/11/09 | 17.2 | 9/21/10 | 15.5 | 9/6/11 | 18.9 |
| | | | PID (ppm) | 7/23/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/6/11 | 0.0 |
| 54-01110 | Ambient | Ambient | $CO_2$ (%) | 7/17/08 | 0 | 8/25/09 | 0 | 9/15/10 | 0 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/17/08 | 21.5 | 8/25/09 | 21.2 | 9/15/10 | 18.8 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/17/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01110 | 19 | 20 | $CO_2$ (%) | 7/17/08 | 0.1 | 8/25/09 | 0.1 | 9/15/10 | 0.4 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/17/08 | 21.3 | 8/25/09 | 20.8 | 9/15/10 | 18.3 | 9/7/11 | 20.5 |
| | | | PID (ppm) | 7/17/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 47 | 49 | $CO_2$ (%) | 7/17/08 | 0.3 | 8/25/09 | 0.1 | 9/15/10 | 0.4 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/17/08 | 21.1 | 8/25/09 | 20.7 | 9/15/10 | 18.8 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/17/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 59 | 61 | $CO_2$ (%) | 7/17/08 | 0.4 | 8/25/09 | 0.1 | 9/15/10 | 0.4 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/17/08 | 20.9 | 8/25/09 | 20.6 | 9/15/10 | 18.3 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/17/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 69 | 71 | $CO_2$ (%) | 7/17/08 | 0.4 | 8/25/09 | 0.1 | 9/15/10 | 0.4 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/17/08 | 20.9 | 8/25/09 | 20.6 | 9/15/10 | 18.3 | 9/7/11 | 20.5 |
| | | | PID (ppm) | 7/17/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 84 | 86 | $CO_2$ (%) | 7/17/08 | 0.4 | 8/25/09 | 0.2 | 9/15/10 | 0.5 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/17/08 | 20.7 | 8/25/09 | 20.5 | 9/15/10 | 18.3 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/17/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 89 | 91 | $CO_2$ (%) | 7/17/08 | 0.4 | 8/25/09 | 0.1 | 9/15/10 | 0.5 | 9/7/11 | 0.12 |
| | | | $O_2$ (%) | 7/17/08 | 20.6 | 8/25/09 | 20.6 | 9/15/10 | 18.4 | 9/7/11 | 20.3 |
| | | | PID (ppm) | 7/17/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| 54-01111 | Ambient | Ambient | $CO_2$ (%) | 7/16/08 | 0 | 8/25/09 | 0 | 9/15/10 | 0 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 21.3 | 8/25/09 | 21.2 | 9/15/10 | 19.4 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 19 | 21 | $CO_2$ (%) | 7/16/08 | 0.4 | 8/25/09 | 0.1 | 9/15/10 | 0.5 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 21.1 | 8/25/09 | 20.9 | 9/15/10 | 18.8 | 9/7/11 | 20.5 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.1 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01111 | 38.5 | 40.5 | $CO_2$ (%) | 7/16/08 | 0.2 | 8/25/09 | 0 | 9/15/10 | 0.4 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 21 | 8/25/09 | 20.8 | 9/15/10 | 18.8 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 49 | 51 | $CO_2$ (%) | 7/16/08 | 0.2 | 8/25/09 | 0 | 9/15/10 | 0.3 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 21 | 8/25/09 | 20.8 | 9/15/10 | 18.8 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 69 | 71 | $CO_2$ (%) | 7/16/08 | 0.1 | 8/25/09 | 0 | 9/15/10 | 0.3 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 21 | 8/25/09 | 20.7 | 9/15/10 | 18.7 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 77 | 79 | $CO_2$ (%) | 7/16/08 | 0.1 | 8/25/09 | 0 | 9/15/10 | 0.4 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 20.9 | 8/25/09 | 20.6 | 9/15/10 | 18.8 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 99 | 101 | $CO_2$ (%) | 7/16/08 | 0.1 | 8/25/09 | 0 | 9/15/10 | 0.3 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 20 | 8/25/09 | 20.7 | 9/15/10 | 18.7 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| | 138 | 140 | $CO_2$ (%) | 7/16/08 | 0.1 | 8/25/09 | 0 | 9/15/10 | 0.3 | 9/7/11 | 0.0 |
| | | | $O_2$ (%) | 7/16/08 | 21 | 8/25/09 | 20.7 | 9/15/10 | 18.7 | 9/7/11 | 20.9 |
| | | | PID (ppm) | 7/16/08 | NS | 8/25/09 | NS | 9/15/10 | NS | 9/7/11 | 0.0 |
| 54-01115 | Ambient | Ambient | $CO_2$ (%) | 7/17/08 | 0 | 8/11/09 | 0 | 9/21/10 | 0 | 9/8/11 | 0.05 |
| | | | $O_2$ (%) | 7/17/08 | 21.1 | 8/11/09 | 20.5 | 9/21/10 | 19 | 9/8/11 | 20.9 |
| | | | PID (ppm) | 7/17/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/8/11 | 0.0 |
| | 6 | 8 | $CO_2$ (%) | 7/17/08 | 1.3 | 8/11/09 | 0.4 | 9/21/10 | 0.8 | 9/8/11 | 0.83 |
| | | | $O_2$ (%) | 7/17/08 | 19.9 | 8/11/09 | 20.2 | 9/21/10 | 18 | 9/8/11 | 20.0 |
| | | | PID (ppm) | 7/17/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/8/11 | 0.0 |
| | 25 | 27 | $CO_2$ (%) | 7/17/08 | 2.1 | 8/11/09 | 1.5 | 9/21/10 | 1.7 | 9/8/11 | 2.0 |
| | | | $O_2$ (%) | 7/17/08 | 19.3 | 8/11/09 | 18.8 | 9/21/10 | 16.9 | 9/8/11 | 19.2 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01115 | 25 | 27 | PID (ppm) | 7/17/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/8/11 | 0.0 |
| | 39 | 41 | $CO_2$ (%) | 7/17/08 | 2.2 | 8/11/09 | 1.8 | 9/21/10 | 2 | 9/8/11 | 2.55 |
| | | | $O_2$ (%) | 7/17/08 | 19 | 8/11/09 | 18.1 | 9/21/10 | 16.4 | 9/8/11 | 18.9 |
| | | | PID (ppm) | 7/17/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/8/11 | 0.1 |
| | 52 | 54 | $CO_2$ (%) | 7/17/08 | 2.3 | 8/11/09 | 2 | 9/21/10 | 2.3 | 9/8/11 | 2.63 |
| | | | $O_2$ (%) | 7/17/08 | 19 | 8/11/09 | 17.8 | 9/21/10 | 16 | 9/8/11 | 18.7 |
| | | | PID (ppm) | 7/17/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/8/11 | 0.2 |
| | 62 | 64 | $CO_2$ (%) | 7/17/08 | 2.2 | 8/11/09 | 2 | 9/21/10 | 2.4 | 9/8/11 | 1.47 |
| | | | $O_2$ (%) | 7/17/08 | 19 | 8/11/09 | 17.6 | 9/21/10 | 15.9 | 9/8/11 | 19.9 |
| | | | PID (ppm) | 7/17/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/8/11 | 0.1 |
| | 67 | 69 | $CO_2$ (%) | 7/17/08 | 2.3 | 8/11/09 | 2 | 9/21/10 | 2.4 | 9/8/11 | 3.0 |
| | | | $O_2$ (%) | 7/17/08 | 18.9 | 8/11/09 | 17.6 | 9/21/10 | 15.8 | 9/8/11 | 18.5 |
| | | | PID (ppm) | 7/17/08 | NS | 8/11/09 | NS | 9/21/10 | NS | 9/8/11 | 0.2 |
| 54-01116 | Ambient | Ambient | $CO_2$ (%) | 7/8/08 | 0 | 8/10/09 | 0 | 8/31/10 | 0 | 9/20/11 | 0.0 |
| | | | $O_2$ (%) | 7/8/08 | 21.2 | 8/10/09 | 21.3 | 8/31/10 | 19.2 | 9/20/11 | 20.9 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 0.0 |
| | 20 | 25 | $CO_2$ (%) | 7/8/08 | 0 | 8/10/09 | 0.3 | 8/31/10 | 0.7 | 9/20/11 | 0.85 |
| | | | $O_2$ (%) | 7/8/08 | 20.7 | 8/10/09 | 20 | 8/31/10 | 18.1 | 9/20/11 | 19.7 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 5.4 |
| | 40 | 45 | $CO_2$ (%) | 7/8/08 | 1.4 | 8/10/09 | 0.4 | 8/31/10 | 1.7 | 9/20/11 | 0.97 |
| | | | $O_2$ (%) | 7/8/08 | 20.3 | 8/10/09 | 19.9 | 8/31/10 | 17.8 | 9/20/11 | 19.6 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 5.4 |
| | 65 | 70 | $CO_2$ (%) | 7/8/08 | 1.5 | 8/10/09 | 0.3 | 8/31/10 | 0.5 | 9/20/11 | 1.02 |
| | | | $O_2$ (%) | 7/8/08 | 20.3 | 8/10/09 | 19.9 | 8/31/10 | 18.2 | 9/20/11 | 19.6 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 5.0 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01116 | 80 | 85 | $CO_2$ (%) | 7/8/08 | 1.5 | 8/10/09 | 0.3 | 8/31/10 | 0.5 | 9/20/11 | 1.0 |
| | | | $O_2$ (%) | 7/8/08 | 20.4 | 8/10/09 | 19.9 | 8/31/10 | 18.2 | 9/20/11 | 19.6 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 4.8 |
| | 95 | 100 | $CO_2$ (%) | 7/8/08 | 1.5 | 8/10/09 | 0.3 | 8/31/10 | 0.4 | 9/20/11 | 0.98 |
| | | | $O_2$ (%) | 7/8/08 | 20.4 | 8/10/09 | 19.9 | 8/31/10 | 18.3 | 9/20/11 | 19.6 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 4.4 |
| | 130 | 135 | $CO_2$ (%) | 7/8/08 | 1.3 | 8/10/09 | 0.3 | 8/31/10 | 0 | 9/20/11 | 0.19 |
| | | | $O_2$ (%) | 7/8/08 | 20.4 | 8/10/09 | 19.8 | 8/31/10 | 18.5 | 9/20/11 | 20.5 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 0.0 |
| | 149 | 154 | $CO_2$ (%) | 7/8/08 | 1.1 | 8/10/09 | 0.1 | 8/31/10 | 0.4 | 9/20/11 | 0.72 |
| | | | $O_2$ (%) | 7/8/08 | 20.7 | 8/10/09 | 19.9 | 8/31/10 | 18.3 | 9/20/11 | 20 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 2.6 |
| | 162.5 | 167.5 | $CO_2$ (%) | 7/8/08 | 0.9 | 8/10/09 | 0.2 | 8/31/10 | 0.3 | 9/20/11 | 0.63 |
| | | | $O_2$ (%) | 7/8/08 | 20.9 | 8/10/09 | 19.9 | 8/31/10 | 18.3 | 9/20/11 | 20.1 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 2.2 |
| | 185.3 | 190.3 | $CO_2$ (%) | 7/8/08 | 0.2 | 8/10/09 | 0 | 8/31/10 | 0.5 | 9/20/11 | 0.91 |
| | | | $O_2$ (%) | 7/8/08 | 21.2 | 8/10/09 | 20.2 | 8/31/10 | 18.3 | 9/20/11 | 19.9 |
| | | | PID (ppm) | 7/8/08 | NS | 8/10/09 | NS | 8/31/10 | NS | 9/20/11 | 3.6 |
| 54-01117 | Ambient | Ambient | $CO_2$ (%) | 7/8/08 | 0 | 8/7/09 | 0 | 9/1/10 | 0 | 9/21/11 | 0.04 |
| | | | $O_2$ (%) | 7/8/08 | 21.5 | 8/7/09 | 20.9 | 9/1/10 | 19.4 | 9/21/11 | 20.9 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 0.0 |
| | 18.5 | 22.5 | $CO_2$ (%) | 7/8/08 | 0.7 | 8/7/09 | 0.2 | 9/1/10 | 0.7 | 9/21/11 | 0.71 |
| | | | $O_2$ (%) | 7/8/08 | 21.2 | 8/7/09 | 21.1 | 9/1/10 | 18.4 | 9/21/11 | 20.0 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 1.3 |
| | 40 | 45 | $CO_2$ (%) | 7/8/08 | 0.7 | 8/7/09 | 0.2 | 9/1/10 | 0.7 | 9/21/11 | 0.71 |
| | | | $O_2$ (%) | 7/8/08 | 21 | 8/7/09 | 20.1 | 9/1/10 | 18.4 | 9/21/11 | 19.9 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01117 | 40 | 45 | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 1.8 |
| | 65 | 70 | $CO_2$ (%) | 7/8/08 | 0.8 | 8/7/09 | 0.3 | 9/1/10 | 0.7 | 9/21/11 | 0.78 |
| | | | $O_2$ (%) | 7/8/08 | 21.8 | 8/7/09 | 19.9 | 9/1/10 | 18.4 | 9/21/11 | 19.8 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 2.5 |
| | 80 | 85 | $CO_2$ (%) | 7/8/08 | 0.7 | 8/7/09 | 0.9 | 9/1/10 | 0.7 | 9/21/11 | 0.80 |
| | | | $O_2$ (%) | 7/8/08 | 21 | 8/7/09 | 19.7 | 9/1/10 | 18.2 | 9/21/11 | 19.8 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 3.0 |
| | 95 | 100 | $CO_2$ (%) | 7/8/08 | 0.8 | 8/7/09 | 0.3 | 9/1/10 | 0.7 | 9/21/11 | 0.88 |
| | | | $O_2$ (%) | 7/8/08 | 21 | 8/7/09 | 19.5 | 9/1/10 | 18.2 | 9/21/11 | 19.8 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 3.8 |
| | 130 | 135 | $CO_2$ (%) | 7/8/08 | 0.5 | 8/7/09 | 0.3 | 9/1/10 | 0.7 | 9/21/11 | 0.87 |
| | | | $O_2$ (%) | 7/8/08 | 21.2 | 8/7/09 | 19.3 | 9/1/10 | 18.2 | 9/21/11 | 19.8 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 4.6 |
| | 147.5 | 152.5 | $CO_2$ (%) | 7/8/08 | 0.4 | 8/7/09 | 0 | 9/1/10 | 0.5 | 9/21/11 | 0.52 |
| | | | $O_2$ (%) | 7/8/08 | 21.5 | 8/7/09 | 19.7 | 9/1/10 | 18.4 | 9/21/11 | 20.0 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 3.9 |
| | 157 | 162 | $CO_2$ (%) | 7/8/08 | 0.4 | 8/7/09 | 0 | 9/1/10 | 0 | 9/21/11 | 0.49 |
| | | | $O_2$ (%) | 7/8/08 | 21.5 | 8/7/09 | 19.4 | 9/1/10 | 18.8 | 9/21/11 | 20.0 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 3.5 |
| | 177.3 | 182.3 | $CO_2$ (%) | 7/8/08 | 0 | 8/7/09 | 0 | 9/1/10 | 0.1 | 9/21/11 | 0.20 |
| | | | $O_2$ (%) | 7/8/08 | 21 | 8/7/09 | 20.3 | 9/1/10 | 18.7 | 9/21/11 | 20.9 |
| | | | PID (ppm) | 7/8/08 | NS | 8/7/09 | NS | 9/1/10 | NS | 9/21/11 | 0.0 |
| 54-01121 | Ambient | Ambient | $CO_2$ (%) | 7/14/08 | 0 | 8/25/09 | 0 | 9/22/10 | 0 | 9/26/11 | 0.05 |
| | | | $O_2$ (%) | 7/14/08 | 21.2 | 8/25/09 | 21.2 | 9/22/10 | 19 | 9/26/11 | 20.9 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 0.0 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01121 | 19 | 21 | $CO_2$ (%) | 7/14/08 | 2.6 | 8/25/09 | 1.9 | 9/22/10 | 2.3 | 9/26/11 | 1.93 |
| | | | $O_2$ (%) | 7/14/08 | 18.4 | 8/25/09 | 18.3 | 9/22/10 | 16.4 | 9/26/11 | 18.4 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 3.9 |
| | 25 | 27 | $CO_2$ (%) | 7/14/08 | 2.6 | 8/25/09 | 1.6 | 9/22/10 | 2 | 9/26/11 | 1.22 |
| | | | $O_2$ (%) | 7/14/08 | 18.4 | 8/25/09 | 18.4 | 9/22/10 | 16.6 | 9/26/11 | 19.2 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 2.8 |
| | 60.5 | 62.5 | $CO_2$ (%) | 7/14/08 | 2.4 | 8/25/09 | 1.8 | 9/22/10 | 2.1 | 9/26/11 | 1.83 |
| | | | $O_2$ (%) | 7/14/08 | 15.5 | 8/25/09 | 18.3 | 9/22/10 | 16.5 | 9/26/11 | 18.7 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 3.8 |
| | 69 | 71 | $CO_2$ (%) | 7/14/08 | 2.4 | 8/25/09 | 1.7 | 9/22/10 | 2 | 9/26/11 | 0.91 |
| | | | $O_2$ (%) | 7/14/08 | 18.5 | 8/25/09 | 18.4 | 9/22/10 | 16.5 | 9/26/11 | 19.5 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 2.8 |
| | 75 | 77 | $CO_2$ (%) | 7/14/08 | 2.3 | 8/25/09 | 0.7 | 9/22/10 | 2.1 | 9/26/11 | 1.7 |
| | | | $O_2$ (%) | 7/14/08 | 18.5 | 8/25/09 | 18.4 | 9/22/10 | 16.5 | 9/26/11 | 18.9 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 3.7 |
| | 97 | 99 | $CO_2$ (%) | 7/14/08 | 1.8 | 8/25/09 | 1.9 | 9/22/10 | 2.2 | 9/26/11 | 1.23 |
| | | | $O_2$ (%) | 7/14/08 | 19.2 | 8/25/09 | 18.1 | 9/22/10 | 16.4 | 9/26/11 | 19.4 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 3.2 |
| | 120 | 122 | $CO_2$ (%) | 7/14/08 | 1.7 | 8/25/09 | 1.5 | 9/22/10 | 1.8 | 9/26/11 | 1.43 |
| | | | $O_2$ (%) | 7/14/08 | 19.3 | 8/25/09 | 18.7 | 9/22/10 | 16.6 | 9/26/11 | 19.1 |
| | | | PID (ppm) | 7/14/08 | NS | 8/25/09 | NS | 9/22/10 | NS | 9/26/11 | 2.8 |
| 54-01126 | Ambient | Ambient | $CO_2$ (%) | NS | NS | 9/29/09 | 0 | 9/28/10 | 0 | 8/30/11 | 0.0 |
| | | | $O_2$ (%) | NS | NS | 9/29/09 | 20.9 | 9/28/10 | 19.4 | 8/30/11 | 20.9 |
| | | | PID (ppm) | NS | NS | 9/29/09 | NS | 9/28/10 | NS | 8/30/11 | 0.0 |
| | 6 | 8 | $CO_2$ (%) | NS | NS | 9/29/09 | 0.1 | 9/28/10 | 1.1 | 8/30/11 | 0.25 |
| | | | $O_2$ (%) | NS | NS | 9/29/09 | 19.7 | 9/28/10 | 17.9 | 8/30/11 | 18.8 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01126 | 6 | 8 | PID (ppm) | NS | NS | 9/29/09 | NS | 9/28/10 | NS | 8/30/11 | 5.5 |
| | 16 | 18 | $CO_2$ (%) | NS | NS | 9/29/09 | 0 | 9/28/10 | 0.7 | 8/30/11 | 0.52 |
| | | | $O_2$ (%) | NS | NS | 9/29/09 | 20 | 9/28/10 | 18 | 8/30/11 | 17.7 |
| | | | PID (ppm) | NS | NS | 9/29/09 | NS | 9/28/10 | NS | 8/30/11 | 11.6 |
| | 27 | 29 | $CO_2$ (%) | NS | NS | 9/29/09 | 0.4 | 9/28/10 | 1.8 | 8/30/11 | 0.43 |
| | | | $O_2$ (%) | NS | NS | 9/29/09 | 19.2 | 9/28/10 | 15.9 | 8/30/11 | 17.9 |
| | | | PID (ppm) | NS | NS | 9/29/09 | NS | 9/28/10 | NS | 8/30/11 | 11 |
| | 34 | 36 | $CO_2$ (%) | NS | NS | 9/29/09 | 0.6 | 9/28/10 | 1.8 | 8/30/11 | 0.58 |
| | | | $O_2$ (%) | NS | NS | 9/29/09 | 18.7 | 9/28/10 | 15.6 | 8/30/11 | 17.3 |
| | | | PID (ppm) | NS | NS | 9/29/09 | NS | 9/28/10 | NS | 8/30/11 | 13.8 |
| | 41 | 43 | $CO_2$ (%) | NS | NS | 9/29/09 | 1.2 | 9/28/10 | 2.6 | 8/30/11 | 0.59 |
| | | | $O_2$ (%) | NS | NS | 9/29/09 | 18 | 9/28/10 | 14.7 | 8/30/11 | 17.2 |
| | | | PID (ppm) | NS | NS | 9/29/09 | NS | 9/28/10 | NS | 8/30/11 | 13.4 |
| | 48 | 50 | $CO_2$ (%) | NS | NS | 9/29/09 | 1.1 | 9/28/10 | 2.8 | 8/30/11 | 0.31 |
| | | | $O_2$ (%) | NS | NS | 9/29/09 | 18.1 | 9/28/10 | 14.5 | 8/30/11 | 18.6 |
| | | | PID (ppm) | NS | NS | 9/29/09 | NS | 9/28/10 | NS | 8/30/11 | 8.5 |
| 54-01128 | Ambient | Ambient | $CO_2$ (%) | 7/11/08 | 0 | 8/21/09 | 0 | 9/24/10 | 0 | 9/21/11 | 0.05 |
| | | | $O_2$ (%) | 7/11/08 | 21.3 | 8/21/09 | 20.9 | 9/24/10 | 19.4 | 9/21/11 | 20.9 |
| | | | PID (ppm) | 7/11/08 | NS | 8/21/09 | NS | 9/24/10 | NS | 9/21/11 | 0.0 |
| | 6.5 | 8.5 | $CO_2$ (%) | 7/11/08 | 0.8 | 8/21/09 | 0.5 | 9/24/10 | 0.9 | 9/21/11 | 0.74 |
| | | | $O_2$ (%) | 7/11/08 | 20.4 | 8/21/09 | 19.7 | 9/24/10 | 18.1 | 9/21/11 | 19.8 |
| | | | PID (ppm) | 7/11/08 | NS | 8/21/09 | NS | 9/24/10 | NS | 9/21/11 | 0.2 |
| | 14 | 16 | $CO_2$ (%) | 7/11/08 | 1.6 | 8/21/09 | 1.2 | 9/24/10 | 1.5 | 9/21/11 | 1.7 |
| | | | $O_2$ (%) | 7/11/08 | 20.6 | 8/21/09 | 18.3 | 9/24/10 | 17.2 | 9/21/11 | 19 |
| | | | PID (ppm) | 7/11/08 | NS | 8/21/09 | NS | 9/24/10 | NS | 9/21/11 | 0.5 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-01128 | 19 | 21 | $CO_2$ (%) | 7/11/08 | 2.1 | 8/21/09 | 1.7 | 9/24/10 | 2.2 | 9/21/11 | 2.02 |
| | | | $O_2$ (%) | 7/11/08 | 18.8 | 8/21/09 | 17.5 | 9/24/10 | 16 | 9/21/11 | 18.4 |
| | | | PID (ppm) | 7/11/08 | NS | 8/21/09 | NS | 9/24/10 | NS | 9/21/11 | 0.6 |
| | 29 | 31 | $CO_2$ (%) | 7/11/08 | 2.4 | 8/21/09 | 1.1[e] | 9/24/10 | 2.6 | 9/21/11 | 3.06 |
| | | | $O_2$ (%) | 7/11/08 | 18.2 | 8/21/09 | 18[e] | 9/24/10 | 15.3 | 9/21/11 | 17.5 |
| | | | PID (ppm) | 7/11/08 | NS | 8/21/09 | NS | 9/24/10 | NS | 9/21/11 | 0.9 |
| | 38 | 40 | $CO_2$ (%) | 7/11/08 | 2.7 | 8/21/09 | 2 | 9/24/10 | 2.8 | 9/21/11 | 3.41 |
| | | | $O_2$ (%) | 7/11/08 | 17.8 | 8/21/09 | 16.8 | 9/24/10 | 14.8 | 9/21/11 | 17.3 |
| | | | PID (ppm) | 7/11/08 | NS | 8/21/09 | NS | 9/24/10 | NS | 9/21/11 | 1.5 |
| 54-02009 | Ambient | Ambient | $CO_2$ (%) | 7/11/08 | 0 | 8/19/09 | 0 | 9/1/10 | 0 | 9/16/11 | 0.04 |
| | | | $O_2$ (%) | 7/11/08 | 21.2 | 8/19/09 | 21.2 | 9/1/10 | 19 | 9/16/11 | 20.9 |
| | | | PID (ppm) | 7/11/08 | NS | 8/19/09 | NS | 9/1/10 | NS | 9/16/11 | 0.0 |
| | 34.5 | 39.5 | $CO_2$ (%) | 7/11/08 | 1.3 | 8/19/09 | 0.6 | 9/1/10 | 0 | 9/16/11 | 0.77 |
| | | | $O_2$ (%) | 7/11/08 | 19.8 | 8/19/09 | 19.3 | 9/1/10 | 18.7 | 9/16/11 | 19.5 |
| | | | PID (ppm) | 7/11/08 | NS | 8/19/09 | NS | 9/1/10 | NS | 9/16/11 | 1.0 |
| | 59.5 | 64.5 | $CO_2$ (%) | 7/11/08 | 1.3 | 8/19/09 | 0 | 9/1/10 | 1 | 9/16/11 | 0.66 |
| | | | $O_2$ (%) | 7/11/08 | 19.8 | 8/19/09 | 21 | 9/1/10 | 16.9 | 9/16/11 | 19.9 |
| | | | PID (ppm) | 7/11/08 | NS | 8/19/09 | NS | 9/1/10 | NS | 9/16/11 | 0.9 |
| | 76.5 | 81.5 | $CO_2$ (%) | NS | NS | 8/19/09 | 0.1[f] | 9/1/10 | 0 | 9/16/11 | 0.24 |
| | | | $O_2$ (%) | NS | NS | 8/19/09 | 20.3[f] | 9/1/10 | 18.4 | 9/16/11 | 20.9 |
| | | | PID (ppm) | NS | NS | 8/19/09 | NS | 9/1/10 | NS | 9/16/11 | 0.0 |
| | 89.5 | 94.5 | $CO_2$ (%) | 7/11/08 | 0.9 | 8/19/09 | 0.1 | 9/1/10 | 0.8 | 9/16/11 | 0.70 |
| | | | $O_2$ (%) | 7/11/08 | 20 | 8/19/09 | 20.2 | 9/1/10 | 17.4 | 9/16/11 | 19.9 |
| | | | PID (ppm) | 7/11/08 | NS | 8/19/09 | NS | 9/1/10 | NS | 9/16/11 | 1.4 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-02010 | Ambient | Ambient | $CO_2$ (%) | 7/9/08 | 0 | 8/19/09 | 0 | 8/31/10 | 0 | 9/26/11 | 0.04 |
| | | | $O_2$ (%) | 7/9/08 | 21.8 | 8/19/09 | 21.5 | 8/31/10 | 19.2 | 9/26/11 | 20.9 |
| | | | PID (ppm) | 7/9/08 | NS | 8/19/09 | NS | 8/31/10 | NS | 9/26/11 | 0.0 |
| | 27.5 | 32.5 | $CO_2$ (%) | 7/9/08 | 3.7 | 8/19/09 | 3.2 | 8/31/10 | 3.5 | 9/26/11 | 4.64 |
| | | | $O_2$ (%) | 7/9/08 | 17.9 | 8/19/09 | 17 | 8/31/10 | 15.3 | 9/26/11 | 17.2 |
| | | | PID (ppm) | 7/9/08 | NS | 8/19/09 | NS | 8/31/10 | NS | 9/26/11 | 0.4 |
| | 51.5 | 55.5 | $CO_2$ (%) | 7/9/08 | 3.4 | 8/19/09 | 2[f] | 8/31/10 | 3.4[f] | 9/26/11 | 0.10 |
| | | | $O_2$ (%) | 7/9/08 | 18 | 8/19/09 | 18.1[f] | 8/31/10 | 15.2[f] | 9/26/11 | 20.9 |
| | | | PID (ppm) | 7/9/08 | NS | 8/19/09 | NS | 8/31/10 | NS | 9/26/11 | 0.1 |
| | 92.5 | 97.5 | $CO_2$ (%) | 7/9/08 | 3.3 | 8/19/09 | 2.3 | 8/31/10 | 2.6 | 9/26/11 | 3.55 |
| | | | $O_2$ (%) | 7/9/08 | 18.5 | 8/19/09 | 17.5 | 8/31/10 | 16.1 | 9/26/11 | 17.8 |
| | | | PID (ppm) | 7/9/08 | NS | 8/19/09 | NS | 8/31/10 | NS | 9/26/11 | 0.4 |
| 54-02032 | Ambient | Ambient | $CO_2$ (%) | 7/10/08 | 0 | 8/27/09 | 0 | 8/30/10 | 0 | 9/20/11 | 0.0 |
| | | | $O_2$ (%) | 7/10/08 | 21.1 | 8/27/09 | 21.1 | 8/30/10 | 19 | 9/20/11 | 20.9 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/30/10 | NS | 9/20/11 | 0.0 |
| | 20 | 20 | $CO_2$ (%) | 7/10/08 | 0.9 | 8/27/09 | 0.4 | 8/30/10 | 0.8 | 9/20/11 | 0.90 |
