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Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Third Quarter Fiscal Year 2010

Los Alamos
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EXECUTIVE SUMMARY

This periodic monitoring report summarizes vapor monitoring conducted during the third quarter of fiscal year (FY) 2010 at Material Disposal Area (MDA) H, Solid Waste Management Unit 54-004, in Technical Area 54 at Los Alamos National Laboratory. The monitoring objective is to evaluate trends in volatile organic compound (VOC) concentrations and tritium activity levels over time in subsurface vapor at MDA H.

Monitoring conducted during the third quarter of FY2010 included field screening and collecting vapor samples from 28 sampling ports within 4 vapor-monitoring boreholes at MDA H. Vapor samples were submitted for laboratory analyses of VOCs and tritium.

The analytical results continue to confirm the presence of VOCs and tritium in pore-vapor samples collected at MDA H. VOC concentrations are consistent with previous sampling results. The maximum concentrations for all VOCs detected in pore gas during the third quarter of FY2010 and during the previous three quarters did not exceed groundwater-screening levels. No potential threat to groundwater is posed by VOCs measured at MDA H monitoring locations.

Tritium activity decreased with distance from MDA H. The tritium activity levels in borehole 54-01023 were generally consistent with those detected during the fourth quarter of FY2009. No tritium activity was detected in vapor samples from borehole 54-15462 this quarter. Tritium was detected in vapor samples from one of three ports from borehole 54-15461 and from two of nine ports from borehole 54-609985 collected during the third quarter of FY2010.

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1.0 INTRODUCTION

This periodic monitoring report presents the results of vapor-monitoring conducted during the third quarter of fiscal year (FY) 2010 at Material Disposal Area (MDA) H, Solid Waste Management Unit 54-004, in Technical Area 54 (TA-54) at Los Alamos National Laboratory (LANL or the Laboratory).

MDA H is located in the east-central portion of the Laboratory at TA-54 (Figure 1.0-1) on Mesita del Buey. MDA H is a 70-ft-wide × 200-ft-long (0.3 acre) fenced area consisting of 9 inactive vertical disposal shafts arranged in a line approximately 15 ft within, and parallel to, its southern fenceline (Figure 1.0-2). Each shaft is cylindrical, 6 ft in diameter and 60-ft deep. The shafts are filled with solid-form waste to a depth of 6 ft below ground surface (bgs). The waste in shafts 1 to 8 is covered by a 3-ft layer of concrete placed over 3 ft of crushed tuff; the waste in shaft 9 is covered by 6 ft of concrete. The regional aquifer beneath MDA H is estimated to be at an average depth of approximately 1040 ft bgs, based on data from nearby wells and the predictions of the hydrogeologic conceptual model for the Pajarito Plateau (LANL 1998, 059599).

From May 1960 to August 1986, MDA H functioned as the Laboratory's primary disposal area for classified solid-form waste. Between periods of waste disposal, each shaft was covered with a padlocked steel plate to prevent unauthorized access to classified materials. Much of the classified waste was nonhazardous; however, various hazardous chemicals, radionuclide-contaminated materials, and materials contaminated by high explosives were also disposed of at MDA H. These materials included drummed radioactive waste, fuel elements, a tritium-contaminated unit, plutonium-contaminated shapes and scraps, shapes contaminated with depleted uranium, and decontamination and decommissioning scrap. According to waste disposal records, bulk solvent wastes were not disposed of at MDA H.

Vapor monitoring at MDA H consists of screening 28 sampling ports in 4 vapor-monitoring boreholes (Figure 1.0-2). Volatile organic compound (VOC) and tritium samples are collected from each of the 28 sampling ports within each stratigraphic unit. 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 policy.

Vapor monitoring at MDA H has been conducted since the second quarter of FY2005. The NMED-approved vapor-monitoring boreholes and the corresponding sampling intervals that were field screened and sampled through the fourth quarter of FY2009 are presented in Table 1.0-1. The NMED-approved vapor-monitoring boreholes and the corresponding sampling intervals that were field screened and sampled third quarter of FY2010 are presented in Table 1.0-2. A summary of vapor-monitoring activities follows.

- On April 11, 2003, NMED sent a letter (NMED 2003, 075939) approving the Resource Conservation and Recovery Act facility investigation report for MDA H (LANL 2001, 070158) and a subsequent addendum to the report (LANL 2002, 073270).
- In May 2003, the Laboratory submitted the corrective measures study for MDA H (LANL 2003, 076039) that identified a preferred remedy. Comments were received from NMED and the report was reissued in June 2005 (LANL 2005, 089332).
- In December 2004, NMED sent a letter (NMED 2004, 092217) requesting the Laboratory collect quarterly subsurface vapor-monitoring samples from boreholes 54-15461, 54-15462, and 54-01023 to provide data to facilitate NMED's selection of an appropriate remedy for MDA H.

- In February 2005, the Laboratory began quarterly pore-gas monitoring using an inflatable packer sampling system. In March 2006, the Laboratory installed dedicated Flexible Liner Underground Technology (FLUTe) sampling membranes into each MDA H pore-gas monitoring borehole.
- In May 2005, NMED sent a letter (NMED 2005, 092219) requesting the Laboratory continue to collect quarterly subsurface vapor-monitoring samples from boreholes 54-15461, 54-15462, and 54-01023.
- NMED reviewed the 2007 pore-gas monitoring report and, based on packer sampling results for trichloroethene (TCE) in pore-gas samples collected before dedicated sampling equipment (FLUTe) was installed, suggested that the FLUTe membrane was adsorbing VOCs (NMED 2007, 099277; NMED 2008, 100480). VOC concentrations in subsurface vapor samples were compared during the second and third quarters of FY2008 to evaluate the FLUTe system used at MDA H for those two quarters compared with the packer system used from 2001 to 2006 to collect subsurface vapor samples. The results of this study are discussed in "Pilot Test Report for Comparing Packer and FLUTe Vapor-Sampling Systems at Material Disposal Area H" (LANL 2008, 103889). Pore gas was sampled using the FLUTe membrane system during the second quarter sampling event; however, the FLUTe membrane was damaged during the removal process to accommodate packer sampling for the comparison study. The membrane was sent to the manufacturer for repair before it was reinstalled for third quarter sampling, which was conducted as planned. During membrane removal, the tubing was disconnected from the manifold and subsequently misaligned when it was reinstalled before third quarter FY2008 sampling was conducted.
- During the first quarter FY2009 (December 2008) sampling, the field crew observed that one tube connecting the FLUTe membrane's subsurface sampling port to the surface manifold in borehole 54-15462 did not correspond to the correct fitting for that depth interval on the manifold. The borehole was sampled in the observed tubing configuration (with the exception of the 60-ft port depth, which was not sampled), and the membrane was removed following sampling. After the membrane was removed, it was determined that 5 of the 6 tubes were not connected to the correct fittings for the depth intervals on the manifold. In addition, 1 sampling port (60-ft depth) was not reconnected to any sampling tubing at that time.
- As a result of the tubing misalignment, the samples collected from the borehole during the third and fourth quarter FY2008 sampling and the first quarter FY2009 sampling were assigned to the wrong depth intervals. Although the misalignment of the tubing in borehole location 54-15462 was not discovered until the first quarter FY2009 sampling, the ambient-air values measured in the port indicated that the tubing may have been disconnected in the 60-ft port depth during the fourth quarter FY2008 sampling. Therefore, the 60-ft port depth was not sampled during the fourth quarter FY2008 and first quarter FY2009 sampling events. The 60-ft port depth was sampled during the third quarter FY2008 sampling; however, the results are not representative of formation air at this port depth.
- Because of the problems with the tubing configuration in borehole location 54-15462, the Laboratory corrected the field documentation (sample collection logs and field notebooks) for the third and fourth quarter FY2008 sampling events and for the first quarter FY2009 sampling.
- The Sample Management Database records were updated to correlate the results to the correct port depths sampled in borehole location 54-15462 during the third and fourth quarters of FY2008 and the first quarter of FY2009.

- Analytical results and their associated port depths were reported correctly in "Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Fiscal Year 2008" (LANL 2009, 105191).
- The third quarter FY2008 pore-gas results presented in "Pilot Test Report for Comparing Packer and FLUTe Vapor-Sampling Systems at Material Disposal Area H" were incorrect (LANL 2008, 103889). The information presented in this report was revised, and the report was resubmitted to NMED in February 2009 as the "Pilot Test Report for Comparing Packer and FLUTe Vapor-Sampling Systems at Material Disposal Area H, Revision 1" (LANL 2009, 105076).
- Although pore-gas screening and analytical data for borehole 54-15462 reported for the third and fourth quarters of FY2008 and the first quarter of FY2009 were corrected in all field and laboratory documentation to correlate the results to the actual depths monitored, NMED rejected all data for this borehole collected during these three sampling events because the misalignment of the sampling ports to the manifold may have resulted in inadequate purge volumes (NMED 2009, 105599).
- On August 20, 2009, NMED sent a letter to the Laboratory discussing the presence of VOCs and tritium in the subsurface at MDA H, discrepancies between Tables 3.0-1 and 5.2-1 (LANL 2009, 106656), and the rejection of tritium in the third and fourth quarters of FY2008 and the first quarter of FY2009 because of inadequate purge times. The discrepancies were corrected and the tables were resubmitted. The Laboratory rejected the VOC sampling results because the purge time for the three quarters was not adequate. The Laboratory includes the tritium data NMED rejected because tritium analysis is dependent on weight accumulation of water vapor, not on purge time (NMED 2009, 106786).
- On June 23, 2009, NMED sent a letter directing the Laboratory to extend the depth of existing monitoring well 54-15462 to its original intended depth of 300 ft bgs and to replace the FLUTe system with a stainless-steel tubing system. The letter also directed the Laboratory to drill a new borehole, 54-609985, north of shafts 4 and 9 to a depth of 300 ft bgs and finish it with a stainless-steel tubing system. Additionally, the letter directed the Laboratory to replace the FLUTe system in borehole 54-01023 with a stainless-steel tubing system (NMED 2009, 106234).
- Drilling mobilization began November 3, 2009. Drilling of borehole 54-609985 began November 5, 2009, and was completed November 13, 2009, when the stainless-steel sampling system was installed. Redrilling borehole 54-01023 to its original intended depth of 260 ft began November 14, 2009, and was completed November 15, 2009, with a stainless-steel sampling system. Deepening of borehole 54-15462 to a depth of 300 ft bgs began November 16, 2009, and was completed with a stainless-steel sampling system November 18, 2009. Installation of the stainless-steel sampling system at borehole 54-15461 began November 18, 2009, and was completed November 19, 2009 (LANL 2009, 108298).

Pore-gas samples undergo field screening and laboratory analysis quarterly to characterize VOC concentration and tritium activity-level trends in subsurface vapor over time. Field-screening data and analytical laboratory results for the third quarter of FY2010 and the previous three quarters are presented in this report.

2.0 SCOPE OF ACTIVITIES

The following sampling activities were completed at MDA H during the third quarter of FY2010, as directed by NMED in a June 23, 2009, letter to the Laboratory (NMED 2009, 106234). Third quarter vapor-monitoring was conducted from June 7 to June 23, 2010. Table 1.0-2 shows the vapor-monitoring

borehole identification numbers and sampling port depths. The vapor-monitoring borehole locations are shown in Figure 1.0-2.

- Each sampling interval was purged to ensure that formation air was sampled in accordance with Standard Operating Procedure- (SOP) 5074, Sampling Subsurface Vapor.
- Pore gas from each sampling interval was field screened for carbon dioxide (CO_2) and oxygen (O_2) using a Landtec GEM-500. A Brüel and Kjær (B&K) Type 1302 multigas photoacoustic analyzer was used to field screen for selected VOCs, CO_2, and water vapor. The pressure differential was also measured at each sampling interval using a manometer.
- Vapor samples were collected from each sampling interval in SUMMA canisters for laboratory analyses of VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15.
- Tritium samples were collected from each sampling interval with silica-gel columns for laboratory analysis using EPA Method 906.0.
- A total of 28 VOC samples were collected from 28 ports in 4 boreholes.
- A total of 28 tritium samples were collected from 28 ports in 4 boreholes.

No investigation-derived waste was generated during quarterly monitoring.

3.0 REGULATORY CRITERIA

The Compliance Order on Consent (the Consent Order) does not identify any cleanup standards, risk-based screening levels (SLs), risk-based cleanup goals, or other regulatory criteria for pore gas at MDA H. Therefore, an analysis was conducted to evaluate the potential for groundwater contamination by VOCs in pore gas using SLs based on groundwater cleanup levels in the Consent Order. The analysis evaluated the groundwater concentrations that would exist if pore gas were in equilibrium with groundwater. The equilibrium relationship between air and water concentrations is described by the equation

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

where C_{water} = the volumetric concentration of a contaminant in water,

C_{air} = the volumetric concentration of a 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 of groundwater cleanup levels. The third quarter MDA H VOC pore-gas data are analyzed in section 5.0.

The screening evaluation was based on groundwater standards or tap water SLs and on 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, 106420) or the EPA regional screening tables (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/params_sl_table_bwrun_MAY2010.pdf). 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 following screening value (SV)

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

where C_{air} is the concentration of a particular VOC in the pore-gas sample (µg/m^3), H' is the dimensionless Henry's law constant, SL is the screening level (µg/L), and 1000 is a conversion factor from liter to cubic meter. 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 EPA regional tap water SL (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/pdf/master_sl_table_bwrun_MAY2010.pdf) is used and adjusted to 10^{-5} risk for carcinogens. 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 SL. Therefore, if the SV is less than 1, the concentration of the VOC in pore gas does not exceed the SL, even if the VOC plume was in direct contact with groundwater. Table 3.0-1 presents the calculated concentrations in pore gas corresponding to groundwater SLs for contaminants detected during the third quarter of FY2010 and the previous three quarters. Table 3.0-2 shows the SVs calculated for the maximum detected VOC concentrations during the third quarter of FY2010. Table 3.0-3 shows the SVs calculated for the maximum detected VOC concentrations during the third quarter of FY2010 and the previous three quarters.

4.0 FIELD-SCREENING RESULTS

Third quarter FY2010 vapor-monitoring field-screening was conducted at MDA H on June 7 and June 8, 2010. Before sampling, each sample interval was purged to ensure formation air was collected. The vapor from each port was field screened using a Landtec GEM-500 photoionization detector equipped with an 11.7-eV lamp to measure percent CO_2 and O_2. Each interval was monitored with the Landtec until CO_2 and O_2 readings stabilized. The stabilized percent CO_2 and O_2 values measured at each sampling location during the third quarter of FY2010 and the previous three quarters are provided in Table 4.0-1. After the tubing was purged and stabilized, VOC field-screening results were collected using a B&K Type 1302 multigas photoacoustic analyzer to estimate VOC concentrations. The B&K was calibrated for analysis of four VOCs, including trichlorofluoromethane (Freon-11), tetrachloroethene, 1,1,1-trichloroethane (TCA), and TCE. It also measured CO_2 and water vapor. The stabilized B&K field-monitoring values measured at each sampling location for the third quarter of FY2010 and the previous three quarters at each sampling location are provided in Table 4.0-2. The field-screening quality assurance/quality control (QA/QC) program is summarized in Appendix B, section B-5.0.

5.0 ANALYTICAL DATA RESULTS

Third quarter FY2010 vapor-sampling was also conducted at MDA H from June 7 through June 23, 2010. Sampling locations and depths are provided in Table 1.0-2. Analytical vapor samples were collected in SUMMA canisters and submitted for laboratory analyses of VOCs according to EPA Method TO-15. Analytical vapor samples were collected in silica-gel columns and submitted for laboratory analyses of tritium according to EPA Method 906.0. Table 5.0-1 presents analytical results for detected VOCs in samples collected during the third quarter of FY2010 and the three previous quarters. VOC levels in MDA H during the third quarter of FY2010 are shown on Plate 1. Table 5.0-2 presents analytical results for detected activity levels of tritium in samples collected during the third quarter of FY2010 and the three

previous quarters. Tritium levels at MDA H during the third quarter of FY2010 are also displayed in Figure 5.0-1. Analytical data and reports for the third quarter of FY2010 and the three previous quarters are included in Appendix C (on CD included with this report). Tritium and VOC analytical data were reviewed in accordance with the QA/QC program presented in Appendix B.

5.1 Data Summary

Boreholes 54-01023 and 54-15462 were redrilled in November and December 2009, and the sampling interval was increased from 2-ft to 5-ft intervals. These 5-ft intervals inhabit the same stratigraphic units as the previous 2-ft sampling intervals; therefore, it is possible to compare the results from the first three quarters of FY2010 with the fourth quarter of FY2009.

During the third quarter of FY2010, laboratory analysis detected 27 VOC analytes in the 28 vapor samples collected from MDA H. TCA, Freon-11, and dichlorodifluoromethane were detected in all 28 samples.

TCA was detected at concentrations ranging from 7.9 µg/m^3 to 170 µg/m^3 (1.4 ppbv to 31 ppbv). Dichlorodifluoromethane and Freon-11 were each detected at maximum concentrations of 71 µg/m^3 (14 ppbv) and 77 µg/m^3 (14 ppbv), respectively.

The VOC analyte with the highest concentration was TCA at 170 µg/m^3 (31 ppbv), detected in borehole 54-15462 at 152.5 ft bgs. The second highest VOC detection was chloroform at 100 µg/m^3 (22 ppbv), also detected in borehole 54-15462 at 152.5 ft bgs.