| | | | $O_2$ (%) | 7/10/08 | 20 | 8/27/09 | 20.1 | 8/30/10 | 18 | 9/20/11 | 19.6 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/30/10 | NS | 9/20/11 | 0.4 |
| | 60 | 60 | $CO_2$ (%) | 7/10/08 | 0.8 | 8/27/09 | 0.4 | 8/30/10 | 0.6 | 9/20/11 | 0.98 |
| | | | $O_2$ (%) | 7/10/08 | 20.2 | 8/27/09 | 19.7 | 8/30/10 | 18.3 | 9/20/11 | 19.6 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/30/10 | NS | 9/20/11 | 0.6 |
| | 100 | 100 | $CO_2$ (%) | 7/10/08 | 0 | 8/27/09 | 0.3 | 8/30/10 | 0.5 | 9/20/11 | 0.89 |
| | | | $O_2$ (%) | 7/10/08 | 21 | 8/27/09 | 20.1 | 8/30/10 | 18.4 | 9/20/11 | 19.7 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/30/10 | NS | 9/20/11 | 0.8 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-02032 | 130 | 130 | $CO_2$ (%) | 7/10/08 | 0 | 8/27/09 | 0 | 8/30/10 | 0.8 | 9/20/11 | 0.99 |
| | | | $O_2$ (%) | 7/10/08 | 21 | 8/27/09 | 20.2 | 8/30/10 | 17.9 | 9/20/11 | 19.5 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/30/10 | NS | 9/20/11 | 1.2 |
| | 156 | 156 | $CO_2$ (%) | 7/10/08 | 0.7 | 8/27/09 | 0.4 | 8/30/10 | 0.7 | 9/20/11 | 0.93 |
| | | | $O_2$ (%) | 7/10/08 | 20 | 8/27/09 | 19.1 | 8/30/10 | 17.8 | 9/20/11 | 19.6 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/30/10 | NS | 9/20/11 | 1.2 |
| 54-02033 | Ambient | Ambient | $CO_2$ (%) | 7/9/08 | 0 | 8/5/09 | 0 | 8/26/10 | 0 | 8/31/11 | 0.0 |
| | | | $O_2$ (%) | 7/9/08 | 21.3 | 8/5/09 | 20.8 | 8/26/10 | 19.5 | 8/31/11 | 20.9 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| | 20 | 20 | $CO_2$ (%) | 7/9/08 | 0.9 | 8/5/09 | 0.2 | 8/26/10 | 0.6 | 8/31/11 | 0.03 |
| | | | $O_2$ (%) | 7/9/08 | 20.8 | 8/5/09 | 19.9 | 8/26/10 | 18.6 | 8/31/11 | 20.1 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| | 60 | 60 | $CO_2$ (%) | 7/9/08 | 0.9 | 8/5/09 | 0.2 | 8/26/10 | 0.6 | 8/31/11 | 0.06 |
| | | | $O_2$ (%) | 7/9/08 | 20.7 | 8/5/09 | 19.8 | 8/26/10 | 18.5 | 8/31/11 | 20.1 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| | 100 | 100 | $CO_2$ (%) | 7/9/08 | 1 | 8/5/09 | 0.3 | 8/26/10 | 0.7 | 8/31/11 | 0.08 |
| | | | $O_2$ (%) | 7/9/08 | 20.5 | 8/5/09 | 19.7 | 8/26/10 | 18.3 | 8/31/11 | 20.0 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| | 160 | 160 | $CO_2$ (%) | 7/9/08 | 0.8 | 8/5/09 | 0.2 | 8/26/10 | 0.6 | 8/31/11 | 0.06 |
| | | | $O_2$ (%) | 7/9/08 | 20.6 | 8/5/09 | 19.4 | 8/26/10 | 18.3 | 8/31/11 | 20.0 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| | 200 | 200 | $CO_2$ (%) | 7/9/08 | 0.7 | 8/5/09 | 0.1 | 8/26/10 | 0.6 | 8/31/11 | 0.04 |
| | | | $O_2$ (%) | 7/9/08 | 20.7 | 8/5/09 | 19.7 | 8/26/10 | 18.1 | 8/31/11 | 20.0 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-02033 | 220 | 220 | $CO_2$ (%) | 7/9/08 | 0.7 | 8/5/09 | 0.1 | 8/26/10 | 0.5 | 8/31/11 | 0.01 |
| | | | $O_2$ (%) | 7/9/08 | 20.7 | 8/5/09 | 19.4 | 8/26/10 | 18 | 8/31/11 | 20.1 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| | 260 | 260 | $CO_2$ (%) | 7/9/08 | 0.6 | 8/5/09 | 0 | 8/26/10 | 0.5 | 8/31/11 | 0.0 |
| | | | $O_2$ (%) | 7/9/08 | 20.7 | 8/5/09 | 19.7 | 8/26/10 | 17.8 | 8/31/11 | 20.3 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| | 277 | 277 | $CO_2$ (%) | 7/9/08 | 0.6 | 8/5/09 | 0 | 8/26/10 | 0.5 | 8/31/11 | 0.0 |
| | | | $O_2$ (%) | 7/9/08 | 20.8 | 8/5/09 | 19.7 | 8/26/10 | 17.5 | 8/31/11 | 20.3 |
| | | | PID (ppm) | 7/9/08 | NS | 8/5/09 | NS | 8/26/10 | NS | 8/31/11 | 0.0 |
| 54-22116 | Ambient | Ambient | $CO_2$ (%) | 7/31/08 | 0 | 9/9/09 | 0 | 9/27/10 | 0 | 9/27/11 | 0.04 |
| | | | $O_2$ (%) | 7/31/08 | 21.3 | 9/9/09 | 20.9 | 9/27/10 | 19.4 | 9/27/11 | 20.9 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 0.0 |
| | 27 | 29 | $CO_2$ (%) | 7/31/08 | 0.5 | 9/9/09 | 0 | 9/27/10 | 0.4 | 9/27/11 | 0.26 |
| | | | $O_2$ (%) | 7/31/08 | 20.4 | 9/9/09 | 20.2 | 9/27/10 | 18.6 | 9/27/11 | 20.2 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 0.5 |
| | 45 | 47 | $CO_2$ (%) | 7/31/08 | 0.6 | 9/9/09 | 0 | 9/27/10 | 0.5 | 9/27/11 | 0.38 |
| | | | $O_2$ (%) | 7/31/08 | 20.4 | 9/9/09 | 20.2 | 9/27/10 | 18.4 | 9/27/11 | 20.1 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 0.8 |
| | 63 | 65 | $CO_2$ (%) | 7/31/08 | 0.3 | 9/9/09 | 0 | 9/27/10 | 0.5 | 9/27/11 | 0.44 |
| | | | $O_2$ (%) | 7/31/08 | 20.6 | 9/9/09 | 20.3 | 9/27/10 | 18.2 | 9/27/11 | 20.1 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 1.6 |
| | 81 | 83 | $CO_2$ (%) | 7/31/08 | 0.8 | 9/9/09 | 0.1 | 9/27/10 | 0.7 | 9/27/11 | 0.10 |
| | | | $O_2$ (%) | 7/31/08 | 20 | 9/9/09 | 20.2 | 9/27/10 | 17.7 | 9/27/11 | 20.4 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 0.1 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-22116 | 99 | 101 | $CO_2$ (%) | 7/31/08 | 0.9 | 9/9/09 | 0.4 | 9/27/10 | 0.8 | 9/27/11 | 0.46 |
| | | | $O_2$ (%) | 7/31/08 | 19.8 | 9/9/09 | 20 | 9/27/10 | 17.4 | 9/27/11 | 19.7 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 2.1 |
| | 117 | 119 | $CO_2$ (%) | 7/31/08 | 0.1 | 9/9/09 | 0.5 | 9/27/10 | 1.2 | 9/27/11 | 0.24 |
| | | | $O_2$ (%) | 7/31/08 | 19.7 | 9/9/09 | 19.9 | 9/27/10 | 16.8 | 9/27/11 | 20.2 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 0.9 |
| | 135 | 137 | $CO_2$ (%) | 7/31/08 | 2 | 9/9/09 | 0.1 | 9/27/10 | 1.5 | 9/27/11 | 0.27 |
| | | | $O_2$ (%) | 7/31/08 | 17.8 | 9/9/09 | 20.8 | 9/27/10 | 15.1 | 9/27/11 | 20.3 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 1.1 |
| | 153 | 155 | $CO_2$ (%) | 7/31/08 | 1.6 | 9/9/09 | 0.6 | 9/27/10 | 2.1 | 9/27/11 | 2.81 |
| | | | $O_2$ (%) | 7/31/08 | 19.1 | 9/9/09 | 19.8 | 9/27/10 | 14.9 | 9/27/11 | 17.5 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 5.4 |
| | 171 | 173 | $CO_2$ (%) | 7/31/08 | 0.8 | 9/9/09 | 1.2 | 9/27/10 | 2.6 | 9/27/11 | 3.2 |
| | | | $O_2$ (%) | 7/31/08 | 20.1 | 9/9/09 | 18.6 | 9/27/10 | 13.8 | 9/27/11 | 16.9 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 4.3 |
| | 189 | 191 | $CO_2$ (%) | 7/31/08 | 20.6 | 9/9/09 | 1.7 | 9/27/10 | 3.2 | 9/27/11 | 4.05 |
| | | | $O_2$ (%) | 7/31/08 | 17.9 | 9/9/09 | 17.6 | 9/27/10 | 13.1 | 9/27/11 | 16.1 |
| | | | PID (ppm) | 7/31/08 | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 3.7 |
| | 207 | 209 | $CO_2$ (%) | NS | NS | 9/9/09 | 2.7 | 9/27/10 | 3.6 | 9/27/11 | 0.20 |
| | | | $O_2$ (%) | NS | NS | 9/9/09 | 15.8 | 9/27/10 | 12.6 | 9/27/11 | 20.4 |
| | | | PID (ppm) | NS | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 0.2 |
| | 225 | 227 | $CO_2$ (%) | NS | NS | 9/9/09 | 3.1 | 9/27/10 | 4.1 | 9/27/11 | 3.1 |
| | | | $O_2$ (%) | NS | NS | 9/9/09 | 15.2 | 9/27/10 | 12.1 | 9/27/11 | 16.9 |
| | | | PID (ppm) | NS | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 2.1 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-22116 | 243 | 245 | $CO_2$ (%) | NS | NS | 9/9/09 | 3.6 | 9/27/10 | 4 | 9/27/11 | >5 |
| | | | $O_2$ (%) | NS | NS | 9/9/09 | 14.9 | 9/27/10 | 12.9 | 9/27/11 | 15.9 |
| | | | PID (ppm) | NS | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 2.3 |
| | 261 | 263 | $CO_2$ (%) | NS | NS | 9/9/09 | 0 | 9/27/10 | 4.2 | 9/27/11 | 1.46 |
| | | | $O_2$ (%) | NS | NS | 9/9/09 | 21.6 | 9/27/10 | 12.4 | 9/27/11 | 18.5 |
| | | | PID (ppm) | NS | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 3.5 |
| | 279 | 281 | $CO_2$ (%) | NS | NS | 9/9/09 | 0 | 9/27/10 | 4.3 | 9/27/11 | 0.25 |
| | | | $O_2$ (%) | NS | NS | 9/9/09 | 21.5 | 9/27/10 | 12.1 | 9/27/11 | 20.6 |
| | | | PID (ppm) | NS | NS | 9/9/09 | NS | 9/27/10 | NS | 9/27/11 | 1.1 |
| 54-24370 | Ambient | Ambient | $CO_2$ (%) | 7/10/08 | 0.1 | 8/27/09 | 0 | 8/26/10 | 0 | 9/2/11 | 0.0 |
| | | | $O_2$ (%) | 7/10/08 | 21.1 | 8/27/09 | 20.9 | 8/26/10 | 19.1 | 9/2/11 | 20.9 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/26/10 | NS | 9/2/11 | 0.0 |
| | 35 | 45 | $CO_2$ (%) | 7/10/08 | 11.9 | 8/27/09 | 11.4 | 8/26/10 | 9.8 | 9/2/11 | 2.21 |
| | | | $O_2$ (%) | 7/10/08 | 8.6 | 8/27/09 | 5.5 | 8/26/10 | 8.2 | 9/2/11 | 9.5 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/26/10 | NS | 9/2/11 | 1.9 |
| | 67.5 | 77.5 | $CO_2$ (%) | 7/10/08 | 12.6 | 8/27/09 | 11.9 | 8/26/10 | 11.9 | 9/2/11 | 2.33 |
| | | | $O_2$ (%) | 7/10/08 | 8.1 | 8/27/09 | 5.2 | 8/26/10 | 6.4 | 9/2/11 | 9.5 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/26/10 | NS | 9/2/11 | 3.2 |
| | 115 | 125 | $CO_2$ (%) | 7/10/08 | 11.8 | 8/27/09 | 8.1 | 8/26/10 | 8.8 | 9/2/11 | 1.67 |
| | | | $O_2$ (%) | 7/10/08 | 9.1 | 8/27/09 | 7.8 | 8/26/10 | 9.8 | 9/2/11 | 13.5 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/26/10 | NS | 9/2/11 | 1.6 |
| | 169.7 | 179.7 | $CO_2$ (%) | 7/10/08 | 6.8 | 8/27/09 | 5.9 | 8/26/10 | 6.6 | 9/2/11 | 1.58 |
| | | | $O_2$ (%) | 7/10/08 | 14 | 8/27/09 | 13 | 8/26/10 | 11.9 | 9/2/11 | 14.1 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/26/10 | NS | 9/2/11 | 1.2 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-24370 | 195 | 205 | $CO_2$ (%) | 7/10/08 | 6.2 | 8/27/09 | 5.3 | 8/26/10 | 5.8 | 9/2/11 | 1.32 |
| | | | $O_2$ (%) | 7/10/08 | 14.7 | 8/27/09 | 13.8 | 8/26/10 | 12.6 | 9/2/11 | 15.2 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/26/10 | NS | 9/2/11 | 0.9 |
| | 238.7 | 248.7 | $CO_2$ (%) | 7/10/08 | 0.8 | 8/27/09 | 0 | 8/26/10 | 0.3 | 9/2/11 | 0.64 |
| | | | $O_2$ (%) | 7/10/08 | 21 | 8/27/09 | 20.2 | 8/26/10 | 18.5 | 9/2/11 | 17.6 |
| | | | PID (ppm) | 7/10/08 | NS | 8/27/09 | NS | 8/26/10 | NS | 9/2/11 | 0.0 |
| 54-24386 | Ambient | Ambient | $CO_2$ (%) | 7/14/08 | 0 | 8/18/09 | 0 | 9/2/10 | 0 | 9/22/11 | 0.0 |
| | | | $O_2$ (%) | 7/14/08 | 21.1 | 8/18/09 | 21.2 | 9/2/10 | 19.2 | 9/22/11 | 20.9 |
| | | | PID (ppm) | 7/14/08 | NS | 8/18/09 | NS | 9/2/10 | NS | 9/22/11 | 0.0 |
| | 37.5 | 42.5 | $CO_2$ (%) | 7/14/08 | 6.6 | 8/18/09 | 8.4 | 9/2/10 | 8.7 | 9/22/11 | 0.07 |
| | | | $O_2$ (%) | 7/14/08 | 11.1 | 8/18/09 | 6.5 | 9/2/10 | 7.4 | 9/22/11 | 7.2 |
| | | | PID (ppm) | 7/14/08 | NS | 8/18/09 | NS | 9/2/10 | NS | 9/22/11 | 0.2 |
| | 80.5 | 85.5 | $CO_2$ (%) | 7/14/08 | 4.7 | 8/18/09 | 4.2 | 9/2/10 | 5.7 | 9/22/11 | >5.0 |
| | | | $O_2$ (%) | 7/14/08 | 14.2 | 8/18/09 | 13.8 | 9/2/10 | 11.3 | 9/22/11 | 7.2 |
| | | | PID (ppm) | 7/14/08 | NS | 8/18/09 | NS | 9/2/10 | NS | 9/22/11 | 8.3 |
| | 114.5 | 119.5 | $CO_2$ (%) | 7/14/08 | 4 | 8/18/09 | 4.1 | 9/2/10 | 4.6 | 9/22/11 | >5.0 |
| | | | $O_2$ (%) | 7/14/08 | 15.4 | 8/18/09 | 13.9 | 9/2/10 | 12.7 | 9/22/11 | 15 |
| | | | PID (ppm) | 7/14/08 | NS | 8/18/09 | NS | 9/2/10 | NS | 9/22/11 | 8.9 |
| | 132.5 | 137.5 | $CO_2$ (%) | 7/14/08 | 3.7 | 8/18/09 | 3.7 | 9/2/10 | 4.2 | 9/22/11 | >5.0 |
| | | | $O_2$ (%) | 7/14/08 | 16 | 8/18/09 | 14.4 | 9/2/10 | 13.3 | 9/22/11 | 14.9 |
| | | | PID (ppm) | 7/14/08 | NS | 8/18/09 | NS | 9/2/10 | NS | 9/22/11 | 9.8 |
| | 192.5 | 197.5 | $CO_2$ (%) | 7/14/08 | 0.4 | 8/18/09 | 0 | 9/2/10 | 0.4 | 9/22/11 | 0.23 |
| | | | $O_2$ (%) | 7/14/08 | 20.7 | 8/18/09 | 19.7 | 9/2/10 | 17.8 | 9/22/11 | 20.4 |
| | | | PID (ppm) | 7/14/08 | NS | 8/18/09 | NS | 9/2/10 | NS | 9/22/11 | 0.1 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-24394 | Ambient | Ambient | $CO_2$ (%) | 7/9/08 | 0 | 9/3/09 | 0 | 8/30/10 | 0 | 9/1/11 | 0.0 |
| | | | $O_2$ (%) | 7/9/08 | 21.6 | 9/3/09 | 21 | 8/30/10 | 19.2 | 9/1/11 | 20.9 |
| | | | PID (ppm) | 7/9/08 | NS | 9/3/09 | NS | 8/30/10 | NS | 9/1/11 | 0.0 |
| | 45 | 55 | $CO_2$ (%) | 7/9/08 | 2.7 | 9/3/09 | 1.9 | 8/30/10 | 1.7 | 9/1/11 | 0.49 |
| | | | $O_2$ (%) | 7/9/08 | 19 | 9/3/09 | 18.2 | 8/30/10 | 17.1 | 9/1/11 | 18.3 |
| | | | PID (ppm) | 7/9/08 | NS | 9/3/09 | NS | 8/30/10 | NS | 9/1/11 | 7.5 |
| | 95 | 105 | $CO_2$ (%) | 7/9/08 | 2.8 | 9/3/09 | 1.8 | 8/30/10 | 1.6 | 9/1/11 | 0.33 |
| | | | $O_2$ (%) | 7/9/08 | 19 | 9/3/09 | 18.3 | 8/30/10 | 17.1 | 9/1/11 | 18.9 |
| | | | PID (ppm) | 7/9/08 | NS | 9/3/09 | NS | 8/30/10 | NS | 9/1/11 | 13.7 |
| | 145 | 155 | $CO_2$ (%) | 7/9/08 | 2.6 | 9/3/09 | 1.7 | 8/30/10 | 1.5 | 9/1/11 | 0.45 |
| | | | $O_2$ (%) | 7/9/08 | 19.2 | 9/3/09 | 18.5 | 8/30/10 | 17 | 9/1/11 | 18.6 |
| | | | PID (ppm) | 7/9/08 | NS | 9/3/09 | NS | 8/30/10 | NS | 9/1/11 | 7.7 |
| | 187.5 | 197.5 | $CO_2$ (%) | 7/9/08 | 2.3 | 9/3/09 | 1.4 | 8/30/10 | 1.3 | 9/1/11 | 0.36 |
| | | | $O_2$ (%) | 7/9/08 | 19.4 | 9/3/09 | 19 | 8/30/10 | 17.2 | 9/1/11 | 18.9 |
| | | | PID (ppm) | 7/9/08 | NS | 9/3/09 | NS | 8/30/10 | NS | 9/1/11 | 3.4 |
| | 240.25 | 250.25 | $CO_2$ (%) | 7/9/08 | 1.8 | 9/3/09 | 0.8 | 8/30/10 | 1 | 9/1/11 | 0.31 |
| | | | $O_2$ (%) | 7/9/08 | 19.9 | 9/3/09 | 19.3 | 8/30/10 | 17.5 | 9/1/11 | 19.2 |
| | | | PID (ppm) | 7/9/08 | NS | 9/3/09 | NS | 8/30/10 | NS | 9/1/11 | 0.9 |
| | 295.5 | 305.5 | $CO_2$ (%) | 7/9/08 | 0.2 | 9/3/09 | 0 | 8/30/10 | 1 | 9/1/11 | 0.0 |
| | | | $O_2$ (%) | 7/9/08 | 21.5 | 9/3/09 | 20.7 | 8/30/10 | 18.5 | 9/1/11 | 20.9 |
| | | | PID (ppm) | 7/9/08 | NS | 9/3/09 | NS | 8/30/10 | NS | 9/1/11 | 0.0 |
| 54-24397 | Ambient | Ambient | $CO_2$ (%) | 7/14/08 | 0 | 8/7/09 | 0 | 8/27/10 | 0 | 9/8/11 | 0.06 |
| | | | $O_2$ (%) | 7/14/08 | 21.3 | 8/7/09 | 21.3 | 8/27/10 | 19.3 | 9/8/11 | 20.9 |
| | | | PID (ppm) | 7/14/08 | NS | 8/7/09 | NS | 8/27/10 | NS | 9/8/11 | 0.0 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-24397 | 45 | 55 | $CO_2$ (%) | 7/14/08 | 0.4 | 8/7/09 | 0.2 | 8/27/10 | 0.5 | 9/8/11 | 0.54 |
| | | | $O_2$ (%) | 7/14/08 | 20.9 | 8/7/09 | 20.4 | 8/27/10 | 18.5 | 9/8/11 | 20.4 |
| | | | PID (ppm) | 7/14/08 | NS | 8/7/09 | NS | 8/27/10 | NS | 9/8/11 | 0.0 |
| | 85 | 95 | $CO_2$ (%) | 7/14/08 | 0.4 | 8/7/09 | 0.2 | 8/27/10 | 0.5 | 9/8/11 | 0.62 |
| | | | $O_2$ (%) | 7/14/08 | 21 | 8/7/09 | 20.1 | 8/27/10 | 18.4 | 9/8/11 | 20.5 |
| | | | PID (ppm) | 7/14/08 | NS | 8/7/09 | NS | 8/27/10 | NS | 9/8/11 | 0.0 |
| | 125 | 135 | $CO_2$ (%) | 7/14/08 | 0.4 | 8/7/09 | 0.9 | 8/27/10 | 0.6 | 9/8/11 | 0.74 |
| | | | $O_2$ (%) | 7/14/08 | 21.1 | 8/7/09 | 19.9 | 8/27/10 | 18.3 | 9/8/11 | 20.5 |
| | | | PID (ppm) | 7/14/08 | NS | 8/7/09 | NS | 8/27/10 | NS | 9/8/11 | 0.0 |
| | 160 | 170 | $CO_2$ (%) | 7/14/08 | 0.5 | 8/7/09 | 0.3 | 8/27/10 | 0.6 | 9/8/11 | 0.76 |
| | | | $O_2$ (%) | 7/14/08 | 21 | 8/7/09 | 19.9 | 8/27/10 | 18.3 | 9/8/11 | 20.2 |
| | | | PID (ppm) | 7/14/08 | NS | 8/7/09 | NS | 8/27/10 | NS | 9/8/11 | 0.1 |
| | 183 | 193 | $CO_2$ (%) | 7/14/08 | 0.1[f] | 8/7/09 | 0[f] | 8/27/10 | 0[f] | 9/8/11 | 0.07 |
| | | | $O_2$ (%) | 7/14/08 | 21.1[f] | 8/7/09 | 19.8[f] | 8/27/10 | 19.5[f] | 9/8/11 | 20.9 |
| | | | PID (ppm) | 7/14/08 | NS | 8/7/09 | NS | 8/27/10 | NS | 9/8/11 | 0.0 |
| | 234.75 | 244.3 | $CO_2$ (%) | 7/14/08 | 0 | 8/7/09 | 0 | 8/27/10 | 0.3 | 9/8/11 | 0.21 |
| | | | $O_2$ (%) | 7/14/08 | 21.1 | 8/7/09 | 19.3 | 8/27/10 | 18.3 | 9/8/11 | 19.9 |
| | | | PID (ppm) | 7/14/08 | NS | 8/7/09 | NS | 8/27/10 | NS | 9/8/11 | 0.0 |
| 54-25105 | Ambient | Ambient | $CO_2$ (%) | 8/1/08 | 0 | 8/24/09 | 0 | 10/5/10 | 0 | NS | NS |
| | | | $O_2$ (%) | 8/1/08 | 21 | 8/24/09 | 21.1 | 10/5/10 | 19 | NS | NS |
| | | | PID (ppm) | 8/1/08 | NS | 8/24/09 | NS | 10/5/10 | NS | NS | NS |
| | 485 | 701 | $CO_2$ (%) | 8/1/08 | 0 | 8/24/09 | 0 | 10/5/10 | 0 | NS | NS |
| | | | $O_2$ (%) | 8/1/08 | 21.4 | 8/24/09 | 21 | 10/5/10 | 19.4 | NS | NS |
| | | | PID (ppm) | 8/1/08 | NS | 8/24/09 | NS | 10/5/10 | NS | NS | NS |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-27436 | Ambient | Ambient | $CO_2$ (%) | 7/18/08 | 0 | 8/19/09 | 0 | 9/14/10 | 0 | 9/6/11 | 0.0 |
| | | | $O_2$ (%) | 7/18/08 | 21.2 | 8/19/09 | 21.4 | 9/14/10 | 19.4 | 9/6/11 | 20.9 |
| | | | PID (ppm) | 7/18/08 | NS | 8/19/09 | NS | 9/14/10 | NS | 9/6/11 | 0.0 |
| | 40 | 50 | $CO_2$ (%) | 7/18/08 | 0 | 8/19/09 | 0.5 | 9/14/10 | 0.7 | 9/6/11 | 0.30 |
| | | | $O_2$ (%) | 7/18/08 | 21.2 | 8/19/09 | 20.1 | 9/14/10 | 18.3 | 9/6/11 | 19.8 |
| | | | PID (ppm) | 7/18/08 | NS | 8/19/09 | NS | 9/14/10 | NS | 9/6/11 | 6.8 |
| | 65 | 75 | $CO_2$ (%) | 7/18/08 | 0.9 | 8/19/09 | 0.5 | 9/14/10 | 0.8 | 9/6/11 | 0.23 |
| | | | $O_2$ (%) | 7/18/08 | 20.5 | 8/19/09 | 20.1 | 9/14/10 | 18.3 | 9/6/11 | 20.1 |
| | | | PID (ppm) | 7/18/08 | NS | 8/19/09 | NS | 9/14/10 | NS | 9/6/11 | 4.9 |
| | 110 | 120 | $CO_2$ (%) | 7/18/08 | 0.9 | 8/19/09 | 0.5 | 9/14/10 | 0.7 | 9/6/11 | 0.30 |
| | | | $O_2$ (%) | 7/18/08 | 20.5 | 8/19/09 | 20 | 9/14/10 | 18.3 | 9/6/11 | 20.1 |
| | | | PID (ppm) | 7/18/08 | NS | 8/19/09 | NS | 9/14/10 | NS | 9/6/11 | 7.7 |
| | 158 | 168 | $CO_2$ (%) | 7/18/08 | 0.8 | 8/19/09 | 0.5 | 9/14/10 | 0.7 | 9/6/11 | 0.30 |
| | | | $O_2$ (%) | 7/18/08 | 20.2 | 8/19/09 | 20 | 9/14/10 | 18.4 | 9/6/11 | 20.0 |
| | | | PID (ppm) | 7/18/08 | NS | 8/19/09 | NS | 9/14/10 | NS | 9/6/11 | 5.6 |
| | 180 | 190 | $CO_2$ (%) | 7/18/08 | 0.3 | 8/19/09 | 0.2 | 9/14/10 | 0.4 | 9/6/11 | 0.18 |
| | | | $O_2$ (%) | 7/18/08 | 21.1 | 8/19/09 | 20.1 | 9/14/10 | 18.5 | 9/6/11 | 20.2 |
| | | | PID (ppm) | 7/18/08 | NS | 8/19/09 | NS | 9/14/10 | NS | 9/6/11 | 1.7 |
| 54-612257 | Ambient | Ambient | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0 | 9/28/11 | 0.04 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 19.2 | 9/28/11 | 20.9 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 0.0 |
| | 64 | 69 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.6 | 9/28/11 | 0.44 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.4 | 9/28/11 | 20.2 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 0.7 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-612257 | 82.5 | 87.5 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.7 | 9/28/11 | 0.45 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.3 | 9/28/11 | 20.2 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 1.1 |
| | 95 | 100 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.6 | 9/28/11 | 0.45 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.4 | 9/28/11 | 20.1 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 0.8 |
| | 130 | 135 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.6 | 9/28/11 | 0.44 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.4 | 9/28/11 | 20.3 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 0.8 |
| 54-612258 | Ambient | Ambient | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0 | 9/28/11 | 0.04 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 19.3 | 9/28/11 | 20.9 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 0.0 |
| | 20 | 25 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.8 | 9/28/11 | 0.46 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.2 | 9/28/11 | 20.3 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 2.1 |
| | 40 | 45 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.8 | 9/28/11 | 0.47 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.2 | 9/28/11 | 20.3 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 1.8 |
| | 56.2 | 61.2 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.8 | 9/28/11 | 0.47 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.2 | 9/28/11 | 20.1 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 2.5 |
| | 66.5 | 71.5 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.8 | 9/28/11 | 0.47 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.2 | 9/28/11 | 20.4 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 2.6 |