VOC results were generally consistent between third quarter sampling and the previous three sampling events for boreholes 54-01023, 54-15461, and 54-15462, and were consistent among the first three quarters of FY2010 for borehole 54-609985.

During the third quarter FY2010 sampling, tritium was detected in 10 of the 28 vapor samples collected at MDA H with activity levels ranging from 2678.23 pCi/L to 5,069,990 pCi/L. The highest tritium activity levels were detected in vapor samples collected from borehole 54-01023, the monitoring borehole nearest MDA H. The tritium activity levels detected at borehole 54-01023 in the third quarter of FY2010 were similar to those detected in the fourth quarter of FY2009, but greater than those detected in samples collected during the first two quarters of FY2010. Tritium was not detected in borehole 54-15462 this quarter and was only detected in boreholes 54-15461 at the 11-ft port depth. Tritium was detected in 2 of the 9 ports in borehole 54-609985 during third quarter sampling, with a maximum activity of 8345.66 pCi/L. This borehole was first sampled during the first quarter of FY2010; however, tritium was not detected during the first quarter sampling.

5.2 Data Evaluation

SVs were calculated for the maximum concentrations of VOCs detected at MDA H using Equation 3.0-3. Twenty-seven VOCs were detected during the third quarter FY2010 sampling. The evaluation included the 25 VOCs detected in MDA H samples for which there are MCLs, NMWQCC standards, or NMED or EPA regional tap water SLs. Table 3.0-2 shows the SVs calculated for the relevant VOCs for the third quarter of FY2010. For all detected VOCs, SVs were less than 1.0, indicating VOC concentrations in the pore gas beneath MDA H are not a potential threat to groundwater.

Table 3.0-3 shows the SVs calculated for VOCs for the third quarter FY2010 and the previous three sampling quarters. All SVs were below 1.0 for the last four quarters, indicating VOC concentrations in the pore gas beneath MDA H are not a potential threat to groundwater.

6.0 SUMMARY

The purpose of the quarterly pore-gas monitoring at MDA H is to evaluate trends in VOC concentrations and tritium activity levels in subsurface vapor at MDA H over time. The results from the third quarter FY2010 monitoring event are summarized as follows.

- Twenty-seven VOC analytes were detected in vapor samples collected from the monitoring boreholes at MDA H. TCA, Freon-11, and dichlorodifluoromethane were detected in all 28 VOC samples.
- VOCs were present at low concentrations (<200 µg/m^3) in subsurface vapor and are generally consistent with concentrations detected during the three previous quarterly sampling events.
- Maximum concentrations of all VOCs detected in pore gas during third quarter of FY2010, as well as the previous three sampling events, were less than concentrations needed to exceed groundwater SLs. The VOCs measured at MDA H monitoring locations pose no immediate potential threat to groundwater.
- Tritium in pore vapor was detected in 10 of the 28 samples, primarily in borehole 54-01023. The tritium activity levels in borehole 54-01023 were generally consistent with those detected during the fourth quarter of FY2009.
- No tritium activity was detected in vapor samples from borehole 54-15462 this quarter. Tritium was detected in vapor samples from one of three ports from borehole 54-15461 and from two of nine ports from borehole 54-609985.
- The two highest tritium activity levels measured in all four quarters of this report were in vapor samples collected from the top port depth (12.5 ft bgs) of borehole 54-01023 in the fourth quarter of FY2009 and in the second shallowest port depth (62.5 ft bgs) of borehole 54-01023 in the third quarter of FY2010. The highest two tritium activity levels in the third quarter of FY2010 were detected in the top two port depths (12.5 ft bgs and 62.5 ft bgs, respectively) of borehole 54-01023.

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.

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LANL (Los Alamos National Laboratory), May 2001. "RFI Report for Material Disposal Area H at Technical Area 54," Los Alamos National Laboratory document LA-UR-01-1208, Los Alamos, New Mexico. (LANL 2001, 070158)

LANL (Los Alamos National Laboratory), October 2002. "Addendum to the RFI Report for Material Disposal Area H (Solid Waste Management Unit 54-004) at Technical Area 54," Los Alamos National Laboratory document LA-UR-02-3397, Los Alamos, New Mexico. (LANL 2002, 073270)

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LANL (Los Alamos National Laboratory), September 2008. "Pilot Test Report for Comparing Packer and FLUTe Vapor-Sampling Systems at Material Disposal Area H," Los Alamos National Laboratory document LA-UR-08-5872, Los Alamos, New Mexico. (LANL 2008, 103889)

LANL (Los Alamos National Laboratory), January 2009. "Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Fiscal Year 2008," Los Alamos National Laboratory document LA-UR-09-0473, Los Alamos, New Mexico. (LANL 2009, 105191)

LANL (Los Alamos National Laboratory), July 2009. "Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Second Quarter Fiscal Year 2009," Los Alamos National Laboratory document LA-UR-09-4406, Los Alamos, New Mexico. (LANL 2009, 106656)

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LANL (Los Alamos National Laboratory), December 2009. "Completion Report for Pore-Gas Monitoring System Boreholes at Material Disposal Area H," Los Alamos National Laboratory document LA-UR-09-8169, Los Alamos, New Mexico. (LANL 2009, 108298)

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NMED (New Mexico Environment Department), December 21, 2004. "Notification to Collect Additional Vapor Monitoring Data at MDA H, SWMU 54-004, at TA-54," New Mexico Environment Department letter to D. Gregory (DOE LASO) and G.P. Nanos (LANL Director) from N. Dhawan (NMED-HWB), Santa Fe, New Mexico. (NMED 2004, 092217)

NMED (New Mexico Environment Department), May 17, 2005. "Notification for Additional Information for MDA H, SWMU 54-004, at TA-54," New Mexico Environment Department letter to D. Gregory (DOE LASO) and G.P. Nanos (LANL Director) from N. Dhawan (NMED-HWB), Santa Fe, New Mexico. (NMED 2005, 092219)

NMED (New Mexico Environment Department), December 21, 2007. "Review of Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Fiscal Year 2007," New Mexico Environment Department letter to D. Gregory (DOE-LASO) and D. McInroy (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2007, 099277)

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NMED (New Mexico Environment Department), April 7, 2009. "Review of the Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Fiscal Year 2008, Revision 1 and the Pilot Test Report for Comparing Packer and FLUTe Vapor-Monitoring Systems at Material Disposal Area H, Revision 1," New Mexico Environment Department letter to D. Gregory (DOE-LASO) and D. McInroy (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2009, 105599)

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NMED (New Mexico Environment Department), August 2009. "Technical Background Document for Development of Soil Screening Levels, Revision 5.0," New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, New Mexico. (NMED 2009, 106420)

NMED (New Mexico Environment Department), August 20, 2009. "Review of the Periodic Monitoring Report for Vapor-Sampling Activities at Material Disposal Area H, Solid Waste Management Unit 54-004, at Technical Area 54, Second Quarter Fiscal Year 2009," New Mexico Environment Department letter to D. Gregory (DOE-LASO) and D. McInroy (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2009, 106786)

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	Data Source
Disposal pit	Waste Storage Features; LANL, Environment and Remediation Support Services Division, GIS/Geotechnical Services Group, EP2007-0032; 1:2,500 Scale Data; April 13, 2007.
Disposal shaft	Waste Storage Features; LANL, Environment and Remediation Support Services Division, GIS/Geotechnical Services Group, EP2007-0032; 1:2,500 Scale Data; April 13, 2007.
Elevation contour	Hypsography, 10, 20, & 100 Foot Contour Intervals; LANL, ENV Environmental Remediation and Surveillance Program; 1991.
Fence	Security and Industrial Fences and Gates; LANL, KSL Site Support Services, Planning, Locating and Mapping Section; January 6, 2004; as published September 10, 2007.
LANL boundary	LANL Areas Used and Occupied; LANL, Site Planning & Project Initiation Group, Infrastructure Planning Division; October 19, 2008.
MDA	Materials Disposal Areas; LANL, ENV Environmental Remediation and Surveillance Program; ER2004-0221; 1:2,500 Scale Data; April 23, 2004.
Paved road	Paved Road Arcs; LANL, KSL Site Support Services, Planning, Locating and Mapping Section; January 6, 2004; as published September 10, 2007.
Structure	Structures; LANL, KSL Site Support Services, Planning, Locating and Mapping Section; January 6, 2004; as published September 10, 2007.
TA boundary	Technical Area Boundaries; LANL, Site Planning & Project Initiation Group, Infrastructure Planning Division; September 19, 2007.
Unpaved road	Dirt Road Arcs; LANL, KSL Site Support Services, Planning, Locating and Mapping Section; January 6, 2004; as published September 10, 2007.
Vapor-monitoring well	Point Feature Locations of the Environmental Restoration Project Database; LANL, Environment and Remediation Support Services Division, EP2007-0754; November 30, 2007.