**Table D-1.0-1 (continued)**

| Vapor-Monitoring Well | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008[b] | | FY2009[b] | | FY2010[b] | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result | Collection Date | Result | Collection Date | Result | Collection Date | Result |
| 54-612258 | 95 | 100 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.8 | 9/28/11 | 0.47 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.3 | 9/28/11 | 20.4 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 2.8 |
| | 130 | 135 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.8 | 9/28/11 | 0.47 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.5 | 9/28/11 | 20.4 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 2.6 |
| | 114.2 | 149.2 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.6 | 9/28/11 | 0.48 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.9 | 9/28/11 | 20.3 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 1.9 |
| | 170 | 175 | $CO_2$ (%) | NS | NS | NS | NS | 9/8/10 | 0.7 | 9/28/11 | 0.48 |
| | | | $O_2$ (%) | NS | NS | NS | NS | 9/8/10 | 18.7 | 9/28/11 | 20.3 |
| | | | PID (ppm) | NS | NS | NS | NS | 9/8/10 | NS | 9/28/11 | 2.5 |

[a] bgs = Below ground surface.

[b] Samples taken with a LANDTEC GEM-2000 gas monitor.

[c] PID = Photoionization detector.

[d] NS = Not sampled.

[e] Partially blocked port. Results may not be representative of sample depth.

[f] Blocked port. Results may not be representative of sample depth.