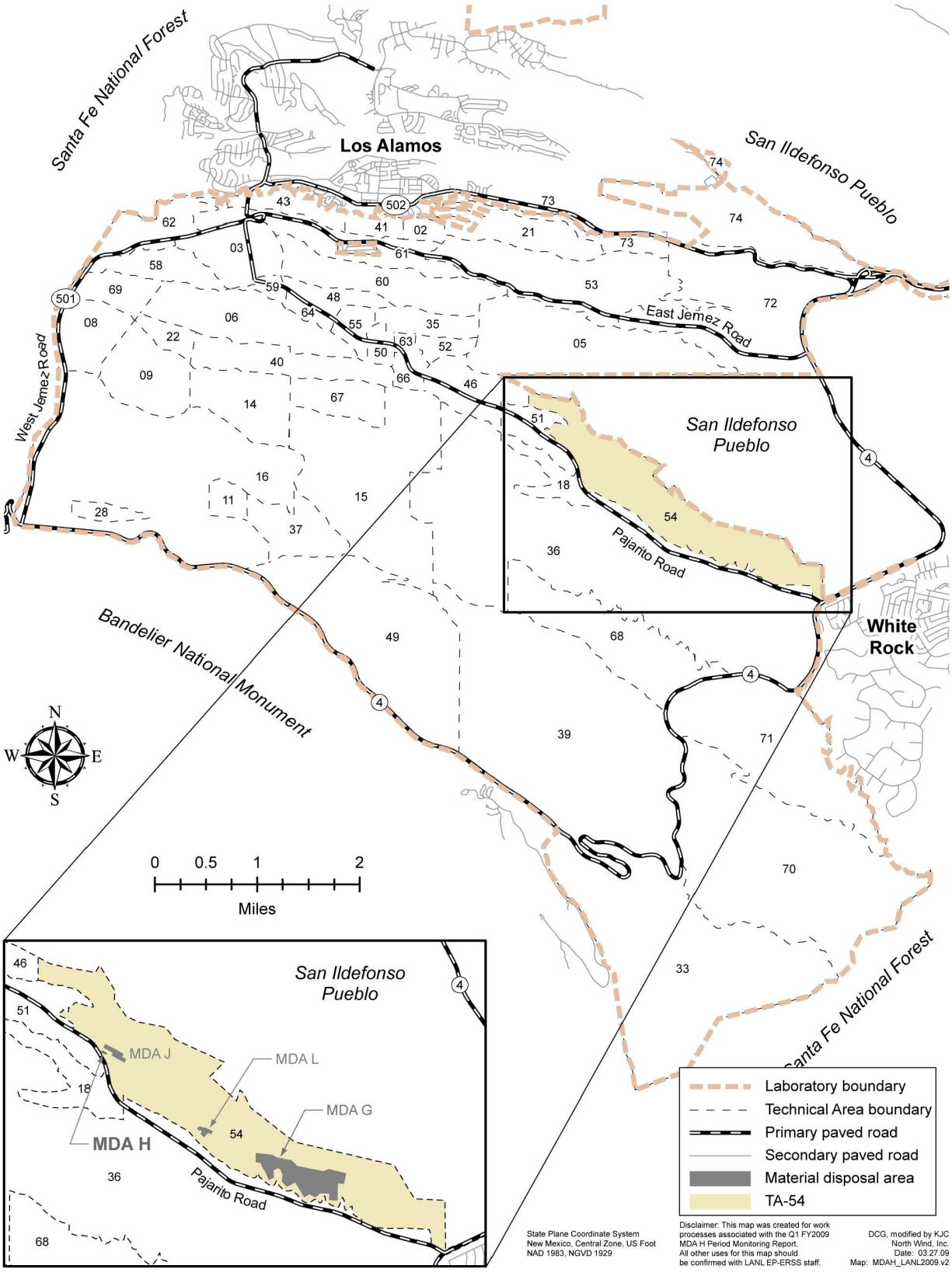

Figure 1.0-1 Location of MDA H in TA-54 with respect to Laboratory technical areas and surrounding land holdings

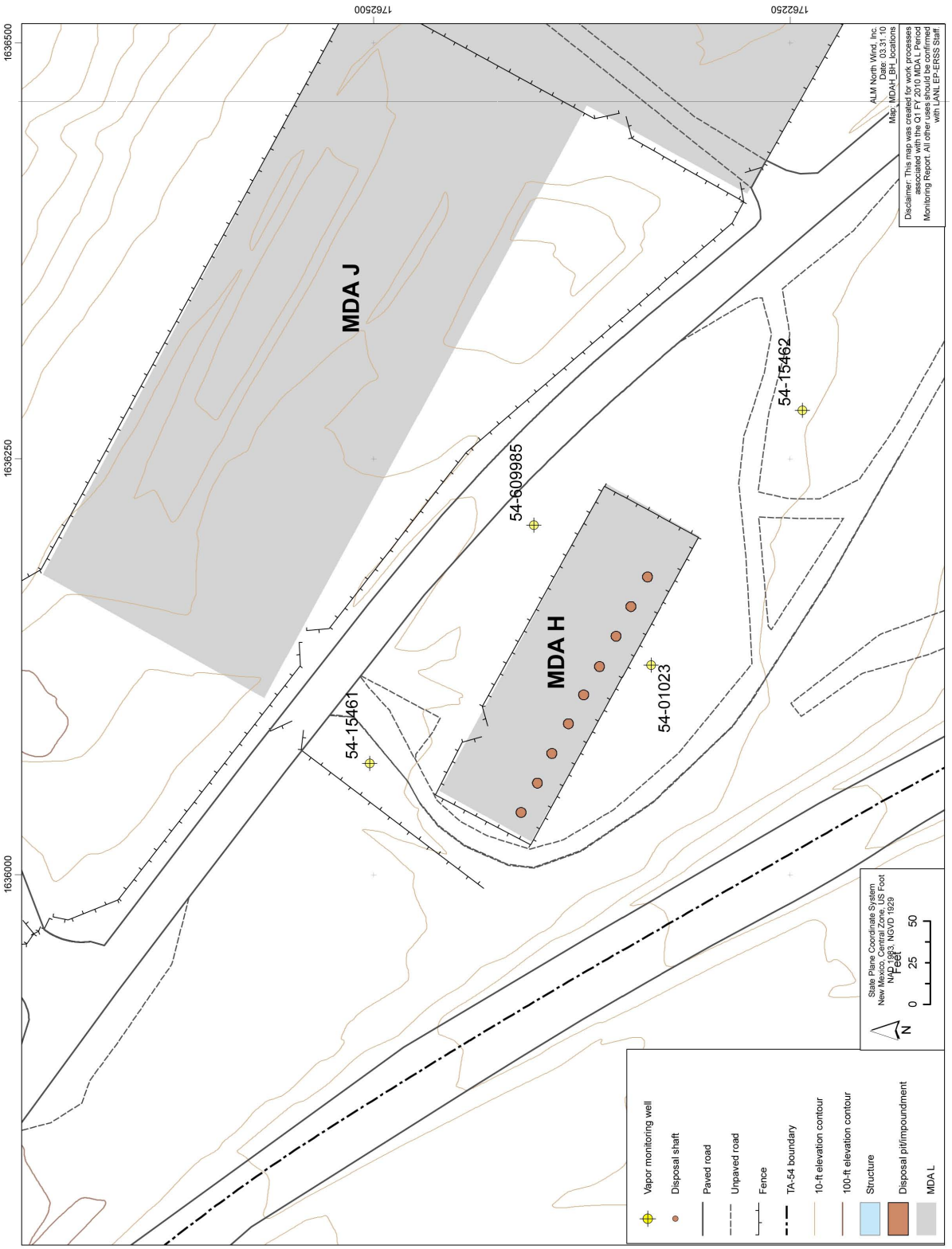

Figure 1.0-2 Locations of MDA H pore-gas monitoring boreholes

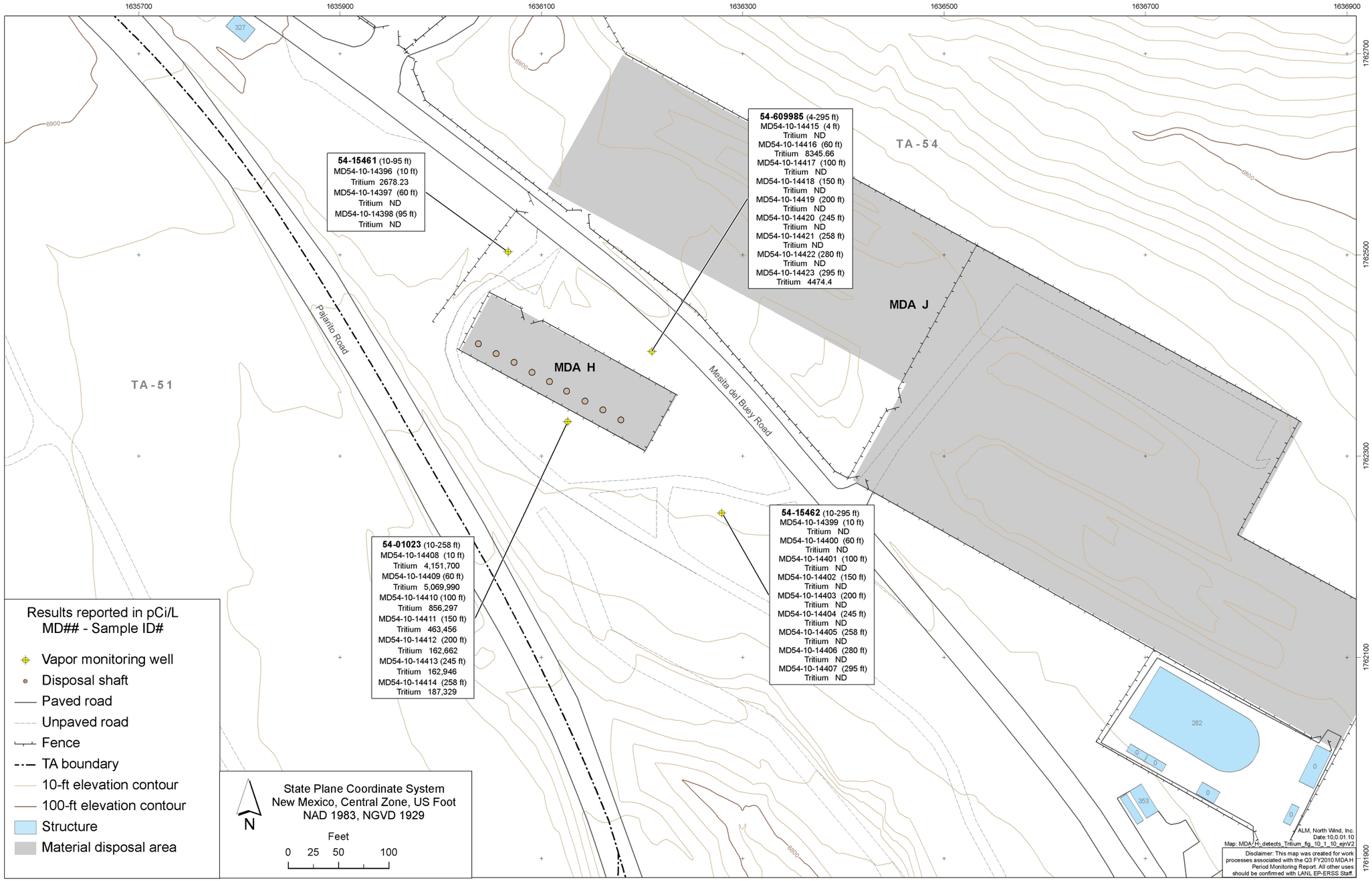

Figure 5.0-1 Tritium detected in vapor samples at MDA H

Table 1.0-1
NMED-Approved MDA H Subsurface Vapor-Monitoring Locations,
Port Depths, and Corresponding Sampling Intervals through Fourth Quarter FY2009

Borehole ID	VOC and Tritium Sampling Port Depth Intervals (ft bgs)
54–01023	10 (10–12), 60 (60–62), 100 (100–102), 150 (150–152), 200 (200–202), 247 (247–249)
54–15461	10 (10–12), 60 (60–62), 95 (95–97)
54–15462	10 (10–12), 60 (60–62), 100 (100–102), 150 (150–152), 200 (200–202), 254 (254–256)

Note: Depths denote locations where VOC and tritium samples will be collected. Sampling intervals are given in parentheses.

Table 1.0-2
NMED-Approved MDA H Subsurface Vapor-Monitoring Locations,
Port Depths, and Corresponding Sampling Intervals Effective First Quarter FY2010

Borehole ID	VOC and Tritium Sampling Port Depth Intervals (ft bgs)
54–01023[a]	12.5 (10–15), 62.5 (60–65), 102.5 (100–105), 152.5 (150–155), 202.5 (200–205), 247.5 (245–250), 260.5 (258–263)
54–15461	11 (10–12), 61 (60–62), 96 (95–97)
54–15462[a]	12.5 (10–15), 62.5 (60–65), 102.5 (100–105), 152.5 (150–155), 202.5 (200–205), 247.5 (245–250), 260.5 (258–263), 282.5 (280–285), 297.5 (295–300)
54–609985[b]	6.5 (4–9), 62.5 (60–65), 102.5 (100–105), 152.5 (150–155), 202.5 (200–205), 247.5 (245–250), 260.5 (258–263), 282.5 (280–285), 297.5 (295–300)

Note: Depths denote locations where VOC and tritium samples will be collected. Sampling intervals are given in parentheses.

[a] Borehole was redrilled November 2009; depths reflect new ports and intervals.

[b] New borehole was drilled in November 2009.

Table 3.0-1
Henry's Law Constants, Groundwater SLs, and Calculated Pore-Gas Concentrations Corresponding to Groundwater SLs for VOCs Detected in Pore Gas during the Last Four Quarters

VOC	Henry's Law Constant[a] (dimensionless)	Groundwater SL (µg/L)	Source of Groundwater SL	Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard (µg/m^3)
Acetone	0.0016	22,000	NMED Tap Water SL	35,200
Benzene	0.228	5	EPA MCL	1140
Bromodichloromethane	0.087	80	EPA Tap Water SL	6960
Butanol[1-]	0.00036	3700	EPA regional SL	1332
Butanone[2-]	0.0023	7100	NMED Tap Water SL	16,330
Carbon disulfide	0.59	1000	NMED Tap Water SL	590,000
Carbon tetrachloride	1.1	5	EPA MCL	5500
Chlorobenzene	0.13	100	EPA MCL	13,000
Chlorodifluoromethane	1.7	100,000	NMED Tap Water SL	170,000,000
Chloroform	0.15	80	EPA Tap Water SL	12,000
Cyclohexane	6.1	13,000	EPA regional SL	79,300,000
Dichlorobenzene[1,4-]	0.0996	75	EPA MCL	7470
Dichlorodifluoromethane	14	390	NMED Tap Water SL	5,460,000
Dichloroethane[1,1-]	0.23	25	NMWQCC	5750
Dichloroethane[1,2-]	0.048	5	EPA MCL	240
Dichloroethene[1,1-]	1.1	5	NMWQCC	5500
Dichloropropane[1,2-]	0.12	5	EPA MCL	600
Ethanol	na[b]	na	na	na
Ethylbenzene	0.323	700	EPA MCL	226,100
Ethyltoluene[4-]	na	na	na	na
Hexane	74	880	NMED Tap Water SL	65,120,000
Methanol	0.00019	18,000	EPA regional SL	3420
Methylene chloride	0.13	5	EPA MCL	650
n-Heptane	na	na	na	na
Propanol[2-]	0.00033	na	na	na
Propylene	na	na	na	na
Tetrachloroethene	0.72	5	EPA MCL	3600
Tetrahydrofuran	na	na	na	na
Toluene	0.272	750	NMWQCC	204,000
Trichloro-1,2,2-trifluoroethane[1,1,2-]	22	59,000	EPA regional SL	1,298,000,000
Trichloroethane[1,1,1-]	0.705	60	NMWQCC	42,300
Trichloroethene	0.4	5	EPA MCL	2000
Trichlorofluoromethane	4	1300	NMED Tap Water SL	5,200,000

Table 3.0-1 (continued)

VOC	Henry's Law Constant[a] (dimensionless)	Groundwater SL (µg/L)	Source of Groundwater SL	Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard (µg/m³)
Xylene[1,2-]	0.213	620	NMWQCC	132,000
Xylene[1,3-]+xylene[1,4-]	0.27	620[c]	NMWQCC	167,000

Note: Calculated concentrations in pore gas exceeding groundwater standard derived from the denominator of Eq. (3.0-3) for a screening value of 1.0.

[a] NMED (2009, 106420, Appendix B).

[b] na = Not available.

[c] SL for Xylene[1,3-]+xylene[1,4-] is for xylene mixture.