**Table D-1.0-2**
**Summary of VOCs Detected in Pore-Gas Samples at MDA G, in µg/m$^3$**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) |
| 54-01107 | 55.5 | 57.5 | Chlorodifluoromethane | 07/23/08 | 200 | 08/11/09 | 330 | 09/21/10 | 250 | 09/06/11 | 160 |
| | | | Chloroform | 07/23/08 | ND[b] | 08/11/09 | ND | 09/21/10 | 54 | 09/06/11 | 47 (J) |
| | | | Dichlorodifluoromethane | 07/23/08 | 610 | 08/11/09 | 540 | 09/21/10 | 700 | 09/06/11 | 620 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 250 | 08/11/09 | 200 | 09/21/10 | 250 | 09/06/11 | 250 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 760 | 08/11/09 | 540 | 09/21/10 | 720 | 09/06/11 | 650 |
| | | | Tetrachloroethene | 07/23/08 | 3000 | 08/11/09 | 2500 | 09/21/10 | 3200 | 09/06/11 | 2200 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 4600 | 08/11/09 | 4200 | 09/21/10 | 4600 | 09/06/11 | 3500 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 16000 | 08/11/09 | 15000 | 09/21/10 | 18000 | 09/06/11 | 13000 |
| | | | Trichloroethene | 07/23/08 | 330 | 08/11/09 | 330 | 09/21/10 | 470 | 09/06/11 | 470 |
| | | | Trichlorofluoromethane | 07/23/08 | 1200 | 08/11/09 | 1000 | 09/21/10 | 1200 | 09/06/11 | 840 |
| | 99 | 101 | Chlorodifluoromethane | 07/23/08 | 200 | 08/11/09 | ND | 09/21/10 | 260 | 09/06/11 | 170 |
| | | | Chloroform | 07/23/08 | 51 | 08/11/09 | ND | 09/21/10 | 52 | 09/06/11 | 47 |
| | | | Dichlorodifluoromethane | 07/23/08 | 630 | 08/11/09 | 500 | 09/21/10 | 740 | 09/06/11 | 730 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 220 | 08/11/09 | 180 | 09/21/10 | 270 | 09/06/11 | 270 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 820 | 08/11/09 | 600 | 09/21/10 | 940 | 09/06/11 | 960 |
| | | | Methylene Chloride | 07/23/08 | 37 | 08/11/09 | ND | 09/21/10 | ND | 09/06/11 | ND |
| | | | Tetrachloroethene | 07/23/08 | 3100 | 08/11/09 | 2600 | 09/21/10 | **4000** | 09/06/11 | 2800 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 4400 | 08/11/09 | 4000 | 09/21/10 | 4800 | 09/06/11 | 3800 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 15000 | 08/11/09 | 14000 | 09/21/10 | 20000 | 09/06/11 | 15000 |
| | | | Trichloroethene | 07/23/08 | 310 | 08/11/09 | 320 | 09/21/10 | 520 | 09/06/11 | 510 |
| | | | Trichlorofluoromethane | 07/23/08 | 1100 | 08/11/09 | 1000 | 09/21/10 | 1300 | 09/06/11 | 930 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) |
| 54-01110 | 59 | 61 | Dichlorodifluoromethane | 07/23/08 | 150 | 08/25/09 | 160 | 09/15/10 | 130 | 09/07/11 | 120 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 410 | 08/25/09 | 450 | 09/15/10 | 380 | 09/07/11 | 460 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 600 | 08/25/09 | 680 | 09/15/10 | 390 | 09/07/11 | 380 |
| | | | Ethanol | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 150 | 09/07/11 | ND |
| | | | Ethyltoluene[4-] | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 52 | 09/07/11 | ND |
| | | | Tetrachloroethene | 07/23/08 | 320 | 08/25/09 | 310 | 09/15/10 | 310 | 09/07/11 | 230 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 1900 | 08/25/09 | 1900 | 09/15/10 | 1500 | 09/07/11 | 1300 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 18000 | 08/25/09 | 17000 | 09/15/10 | 17000 | 09/07/11 | 12000 |
| | | | Trichloroethene | 07/23/08 | 580 | 08/25/09 | 950 | 09/15/10 | 440 | 09/07/11 | 440 |
| | | | Trichlorofluoromethane | 07/23/08 | 110 | 08/25/09 | ND | 09/15/10 | 100 | 09/07/11 | 72 |
| | | | Trimethylbenzene[1,2,4-] | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 62 | 09/07/11 | ND |
| | | | Xylene[1,3-]+Xylene[1,4-] | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 66 | 09/07/11 | ND |
| | 89 | 91 | Chloroform | 07/23/08 | 56 | 08/25/09 | ND | 09/15/10 | ND | 09/07/11 | ND |
| | | | Dichlorodifluoromethane | 07/23/08 | 230 | 08/25/09 | 210 | 09/15/10 | 160 | 09/07/11 | 170 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 490 | 08/25/09 | 510 | 09/15/10 | 370 | 09/07/11 | 530 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 960 | 08/25/09 | 930 | 09/15/10 | 500 | 09/07/11 | 580 |
| | | | Tetrachloroethene | 07/23/08 | 460 | 08/25/09 | 430 | 09/15/10 | 350 | 09/07/11 | 340 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 2400 | 08/25/09 | 2300 | 09/15/10 | 1600 | 09/07/11 | 1600 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 20000 | 08/25/09 | 20000 | 09/15/10 | 17000 | 09/07/11 | 14000 |
| | | | Trichloroethene | 07/23/08 | 860 | 08/25/09 | 790 | 09/15/10 | 570 | 09/07/11 | 660 |
| | | | Trichlorofluoromethane | 07/23/08 | 150 | 08/25/09 | ND | 09/15/10 | 120 | 09/07/11 | 86 |
| 54-01111 | 19 | 21 | Benzene | 07/16/08 | ND | 08/25/09 | ND | 09/15/10 | 35 | 09/07/11 | ND |
| | | | Dichlorodifluoromethane | 07/16/08 | 330 | 08/25/09 | 240 | 09/15/10 | 210 | 09/07/11 | 46 |
| | | | Dichloroethane[1,1-] | 07/16/08 | 160 | 08/25/09 | 190 | 09/15/10 | 180 | 09/07/11 | 160 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-01111 | 19 | 21 | Dichloroethene[1,1-] | 07/16/08 | 900 | 08/25/09 | 790 | 09/15/10 | 610 | 09/07/11 | 180 |
| | | | Methylene Chloride | 07/16/08 | 110 (J) | 08/25/09 | 240 | 09/15/10 | 170 | 09/07/11 | 50 |
| | | | Tetrachloroethene | 07/16/08 | 210 | 08/25/09 | ND | 09/15/10 | 180 | 09/07/11 | 65 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/16/08 | 3900 | 08/25/09 | 4300 | 09/15/10 | 4500 | 09/07/11 | 3000 |
| | | | Trichloroethane[1,1,1-] | 07/16/08 | 14000 | 08/25/09 | 17000 | 09/15/10 | 25000 | 09/07/11 | 23000 |
| | | | Trichloroethene | 07/16/08 | 270 | 08/25/09 | 220 | 09/15/10 | 180 | 09/07/11 | 74 |
| | | | Trichlorofluoromethane | 07/16/08 | 140 | 08/25/09 | ND | 09/15/10 | 97 | 09/07/11 | ND |
| | 138 | 140 | Carbon Disulfide | 07/16/08 | 74 | 08/25/09 | ND | 09/15/10 | ND | 09/07/11 | ND |
| | | | Dichloroethane[1,1-] | 07/16/08 | 160 | 08/25/09 | ND | 09/15/10 | 190 | 09/07/11 | 110 |
| | | | Dichloroethene[1,1-] | 07/16/08 | 350 | 08/25/09 | 1000 | 09/15/10 | 180 | 09/07/11 | 56 |
| | | | Methylene Chloride | 07/16/08 | 160 (J) | 08/25/09 | 380 | 09/15/10 | 180 | 09/07/11 | 80 |
| | | | Tetrachloroethene | 07/16/08 | ND | 08/25/09 | ND | 09/15/10 | 75 | 09/07/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/16/08 | 7400 | 08/25/09 | 11000 | 09/15/10 | 7700 | 09/07/11 | 3700 |
| | | | Trichloroethane[1,1,1-] | 07/16/08 | 24000 | 08/25/09 | **50000** | 09/15/10 | **48000** | 09/07/11 | 21000 |
| 54-01115 | 39 | 41 | Chloroform | 07/17/08 | 270 | 08/11/09 | 180 | 09/21/10 | 220 | 09/08/11 | 230 |
| | | | Dichlorodifluoromethane | 07/17/08 | 1700 | 08/11/09 | 840 | 09/21/10 | 1200 | 09/08/11 | 1300 |
| | | | Dichloroethane[1,1-] | 07/17/08 | 500 | 08/11/09 | 260 | 09/21/10 | 310 | 09/08/11 | 360 |
| | | | Dichloroethene[1,1-] | 07/17/08 | 1100 | 08/11/09 | 520 | 09/21/10 | 640 | 09/08/11 | 720 |
| | | | Tetrachloroethene | 07/17/08 | 1200 | 08/11/09 | 910 | 09/21/10 | 1200 | 09/08/11 | 1100 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/17/08 | 3100 | 08/11/09 | 2200 | 09/21/10 | 2300 | 09/08/11 | 2200 |
| | | | Trichloroethane[1,1,1-] | 07/17/08 | 18000 | 08/11/09 | 11000 | 09/21/10 | 14000 | 09/08/11 | 13000 |
| | | | Trichloroethene | 07/17/08 | 380 | 08/11/09 | 250 | 09/21/10 | 280 | 09/08/11 | 300 |
| | | | Trichlorofluoromethane | 07/17/08 | 800 | 08/11/09 | 500 | 09/21/10 | 660 | 09/08/11 | 540 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-01115 | 67 | 69 | Chloroform | 07/17/08 | 260 | 08/11/09 | 170 | 09/21/10 | 220 | 09/08/11 | 200 |
| | | | Dichlorodifluoromethane | 07/17/08 | 2000 | 08/11/09 | 1200 | 09/21/10 | 1700 | 09/08/11 | 1500 |
| | | | Dichloroethane[1,1-] | 07/17/08 | 830 | 08/11/09 | 590 | 09/21/10 | 700 | 09/08/11 | 720 |
| | | | Dichloroethene[1,1-] | 07/17/08 | 1800 | 08/11/09 | 1200 | 09/21/10 | 1400 | 09/08/11 | 1400 |
| | | | Tetrachloroethene | 07/17/08 | 1300 | 08/11/09 | 1100 | 09/21/10 | 1600 | 09/08/11 | 1200 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/17/08 | 4400 | 08/11/09 | 3800 | 09/21/10 | 4200 | 09/08/11 | 3400 |
| | | | Trichloroethane[1,1,1-] | 07/17/08 | 27000 | 08/11/09 | 21000 | 09/21/10 | 29000 | 09/08/11 | 23000 |
| | | | Trichloroethene | 07/17/08 | 550 | 08/11/09 | 500 | 09/21/10 | 600 | 09/08/11 | 570 |
| | | | Trichlorofluoromethane | 07/17/08 | 820 | 08/11/09 | 520 | 09/21/10 | 700 | 09/08/11 | 520 |
| 54-01116 | 20 | 25 | Cyclohexane | 07/08/08 | 32000 | 08/10/09 | 12000 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | **21000** | 08/10/09 | **14000** | 08/31/10 | **16000** | 09/20/11 | **14000** |
| | | | Dichloroethene[1,1-] | 07/08/08 | **43000** | 08/10/09 | **6600** | 08/31/10 | **6200** | 09/20/11 | 5400 |
| | | | Tetrachloroethene | 07/08/08 | ND | 08/10/09 | **3800** | 08/31/10 | **5400** | 09/20/11 | 3400 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 34000 | 08/10/09 | 12000 | 08/31/10 | 15000 | 09/20/11 | 22000 |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | **1400000** | 08/10/09 | **670000** | 08/31/10 | **690000** | 09/20/11 | **740000** |
| | | | Trichloroethene | 07/08/08 | **14000** | 08/10/09 | **15000** | 08/31/10 | **19000** | 09/20/11 | **19000** |
| | 185.3 | 190.3 | Carbon Disulfide | 07/08/08 | ND | 08/10/09 | 8 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Chloroform | 07/08/08 | ND | 08/10/09 | ND | 08/31/10 | 680 | 09/20/11 | 730 |
| | | | Cyclohexane | 07/08/08 | 94 | 08/10/09 | 38 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Dichlorodifluoromethane | 07/08/08 | 24 | 08/10/09 | 16 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | 150 | 08/10/09 | 100 | 08/31/10 | **10000** | 09/20/11 | **9600** |
| | | | Dichloroethane[1,2-] | 07/08/08 | ND | 08/10/09 | ND | 08/31/10 | **340** | 09/20/11 | ND |
| | | | Dichloroethene[1,1-] | 07/08/08 | 460 | 08/10/09 | 250 | 08/31/10 | **12000** | 09/20/11 | **12000** |
| | | | Tetrachloroethene | 07/08/08 | 51 | 08/10/09 | 38 | 08/31/10 | 2500 | 09/20/11 | 2300 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) |
| 54-01116 | 185.3 | 190.3 | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 200 | 08/10/09 | 100 | 08/31/10 | 7600 | 09/20/11 | 6700 |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | 4700 | 08/10/09 | 2300 | 08/31/10 | **310000** | 09/20/11 | **300000** |
| | | | Trichloroethene | 07/08/08 | 100 | 08/10/09 | 69 | 08/31/10 | **5800** | 09/20/11 | **6300** |
| | | | Trichlorofluoromethane | 07/08/08 | ND | 08/10/09 | 12 | 08/31/10 | ND | 09/20/11 | ND |
| 54-01117 | 18.5 | 22.5 | Chloroform | 07/08/08 | ND | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | 420 |
| | | | Cyclohexane | 07/08/08 | 2600 | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | 3000 | 08/07/09 | 2400 | 09/01/10 | 3400 | 09/21/11 | 3600 |
| | | | Dichloroethene[1,1-] | 07/08/08 | **6700** | 08/07/09 | 1900 | 09/01/10 | 2200 | 09/21/11 | 2600 (J+) |
| | | | Tetrachloroethene | 07/08/08 | 1400 | 08/07/09 | 1100 | 09/01/10 | 1400 | 09/21/11 | 1500 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 4700 | 08/07/09 | 2600 | 09/01/10 | 2500 | 09/21/11 | 3200 |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | **130000** | 08/07/09 | **96000** | 09/01/10 | **120000** | 09/21/11 | **130000** |
| | | | Trichloroethene | 07/08/08 | **4200** | 08/07/09 | **4300** | 09/01/10 | **5200** | 09/21/11 | **5900** |
| | 177.3 | 182.3 | Chloroform | 07/08/08 | 5.7 | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | ND |
| | | | Cyclohexane | 07/08/08 | 34 | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | ND |
| | | | Dichlorodifluoromethane | 07/08/08 | 21 | 08/07/09 | 18 | 09/01/10 | ND | 09/21/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | 90 | 08/07/09 | 57 | 09/01/10 | ND | 09/21/11 | 87 |
| | | | Dichloroethene[1,1-] | 07/08/08 | 260 | 08/07/09 | 160 | 09/01/10 | 200 | 09/21/11 | 220 (J+) |
| | | | Tetrachloroethene | 07/08/08 | 41 | 08/07/09 | 30 | 09/01/10 | ND | 09/21/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 82 | 08/07/09 | 56 | 09/01/10 | ND | 09/21/11 | ND |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | 1700 | 08/07/09 | 830 | 09/01/10 | 1200 | 09/21/11 | 1300 |
| | | | Trichloroethene | 07/08/08 | 62 | 08/07/09 | 51 | 09/01/10 | ND | 09/21/11 | 88 |
| | | | Trichlorofluoromethane | 07/08/08 | 15 | 08/07/09 | 13 | 09/01/10 | ND | 09/21/11 | ND |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) |
| 54-01121 | 19 | 21 | Butanol[1-] | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 1200 | 09/26/11 | ND |
| | | | Chloroform | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 530 | 09/26/11 | 470 |
| | | | Dichlorodifluoromethane | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 600 | 09/26/11 | 470 |
| | | | Dichloroethane[1,1-] | 07/14/08 | **10000** | 08/25/09 | **16000** | 09/22/10 | **14000** | 09/26/11 | **12000** |
| | | | Dichloroethene[1,1-] | 07/14/08 | **31000** | 08/25/09 | **42000** | 09/22/10 | **33000** | 09/26/11 | **25000** |
| | | | Ethanol | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 430 | 09/26/11 | ND |
| | | | Methylene Chloride | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | **1000** | 09/26/11 | ND |
| | | | Tetrachloroethene | 07/14/08 | **4100** | 08/25/09 | **6700** | 09/22/10 | **5800** | 09/26/11 | **5200** |
| | | | Toluene | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 220 | 09/26/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 1400 | 08/25/09 | 2000 | 09/22/10 | 1300 | 09/26/11 | 1200 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **160000** | 08/25/09 | **220000** | 09/22/10 | **190000** | 09/26/11 | **160000** |
| | | | Trichloroethene | 07/14/08 | **6200** | 08/25/09 | **8900** | 09/22/10 | **7900** | 09/26/11 | **6400** |
| | 120 | 122 | Chloroform | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 390 | 09/26/11 | 460 |
| | | | Dichlorodifluoromethane | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 390 | 09/26/11 | 340 |
| | | | Dichloroethane[1,1-] | 07/14/08 | **5800** | 08/25/09 | **10000** | 09/22/10 | **9300** | 09/26/11 | **10000** |
| | | | Dichloroethene[1,1-] | 07/14/08 | **15000** | 08/25/09 | **23000** | 09/22/10 | **17000** | 09/26/11 | **20000** |
| | | | Methylene Chloride | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 110 | 09/26/11 | ND |
| | | | Tetrachloroethene | 07/14/08 | **4100** | 08/25/09 | **5000** | 09/22/10 | **4600** | 09/26/11 | **5300** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 760 | 09/26/11 | 970 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **120000** | 08/25/09 | **160000** | 09/22/10 | **130000** | 09/26/11 | **140000** |
| | | | Trichloroethene | 07/14/08 | **3300** | 08/25/09 | **5700** | 09/22/10 | **4800** | 09/26/11 | **6000** |
| 54-01126 | 34 | 36 | Chloroform | NS[c] | NS | 09/29/09 | ND | 09/28/10 | 440 | 08/30/11 | 470 |
| | | | Dichlorodifluoromethane | NS | NS | 09/29/09 | ND | 09/28/10 | 5300 | 08/30/11 | 2000 |
| | | | Dichloroethane[1,1-] | NS | NS | 09/29/09 | **8000** | 09/28/10 | **11000** | 08/30/11 | **12000** |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-01126 | 34 | 36 | Dichloroethene[1,1-] | NS | NS | 09/29/09 | **8400** | 09/28/10 | **9400** | 08/30/11 | **10000** |
| | | | Methylene Chloride | NS | NS | 09/29/09 | ND | 09/28/10 | 460 | 08/30/11 | ND |
| | | | Tetrachloroethene | NS | NS | 09/29/09 | **4200** | 09/28/10 | **7300** | 08/30/11 | **8000** |
| | | | Toluene | NS | NS | 09/29/09 | 450 | 09/28/10 | ND | 08/30/11 | ND |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/29/09 | **95000** | 09/28/10 | **140000** | 08/30/11 | **160000** |
| | | | Trichloroethene | NS | NS | 09/29/09 | **45000** | 09/28/10 | **69000** | 08/30/11 | **45000** |
| | 48 | 50 | Chloroform | NS | NS | 09/29/09 | ND | 09/28/10 | 810 | 08/30/11 | 470 |
| | | | Dichlorodifluoromethane | NS | NS | 09/29/09 | ND | 09/28/10 | 8700 | 08/30/11 | 2000 |
| | | | Dichloroethane[1,1-] | NS | NS | 09/29/09 | **12000** | 09/28/10 | **22000** | 08/30/11 | **12000** |
| | | | Dichloroethene[1,1-] | NS | NS | 09/29/09 | **13000** | 09/28/10 | **19000** | 08/30/11 | **9700** |
| | | | Methylene Chloride | NS | NS | 09/29/09 | ND | 09/28/10 | 600 | 08/30/11 | ND |
| | | | Tetrachloroethene | NS | NS | 09/29/09 | **6400** | 09/28/10 | **14000** | 08/30/11 | **7900** |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/29/09 | **150000** | 09/28/10 | **280000** | 08/30/11 | **160000** |
| | | | Trichloroethene | NS | NS | 09/29/09 | **65000** | 09/28/10 | **110000** | 08/30/11 | **43000** |
| 54-01128 | 19 | 21 | Chloroform | 07/11/08 | 340 | 08/21/09 | ND | 09/24/10 | 350 | 09/21/11 | 230 |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | 190 | 09/21/11 | 130 (J+) |
| | | | Dichloroethane[1,1-] | 07/11/08 | 4900 | 08/21/09 | 4700 | 09/24/10 | 4800 | 09/21/11 | 2800 |
| | | | Dichloroethene[1,1-] | 07/11/08 | **11000** | 08/21/09 | **8000** | 09/24/10 | **5900** | 09/21/11 | 3600 (J+) |
| | | | Methylene Chloride | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | **660** | 09/21/11 | ND |
| | | | Tetrachloroethene | 07/11/08 | 3300 | 08/21/09 | 3500 | 09/24/10 | 3000 | 09/21/11 | 1900 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **130000** | 08/21/09 | **100000** | 09/24/10 | **98000** | 09/21/11 | **58000** |
| | | | Trichloroethene | 07/11/08 | 670 | 08/21/09 | 930 (J) | 09/24/10 | 670 (J+) | 09/21/11 | 410 |
| | 38 | 40 | Chloroform | 07/11/08 | 730 | 08/21/09 | ND | 09/24/10 | 570 | 09/21/11 | 610 |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | 220 | 09/21/11 | 390 (J+) |
| | | | Dichloroethane[1,1-] | 07/11/08 | **9000** | 08/21/09 | **8900** | 09/24/10 | **8100** | 09/21/11 | **8200** |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-01128 | 38 | 40 | Dichloroethane[1,2-] | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | 170 | 09/21/11 | 170 |
| | | | Dichloroethene[1,1-] | 07/11/08 | **20000** | 08/21/09 | **15000** | 09/24/10 | **10000** | 09/21/11 | **11000 (J+)** |
| | | | Methylene Chloride | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | **1900** | 09/21/11 | ND |
| | | | Tetrachloroethene | 07/11/08 | **5400** | 08/21/09 | **4900** | 09/24/10 | **3900** | 09/21/11 | **4400** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | ND | 09/21/11 | 280 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **230000** | 08/21/09 | **180000** | 09/24/10 | **150000** | 09/21/11 | **150000** |
| | | | Trichloroethene | 07/11/08 | 1500 | 08/21/09 | ND | 09/24/10 | 1300 (J+) | 09/21/11 | 1400 |
| 54-02009 | 34.5 | 39.5 | Chloroform | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | ND | 09/16/11 | 250 |
| | | | Cyclohexane | 07/11/08 | ND | 08/19/09 | 1700 | 09/01/10 | ND | 09/16/11 | ND |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | 160 | 09/16/11 | 710 |
| | | | Dichloroethane[1,1-] | 07/11/08 | **6100** | 08/19/09 | 5700 | 09/01/10 | 1500 | 09/16/11 | 5300 |
| | | | Dichloroethene[1,1-] | 07/11/08 | **14000** | 08/19/09 | **8600** | 09/01/10 | 2100 | 09/16/11 | **7500** |
| | | | Ethanol | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | 140 | 09/16/11 | ND |
| | | | Tetrachloroethene | 07/11/08 | 3200 | 08/19/09 | 2600 | 09/01/10 | 700 | 09/16/11 | 2600 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **140000** | 08/19/09 | **100000** | 09/01/10 | 28000 | 09/16/11 | **92000** |
| | | | Trichloroethene | 07/11/08 | 1300 | 08/19/09 | 1200 | 09/01/10 | 420 | 09/16/11 | 1600 |
| | 89.5 | 94.5 | Chloroform | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | ND | 09/16/11 | 310 |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | ND | 09/16/11 | 540 |
| | | | Dichloroethane[1,1-] | 07/11/08 | **6400** | 08/19/09 | **6400** | 09/01/10 | **6400** | 09/16/11 | **7400** |
| | | | Dichloroethene[1,1-] | 07/11/08 | **18000** | 08/19/09 | **12000** | 09/01/10 | **11000** | 09/16/11 | **13000** |
| | | | Tetrachloroethene | 07/11/08 | **3700** | 08/19/09 | 3300 | 09/01/10 | 2900 | 09/16/11 | 3400 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **170000** | 08/19/09 | **130000** | 09/01/10 | **120000** | 09/16/11 | **130000** |
| | | | Trichloroethene | 07/11/08 | 1500 | 08/19/09 | 1300 | 09/01/10 | 1500 | 09/16/11 | 1800 |
| 54-02010 | 27.5 | 32.5 | Chloroform | 07/09/08 | ND | 08/19/09 | ND | 08/31/10 | 180 | 09/26/11 | 210 |
| | | | Dichlorodifluoromethane | 07/09/08 | 390 | 08/19/09 | 380 | 08/31/10 | 450 | 09/26/11 | 560 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) |
| 54-02010 | 27.5 | 32.5 | Dichloroethane[1,1-] | 07/09/08 | 1400 | 08/19/09 | 1400 | 08/31/10 | 1400 | 09/26/11 | 1500 |
| | | | Dichloroethene[1,1-] | 07/09/08 | 1600 | 08/19/09 | 660 | 08/31/10 | 580 | 09/26/11 | 590 |
| | | | Tetrachloroethene | 07/09/08 | 780 | 08/19/09 | 730 | 08/31/10 | 880 | 09/26/11 | 800 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 4300 | 08/19/09 | 3900 | 08/31/10 | 4200 | 09/26/11 | 4800 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | **43000** | 08/19/09 | 38000 | 08/31/10 | 39000 | 09/26/11 | **48000** |
| | | | Trichloroethene | 07/09/08 | 1400 | 08/19/09 | 1300 | 08/31/10 | 1300 | 09/26/11 | 1600 |
| | | | Trichlorofluoromethane | 07/09/08 | 1700 | 08/19/09 | 1400 | 08/31/10 | 1700 | 09/26/11 | 1800 |
| | 92.5 | 97.5 | Chloroform | 07/09/08 | ND | 08/19/09 | ND | 08/31/10 | 120 | 09/26/11 | 200 |
| | | | Dichlorodifluoromethane | 07/09/08 | 650 | 08/19/09 | 510 | 08/31/10 | 490 | 09/26/11 | 970 |
| | | | Dichloroethane[1,1-] | 07/09/08 | 2000 | 08/19/09 | 1800 | 08/31/10 | 1600 | 09/26/11 | 2400 |
| | | | Dichloroethene[1,1-] | 07/09/08 | 3700 | 08/19/09 | 2000 | 08/31/10 | 1800 | 09/26/11 | 2700 |
| | | | Tetrachloroethene | 07/09/08 | 1100 | 08/19/09 | 910 | 08/31/10 | 870 | 09/26/11 | 1200 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 7600 | 08/19/09 | 6500 | 08/31/10 | 5200 | 09/26/11 | 7400 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | **56000** | 08/19/09 | **46000** | 08/31/10 | 37000 | 09/26/11 | **63000** |
| | | | Trichloroethene | 07/09/08 | 1200 | 08/19/09 | 1100 | 08/31/10 | 960 | 09/26/11 | 1400 |
| | | | Trichlorofluoromethane | 07/09/08 | 1800 | 08/19/09 | 1400 | 08/31/10 | 1200 | 09/26/11 | 2000 |
| 54-02032 | 20 | 20 | Chloroform | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 59 | 09/20/11 | 57 |
| | | | Dichlorodifluoromethane | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 56 | 09/20/11 | ND |
| | | | Dichloroethane[1,1-] | 07/10/08 | 1400 | 08/27/09 | 1300 | 08/30/10 | 1400 | 09/20/11 | 1200 |
| | | | Dichloroethene[1,1-] | 07/10/08 | 3300 | 08/27/09 | 2400 | 08/30/10 | 2200 | 09/20/11 | 1900 |
| | | | Tetrachloroethene | 07/10/08 | 1600 | 08/27/09 | 1300 | 08/30/10 | 1400 | 09/20/11 | 1300 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 200 | 08/27/09 | 140 | 08/30/10 | 160 | 09/20/11 | 170 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-02032 | 20 | 20 | Trichloroethane[1,1,1-] | 07/10/08 | 22000 | 08/27/09 | 16000 | 08/30/10 | 17000 | 09/20/11 | 16000 |
| | | | Trichloroethene | 07/10/08 | 430 | 08/27/09 | 360 | 08/30/10 | 430 | 09/20/11 | 380 |
| | 156 | 156 | Chloroform | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 120 | 09/20/11 | 110 |
| | | | Dichlorodifluoromethane | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 150 | 09/20/11 | 130 |
| | | | Dichloroethane[1,1-] | 07/10/08 | 3300 | 08/27/09 | 4200 | 08/30/10 | 4000 | 09/20/11 | 3600 |
| | | | Dichloroethene[1,1-] | 07/10/08 | **10000** | 08/27/09 | **10000** | 08/30/10 | **8000** | 09/20/11 | **7000** |
| | | | Methylene Chloride | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 39 | 09/20/11 | ND |
| | | | Tetrachloroethene | 07/10/08 | 3000 | 08/27/09 | 3200 | 08/30/10 | 2700 | 09/20/11 | 2500 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 440 | 08/27/09 | 390 | 08/30/10 | 330 | 09/20/11 | 320 |
| | | | Trichloroethane[1,1,1-] | 07/10/08 | **43000** | 08/27/09 | 41000 | 08/30/10 | 37000 | 09/20/11 | 32000 |
| | | | Trichloroethene | 07/10/08 | 1000 | 08/27/09 | 1200 | 08/30/10 | 1000 | 09/20/11 | 1000 |
| | | | Trichlorofluoromethane | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 50 | 09/20/11 | ND |
| 54-02033 | 60 | 60 | Acetone | 07/09/08 | ND | 08/05/09 | 9.4 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Chlorodifluoromethane | 07/09/08 | 46 | 08/05/09 | 74 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Chloroform | 07/09/08 | 6.7 | 08/05/09 | 6.6 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Dichlorodifluoromethane | 07/09/08 | 170 | 08/05/09 | 140 | 08/26/10 | 140 | 08/31/11 | 150 |
| | | | Dichloroethene[1,1-] | 07/09/08 | 5.6 | 08/05/09 | ND | 08/26/10 | ND | 08/31/11 | ND |
| | | | Tetrachloroethene | 07/09/08 | 210 | 08/05/09 | 170 | 08/26/10 | 170 | 08/31/11 | 120 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 260 | 08/05/09 | 260 | 08/26/10 | 270 | 08/31/11 | 290 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | 190 | 08/05/09 | 210 | 08/26/10 | 190 | 08/31/11 | 180 |
| | | | Trichlorofluoromethane | 07/09/08 | 300 | 08/05/09 | 290 | 08/26/10 | 280 | 08/31/11 | 260 |
| | 277 | 277 | Acetone | 07/09/08 | ND | 08/05/09 | 26 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Butanone[2-] | 07/09/08 | ND | 08/05/09 | 5.6 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Chlorodifluoromethane | 07/09/08 | ND | 08/05/09 | 78 | 08/26/10 | ND | 08/31/11 | ND |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-02033 | 277 | 277 | Dichlorodifluoromethane | 07/09/08 | ND | 08/05/09 | 230 | 08/26/10 | 290 | 08/31/11 | 330 |
| | | | Dichloroethene[1,1-] | 07/09/08 | ND | 08/05/09 | 40 | 08/26/10 | 46 | 08/31/11 | 48 |
| | | | Methylene Chloride | 07/09/08 | ND | 08/05/09 | 3.2 (J) | 08/26/10 | ND | 08/31/11 | ND |
| | | | Tetrachloroethene | 07/09/08 | ND | 08/05/09 | 12 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | ND | 08/05/09 | 160 | 08/26/10 | 190 | 08/31/11 | 210 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | ND | 08/05/09 | 110 | 08/26/10 | 120 | 08/31/11 | 120 |
| | | | Trichloroethene | 07/09/08 | ND | 08/05/09 | 5.8 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Trichlorofluoromethane | 07/09/08 | ND | 08/05/09 | 400 | 08/26/10 | 480 | 08/31/11 | 460 |
| 54-22116 | 171 | 173 | Carbon Tetrachloride | 07/31/08 | 740 | 09/09/09 | ND | 09/27/10 | ND | 09/27/11 | ND |
| | | | Chloroform | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 520 | 09/27/11 | 550 |
| | | | Cyclohexane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 3100 | 09/27/11 | ND |
| | | | Dichlorobenzene[1,2-] | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 860 | 09/27/11 | ND |
| | | | Dichlorodifluoromethane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 8100 | 09/27/11 | 2300 |
| | | | Dichloroethane[1,1-] | 07/31/08 | **8800** | 09/09/09 | **9600** | 09/27/10 | **13000** | 09/27/11 | **11000** |
| | | | Dichloroethene[1,1-] | 07/31/08 | **7500** | 09/09/09 | **8700** | 09/27/10 | **8900** | 09/27/11 | **8200** |
| | | | Tetrachloroethene | 07/31/08 | **9000** | 09/09/09 | **11000** | 09/27/10 | **11000** | 09/27/11 | **14000** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | ND | 09/27/11 | 350 |
| | | | Trichloroethane[1,1,1-] | 07/31/08 | **140000** | 09/09/09 | **130000** | 09/27/10 | **180000** | 09/27/11 | **170000** |
| | | | Trichloroethane[1,1,2-] | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | **430** | 09/27/11 | ND |
| | | | Trichloroethene | 07/31/08 | **31000** | 09/09/09 | **37000** | 09/27/10 | **43000** | 09/27/11 | **21000** |
| | 189 | 191 | Carbon Tetrachloride | 07/31/08 | 1300 | 09/09/09 | ND | 09/27/10 | ND | 09/27/11 | ND |
| | | | Chloroform | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 780 | 09/27/11 | 1200 |
| | | | Cyclohexane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 4200 | 09/27/11 | ND |
| | | | Dichlorodifluoromethane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 11000 | 09/27/11 | 4700 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-22116 | 189 | 191 | Dichloroethane[1,1-] | 07/31/08 | **19000** | 09/09/09 | **11000** | 09/27/10 | **18000** | 09/27/11 | **24000** |
| | | | Dichloroethene[1,1-] | 07/31/08 | **14000** | 09/09/09 | **8500** | 09/27/10 | **11000** | 09/27/11 | **17000** |
| | | | Tetrachloroethene | 07/31/08 | **21000** | 09/09/09 | **12000** | 09/27/10 | **18000** | 09/27/11 | **32000** |
| | | | Trichloroethane[1,1,1-] | 07/31/08 | **310000** | 09/09/09 | **140000** | 09/27/10 | **240000** | 09/27/11 | **360000** |
| | | | Trichloroethane[1,1,2-] | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | **600** | 09/27/11 | ND |
| | | | Trichloroethene | 07/31/08 | **78000** | 09/09/09 | **49000** | 09/27/10 | **55000** | 09/27/11 | **41000** |
| | 243 | 245 | Dichloroethane[1,1-] | NS | NS | 09/15/09 | **6000** | NS | NS | NS | NS |
| | | | Dichloroethene[1,1-] | NS | NS | 09/15/09 | **5900** | NS | NS | NS | NS |
| | | | Tetrachloroethene | NS | NS | 09/15/09 | **6400** | NS | NS | NS | NS |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/15/09 | **92000** | NS | NS | NS | NS |
| | | | Trichloroethene | NS | NS | 09/15/09 | **5100** | NS | NS | NS | NS |
| | 261 | 263 | Dichloroethane[1,1-] | NS | NS | 09/15/09 | **6100** | NS | NS | NS | NS |
| | | | Dichloroethene[1,1-] | NS | NS | 09/15/09 | 4900 | NS | NS | NS | NS |
| | | | Tetrachloroethene | NS | NS | 09/15/09 | **7400** | NS | NS | NS | NS |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/15/09 | **88000** | NS | NS | NS | NS |
| | | | Trichloroethene | NS | NS | 09/15/09 | **7600** | NS | NS | NS | NS |
| | 279 | 281 | Chloroform | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 670 | 09/27/11 | 110 |
| | | | Cyclohexane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 3500 | 09/27/11 | ND |
| | | | Dichlorodifluoromethane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 4600 | 09/27/11 | 590 |
| | | | Dichloroethane[1,1-] | 07/31/08 | **33000** | 09/09/09 | **15000** | 09/27/10 | **14000** | 09/27/11 | 2500 |
| | | | Dichloroethene[1,1-] | 07/31/08 | **26000** | 09/09/09 | **13000** | 09/27/10 | **9300** | 09/27/11 | 2400 |
| | | | Tetrachloroethene | 07/31/08 | **36000** | 09/09/09 | **21000** | 09/27/10 | **16000** | 09/27/11 | 2300 |
| | | | Trichloroethane[1,1,1-] | 07/31/08 | **560000** | 09/09/09 | **230000** | 09/27/10 | **200000** | 09/27/11 | **44000** |
| | | | Trichloroethene | 07/31/08 | **29000** | 09/09/09 | **27000** | 09/27/10 | **16000** | 09/27/11 | **2600** |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-24370 | 35 | 45 | Chlorodifluoromethane | 07/10/08 | 26000 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | 2300 |
| | | | Chloroform | 07/10/08 | 720 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | 750 |
| | | | Dichlorodifluoromethane | 07/10/08 | 8400 | 08/27/09 | 7200 | 08/26/10 | ND | 09/02/11 | 7500 |
| | | | Dichloroethane[1,1-] | 07/10/08 | **12000** | 08/27/09 | **12000** | 08/26/10 | ND | 09/02/11 | **8100** |
| | | | Dichloroethene[1,1-] | 07/10/08 | **6400** | 08/27/09 | 4700 | 08/26/10 | ND | 09/02/11 | 2100 |
| | | | Dichloroethene[cis-1,2-] | 07/10/08 | ND | 08/27/09 | ND | 08/26/10 | **46000** | 09/02/11 | ND |
| | | | Tetrachloroethene | 07/10/08 | 1800 | 08/27/09 | 1900 | 08/26/10 | **220000** | 09/02/11 | 1500 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 59000 | 08/27/09 | 72000 | 08/26/10 | ND | 09/02/11 | 62000 |
| | | | Trichloroethane[1,1,1-] | 07/10/08 | **170000** | 08/27/09 | **160000** | 08/26/10 | ND | 09/02/11 | **120000** |
| | | | Trichloroethene | 07/10/08 | **19000** | 08/27/09 | **18000** | 08/26/10 | **1600000** | 09/02/11 | **16000** |
| | | | Trichlorofluoromethane | 07/10/08 | 15000 | 08/27/09 | 13000 | 08/26/10 | ND | 09/02/11 | 11000 |
| | 238.7 | 248.7 | Acetone | 07/10/08 | ND | 08/27/09 | ND | 08/26/10 | 140 | 09/02/11 | ND |
| | | | Chlorodifluoromethane | 07/10/08 | 44 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | ND |
| | | | Chloroform | 07/10/08 | 8.5 (J) | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | ND |
| | | | Dichlorodifluoromethane | 07/10/08 | 630 | 08/27/09 | 590 | 08/26/10 | 560 | 09/02/11 | 2400 |
| | | | Dichloroethane[1,1-] | 07/10/08 | 140 | 08/27/09 | 180 | 08/26/10 | 200 | 09/02/11 | 520 |
| | | | Dichloroethene[1,1-] | 07/10/08 | 440 | 08/27/09 | 420 | 08/26/10 | 370 | 09/02/11 | 1000 |
| | | | Dichloroethene[cis-1,2-] | 07/10/08 | 8.7 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | ND |
| | | | Methylene Chloride | 07/10/08 | 17 | 08/27/09 | ND | 08/26/10 | 31 | 09/02/11 | 37 |
| | | | Tetrachloroethene | 07/10/08 | 82 | 08/27/09 | 81 | 08/26/10 | 96 | 09/02/11 | 180 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 1200 | 08/27/09 | 1400 | 08/26/10 | 1400 | 09/02/11 | 4400 |
| | | | Trichloroethane[1,1,1-] | 07/10/08 | 2900 | 08/27/09 | 2800 | 08/26/10 | 2900 | 09/02/11 | 8100 |
| | | | Trichloroethene | 07/10/08 | 300 | 08/27/09 | 350 | 08/26/10 | 350 | 09/02/11 | 940 |
| | | | Trichlorofluoromethane | 07/10/08 | 380 | 08/27/09 | 350 | 08/26/10 | 370 | 09/02/11 | 1200 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-24386 | 37.5 | 42.5 | Chloroform | 07/14/08 | ND | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 880 |
| | | | Dichloroethane[1,1-] | 07/14/08 | **42000** | 08/18/09 | **41000** | 09/02/10 | **35000** | 09/22/11 | **22000** |
| | | | Dichloroethene[1,1-] | 07/14/08 | **54000** | 08/18/09 | **49000** | 09/02/10 | **29000** | 09/22/11 | **20000** |
| | | | Tetrachloroethene | 07/14/08 | **6900** | 08/18/09 | **10000** | 09/02/10 | **8200** | 09/22/11 | **5700** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 7100 | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 3100 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **1000000** | 08/18/09 | **860000** | 09/02/10 | **720000** | 09/22/11 | **490000** |
| | | | Trichloroethene | 07/14/08 | **7300** | 08/18/09 | **9000** | 09/02/10 | **7300** | 09/22/11 | **5000** |
| | 192.5 | 197.5 | Chloroform | 07/14/08 | ND | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 76 |
| | | | Dichlorodifluoromethane | 07/14/08 | ND | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 57 |
| | | | Dichloroethane[1,1-] | 07/14/08 | 3000 | 08/18/09 | 2200 | 09/02/10 | 3300 | 09/22/11 | 2200 |
| | | | Dichloroethene[1,1-] | 07/14/08 | **6600** | 08/18/09 | 4600 | 09/02/10 | 5300 | 09/22/11 | 3800 |
| | | | Tetrachloroethene | 07/14/08 | 880 | 08/18/09 | 720 | 09/02/10 | 910 | 09/22/11 | 630 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 450 | 08/18/09 | 370 | 09/02/10 | 340 | 09/22/11 | 280 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **45000** | 08/18/09 | 27000 | 09/02/10 | 38000 | 09/22/11 | 27000 |
| | | | Trichloroethene | 07/14/08 | 910 | 08/18/09 | 820 | 09/02/10 | 980 | 09/22/11 | 660 |
| 54-24394 | 45 | 55 | Chloroform | 07/09/08 | ND | 09/03/09 | ND | 08/30/10 | 290 | 09/01/11 | 330 |
| | | | Cyclohexane | 07/09/08 | ND | 09/03/09 | 510 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Dichlorodifluoromethane | 07/09/08 | 1200 | 09/03/09 | 1200 | 08/30/10 | 1200 | 09/01/11 | 1100 |
| | | | Dichloroethane[1,1-] | 07/09/08 | 2500 | 09/03/09 | 2500 | 08/30/10 | 2400 | 09/01/11 | 2700 |
| | | | Dichloroethene[1,1-] | 07/09/08 | 2000 | 09/03/09 | 1500 | 08/30/10 | ND | 09/01/11 | 1300 |
| | | | Tetrachloroethene | 07/09/08 | 640 | 09/03/09 | ND | 08/30/10 | 530 | 09/01/11 | 580 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 110000 | 09/03/09 | 140000 | 08/30/10 | 140000 | 09/01/11 | 170000 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | 38000 | 09/03/09 | 37000 | 08/30/10 | 38000 | 09/01/11 | 41000 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) | Collection Date | Result (µg/m³) |
| 54-24394 | 45 | 55 | Trichloroethene | 07/09/08 | **100000** | 09/03/09 | **78000** | 08/30/10 | **61000** | 09/01/11 | **56000** |
| | | | Trichlorofluoromethane | 07/09/08 | 3600 | 09/03/09 | 3300 | 08/30/10 | 3000 | 09/01/11 | 3100 |
| | 295.5 | 305.5 | Acetone | 07/09/08 | 22 | 09/03/09 | 54 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Butanone[2-] | 07/09/08 | 6.1 | 09/03/09 | 15 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Cyclohexane | 07/09/08 | ND | 09/03/09 | 12 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Dichlorodifluoromethane | 07/09/08 | 85 | 09/03/09 | 100 | 08/30/10 | 140 | 09/01/11 | 90 |
| | | | Dichloroethane[1,1-] | 07/09/08 | 37 | 09/03/09 | 40 | 08/30/10 | 46 | 09/01/11 | ND |
| | | | Dichloroethene[1,1-] | 07/09/08 | 160 | 09/03/09 | 170 | 08/30/10 | 180 | 09/01/11 | 87 |
| | | | Ethanol | 07/09/08 | ND | 09/03/09 | 8.1 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Methanol | 07/09/08 | ND | 09/03/09 | 270 (J) | NS | NS | NS | NS |
| | | | Methylene Chloride | 07/09/08 | ND | 09/03/09 | 3 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Tetrachloroethene | 07/09/08 | 35 | 09/03/09 | 43 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 280 | 09/03/09 | 410 | 08/30/10 | 410 | 09/01/11 | 360 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | 680 | 09/03/09 | 670 | 08/30/10 | 730 | 09/01/11 | 390 |
| | | | Trichloroethene | 07/09/08 | 170 | 09/03/09 | 220 | 08/30/10 | 280 | 09/01/11 | 260 |
| | | | Trichlorofluoromethane | 07/09/08 | 100 | 09/03/09 | 130 | 08/30/10 | 150 | 09/01/11 | 100 |
| 54-24397 | 45 | 55 | Dichlorodifluoromethane | 07/14/08 | 300 | 08/07/09 | 160 | 08/27/10 | 150 | 09/08/11 | 160 |
| | | | Dichloroethane[1,1-] | 07/14/08 | 120 | 08/07/09 | 100 | 08/27/10 | 110 | 09/08/11 | 120 |
| | | | Dichloroethene[1,1-] | 07/14/08 | 550 | 08/07/09 | 280 | 08/27/10 | 310 | 09/08/11 | 320 |
| | | | Methylene Chloride | 07/14/08 | 50 | 08/07/09 | 61 | 08/27/10 | 90 | 09/08/11 | 72 |
| | | | Tetrachloroethene | 07/14/08 | 210 | 08/07/09 | 160 | 08/27/10 | 150 | 09/08/11 | 140 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 3100 | 08/07/09 | 2400 | 08/27/10 | 2500 | 09/08/11 | 2400 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | 10000 | 08/07/09 | 8200 | 08/27/10 | 9500 | 09/08/11 | 11000 |
| | | | Trichloroethene | 07/14/08 | 160 | 08/07/09 | 130 | 08/27/10 | 120 | 09/08/11 | 120 |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) |
| 54-24397 | 45 | 55 | Trichlorofluoromethane | 07/14/08 | 110 | 08/07/09 | 68 | 08/27/10 | 67 | 09/08/11 | 52 |
| | 234.75 | 244.3 | Chloroform | 07/14/08 | 9 | 08/07/09 | 9.8 | 08/27/10 | ND | 09/08/11 | ND |
| | | | Dichlorodifluoromethane | 07/14/08 | 240 | 08/07/09 | 200 | 08/27/10 | 160 | 09/08/11 | 72 |
| | | | Dichloroethane[1,1-] | 07/14/08 | 92 | 08/07/09 | 98 | 08/27/10 | 93 | 09/08/11 | 73 |
| | | | Dichloroethene[1,1-] | 07/14/08 | 700 | 08/07/09 | 700 | 08/27/10 | 590 | 09/08/11 | 340 |
| | | | Tetrachloroethene | 07/14/08 | 120 | 08/07/09 | 160 | 08/27/10 | 140 | 09/08/11 | 70 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 790 | 08/07/09 | 1000 | 08/27/10 | 750 | 09/08/11 | 280 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | 2900 | 08/07/09 | 3100 | 08/27/10 | 2400 | 09/08/11 | 1300 |
| | | | Trichloroethene | 07/14/08 | 160 | 08/07/09 | 210 | 08/27/10 | 170 | 09/08/11 | 89 |
| | | | Trichlorofluoromethane | 07/14/08 | 100 | 08/07/09 | 98 | 08/27/10 | 79 | 09/08/11 | ND |
| 54-25105 | 485 | 701 | Acetone | 08/01/08 | 100 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Benzene | 08/01/08 | 64 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Butadiene[1,3-] | 08/01/08 | 6.4 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Butanone[2-] | 08/01/08 | 6 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Cyclohexane | 08/01/08 | 15 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Ethylbenzene | 08/01/08 | 23 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Ethyltoluene[4-] | 08/01/08 | 23 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Hexane | 08/01/08 | 49 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | n-Heptane | 08/01/08 | 20 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Propylene | 08/01/08 | 28 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Toluene | 08/01/08 | 140 | 08/24/09 | 21 | NS | NS | NS | NS |
| | | | Trimethylbenzene[1,2,4-] | 08/01/08 | 28 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Trimethylbenzene[1,3,5-] | 08/01/08 | 8.1 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Xylene[1,2-] | 08/01/08 | 30 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Xylene[1,3-]+Xylene[1,4-] | 08/01/08 | 80 | 08/24/09 | ND | NS | NS | NS | NS |