Table 3.0-2
Screening of VOCs Detected in Pore Gas at MDA H during Third Quarter FY2010

VOCs	Maximum Pore-Gas Concentration (µg/m³)	Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard (µg/m³)	Screening Value (unitless)	Potential for Groundwater Impact[a]
Acetone	25	35,200	0.00071	No
Benzene	10	1140	0.0088	No
Butanol[1-]	13	1332	0.0098	No
Butanone[2-]	9.6	16,330	0.00059	No
Carbon disulfide	7.7	590,000	0.000013	No
Carbon tetrachloride	17	5500	0.0031	No
Chlorodifluoromethane	20	170,000,000	0.00000012	No
Chloroform	100	12,000	0.0083	No
Cyclohexane	85	79,300,000	0.0000011	No
Dichlorodifluoromethane	71	5,460,000	0.000013	No
Dichloroethane[1,1-]	4.8	5750	0.00083	No
Dichloroethane[1,2-]	5.9	240	0.025	No
Dichloroethene[1,1-]	4.4	5500	0.0008	No
Dichloropropane[1,2-]	5.2	600	0.0087	No
Ethanol	32	na[b]	na	No
Ethylbenzene	6.7	226,100	0.00003	No
Hexane	29	65,120,000	0.00000045	No
Methylene chloride	3.2	650	0.0049	No
Propanol[2-]	25	na	na	No
Tetrachloroethene	7.7	3600	0.0021	No
Toluene	33	204,000	0.00016	No
Trichloro-1,2,2-trifluoroethane[1,1,2-]	41	1,298,000,000	0.000000032	No

Table 3.0-2 (continued)

VOCs	Maximum Pore-Gas Concentration (µg/m³)	Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard (µg/m³)	Screening Value (unitless)	Potential for Groundwater Impact[a]
Trichloroethane[1,1,1-]	170	42,300	0.004	No
Trichloroethene	13	2000	0.0065	No
Trichlorofluoromethane	77	5,200,000	0.000015	No
Xylene[1,2-]	4.1	132,000	0.000031	No
Xylene[1,3-]+xylene[1,4-]	15	167,000	0.000090	No

Note: Calculated concentrations in pore gas corresponding to groundwater SLs derived from denominator of Eq. (3.0-3). Screening value derived from Eq. (3.0-3).

[a] 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. Table 3.0-3 further evaluates the potential for groundwater impact.

[b] na = Not available.

Table 3.0-3
Screening of VOCs Detected in Pore Gas at MDA H during the Last Four Quarters

Analyte	Maximum Pore-Gas Concentration (µg/m³)	Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard (µg/m³)	Screening Value (unitless)	Potential for Groundwater Impact[a]
Acetone	37	35,200	0.0011	No
Benzene	14	1140	0.012	No
Bromodichloromethane	6.9	6960	.001	No
Butanol[1-]	600	1332	0.45	No
Butanone[2-]	36	16,330	0.0022	No
Carbon disulfide	28	590,000	0.000047	No
Carbon tetrachloride	19	5500	0.0035	No
Chlorobenzene	110	13,000	0.0085	No
Chlorodifluoromethane	20	170,000,000	0.00000012	No
Chloroform	1400	12,000	0.120	No
Cyclohexane	120	79,300,000	0.0000015	No
Dichlorobenzene[1,4-]	6.9	7470	0.00092	No
Dichlorodifluoromethane	71	5,460,000	0.000013	No
Dichloroethane[1,1-]	4.8	5750	0.00083	No
Dichloroethane[1,2-]	5.9	240	0.025	No
Dichloroethene[1,1-]	4.4	5500	0.0008	No
Dichloropropane[1,2-]	6.7	600	0.011	No

Table 3.0-3 (continued)

Analyte	Maximum Pore-Gas Concentration (µg/m³)	Calculated Concentrations in Pore Gas Corresponding to Groundwater Standard (µg/m³)	Screening Value (unitless)	Potential for Groundwater Impact[a]
Ethanol	380	na[b]	na	No
Ethylbenzene	6.7	226,100	0.00003	No
Ethyltoluene[4-]	4.5	na	na	No
Hexane	29	65,120,000	0.00000045	No
Methanol	250	3420	0.073	No
Methylene chloride	13	650	0.02	No
n-Heptane	17	na	na	No
Propanol[2-]	410	na	na	No
Propylene	17	na	na	No
Tetrachloroethene	9	3600	0.0025	No
Tetrahydrofuran	4.8	na	na	No
Toluene	110	204,000	0.00054	No
Trichloro-1,2,2-trifluoroethane[1,1,2-]	41	1,298,000,000	0.000000032	No
Trichloroethane[1,1,1-]	170	42,300	0.004	No
Trichloroethene	13	2000	0.0065	No
Trichlorofluoromethane	77	5,200,000	0.000015	No
Xylene[1,2-]	8.4	132,000	0.000064	No
Xylene[1,3-]+xylene[1,4-]	15	167,000	0.000090	No

Notes: Calculated concentrations in pore gas corresponding to groundwater SLs derived from denominator of Eq. (3.0-3). Screening value derived from Eq. (3.0-3).

[a] 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.

[b] na = Not available.

Table 4.0-1
Field-Screening Results Using a Landtec GEM-500 at MDA H

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result (%)	Date	Result (%)	Date	Result (%)	Date	Result (%)
54-01023	Ambient	Ambient	CO_2	8/5/09	0	12/2/09	0	2/12/10	0	6/8/10	0
			O_2	8/5/09	21.2	12/2/09	20.5	2/12/10	21.1	6/8/10	19.9
	10	10-12	CO_2	8/5/09	0.5	NS*	NS	NS	NS	NS	NS
			O_2	8/5/09	19.9	NS	NS	NS	NS	NS	NS
	12.5	10-15	CO_2	NS	NS	12/2/09	0.4	2/12/10	0	6/8/10	0.7
			O_2	NS	NS	12/2/09	20.2	2/12/10	21	6/8/10	19.1
	60	60-62	CO_2	8/5/09	0.3	NS	NS	NS	NS	NS	NS
			O_2	8/5/09	19.9	NS	NS	NS	NS	NS	NS
	62.5	60-65	CO_2	NS	NS	12/2/09	0.7	2/12/10	0.7	6/8/10	0.5
			O_2	NS	NS	12/2/09	19.6	2/12/10	20.4	6/8/10	19
	100	100-102	CO_2	8/5/09	0.3	NS	NS	NS	NS	NS	NS
			O_2	8/5/09	19.3	NS	NS	NS	NS	NS	NS
	102.5	100-105	CO_2	NS	NS	12/2/09	0.6	2/12/10	0.6	6/8/10	0.4
			O_2	NS	NS	12/2/09	19.3	2/12/10	20.5	6/8/10	19
	150	150-152	CO_2	8/5/09	0.1	NS	NS	NS	NS	NS	NS
			O_2	8/5/09	19.4	NS	NS	NS	NS	NS	NS
	152.5	150-155	CO_2	NS	NS	12/2/09	0	2/12/10	0.2	6/8/10	0
			O_2	NS	NS	12/2/09	19.6	2/12/10	20.9	6/8/10	19.3
	200	200-202	CO_2	8/5/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/5/09	19.4	NS	NS	NS	NS	NS	NS
	202.5	200-205	CO_2	NS	NS	12/2/09	0.5	2/12/10	0	6/8/10	0.3
			O_2	NS	NS	12/2/09	19.3	2/12/10	21.3	6/8/10	19
	247	247-249	CO_2	8/5/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/5/09	19.7	NS	NS	NS	NS	NS	NS

Table 4.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result (%)	Date	Result (%)	Date	Result (%)	Date	Result (%)
54-01023 (cont'd)	247.5	245-250	CO_2	NS	NS	12/2/09	0.3	2/12/10	0	6/8/10	0.2
			O_2	NS	NS	12/2/09	19.2	2/12/10	21.3	6/8/10	19.1
	260.5	258-263	CO_2	NS	NS	12/2/09	0.3	2/12/10	0	6/8/10	0.2
			O_2	NS	NS	12/2/09	19.3	2/12/10	21.2	6/8/10	19
54-15461	Ambient	Ambient	CO_2	8/6/09	0	12/1/09	0	2/12/10	0	6/7/10	0
			O_2	8/6/09	20.9	12/1/09	20.1	2/12/10	21.4	6/7/10	19.4
	10	10-12	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	20.4	NS	NS	NS	NS	NS	NS
	11	10-12	CO_2	NS	NS	12/1/09	0.4	2/12/10	0.4	6/7/10	0.4
			O_2	NS	NS	12/1/09	19.6	2/12/10	20.7	6/7/10	19
	60	60-62	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	20.2	NS	NS	NS	NS	NS	NS
	61	60-62	CO_2	NS	NS	12/1/09	0.4	2/12/10	0.6	6/7/10	0.3
			O_2	NS	NS	12/1/09	19.2	2/12/10	21	6/7/10	19
	95	95-97	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	20.1	NS	NS	NS	NS	NS	NS
	96	95-97	CO_2	NS	NS	12/1/09	0.5	2/12/10	0.5	6/7/10	0.3
			O_2	NS	NS	12/1/09	18.8	2/12/10	21.2	6/7/10	18.9
54-15462	Ambient	Ambient	CO_2	8/6/09	0	12/1/09	0	2/12/10	0	6/7/10	0
			O_2	8/6/09	21.4	12/1/09	20.6	2/12/10	21.1	6/7/10	20.1
	10	10-12	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	20.7	NS	NS	NS	NS	NS	NS
	12.5	10-15	CO_2	NS	NS	12/1/09	0.8	2/12/10	0.7	6/7/10	0.3
			O_2	NS	NS	12/1/09	20.5	2/12/10	20.2	6/7/10	19.6
	60	60-62	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS

Table 4.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result (%)	Date	Result (%)	Date	Result (%)	Date	Result (%)
54-15462	60	60-62	O_2	8/6/09	20.2	NS	NS	NS	NS	NS	NS
(cont'd)	62.5	60-65	CO_2	NS	NS	12/1/09	0.7	2/12/10	0.8	6/7/10	0.5
			O_2	NS	NS	12/1/09	20.5	2/12/10	20.2	6/7/10	19
	100	100-102	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	20.1	NS	NS	NS	NS	NS	NS
	102.5	100-105	CO_2	NS	NS	12/1/09	0.6	2/12/10	0.7	6/7/10	0.4
			O_2	NS	NS	12/1/09	20.5	2/12/10	20.2	6/7/10	19
	150	150-152	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	19.8	NS	NS	NS	NS	NS	NS
	152.5	150-155	CO_2	NS	NS	12/1/09	0.5	2/12/10	0.4	6/7/10	0.4
			O_2	NS	NS	12/1/09	20.5	2/12/10	20.3	6/7/10	19
	200	200-202	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	19.4	NS	NS	NS	NS	NS	NS
	202.5	200-205	CO_2	NS	NS	12/1/09	0.4	2/12/10	0.3	6/7/10	0.3
			O_2	NS	NS	12/1/09	20.4	2/12/10	20.7	6/7/10	19.1
	247.5	245-250	CO_2	NS	NS	12/1/09	0	2/12/10	0	6/7/10	0.2
			O_2	NS	NS	12/1/09	20.6	2/12/10	21	6/7/10	19.1
	254	254-256	CO_2	8/6/09	0	NS	NS	NS	NS	NS	NS
			O_2	8/6/09	19.4	NS	NS	NS	NS	NS	NS
	260.5	258-263	CO_2	NS	NS	12/1/09	0.1	2/12/10	0	6/7/10	0.2
			O_2	NS	NS	12/1/09	20.5	2/12/10	21.3	6/7/10	19.1
	282.5	280-285	CO_2	NS	NS	12/1/09	0.3	2/12/10	0.1	6/7/10	0.2
			O_2	NS	NS	12/1/09	20.2	2/12/10	20.8	6/7/10	19.1
	297.5	295-300	CO_2	NS	NS	12/1/09	0.2	2/12/10	0.2	6/7/10	0.2
			O_2	NS	NS	12/1/09	20.1	2/12/10	21	6/7/10	19.2

Table 4.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result (%)	Date	Result (%)	Date	Result (%)	Date	Result (%)
54-609985	Ambient	Ambient	CO_2	NS	NS	12/4/09	0	2/12/10	0	6/8/10	0
			O_2	NS	NS	12/4/09	20.2	2/12/10	21.5	6/8/10	19.8
	6.5	4-9	CO_2	NS	NS	12/4/09	0.2	2/12/10	0.6	6/8/10	0.3
			O_2	NS	NS	12/4/09	20.2	2/12/10	21	6/8/10	19.3
	62.5	60-65	CO_2	NS	NS	12/4/09	1	2/12/10	0.8	6/8/10	0.5
			O_2	NS	NS	12/4/09	19.5	2/12/10	20.7	6/8/10	18.9
	102.5	100-105	CO_2	NS	NS	12/4/09	0.7	2/12/10	0.7	6/8/10	0.5
			O_2	NS	NS	12/4/09	19.6	2/12/10	20.7	6/8/10	18.9
	152.5	150-155	CO_2	NS	NS	12/4/09	0.6	2/12/10	0.6	6/8/10	0.4
			O_2	NS	NS	12/4/09	19.8	2/12/10	20.7	6/8/10	18.9
	202.5	200-205	CO_2	NS	NS	12/4/09	0.6	2/12/10	0.4	6/8/10	0.3
			O_2	NS	NS	12/4/09	19.8	2/12/10	21	6/8/10	19
	247.5	245-250	CO_2	NS	NS	12/4/09	0.4	2/12/10	0.3	6/8/10	0.3
			O_2	NS	NS	12/4/09	20.2	2/12/10	21	6/8/10	19
	260.5	258-263	CO_2	NS	NS	12/4/09	0.4	2/12/10	0.3	6/8/10	0.3
			O_2	NS	NS	12/4/09	20.4	2/12/10	21.2	6/8/10	19.1
	282.5	280-285	CO_2	NS	NS	12/4/09	0.4	2/12/10	0.3	6/8/10	0.2
			O_2	NS	NS	12/4/09	20.8	2/12/10	21.3	6/8/10	19
	297.5	295-300	CO_2	NS	NS	12/4/09	0.3	2/12/10	0	6/8/10	0.2
			O_2	NS	NS	12/4/09	20.8	2/12/10	21.8	6/8/10	18.9

* NS = Not sampled.

Table 4.0-2
Field-Screening Results Using a B&K Multigas Analyzer at MDA H

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-01023	Ambient	Ambient	CO_2 (µg/m^3)	8/5/09	1,100,000	12/2/09	935,000	1/19/10	929,000	6/8/10	749,000
			Freon-11 (µg/m^3)	8/5/09	4	12/2/09	203	1/19/10	491	6/8/10	327
			H_2O (µg/m^3)	8/5/09	11,000,000	12/2/09	5,140,000	1/19/10	6,220,000	6/8/10	10,600,000
			PCE (µg/m^3)	8/5/09	2150	12/2/09	5170	1/19/10	3040	6/8/10	2420
			Pressure differential (kPa)	8/5/09	0	12/2/09	0	1/19/10	NS*	6/8/10	0
			TCA (µg/m^3)	8/5/09	1220	12/2/09	-2200	1/19/10	-2600	6/8/10	5230
			TCE (µg/m^3)	8/5/09	1530	12/2/09	3270	1/19/10	435	6/8/10	389,000
	10	10-12	CO_2 (µg/m^3)	8/5/09	16,500,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/5/09	-218	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/5/09	15,100,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/5/09	2450	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/5/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/5/09	5910	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/5/09	137	NS	NS	NS	NS	NS	NS
	12.5	10-15	CO_2 (µg/m^3)	NS	NS	12/2/09	8,510,000	1/19/10	946,000	6/8/10	14,200,000
			Freon-11 (µg/m^3)	NS	NS	12/2/09	51	1/19/10	633	6/8/10	-744
			H_2O (µg/m^3)	NS	NS	12/2/09	9,390,000	1/19/10	6,770,000	6/8/10	13,400,000
			PCE (µg/m^3)	NS	NS	12/2/09	4290	1/19/10	3170	6/8/10	667
			Pressure differential (kPa)	NS	NS	12/2/09	0	1/19/10	0	6/8/10	0
			TCA (µg/m^3)	NS	NS	12/2/09	-57,000	1/19/10	-3500	6/8/10	-2500
			TCE (µg/m^3)	NS	NS	12/2/09	5090	1/19/10	-446	6/8/10	3610
	60	60-62	CO_2 (µg/m^3)	8/5/09	11,900,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/5/09	-173	NS	NS	NS	NS	NS	NS

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-01023 (cont'd)	60	60-62	H_2O (µg/m^3)	8/5/09	13,500,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/5/09	2020	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/5/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/5/09	1390	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/5/09	2200	NS	NS	NS	NS	NS	NS
	62.5	60-65	CO_2 (µg/m^3)	NS	NS	12/2/09	13,700,000	1/19/10	11,000,000	6/8/10	12,500,000
			Freon-11 (µg/m^3)	NS	NS	12/2/09	122	1/19/10	62	6/8/10	-1,591,000
			H_2O (µg/m^3)	NS	NS	12/2/09	9,780,000	1/19/10	6,870,000	6/8/10	12,300,000
			PCE (µg/m^3)	NS	NS	12/2/09	3980	1/19/10	2390	6/8/10	467
			Pressure differential (kPa)	NS	NS	12/2/09	0	1/19/10	0	6/8/10	0
			TCA (µg/m^3)	NS	NS	12/2/09	-80,000	1/19/10	-59,000	6/8/10	-607
			TCE (µg/m^3)	NS	NS	12/2/09	5790	1/19/10	1880	6/8/10	3010
	100	100-102	CO_2 (µg/m^3)	8/5/09	10,300,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/5/09	-259	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/5/09	12,700,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/5/09	-1200	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/5/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/5/09	6300	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/5/09	1600	NS	NS	NS	NS	NS	NS
	102.5	100-105	CO_2 (µg/m^3)	NS	NS	12/2/09	11,600,000	1/19/10	8,330,000	6/8/10	10,800,000
			Freon-11 (µg/m^3)	NS	NS	12/2/09	44	1/19/10	326	6/8/10	-447
			H_2O (µg/m^3)	NS	NS	12/2/09	9,840,000	1/19/10	7,200,000	6/8/10	12,200,000
			PCE (µg/m^3)	NS	NS	12/2/09	3920	1/19/10	4560	6/8/10	-299
			Pressure differential (kPa)	NS	NS	12/2/09	0	1/19/10	0	6/8/10	0