**Table D-1.0-2 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) | Collection Date | Result (µg/m$^3$) |
| 54-27436 | 40 | 50 | Chloroform | 07/18/08 | 440 | 08/19/09 | 270 | 09/14/10 | 360 | 09/06/11 | 320 |
| | | | Dichlorodifluoromethane | 07/18/08 | ND | 08/19/09 | 260 | 09/14/10 | 610 | 09/06/11 | 600 |
| | | | Dichloroethane[1,1-] | 07/18/08 | 1100 | 08/19/09 | 690 | 09/14/10 | 840 | 09/06/11 | 690 |
| | | | Dichloroethene[1,1-] | 07/18/08 | 460 | 08/19/09 | 290 | 09/14/10 | 230 | 09/06/11 | 230 |
| | | | Tetrachloroethene | 07/18/08 | **8100** | 08/19/09 | **7000** | 09/14/10 | **7600** | 09/06/11 | **6700** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/18/08 | 1700 | 08/19/09 | 1700 | 09/14/10 | 2000 | 09/06/11 | 2000 |
| | | | Trichloroethane[1,1,1-] | 07/18/08 | 14000 | 08/19/09 | 9800 | 09/14/10 | 11000 | 09/06/11 | 8800 |
| | | | Trichloroethene | 07/18/08 | **100000** | 08/19/09 | **65000** | 09/14/10 | **72000** | 09/06/11 | **50000** |
| | | | Trichlorofluoromethane | 07/18/08 | ND | 08/19/09 | ND | 09/14/10 | 140 | 09/06/11 | 120 |
| | 180 | 190 | Chloroform | 07/18/08 | 170 | 08/19/09 | 200 | 09/14/10 | 170 | 09/06/11 | 170 |
| | | | Dichlorodifluoromethane | 07/18/08 | 140 | 08/19/09 | 170 | 09/14/10 | 210 | 09/06/11 | 220 |
| | | | Dichloroethane[1,1-] | 07/18/08 | 480 | 08/19/09 | 600 | 09/14/10 | 540 | 09/06/11 | 490 |
| | | | Dichloroethene[1,1-] | 07/18/08 | 440 | 08/19/09 | 470 | 09/14/10 | 450 | 09/06/11 | 480 |
| | | | Methylene Chloride | 07/18/08 | 37 (J) | 08/19/09 | 46 | 09/14/10 | 51 | 09/06/11 | ND |
| | | | Tetrachloroethene | 07/18/08 | 590 | 08/19/09 | 980 | 09/14/10 | 790 | 09/06/11 | 860 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/18/08 | 260 | 08/19/09 | 460 | 09/14/10 | 360 | 09/06/11 | 440 |
| | | | Trichloroethane[1,1,1-] | 07/18/08 | 4800 | 08/19/09 | 7200 | 09/14/10 | 5600 | 09/06/11 | 6200 |
| | | | Trichloroethene | 07/18/08 | **9300** | 08/19/09 | **16000** | 09/14/10 | **14000** | 09/06/11 | **14000** |
| | | | Trichlorofluoromethane | 07/18/08 | 50 | 08/19/09 | ND | 09/14/10 | ND | 09/06/11 | 60 |
| | | | Trimethylbenzene[1,2,4-] | 07/18/08 | 55 | 08/19/09 | ND | 09/14/10 | ND | 09/06/11 | ND |

Note: Bold indicates concentrations that exceed a screening value of 1.

[a] bgs = below ground surface.

[b] ND = Not detected.

[c] NS = Not sampled.

**Table D-1.0-3**
**Summary of VOCs Detected in Pore-Gas Samples at MDA G, in ppbv**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) |
| 54-01107 | 55.5 | 57.5 | Chlorodifluoromethane | 07/23/08 | 56 | 08/11/09 | 94 | 09/21/10 | 69 | 09/06/11 | 44 |
| | | | Chloroform | 07/23/08 | ND[b] | 08/11/09 | ND | 09/21/10 | 11 | 09/06/11 | 9.7 (J) |
| | | | Dichlorodifluoromethane | 07/23/08 | 120 | 08/11/09 | 110 | 09/21/10 | 140 | 09/06/11 | 130 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 61 | 08/11/09 | 50 | 09/21/10 | 62 | 09/06/11 | 62 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 190 | 08/11/09 | 140 | 09/21/10 | 180 | 09/06/11 | 160 |
| | | | Tetrachloroethene | 07/23/08 | 450 | 08/11/09 | 370 | 09/21/10 | 470 | 09/06/11 | 330 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 600 | 08/11/09 | 550 | 09/21/10 | 600 | 09/06/11 | 450 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 3000 | 08/11/09 | 2800 | 09/21/10 | 3300 | 09/06/11 | 2400 |
| | | | Trichloroethene | 07/23/08 | 62 | 08/11/09 | 61 | 09/21/10 | 87 | 09/06/11 | 88 |
| | | | Trichlorofluoromethane | 07/23/08 | 210 | 08/11/09 | 180 | 09/21/10 | 220 | 09/06/11 | 150 |
| | 99 | 101 | Chlorodifluoromethane | 07/23/08 | 56 | 08/11/09 | ND | 09/21/10 | 72 | 09/06/11 | 48 |
| | | | Chloroform | 07/23/08 | 10 | 08/11/09 | ND | 09/21/10 | 10 | 09/06/11 | 9.6 |
| | | | Dichlorodifluoromethane | 07/23/08 | 130 | 08/11/09 | 100 | 09/21/10 | 150 | 09/06/11 | 150 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 54 | 08/11/09 | 45 | 09/21/10 | 67 | 09/06/11 | 67 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 210 | 08/11/09 | 150 | 09/21/10 | 240 | 09/06/11 | 240 |
| | | | Methylene Chloride | 07/23/08 | 11 | 08/11/09 | ND | 09/21/10 | ND | 09/06/11 | ND |
| | | | Tetrachloroethene | 07/23/08 | 460 | 08/11/09 | 390 | 09/21/10 | **590** | 09/06/11 | 420 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 580 | 08/11/09 | 520 | 09/21/10 | 630 | 09/06/11 | 500 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 2800 | 08/11/09 | 2600 | 09/21/10 | 3600 | 09/06/11 | 2800 |
| | | | Trichloroethene | 07/23/08 | 58 | 08/11/09 | 59 | 09/21/10 | 97 | 09/06/11 | 96 |
| | | | Trichlorofluoromethane | 07/23/08 | 200 | 08/11/09 | 180 | 09/21/10 | 230 | 09/06/11 | 160 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-01110 | 59 | 61 | Dichlorodifluoromethane | 07/23/08 | 30 | 08/25/09 | 32 | 09/15/10 | 27 | 09/07/11 | 24 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 100 | 08/25/09 | 110 | 09/15/10 | 94 | 09/07/11 | 110 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 150 | 08/25/09 | 170 | 09/15/10 | 98 | 09/07/11 | 95 |
| | | | Ethanol | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 79 | 09/07/11 | ND |
| | | | Ethyltoluene[4-] | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 11 | 09/07/11 | ND |
| | | | Tetrachloroethene | 07/23/08 | 48 | 08/25/09 | 45 | 09/15/10 | 45 | 09/07/11 | 34 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 250 | 08/25/09 | 250 | 09/15/10 | 200 | 09/07/11 | 170 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 3200 | 08/25/09 | 3200 | 09/15/10 | 3100 | 09/07/11 | 2200 |
| | | | Trichloroethene | 07/23/08 | 110 | 08/25/09 | 180 | 09/15/10 | 81 | 09/07/11 | 82 |
| | | | Trichlorofluoromethane | 07/23/08 | 19 | 08/25/09 | ND | 09/15/10 | 18 | 09/07/11 | 13 |
| | | | Trimethylbenzene[1,2,4-] | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 12 | 09/07/11 | ND |
| | | | Xylene[1,3-]+Xylene[1,4-] | 07/23/08 | ND | 08/25/09 | ND | 09/15/10 | 15 | 09/07/11 | ND |
| | 89 | 91 | Chloroform | 07/23/08 | 11 | 08/25/09 | ND | 09/15/10 | ND | 09/07/11 | ND |
| | | | Dichlorodifluoromethane | 07/23/08 | 47 | 08/25/09 | 43 | 09/15/10 | 33 | 09/07/11 | 34 |
| | | | Dichloroethane[1,1-] | 07/23/08 | 120 | 08/25/09 | 130 | 09/15/10 | 92 | 09/07/11 | 130 |
| | | | Dichloroethene[1,1-] | 07/23/08 | 240 | 08/25/09 | 230 | 09/15/10 | 130 | 09/07/11 | 150 |
| | | | Tetrachloroethene | 07/23/08 | 67 | 08/25/09 | 64 | 09/15/10 | 52 | 09/07/11 | 50 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/23/08 | 320 | 08/25/09 | 300 | 09/15/10 | 210 | 09/07/11 | 210 |
| | | | Trichloroethane[1,1,1-] | 07/23/08 | 3700 | 08/25/09 | 3600 | 09/15/10 | 3200 | 09/07/11 | 2600 |
| | | | Trichloroethene | 07/23/08 | 160 | 08/25/09 | 150 | 09/15/10 | 110 | 09/07/11 | 120 |
| | | | Trichlorofluoromethane | 07/23/08 | 27 | 08/25/09 | ND | 09/15/10 | 21 | 09/07/11 | 15 |
| 54-01111 | 19 | 21 | Benzene | 07/16/08 | ND | 08/25/09 | ND | 09/15/10 | 11 | 09/07/11 | ND |
| | | | Dichlorodifluoromethane | 07/16/08 | 66 | 08/25/09 | 48 | 09/15/10 | 42 | 09/07/11 | 9.4 |
| | | | Dichloroethane[1,1-] | 07/16/08 | 40 | 08/25/09 | 46 | 09/15/10 | 44 | 09/07/11 | 40 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-01111 | 19 | 21 | Dichloroethene[1,1-] | 07/16/08 | 230 | 08/25/09 | 200 | 09/15/10 | 150 | 09/07/11 | 44 |
| | | | Methylene Chloride | 07/16/08 | 31 (J) | 08/25/09 | 69 | 09/15/10 | 49 | 09/07/11 | 14 |
| | | | Tetrachloroethene | 07/16/08 | 31 | 08/25/09 | ND | 09/15/10 | 26 | 09/07/11 | 9.6 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/16/08 | 510 | 08/25/09 | 570 | 09/15/10 | 590 | 09/07/11 | 390 |
| | | | Trichloroethane[1,1,1-] | 07/16/08 | 2600 | 08/25/09 | 3200 | 09/15/10 | 4600 | 09/07/11 | 4200 |
| | | | Trichloroethene | 07/16/08 | 51 | 08/25/09 | 42 | 09/15/10 | 34 | 09/07/11 | 14 |
| | | | Trichlorofluoromethane | 07/16/08 | 24 | 08/25/09 | ND | 09/15/10 | 17 | 09/07/11 | ND |
| | 138 | 140 | Carbon Disulfide | 07/16/08 | 24 | 08/25/09 | ND | 09/15/10 | ND | 09/07/11 | ND |
| | | | Dichloroethane[1,1-] | 07/16/08 | 41 | 08/25/09 | ND | 09/15/10 | 47 | 09/07/11 | 28 |
| | | | Dichloroethene[1,1-] | 07/16/08 | 88 | 08/25/09 | 260 | 09/15/10 | 45 | 09/07/11 | 14 |
| | | | Methylene Chloride | 07/16/08 | 47 (J) | 08/25/09 | 110 | 09/15/10 | 52 | 09/07/11 | 23 |
| | | | Tetrachloroethene | 07/16/08 | ND | 08/25/09 | ND | 09/15/10 | 11 | 09/07/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/16/08 | 970 | 08/25/09 | 1400 | 09/15/10 | 1000 | 09/07/11 | 480 |
| | | | Trichloroethane[1,1,1-] | 07/16/08 | 4400 | 08/25/09 | **9200** | 09/15/10 | **8900** | 09/07/11 | 3900 |
| 54-01115 | 39 | 41 | Chloroform | 07/17/08 | 55 | 08/11/09 | 38 | 09/21/10 | 46 | 09/08/11 | 47 |
| | | | Dichlorodifluoromethane | 07/17/08 | 340 | 08/11/09 | 170 | 09/21/10 | 230 | 09/08/11 | 260 |
| | | | Dichloroethane[1,1-] | 07/17/08 | 120 | 08/11/09 | 65 | 09/21/10 | 76 | 09/08/11 | 89 |
| | | | Dichloroethene[1,1-] | 07/17/08 | 280 | 08/11/09 | 130 | 09/21/10 | 160 | 09/08/11 | 180 |
| | | | Tetrachloroethene | 07/17/08 | 170 | 08/11/09 | 130 | 09/21/10 | 180 | 09/08/11 | 160 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/17/08 | 410 | 08/11/09 | 280 | 09/21/10 | 300 | 09/08/11 | 290 |
| | | | Trichloroethane[1,1,1-] | 07/17/08 | 3300 | 08/11/09 | 2000 | 09/21/10 | 2600 | 09/08/11 | 2400 |
| | | | Trichloroethene | 07/17/08 | 70 | 08/11/09 | 47 | 09/21/10 | 53 | 09/08/11 | 56 |
| | | | Trichlorofluoromethane | 07/17/08 | 140 | 08/11/09 | 89 | 09/21/10 | 120 | 09/08/11 | 96 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-01115 | 67 | 69 | Chloroform | 07/17/08 | 54 | 08/11/09 | 34 | 09/21/10 | 45 | 09/08/11 | 40 |
| | | | Dichlorodifluoromethane | 07/17/08 | 400 | 08/11/09 | 230 | 09/21/10 | 340 | 09/08/11 | 310 |
| | | | Dichloroethane[1,1-] | 07/17/08 | 200 | 08/11/09 | 140 | 09/21/10 | 170 | 09/08/11 | 180 |
| | | | Dichloroethene[1,1-] | 07/17/08 | 460 | 08/11/09 | 290 | 09/21/10 | 350 | 09/08/11 | 360 |
| | | | Tetrachloroethene | 07/17/08 | 200 | 08/11/09 | 170 | 09/21/10 | 240 | 09/08/11 | 180 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/17/08 | 570 | 08/11/09 | 500 | 09/21/10 | 540 | 09/08/11 | 440 |
| | | | Trichloroethane[1,1,1-] | 07/17/08 | 5000 | 08/11/09 | 3800 | 09/21/10 | 5300 | 09/08/11 | 4200 |
| | | | Trichloroethene | 07/17/08 | 100 | 08/11/09 | 93 | 09/21/10 | 110 | 09/08/11 | 100 |
| | | | Trichlorofluoromethane | 07/17/08 | 140 | 08/11/09 | 92 | 09/21/10 | 120 | 09/08/11 | 93 |
| 54-01116 | 20 | 25 | Cyclohexane | 07/08/08 | 9300 | 08/10/09 | 3400 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | **5100** | 08/10/09 | **3400** | 08/31/10 | **3900** | 09/20/11 | **3400** |
| | | | Dichloroethene[1,1-] | 07/08/08 | **11000** | 08/10/09 | **1700** | 08/31/10 | **1600** | 09/20/11 | **1400** |
| | | | Tetrachloroethene | 07/08/08 | **ND** | 08/10/09 | **560** | 08/31/10 | **790** | 09/20/11 | 500 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 4400 | 08/10/09 | 1500 | 08/31/10 | 2000 | 09/20/11 | 2800 |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | **270000** | 08/10/09 | **120000** | 08/31/10 | **130000** | 09/20/11 | **140000** |
| | | | Trichloroethene | 07/08/08 | **2700** | 08/10/09 | **2800** | 08/31/10 | **3600** | 09/20/11 | **3500** |
| | 185.3 | 190.3 | Carbon Disulfide | 07/08/08 | ND | 08/10/09 | 2.6 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Chloroform | 07/08/08 | ND | 08/10/09 | ND | 08/31/10 | 140 | 09/20/11 | 150 |
| | | | Cyclohexane | 07/08/08 | 27 | 08/10/09 | 11 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Dichlorodifluoromethane | 07/08/08 | 4.8 | 08/10/09 | 3.1 | 08/31/10 | ND | 09/20/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | 37 | 08/10/09 | 26 | 08/31/10 | **2500** | 09/20/11 | **2400** |
| | | | Dichloroethane[1,2-] | 07/08/08 | ND | 08/10/09 | ND | 08/31/10 | **84** | 09/20/11 | **ND** |
| | | | Dichloroethene[1,1-] | 07/08/08 | 120 | 08/10/09 | 64 | 08/31/10 | **3100** | 09/20/11 | **3100** |
| | | | Tetrachloroethene | 07/08/08 | 7.6 | 08/10/09 | 5.6 | 08/31/10 | 380 | 09/20/11 | 340 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-01116 | 185.3 | 190.3 | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 27 | 08/10/09 | 13 | 08/31/10 | 990 | 09/20/11 | 880 |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | 870 | 08/10/09 | 420 | 08/31/10 | **57000** | 09/20/11 | **55000** |
| | | | Trichloroethene | 07/08/08 | 18 | 08/10/09 | 13 | 08/31/10 | **1100** | 09/20/11 | **1200** |
| | | | Trichlorofluoromethane | 07/08/08 | ND | 08/10/09 | 2.1 | 08/31/10 | ND | 09/20/11 | ND |
| 54-01117 | 18.5 | 22.5 | Chloroform | 07/08/08 | ND | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | 87 |
| | | | Cyclohexane | 07/08/08 | 750 | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | 730 | 08/07/09 | 600 | 09/01/10 | 840 | 09/21/11 | 890 |
| | | | Dichloroethene[1,1-] | 07/08/08 | **1700** | 08/07/09 | 480 | 09/01/10 | 560 | 09/21/11 | 650 (J+) |
| | | | Tetrachloroethene | 07/08/08 | 200 | 08/07/09 | 160 | 09/01/10 | 200 | 09/21/11 | 230 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 610 | 08/07/09 | 340 | 09/01/10 | 320 | 09/21/11 | 420 |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | **24000** | 08/07/09 | **18000** | 09/01/10 | **22000** | 09/21/11 | **24000** |
| | | | Trichloroethene | 07/08/08 | **790** | 08/07/09 | **800** | 09/01/10 | **970** | 09/21/11 | **1100** |
| | 177.3 | 182.3 | Chloroform | 07/08/08 | 1.2 | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | ND |
| | | | Cyclohexane | 07/08/08 | 9.8 | 08/07/09 | ND | 09/01/10 | ND | 09/21/11 | ND |
| | | | Dichlorodifluoromethane | 07/08/08 | 4.2 | 08/07/09 | 3.6 | 09/01/10 | ND | 09/21/11 | ND |
| | | | Dichloroethane[1,1-] | 07/08/08 | 22 | 08/07/09 | 14 | 09/01/10 | ND | 09/21/11 | 22 |
| | | | Dichloroethene[1,1-] | 07/08/08 | 65 | 08/07/09 | 40 | 09/01/10 | 49 | 09/21/11 | 56 (J+) |
| | | | Tetrachloroethene | 07/08/08 | 6 | 08/07/09 | 4.5 | 09/01/10 | ND | 09/21/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/08/08 | 11 | 08/07/09 | 7.4 | 09/01/10 | ND | 09/21/11 | ND |
| | | | Trichloroethane[1,1,1-] | 07/08/08 | 310 | 08/07/09 | 150 | 09/01/10 | 220 | 09/21/11 | 240 |
| | | | Trichloroethene | 07/08/08 | 11 | 08/07/09 | 9.4 | 09/01/10 | ND | 09/21/11 | 16 |
| | | | Trichlorofluoromethane | 07/08/08 | 2.7 | 08/07/09 | 2.3 | 09/01/10 | ND | 09/21/11 | ND |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-01121 | 19 | 21 | Butanol[1-] | 07/14/08 | **ND** | 08/25/09 | **ND** | 09/22/10 | 390 | 09/26/11 | ND |
| | | | Chloroform | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 110 | 09/26/11 | 97 |
| | | | Dichlorodifluoromethane | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 120 | 09/26/11 | 96 |
| | | | Dichloroethane[1,1-] | 07/14/08 | **2600** | 08/25/09 | **4000** | 09/22/10 | **3600** | 09/26/11 | **2900** |
| | | | Dichloroethene[1,1-] | 07/14/08 | **7700** | 08/25/09 | **11000** | 09/22/10 | **8300** | 09/26/11 | **6300** |
| | | | Ethanol | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 230 | 09/26/11 | ND |
| | | | Methylene Chloride | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 290 | 09/26/11 | ND |
| | | | Tetrachloroethene | 07/14/08 | **610** | 08/25/09 | **990** | 09/22/10 | **860** | 09/26/11 | **770** |
| | | | Toluene | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 59 | 09/26/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 180 | 08/25/09 | 260 | 09/22/10 | 170 | 09/26/11 | 160 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **29000** | 08/25/09 | **41000** | 09/22/10 | **34000** | 09/26/11 | **29000** |
| | | | Trichloroethene | 07/14/08 | **1100** | 08/25/09 | **1600** | 09/22/10 | **1500** | 09/26/11 | **1200** |
| | 120 | 122 | Chloroform | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 79 | 09/26/11 | 94 |
| | | | Dichlorodifluoromethane | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 79 | 09/26/11 | 69 |
| | | | Dichloroethane[1,1-] | 07/14/08 | 1400 | 08/25/09 | 2600 | 09/22/10 | 2300 | 09/26/11 | 2500 |
| | | | Dichloroethene[1,1-] | 07/14/08 | **3700** | 08/25/09 | **5900** | 09/22/10 | **4400** | 09/26/11 | **5100** |
| | | | Methylene Chloride | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 33 | 09/26/11 | ND |
| | | | Tetrachloroethene | 07/14/08 | **600** | 08/25/09 | **740** | 09/22/10 | **670** | 09/26/11 | **790** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | ND | 08/25/09 | ND | 09/22/10 | 99 | 09/26/11 | 130 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **22000** | 08/25/09 | **28000** | 09/22/10 | **24000** | 09/26/11 | **26000** |
| | | | Trichloroethene | 07/14/08 | **620** | 08/25/09 | **1000** | 09/22/10 | **900** | 09/26/11 | **1100** |
| 54-01126 | 34 | 36 | Chloroform | NS[c] | NS | 09/29/09 | ND | 09/28/10 | 91 | 08/30/11 | 96 |
| | | | Dichlorodifluoromethane | NS | NS | 09/29/09 | ND | 09/28/10 | 1100 | 08/30/11 | 400 |
| | | | Dichloroethane[1,1-] | NS | NS | 09/29/09 | **2000** | 09/28/10 | **2800** | 08/30/11 | **3100** |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-01126 | 34 | 36 | Dichloroethene[1,1-] | NS | NS | 09/29/09 | **2100** | 09/28/10 | **2400** | 08/30/11 | **2700** |
| | | | Methylene Chloride | NS | NS | 09/29/09 | ND | 09/28/10 | 130 | 08/30/11 | ND |
| | | | Tetrachloroethene | NS | NS | 09/29/09 | **620** | 09/28/10 | **1100** | 08/30/11 | **1200** |
| | | | Toluene | NS | NS | 09/29/09 | 120 | 09/28/10 | ND | 08/30/11 | ND |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/29/09 | **17000** | 09/28/10 | **26000** | 08/30/11 | **29000** |
| | | | Trichloroethene | NS | NS | 09/29/09 | **8300** | 09/28/10 | **13000** | 08/30/11 | **8400** |
| | 48 | 50 | Chloroform | NS | NS | 09/29/09 | ND | 09/28/10 | 160 | 08/30/11 | 96 |
| | | | Dichlorodifluoromethane | NS | NS | 09/29/09 | ND | 09/28/10 | 1800 | 08/30/11 | 400 |
| | | | Dichloroethane[1,1-] | NS | NS | 09/29/09 | **3100** | 09/28/10 | **5300** | 08/30/11 | **3100** |
| | | | Dichloroethene[1,1-] | NS | NS | 09/29/09 | **3400** | 09/28/10 | **4700** | 08/30/11 | **2400** |
| | | | Methylene Chloride | NS | NS | 09/29/09 | **ND** | 09/28/10 | **170** | 08/30/11 | ND |
| | | | Tetrachloroethene | NS | NS | 09/29/09 | **950** | 09/28/10 | **2000** | 08/30/11 | **1200** |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/29/09 | **27000** | 09/28/10 | **51000** | 08/30/11 | **29000** |
| | | | Trichloroethene | NS | NS | 09/29/09 | **12000** | 09/28/10 | **21000** | 08/30/11 | **8000** |
| 54-01128 | 19 | 21 | Chloroform | 07/11/08 | 71 | 08/21/09 | ND | 09/24/10 | 72 | 09/21/11 | 46 |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | 39 | 09/21/11 | 27 (J+) |
| | | | Dichloroethane[1,1-] | 07/11/08 | 1200 | 08/21/09 | 1200 | 09/24/10 | 1200 | 09/21/11 | 690 |
| | | | Dichloroethene[1,1-] | 07/11/08 | **2700** | 08/21/09 | **2000** | 09/24/10 | **1500** | 09/21/11 | 920 (J+) |
| | | | Methylene Chloride | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | **190** | 09/21/11 | ND |
| | | | Tetrachloroethene | 07/11/08 | 490 | 08/21/09 | 510 | 09/24/10 | 440 | 09/21/11 | 290 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **23000** | 08/21/09 | **19000** | 09/24/10 | **18000** | 09/21/11 | **11000** |
| | | | Trichloroethene | 07/11/08 | 120 | 08/21/09 | 170 (J) | 09/24/10 | 120 (J+) | 09/21/11 | 76 |
| | 38 | 40 | Chloroform | 07/11/08 | 150 | 08/21/09 | ND | 09/24/10 | 120 | 09/21/11 | 120 |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | 44 | 09/21/11 | 78 (J+) |
| | | | Dichloroethane[1,1-] | 07/11/08 | **2200** | 08/21/09 | **2200** | 09/24/10 | **2000** | 09/21/11 | **2000** |
| | | | Dichloroethane[1,2-] | 07/11/08 | **ND** | 08/21/09 | **ND** | 09/24/10 | 42 | 09/21/11 | 41 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-01128 | 38 | 40 | Dichloroethene[1,1-] | 07/11/08 | **5100** | 08/21/09 | 3800 | 09/24/10 | **2500** | 09/21/11 | **2800 (J+)** |
| | | | Methylene Chloride | 07/11/08 | ND | 08/21/09 | **ND** | 09/24/10 | **560** | 09/21/11 | ND |
| | | | Tetrachloroethene | 07/11/08 | **790** | 08/21/09 | **720** | 09/24/10 | **580** | 09/21/11 | **650** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/11/08 | ND | 08/21/09 | ND | 09/24/10 | ND | 09/21/11 | 36 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **42000** | 08/21/09 | **32000** | 09/24/10 | **27000** | 09/21/11 | **28000** |
| | | | Trichloroethene | 07/11/08 | 280 | 08/21/09 | ND | 09/24/10 | 240 (J+) | 09/21/11 | 250 |
| 54-02009 | 34.5 | 39.5 | Chloroform | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | ND | 09/16/11 | 51 |
| | | | Cyclohexane | 07/11/08 | ND | 08/19/09 | 490 | 09/01/10 | ND | 09/16/11 | ND |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | 33 | 09/16/11 | 140 |
| | | | Dichloroethane[1,1-] | 07/11/08 | **1500** | 08/19/09 | 1400 | 09/01/10 | 380 | 09/16/11 | 1300 |
| | | | Dichloroethene[1,1-] | 07/11/08 | **3600** | 08/19/09 | **2200** | 09/01/10 | 540 | 09/16/11 | **1900** |
| | | | Ethanol | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | 73 | 09/16/11 | ND |
| | | | Tetrachloroethene | 07/11/08 | 470 | 08/19/09 | 380 | 09/01/10 | 100 | 09/16/11 | 390 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **26000** | 08/19/09 | **19000** | 09/01/10 | 5200 | 09/16/11 | **17000** |
| | | | Trichloroethene | 07/11/08 | 240 | 08/19/09 | 220 | 09/01/10 | 78 | 09/16/11 | 310 |
| | 89.5 | 94.5 | Chloroform | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | ND | 09/16/11 | 64 |
| | | | Dichlorodifluoromethane | 07/11/08 | ND | 08/19/09 | ND | 09/01/10 | ND | 09/16/11 | 110 |
| | | | Dichloroethane[1,1-] | 07/11/08 | **1600** | 08/19/09 | **1600** | 09/01/10 | **1600** | 09/16/11 | **1800** |
| | | | Dichloroethene[1,1-] | 07/11/08 | **4600** | 08/19/09 | **2900** | 09/01/10 | **2800** | 09/16/11 | **3300** |
| | | | Tetrachloroethene | 07/11/08 | **540** | 08/19/09 | 480 | 09/01/10 | 430 | 09/16/11 | 510 |
| | | | Trichloroethane[1,1,1-] | 07/11/08 | **31000** | 08/19/09 | **24000** | 09/01/10 | **22000** | 09/16/11 | **23000** |
| | | | Trichloroethene | 07/11/08 | 270 | 08/19/09 | 250 | 09/01/10 | 280 | 09/16/11 | 340 |
| 54-02010 | 27.5 | 32.5 | Chloroform | 07/09/08 | ND | 08/19/09 | ND | 08/31/10 | 37 | 09/26/11 | 42 |
| | | | Dichlorodifluoromethane | 07/09/08 | 78 | 08/19/09 | 78 | 08/31/10 | 91 | 09/26/11 | 110 |
| | | | Dichloroethane[1,1-] | 07/09/08 | 350 | 08/19/09 | 350 | 08/31/10 | 360 | 09/26/11 | 360 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-02010 | 27.5 | 32.5 | Dichloroethene[1,1-] | 07/09/08 | 420 | 08/19/09 | 170 | 08/31/10 | 150 | 09/26/11 | 150 |
| | | | Tetrachloroethene | 07/09/08 | 110 | 08/19/09 | 110 | 08/31/10 | 130 | 09/26/11 | 120 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 560 | 08/19/09 | 510 | 08/31/10 | 550 | 09/26/11 | 630 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | **7900** | 08/19/09 | 6900 | 08/31/10 | 7200 | 09/26/11 | **8700** |
| | | | Trichloroethene | 07/09/08 | 250 | 08/19/09 | 240 | 08/31/10 | 240 | 09/26/11 | 300 |
| | | | Trichlorofluoromethane | 07/09/08 | 300 | 08/19/09 | 260 | 08/31/10 | 300 | 09/26/11 | 320 |
| | 92.5 | 97.5 | Chloroform | 07/09/08 | ND | 08/19/09 | ND | 08/31/10 | 25 | 09/26/11 | 41 |
| | | | Dichlorodifluoromethane | 07/09/08 | 130 | 08/19/09 | 100 | 08/31/10 | 98 | 09/26/11 | 200 |
| | | | Dichloroethane[1,1-] | 07/09/08 | 490 | 08/19/09 | 430 | 08/31/10 | 400 | 09/26/11 | 580 |
| | | | Dichloroethene[1,1-] | 07/09/08 | 930 | 08/19/09 | 500 | 08/31/10 | 450 | 09/26/11 | 680 |
| | | | Tetrachloroethene | 07/09/08 | 160 | 08/19/09 | 130 | 08/31/10 | 130 | 09/26/11 | 180 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 990 | 08/19/09 | 850 | 08/31/10 | 670 | 09/26/11 | 970 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | **10000** | 08/19/09 | **8400** | 08/31/10 | 6800 | 09/26/11 | **12000** |
| | | | Trichloroethene | 07/09/08 | 220 | 08/19/09 | 200 | 08/31/10 | 180 | 09/26/11 | 270 |
| | | | Trichlorofluoromethane | 07/09/08 | 320 | 08/19/09 | 250 | 08/31/10 | 220 | 09/26/11 | 350 |
| 54-02032 | 20 | 20 | Chloroform | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 12 | 09/20/11 | 12 |
| | | | Dichlorodifluoromethane | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 11 | 09/20/11 | ND |
| | | | Dichloroethane[1,1-] | 07/10/08 | 350 | 08/27/09 | 320 | 08/30/10 | 340 | 09/20/11 | 300 |
| | | | Dichloroethene[1,1-] | 07/10/08 | 830 | 08/27/09 | 610 | 08/30/10 | 560 | 09/20/11 | 490 |
| | | | Tetrachloroethene | 07/10/08 | 240 | 08/27/09 | 200 | 08/30/10 | 210 | 09/20/11 | 200 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 26 | 08/27/09 | 19 | 08/30/10 | 22 | 09/20/11 | 22 |
| | | | Trichloroethane[1,1,1-] | 07/10/08 | 4000 | 08/27/09 | 2900 | 08/30/10 | 3200 | 09/20/11 | 2800 |
| | | | Trichloroethene | 07/10/08 | 79 | 08/27/09 | 66 | 08/30/10 | 80 | 09/20/11 | 71 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-02032 | 156 | 156 | Chloroform | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 24 | 09/20/11 | 22 |
| | | | Dichlorodifluoromethane | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 30 | 09/20/11 | 26 |
| | | | Dichloroethane[1,1-] | 07/10/08 | 830 | 08/27/09 | 1000 | 08/30/10 | 990 | 09/20/11 | 890 |
| | | | Dichloroethene[1,1-] | 07/10/08 | **2600** | 08/27/09 | **2500** | 08/30/10 | **2000** | 09/20/11 | **1800** |
| | | | Methylene Chloride | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 11 | 09/20/11 | ND |
| | | | Tetrachloroethene | 07/10/08 | 440 | 08/27/09 | 480 | 08/30/10 | 400 | 09/20/11 | 370 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 58 | 08/27/09 | 51 | 08/30/10 | 43 | 09/20/11 | 42 |
| | | | Trichloroethane[1,1,1-] | 07/10/08 | **8000** | 08/27/09 | 7500 | 08/30/10 | 6700 | 09/20/11 | 5900 |
| | | | Trichloroethene | 07/10/08 | 190 | 08/27/09 | 220 | 08/30/10 | 200 | 09/20/11 | 190 |
| | | | Trichlorofluoromethane | 07/10/08 | ND | 08/27/09 | ND | 08/30/10 | 8.9 | 09/20/11 | ND |
| 54-02033 | 60 | 60 | Acetone | 07/09/08 | ND | 08/05/09 | 4 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Chlorodifluoromethane | 07/09/08 | 13 | 08/05/09 | 21 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Chloroform | 07/09/08 | 1.4 | 08/05/09 | 1.4 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Dichlorodifluoromethane | 07/09/08 | 34 | 08/05/09 | 28 | 08/26/10 | 29 | 08/31/11 | 30 |
| | | | Dichloroethene[1,1-] | 07/09/08 | 1.4 | 08/05/09 | ND | 08/26/10 | ND | 08/31/11 | ND |
| | | | Tetrachloroethene | 07/09/08 | 30 | 08/05/09 | 24 | 08/26/10 | 25 | 08/31/11 | 17 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 34 | 08/05/09 | 34 | 08/26/10 | 35 | 08/31/11 | 38 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | 35 | 08/05/09 | 38 | 08/26/10 | 35 | 08/31/11 | 34 |
| | | | Trichlorofluoromethane | 07/09/08 | 54 | 08/05/09 | 51 | 08/26/10 | 51 | 08/31/11 | 46 |
| | 277 | 277 | Acetone | 07/09/08 | ND | 08/05/09 | 11 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Butanone[2-] | 07/09/08 | ND | 08/05/09 | 1.9 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Chlorodifluoromethane | 07/09/08 | ND | 08/05/09 | 22 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Dichlorodifluoromethane | 07/09/08 | ND | 08/05/09 | 46 | 08/26/10 | 58 | 08/31/11 | 67 |
| | | | Dichloroethene[1,1-] | 07/09/08 | ND | 08/05/09 | 10 | 08/26/10 | 12 | 08/31/11 | 12 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-02033 | 277 | 277 | Methylene Chloride | 07/09/08 | ND | 08/05/09 | 0.93 (J) | 08/26/10 | ND | 08/31/11 | ND |
| | | | Tetrachloroethene | 07/09/08 | ND | 08/05/09 | 1.7 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | ND | 08/05/09 | 21 | 08/26/10 | 25 | 08/31/11 | 28 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | ND | 08/05/09 | 21 | 08/26/10 | 23 | 08/31/11 | 22 |
| | | | Trichloroethene | 07/09/08 | ND | 08/05/09 | 1.1 | 08/26/10 | ND | 08/31/11 | ND |
| | | | Trichlorofluoromethane | 07/09/08 | ND | 08/05/09 | 72 | 08/26/10 | 85 | 08/31/11 | 81 |
| 54-22116 | 171 | 173 | Carbon Tetrachloride | 07/31/08 | 120 | 09/09/09 | ND | 09/27/10 | ND | 09/27/11 | ND |
| | | | Chloroform | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 110 | 09/27/11 | 110 |
| | | | Cyclohexane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 900 | 09/27/11 | ND |
| | | | Dichlorobenzene[1,2-] | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 140 | 09/27/11 | ND |
| | | | Dichlorodifluoromethane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 1600 | 09/27/11 | 460 |
| | | | Dichloroethane[1,1-] | 07/31/08 | **2200** | 09/09/09 | **2400** | 09/27/10 | **3200** | 09/27/11 | **2800** |
| | | | Dichloroethene[1,1-] | 07/31/08 | **1900** | 09/09/09 | **2200** | 09/27/10 | **2200** | 09/27/11 | **2100** |
| | | | Tetrachloroethene | 07/31/08 | **1300** | 09/09/09 | **1600** | 09/27/10 | **1700** | 09/27/11 | **2100** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | ND | 09/27/11 | 46 |
| | | | Trichloroethane[1,1,1-] | 07/31/08 | **27000** | 09/09/09 | **23000** | 09/27/10 | **32000** | 09/27/11 | **30000** |
| | | | Trichloroethane[1,1,2-] | 07/31/08 | **ND** | 09/09/09 | **ND** | 09/27/10 | **79** | 09/27/11 | **ND** |
| | | | Trichloroethene | 07/31/08 | **5800** | 09/09/09 | **6900** | 09/27/10 | **7900** | 09/27/11 | **4000** |
| | 189 | 191 | Carbon Tetrachloride | 07/31/08 | 200 | 09/09/09 | ND | 09/27/10 | ND | 09/27/11 | ND |
| | | | Chloroform | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 160 | 09/27/11 | 250 |
| | | | Cyclohexane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 1200 | 09/27/11 | ND |
| | | | Dichlorodifluoromethane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 2200 | 09/27/11 | 940 |
| | | | Dichloroethane[1,1-] | 07/31/08 | **4700** | 09/09/09 | **2700** | 09/27/10 | **4400** | 09/27/11 | **5900** |
| | | | Dichloroethene[1,1-] | 07/31/08 | **3600** | 09/09/09 | **2200** | 09/27/10 | **2800** | 09/27/11 | **4400** |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-22116 | 189 | 191 | Tetrachloroethene | 07/31/08 | **3100** | 09/09/09 | **1700** | 09/27/10 | **2700** | 09/27/11 | **4700** |
| | | | Trichloroethane[1,1,1-] | 07/31/08 | **58000** | 09/09/09 | **26000** | 09/27/10 | **45000** | 09/27/11 | **65000** |
| | | | Trichloroethane[1,1,2-] | 07/31/08 | **ND** | 09/09/09 | **ND** | 09/27/10 | **110** | 09/27/11 | **ND** |
| | | | Trichloroethene | 07/31/08 | **14000** | 09/09/09 | **9100** | 09/27/10 | **10000** | 09/27/11 | **7600** |
| | 243 | 245 | Dichloroethane[1,1-] | NS | NS | 09/15/09 | **1500** | NS | NS | NS | NS |
| | | | Dichloroethene[1,1-] | NS | NS | 09/15/09 | **1500** | NS | NS | NS | NS |
| | | | Tetrachloroethene | NS | NS | 09/15/09 | **950** | NS | NS | NS | NS |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/15/09 | **17000** | NS | NS | NS | NS |
| | | | Trichloroethene | NS | NS | 09/15/09 | **960** | NS | NS | NS | NS |
| | 261 | 263 | Dichloroethane[1,1-] | NS | NS | 09/15/09 | **1500** | NS | NS | NS | NS |
| | | | Dichloroethene[1,1-] | NS | NS | 09/15/09 | 1200 | NS | NS | NS | NS |
| | | | Tetrachloroethene | NS | NS | 09/15/09 | **1100** | NS | NS | NS | NS |
| | | | Trichloroethane[1,1,1-] | NS | NS | 09/15/09 | **16000** | NS | NS | NS | NS |
| | | | Trichloroethene | NS | NS | 09/15/09 | **1400** | NS | NS | NS | NS |
| | 279 | 281 | Chloroform | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 140 | 09/27/11 | 23 |
| | | | Cyclohexane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 1000 | 09/27/11 | ND |
| | | | Dichlorodifluoromethane | 07/31/08 | ND | 09/09/09 | ND | 09/27/10 | 940 | 09/27/11 | 120 |
| | | | Dichloroethane[1,1-] | 07/31/08 | **8200** | 09/09/09 | **3800** | 09/27/10 | **3400** | 09/27/11 | 620 |
| | | | Dichloroethene[1,1-] | 07/31/08 | **6400** | 09/09/09 | **3300** | 09/27/10 | **2400** | 09/27/11 | 600 |
| | | | Tetrachloroethene | 07/31/08 | **5200** | 09/09/09 | **3100** | 09/27/10 | **2300** | 09/27/11 | 340 |
| | | | Trichloroethane[1,1,1-] | 07/31/08 | **100000** | 09/09/09 | **42000** | 09/27/10 | **36000** | 09/27/11 | **8100** |
| | | | Trichloroethene | 07/31/08 | **5500** | 09/09/09 | **5000** | 09/27/10 | **3100** | 09/27/11 | **490** |
| 54-24370 | 35 | 45 | Chlorodifluoromethane | 07/10/08 | 7300 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | 650 |
| | | | Chloroform | 07/10/08 | 150 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | 150 |
| | | | Dichlorodifluoromethane | 07/10/08 | 1700 | 08/27/09 | 1400 | 08/26/10 | ND | 09/02/11 | 1500 |
| | | | Dichloroethane[1,1-] | 07/10/08 | **2800** | 08/27/09 | **2900** | 08/26/10 | ND | 09/02/11 | **2000** |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-24370 | 35 | 45 | Dichloroethene[1,1-] | 07/10/08 | **1600** | 08/27/09 | 1200 | 08/26/10 | ND | 09/02/11 | 540 |
| | | | Dichloroethene[cis-1,2-] | 07/10/08 | ND | 08/27/09 | ND | 08/26/10 | **12000** | 09/02/11 | ND |
| | | | Tetrachloroethene | 07/10/08 | 260 | 08/27/09 | 280 | 08/26/10 | **33000** | 09/02/11 | 230 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 7600 | 08/27/09 | 9500 | 08/26/10 | ND | 09/02/11 | 8000 |
| | | | Trichloroethane[1,1,1-] | 07/10/08 | **32000** | 08/27/09 | **30000** | 08/26/10 | ND | 09/02/11 | **22000** |
| | | | Trichloroethene | 07/10/08 | **3500** | 08/27/09 | **3400** | 08/26/10 | **300000** | 09/02/11 | **3100** |
| | | | Trichlorofluoromethane | 07/10/08 | 2600 | 08/27/09 | 2400 | 08/26/10 | ND | 09/02/11 | 1900 |
| | 238.7 | 248.7 | Acetone | 07/10/08 | ND | 08/27/09 | ND | 08/26/10 | 61 | 09/02/11 | ND |
| | | | Chlorodifluoromethane | 07/10/08 | 12 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | ND |
| | | | Chloroform | 07/10/08 | 1.7 (J) | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | ND |
| | | | Dichlorodifluoromethane | 07/10/08 | 130 | 08/27/09 | 120 | 08/26/10 | 110 | 09/02/11 | 480 |
| | | | Dichloroethane[1,1-] | 07/10/08 | 35 | 08/27/09 | 46 | 08/26/10 | 48 | 09/02/11 | 130 |
| | | | Dichloroethene[1,1-] | 07/10/08 | 110 | 08/27/09 | 100 | 08/26/10 | 93 | 09/02/11 | 270 |
| | | | Dichloroethene[cis-1,2-] | 07/10/08 | 2.2 | 08/27/09 | ND | 08/26/10 | ND | 09/02/11 | ND |
| | | | Methylene Chloride | 07/10/08 | 4.8 | 08/27/09 | ND | 08/26/10 | 9 | 09/02/11 | 11 |
| | | | Tetrachloroethene | 07/10/08 | 12 | 08/27/09 | 12 | 08/26/10 | 14 | 09/02/11 | 27 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/10/08 | 160 | 08/27/09 | 180 | 08/26/10 | 180 | 09/02/11 | 580 |
| | | | Trichloroethane[1,1,1-] | 07/10/08 | 540 | 08/27/09 | 520 | 08/26/10 | 540 | 09/02/11 | 1500 |
| | | | Trichloroethene | 07/10/08 | 56 | 08/27/09 | 65 | 08/26/10 | 65 | 09/02/11 | 170 |
| | | | Trichlorofluoromethane | 07/10/08 | 68 | 08/27/09 | 62 | 08/26/10 | 66 | 09/02/11 | 220 |
| 54-24386 | 37.5 | 42.5 | Chloroform | 07/14/08 | ND | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 180 |
| | | | Dichloroethane[1,1-] | 07/14/08 | **10000** | 08/18/09 | **10000** | 09/02/10 | **8800** | 09/22/11 | **5500** |
| | | | Dichloroethene[1,1-] | 07/14/08 | **14000** | 08/18/09 | **12000** | 09/02/10 | **7200** | 09/22/11 | **5100** |
| | | | Tetrachloroethene | 07/14/08 | **1000** | 08/18/09 | **1500** | 09/02/10 | **1200** | 09/22/11 | **840** |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-24386 | 37.5 | 42.5 | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 930 | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 400 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **180000** | 08/18/09 | **160000** | 09/02/10 | **130000** | 09/22/11 | **90000** |
| | | | Trichloroethene | 07/14/08 | **1400** | 08/18/09 | **1700** | 09/02/10 | **1400** | 09/22/11 | **930** |
| | 192.5 | 197.5 | Chloroform | 07/14/08 | ND | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 16 |
| | | | Dichlorodifluoromethane | 07/14/08 | ND | 08/18/09 | ND | 09/02/10 | ND | 09/22/11 | 11 |
| | | | Dichloroethane[1,1-] | 07/14/08 | 740 | 08/18/09 | 540 | 09/02/10 | 820 | 09/22/11 | 540 |
| | | | Dichloroethene[1,1-] | 07/14/08 | **1700** | 08/18/09 | 1200 | 09/02/10 | 1300 | 09/22/11 | 950 |
| | | | Tetrachloroethene | 07/14/08 | 130 | 08/18/09 | 110 | 09/02/10 | 130 | 09/22/11 | 93 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 59 | 08/18/09 | 48 | 09/02/10 | 44 | 09/22/11 | 37 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | **8200** | 08/18/09 | 5000 | 09/02/10 | 6900 | 09/22/11 | 5000 |
| | | | Trichloroethene | 07/14/08 | 170 | 08/18/09 | 150 | 09/02/10 | 180 | 09/22/11 | 120 |
| 54-24394 | 45 | 55 | Chloroform | 07/09/08 | ND | 09/03/09 | ND | 08/30/10 | 58 | 09/01/11 | 68 |
| | | | Cyclohexane | 07/09/08 | ND | 09/03/09 | 150 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Dichlorodifluoromethane | 07/09/08 | 250 | 09/03/09 | 240 | 08/30/10 | 250 | 09/01/11 | 220 |
| | | | Dichloroethane[1,1-] | 07/09/08 | 620 | 09/03/09 | 630 | 08/30/10 | 580 | 09/01/11 | 670 |
| | | | Dichloroethene[1,1-] | 07/09/08 | 490 | 09/03/09 | 390 | 08/30/10 | ND | 09/01/11 | 330 |
| | | | Tetrachloroethene | 07/09/08 | 94 | 09/03/09 | ND | 08/30/10 | 78 | 09/01/11 | 86 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 15000 | 09/03/09 | 19000 | 08/30/10 | 18000 | 09/01/11 | 23000 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | 6900 | 09/03/09 | 6800 | 08/30/10 | 6900 | 09/01/11 | 7500 |
| | | | Trichloroethene | 07/09/08 | **20000** | 09/03/09 | **14000** | 08/30/10 | **11000** | 09/01/11 | **10000** |
| | | | Trichlorofluoromethane | 07/09/08 | 630 | 09/03/09 | 580 | 08/30/10 | 530 | 09/01/11 | 540 |
| | 295.5 | 305.5 | Acetone | 07/09/08 | 9.1 | 09/03/09 | 23 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Butanone[2-] | 07/09/08 | 2.1 | 09/03/09 | 5 | 08/30/10 | ND | 09/01/11 | ND |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-24394 | 295.5 | 305.5 | Cyclohexane | 07/09/08 | ND | 09/03/09 | 3.4 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Dichlorodifluoromethane | 07/09/08 | 17 | 09/03/09 | 21 | 08/30/10 | 29 | 09/01/11 | 18 |
| | | | Dichloroethane[1,1-] | 07/09/08 | 9.1 | 09/03/09 | 10 | 08/30/10 | 11 | 09/01/11 | ND |
| | | | Dichloroethene[1,1-] | 07/09/08 | 41 | 09/03/09 | 42 | 08/30/10 | 44 | 09/01/11 | 22 |
| | | | Ethanol | 07/09/08 | ND | 09/03/09 | 4.3 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Methanol | 07/09/08 | ND | 09/03/09 | 210 (J) | NS | NS | NS | NS |
| | | | Methylene Chloride | 07/09/08 | ND | 09/03/09 | 0.86 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Tetrachloroethene | 07/09/08 | 5.2 | 09/03/09 | 6.3 | 08/30/10 | ND | 09/01/11 | ND |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/09/08 | 36 | 09/03/09 | 54 | 08/30/10 | 54 | 09/01/11 | 48 |
| | | | Trichloroethane[1,1,1-] | 07/09/08 | 120 | 09/03/09 | 120 | 08/30/10 | 130 | 09/01/11 | 71 |
| | | | Trichloroethene | 07/09/08 | 32 | 09/03/09 | 40 | 08/30/10 | 53 | 09/01/11 | 48 |
| | | | Trichlorofluoromethane | 07/09/08 | 18 | 09/03/09 | 23 | 08/30/10 | 26 | 09/01/11 | 18 |
| 54-24397 | 45 | 55 | Dichlorodifluoromethane | 07/14/08 | 60 | 08/07/09 | 32 | 08/27/10 | 31 | 09/08/11 | 33 |
| | | | Dichloroethane[1,1-] | 07/14/08 | 30 | 08/07/09 | 25 | 08/27/10 | 27 | 09/08/11 | 30 |
| | | | Dichloroethene[1,1-] | 07/14/08 | 140 | 08/07/09 | 71 | 08/27/10 | 79 | 09/08/11 | 81 |
| | | | Methylene Chloride | 07/14/08 | 14 | 08/07/09 | 18 | 08/27/10 | 26 | 09/08/11 | 21 |
| | | | Tetrachloroethene | 07/14/08 | 31 | 08/07/09 | 23 | 08/27/10 | 22 | 09/08/11 | 20 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 410 | 08/07/09 | 320 | 08/27/10 | 320 | 09/08/11 | 310 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | 1800 | 08/07/09 | 1500 | 08/27/10 | 1700 | 09/08/11 | 2000 |
| | | | Trichloroethene | 07/14/08 | 29 | 08/07/09 | 24 | 08/27/10 | 22 | 09/08/11 | 22 |
| | | | Trichlorofluoromethane | 07/14/08 | 20 | 08/07/09 | 12 | 08/27/10 | 12 | 09/08/11 | 9.2 |
| | 234.75 | 244.3 | Chloroform | 07/14/08 | 1.8 | 08/07/09 | 2 | 08/27/10 | ND | 09/08/11 | ND |
| | | | Dichlorodifluoromethane | 07/14/08 | 48 | 08/07/09 | 40 | 08/27/10 | 33 | 09/08/11 | 14 |
| | | | Dichloroethane[1,1-] | 07/14/08 | 23 | 08/07/09 | 24 | 08/27/10 | 23 | 09/08/11 | 18 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-24397 | 234.75 | 244.3 | Dichloroethene[1,1-] | 07/14/08 | 180 | 08/07/09 | 180 | 08/27/10 | 150 | 09/08/11 | 86 |
| | | | Tetrachloroethene | 07/14/08 | 18 | 08/07/09 | 24 | 08/27/10 | 21 | 09/08/11 | 10 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/14/08 | 100 | 08/07/09 | 130 | 08/27/10 | 98 | 09/08/11 | 37 |
| | | | Trichloroethane[1,1,1-] | 07/14/08 | 540 | 08/07/09 | 570 | 08/27/10 | 440 | 09/08/11 | 240 |
| | | | Trichloroethene | 07/14/08 | 30 | 08/07/09 | 39 | 08/27/10 | 31 | 09/08/11 | 17 |
| | | | Trichlorofluoromethane | 07/14/08 | 18 | 08/07/09 | 18 | 08/27/10 | 14 | 09/08/11 | ND |
| 54-25105 | 485 | 701 | Acetone | 08/01/08 | 43 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Benzene | 08/01/08 | 20 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Butadiene[1,3-] | 08/01/08 | 2.9 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Butanone[2-] | 08/01/08 | 2 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Cyclohexane | 08/01/08 | 4.4 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Ethylbenzene | 08/01/08 | 5.4 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Ethyltoluene[4-] | 08/01/08 | 4.7 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Hexane | 08/01/08 | 14 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | n-Heptane | 08/01/08 | 4.8 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Propylene | 08/01/08 | 16 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Toluene | 08/01/08 | 38 | 08/24/09 | 5.5 | NS | NS | NS | NS |
| | | | Trimethylbenzene[1,2,4-] | 08/01/08 | 5.6 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Trimethylbenzene[1,3,5-] | 08/01/08 | 1.6 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Xylene[1,2-] | 08/01/08 | 6.8 | 08/24/09 | ND | NS | NS | NS | NS |
| | | | Xylene[1,3-]+Xylene[1,4-] | 08/01/08 | 18 | 08/24/09 | ND | NS | NS | NS | NS |
| 54-27436 | 40 | 50 | Chloroform | 07/18/08 | 91 | 08/19/09 | 55 | 09/14/10 | 74 | 09/06/11 | 66 |
| | | | Dichlorodifluoromethane | 07/18/08 | ND | 08/19/09 | 52 | 09/14/10 | 120 | 09/06/11 | 120 |
| | | | Dichloroethane[1,1-] | 07/18/08 | 270 | 08/19/09 | 170 | 09/14/10 | 210 | 09/06/11 | 170 |
| | | | Dichloroethene[1,1-] | 07/18/08 | 120 | 08/19/09 | 74 | 09/14/10 | 58 | 09/06/11 | 57 |

**Table D-1.0-3 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | Analyte | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Collection Date | Result (ppbv) | Collection Date | Result (ppbv) | Analyte | Collection Date | Result (ppbv) | Collection Date |
| 54-27436 | 40 | 50 | Tetrachloroethene | 07/18/08 | **1200** | 08/19/09 | **1000** | 09/14/10 | **1100** | 09/06/11 | **980** |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/18/08 | 220 | 08/19/09 | 220 | 09/14/10 | 260 | 09/06/11 | 260 |
| | | | Trichloroethane[1,1,1-] | 07/18/08 | 2600 | 08/19/09 | 1800 | 09/14/10 | 2000 | 09/06/11 | 1600 |
| | | | Trichloroethene | 07/18/08 | **19000** | 08/19/09 | **12000** | 09/14/10 | **13000** | 09/06/11 | **9200** |
| | | | Trichlorofluoromethane | 07/18/08 | ND | 08/19/09 | ND | 09/14/10 | 25 | 09/06/11 | 22 |
| | 180 | 190 | Chloroform | 07/18/08 | 35 | 08/19/09 | 41 | 09/14/10 | 35 | 09/06/11 | 35 |
| | | | Dichlorodifluoromethane | 07/18/08 | 28 | 08/19/09 | 34 | 09/14/10 | 42 | 09/06/11 | 45 |
| | | | Dichloroethane[1,1-] | 07/18/08 | 120 | 08/19/09 | 150 | 09/14/10 | 130 | 09/06/11 | 120 |
| | | | Dichloroethene[1,1-] | 07/18/08 | 110 | 08/19/09 | 120 | 09/14/10 | 110 | 09/06/11 | 120 |
| | | | Methylene Chloride | 07/18/08 | 11 (J) | 08/19/09 | 13 | 09/14/10 | 15 | 09/06/11 | ND |
| | | | Tetrachloroethene | 07/18/08 | 87 | 08/19/09 | 140 | 09/14/10 | 120 | 09/06/11 | 130 |
| | | | Trichloro-1,2,2-trifluoroethane[1,1,2-] | 07/18/08 | 34 | 08/19/09 | 60 | 09/14/10 | 46 | 09/06/11 | 58 |
| | | | Trichloroethane[1,1,1-] | 07/18/08 | 890 | 08/19/09 | 1300 | 09/14/10 | 1000 | 09/06/11 | 1100 |
| | | | Trichloroethene | 07/18/08 | **1700** | 08/19/09 | **2900** | 09/14/10 | **2600** | 09/06/11 | **2600** |
| | | | Trichlorofluoromethane | 07/18/08 | 9 | 08/19/09 | ND | 09/14/10 | ND | 09/06/11 | 11 |
| | | | Trimethylbenzene[1,2,4-] | 07/18/08 | 11 | 08/19/09 | ND | 09/14/10 | ND | 09/06/11 | ND |

Note: Bold indicates concentrations that exceed a screening value of 1.

[a] bgs = below ground surface.

[b] ND = Not detected.

[c] NS = Not sampled.

**Table D-1.0-4**
**Summary of Tritium Results at MDA G**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Collection Date | Result (pCi/L) | Collection Date | Result (pCi/L) | Collection Date | Result (pCi/L) | Collection Date | Result (pCi/L) |
| 54-01107 | 55.5 | 57.5 | 07/29/08 | 884000 | 08/17/09 | 76400 | 09/24/10 | 366000 | 09/07/11 | 1260000 |
| | 99 | 101 | 07/29/08 | 100000 | 08/17/09 | 125000 | 09/24/10 | 347000 | 09/07/11 | 311000 |
| 54-01110 | 59 | 61 | 07/25/08 | 136000000 | 08/27/09 | 113000000 | 09/17/10 | 135000000 | 09/08/11 | 58300000 |
| | 89 | 91 | 07/25/08 | 32000000 | 08/27/09 | 26900000 | 09/17/10 | 21900000 | 09/08/11 | 4730000 |
| 54-01111 | 19 | 21 | 07/18/08 | 451000000 | 08/26/09 | 211000000 | 09/21/10 | 487000000 | 09/08/11 | 2240000000 |
| | 138 | 140 | 07/18/08 | 17000000 (J) | 08/26/09 | 24700 | 09/21/10 | 10100000 | 09/15/11 | 785000000 |
| 54-01115 | 39 | 41 | 07/23/08 | 81300 | 08/13/09 | 29700 | 09/24/10 | 4850000 | 09/15/11 | 9810 |
| | 67 | 69 | 07/23/08 | 9930 (J) | 08/13/09 | 38600 | 09/24/10 | 19300 (J) | 09/15/11 | 24900 |
| 54-01116 | 0 | 0 | 07/09/08 | 642000 | NS[b] | NS | NS | NS | NS | NS |
| | 20 | 25 | 07/22/08 | 5860000 | 08/13/09 | 7660000 | 09/23/10 | 14800000 | 09/21/11 | 132000 |
| | 185.3 | 190.3 | 07/22/08 | 9160 (J) | 08/13/09 | 10000 | 09/23/10 | 26000000 | 09/21/11 | 5720000 |
| 54-01117 | 18.5 | 22.5 | 07/22/08 | 57300000 | 08/11/09 | 236000000 | 09/22/10 | 222000000 | 09/22/11 | 242000000 |
| | 177.3 | 182.3 | 07/22/08 | 67600 | 08/11/09 | 204000 | 09/22/10 | 129000 | 09/22/11 | 316000 |
| 54-01121 | 19 | 21 | 07/17/08 | 553000 | 08/31/09 | 45800 | 09/28/10 | 4760 | 09/27/11 | 56700 (J) |
| | 120 | 122 | 07/17/08 | 24600 | 08/31/09 | 19500 (J) | 09/28/10 | 6190 | 09/27/11 | 6050 (J) |
| 54-01126 | 34 | 36 | NS | NS | 09/30/09 | 148000000 | 09/30/10 | 28600000 | 09/01/11 | 68800000 |
| | 48 | 50 | NS | NS | 09/30/09 | 10700000 | 09/30/10 | 4380000 | 09/01/11 | 7840000 |
| 54-01128 | 19 | 21 | 07/15/08 | 8380 | 08/24/09 | 6150000 | 09/29/10 | 54600 | 09/26/11 | 6380000 (J) |
| | 38 | 40 | 07/15/08 | 2870000 | 08/25/09 | 2970000 | 09/29/10 | 197000 | 09/26/11 | 48700 (J) |
| 54-02009 | 34.5 | 39.5 | 07/16/08 | 9860 | 08/21/09 | 10600 (J) | 09/29/10 | 5340 | 09/20/11 | ND[c] |
| | 89.5 | 94.5 | 07/16/08 | 36100 | 08/21/09 | 100000 | 09/29/10 | 8250 | 09/20/11 | ND |
| 54-02010 | 27.5 | 32.5 | 07/11/08 | 11700 | 08/24/09 | 19800 (J) | 09/28/10 | 18900 | 09/28/11 | 11700 (J) |
| | 92.5 | 97.5 | 07/11/08 | 3220 | 08/25/09 | 24100 | 09/28/10 | 838000 | 09/28/11 | 5150 (J) |

**Table D-1.0-4 (continued)**

| Vapor-Monitoring Well ID | Begin Depth (ft bgs[a]) | End Depth (ft bgs) | FY2008 | | FY2009 | | FY2010 | | FY2011 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Collection Date | Result (pCi/L) | Collection Date | Result (pCi/L) | Collection Date | Result (pCi/L) | Collection Date | Result (pCi/L) |
| 54-02032 | 20 | 20 | 07/14/08 | 6440 | 09/01/09 | 9670 (J) | 09/25/10 | 29000 | 09/30/11 | 26100 (J) |
| | 156 | 156 | 07/14/08 | 1020 | 09/01/09 | 2660 (J) | 09/25/10 | 16300 (J) | 09/30/11 | 1190 (J) |
| 54-02033 | 60 | 60 | 07/08/08 | 766 | 08/06/09 | 883 | 09/14/10 | 20500 (J) | 09/02/11 | 640 |
| | 277 | 277 | 07/08/08 | ND | 08/06/09 | 554 | 09/14/10 | 170000 (J) | 09/02/11 | 438 |
| 54-22116 | 171 | 173 | 08/04/08 | 952 | 09/10/09 | 117000 | 09/30/10 | 54400 | 09/30/11 | 11200000 (J) |
| | 189 | 191 | 08/04/08 | 26500 | 09/10/09 | 1880000 | 09/30/10 | 8610000 | 09/30/11 | 5610000 (J) |
| | 243 | 245 | NS | NS | 09/22/09 | 2530000 | NS | NS | NS | NS |
| | 261 | 263 | NS | NS | 09/22/09 | 16000 | NS | NS | NS | NS |
| | 279 | 281 | 08/04/08 | 5030 | 09/10/09 | ND | 09/30/10 | 86600 | 09/30/11 | 561000 (J) |
| 54-24370 | 35 | 45 | 07/10/08 | 812 | 09/01/09 | 33400 | 09/16/10 | 36500 (J) | 09/06/11 | 630 |
| | 238.7 | 248.7 | 07/10/08 | 1890 | 09/02/09 | 121000 | 09/16/10 | 409000 | 09/06/11 | 1620 |
| 54-24386 | 37.5 | 42.5 | 07/17/08 | 16700000 | 08/20/09 | 13400000 | 09/27/10 | 191000 | 09/26/11 | 12400000 (J) |
| | 192.5 | 197.5 | 07/17/08 | 173000 | 08/20/09 | 151000 | 09/27/10 | 21000000 | 09/26/11 | 230000 (J) |
| 54-24394 | 45 | 55 | 07/09/08 | ND | 09/10/09 | 2720 | 09/27/10 | 6440 (J) | 09/02/11 | 1930 |
| | 295.5 | 305.5 | 07/09/08 | 1330 | 09/10/09 | 1660 | 09/25/10 | 14600 (J) | 09/02/11 | 560 |
| 54-24397 | 45 | 55 | 07/18/08 | 13000000 | 08/11/09 | 14800000 | 09/15/10 | 11000000 | 09/20/11 | 11800000 |
| | 234 | 244.3 | NS | NS | 08/11/09 | 972000 | NS | NS | NS | NS |
| | 234.75 | 244.3 | 07/18/08 | 89500 | NS | NS | 09/16/10 | 378000 | 09/20/11 | 5180 |
| 54-25105 | 5 | 701 | NS | NS | NS | NS | 10/07/10 | 2390 | NS | NS |
| | 485 | 701 | 08/01/08 | 3280 | 08/24/09 | 7440 (J) | NS | NS | NS | NS |
| 54-27436 | 40 | 50 | 07/18/08 | 50600 | 08/20/09 | 8150 (J) | 09/27/10 | 6610 (J) | 09/07/11 | 5130 |
| | 180 | 190 | 07/18/08 | 46700 (J) | 08/20/09 | 4200 (J) | 09/27/10 | 2090 (J) | 09/07/11 | 2470 |

[a] bgs = below ground surface.

[b] NS = Not sampled.

[c] ND = Not detected.

# Attachment D-1

*Analytical Suites and Results and Analytical Reports*
*(on CD included with this document)*