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-01023 (cont'd)	102.5	100-105	TCA (µg/m^3)	NS	NS	12/2/09	-60,000	1/19/10	-44,000	6/8/10	3120
			TCE (µg/m^3)	NS	NS	12/2/09	5310	1/19/10	606	6/8/10	2300
	150	150-152	CO_2 (µg/m^3)	8/5/09	7,450,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/5/09	-47	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/5/09	15,600,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/5/09	-1600	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/5/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/5/09	6200	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/5/09	-351	NS	NS	NS	NS	NS	NS
	152.5	150-155	CO_2 (µg/m^3)	NS	NS	12/2/09	9,000,000	1/19/10	5,270,000	6/8/10	8,270,000
			Freon-11 (µg/m^3)	NS	NS	12/2/09	69	1/19/10	414	6/8/10	-652,000
			H_2O (µg/m^3)	NS	NS	12/2/09	9,900,000	1/19/10	8,010,000	6/8/10	12,400,000
			PCE (µg/m^3)	NS	NS	12/2/09	3870	1/19/10	2790	6/8/10	-203
			Pressure differential (kPa)	NS	NS	12/2/09	0	1/19/10	0	6/8/10	-0.02
			TCA (µg/m^3)	NS	NS	12/2/09	-42,000	1/19/10	-28,000	6/8/10	6000
			TCE (µg/m^3)	NS	NS	12/2/09	3570	1/19/10	226	6/8/10	1870
	200	200-202	CO_2 (µg/m^3)	8/5/09	6,450,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/5/09	-457	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/5/09	15,100,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/5/09	686	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/5/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/5/09	2980	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/5/09	1980	NS	NS	NS	NS	NS	NS
	202.5	200-205	CO_2 (µg/m^3)	NS	NS	12/2/09	7,150,000	1/19/10	8,410,000	6/8/10	7,490,000
			Freon-11 (µg/m^3)	NS	NS	12/2/09	-169	1/19/10	183	6/8/10	-209

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-01023 (cont'd)	202.5	200-205	H_2O (µg/m^3)	NS	NS	12/2/09	8,050,000	1/19/10	8,060,000	6/8/10	12,200,000
			PCE (µg/m^3)	NS	NS	12/2/09	3920	1/19/10	2570	6/8/10	122
			Pressure differential (kPa)	NS	NS	12/2/09	0	1/19/10	1	6/8/10	-0.06
			TCA (µg/m^3)	NS	NS	12/2/09	-42,000	1/19/10	-44,000	6/8/10	9820
			TCE (µg/m^3)	NS	NS	12/2/09	5090	1/19/10	1350	6/8/10	185,000
	247	247-249	CO_2 (µg/m^3)	8/5/09	5,030,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/5/09	-498	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/5/09	13,100,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/5/09	-302	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/5/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/5/09	7210	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/5/09	3450	NS	NS	NS	NS	NS	NS
	247.5	245-250	CO_2 (µg/m^3)	NS	NS	12/2/09	5,950,000	1/19/10	5,770,000	6/8/10	5,790,000
			Freon-11 (µg/m^3)	NS	NS	12/2/09	-92	1/19/10	153	6/8/10	-388,000
			H_2O (µg/m^3)	NS	NS	12/2/09	10,500,000	1/19/10	8,300,000	6/8/10	12,000,000
			PCE (µg/m^3)	NS	NS	12/2/09	3840	1/19/10	3280	6/8/10	-328,000
			Pressure differential (kPa)	NS	NS	12/2/09	1	1/19/10	0	6/8/10	-0.09
			TCA (µg/m^3)	NS	NS	12/2/09	-31,000	1/19/10	-29,000	6/8/10	11,700
			TCE (µg/m^3)	NS	NS	12/2/09	4090	1/19/10	1580	6/8/10	1130
	260.5	258-263	CO_2 (µg/m^3)	NS	NS	12/2/09	4,880,000	1/19/10	1,600,000	6/8/10	5,880,000
			Freon-11 (µg/m^3)	NS	NS	12/2/09	-126	1/19/10	-138	6/8/10	-559
			H_2O (µg/m^3)	NS	NS	12/2/09	10,700,000	1/19/10	7,640,000	6/8/10	11,900,000
			PCE (µg/m^3)	NS	NS	12/2/09	3430	1/19/10	1710	6/8/10	166
			Pressure differential (kPa)	NS	NS	12/2/09	0	1/19/10	0	6/8/10	-0.11
			TCA (µg/m^3)	NS	NS	12/2/09	-23,000	1/19/10	-6200	6/8/10	16,300

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-01023 (cont'd)	260.5	258-263	TCE (µg/m^3)	NS	NS	12/2/09	3870	1/19/10	1870	6/8/10	1200
54-15461	Ambient	Ambient	CO_2 (µg/m^3)	8/6/09	811,000	12/1/09	985,000	1/19/10	949,000	6/7/10	720,000
			Freon-11 (µg/m^3)	8/6/09	-40	12/1/09	-344	1/19/10	-3	6/7/10	-7.7
			H_2O (µg/m^3)	8/6/09	9,070,000	12/1/09	7,090,000	1/19/10	7,950,000	6/7/10	9,850,000
			PCE (µg/m^3)	8/6/09	1310	12/1/09	3030	1/19/10	2740	6/7/10	189
			Pressure differential (kPa)	8/6/09	0	12/1/09	0	1/19/10	NS	6/7/10	NS
			TCA (µg/m^3)	8/6/09	-114	12/1/09	-4000	1/19/10	-4300	6/7/10	3340
			TCE (µg/m^3)	8/6/09	2440	12/1/09	3380	1/19/10	2230	6/7/10	214
	10	10-12	CO_2 (µg/m^3)	8/6/09	6,790,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	-136	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	20,900,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	1060	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	1230	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	952,000	NS	NS	NS	NS	NS	NS
	11	10-12	CO_2 (µg/m^3)	NS	NS	12/1/09	9,000,000	1/19/10	8,730,000	6/7/10	13,200,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-43	1/19/10	389	6/7/10	-660
			H_2O (µg/m^3)	NS	NS	12/1/09	15,500,000	1/19/10	7,610,000	6/7/10	12,000,000
			PCE (µg/m^3)	NS	NS	12/1/09	3330	1/19/10	3530	6/7/10	-602
			Pressure differential (kPa)	NS	NS	12/1/09	0	1/19/10	0	6/7/10	0.03
			TCA (µg/m^3)	NS	NS	12/1/09	-41,000	1/19/10	-54,000	6/7/10	39,700
			TCE (µg/m^3)	NS	NS	12/1/09	4420	1/19/10	1160	6/7/10	2430
	60	60-62	CO_2 (µg/m^3)	8/6/09	5,350,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	1100	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	22,600,000	NS	NS	NS	NS	NS	NS

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-15461 (cont'd)	60	60-62	PCE (µg/m^3)	8/6/09	488	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	-1700	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	-3100	NS	NS	NS	NS	NS	NS
	61	60-62	CO_2 (µg/m^3)	NS	NS	12/1/09	7,540,000	1/19/10	10,700,000	6/7/10	10,200,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-85	1/19/10	364	6/7/10	-542
			H_2O (µg/m^3)	NS	NS	12/1/09	16,000,000	1/19/10	8,000,000	6/7/10	11,700,000
			PCE (µg/m^3)	NS	NS	12/1/09	3850	1/19/10	3570	6/7/10	-289
			Pressure differential (kPa)	NS	NS	12/1/09	0	1/19/10	0	6/7/10	0.03
			TCA (µg/m^3)	NS	NS	12/1/09	-32,000	1/19/10	-64,000	6/7/10	30,200
			TCE (µg/m^3)	NS	NS	12/1/09	3110	1/19/10	1230	6/7/10	1770
	95	95-97	CO_2 (µg/m^3)	8/6/09	7,640,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	-370	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	19,700,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	-2000	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	2270	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	13,800	NS	NS	NS	NS	NS	NS
	96	95-97	CO_2 (µg/m^3)	NS	NS	12/1/09	7,620,000	1/19/10	10,200,000	6/7/10	9,850,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-506	1/19/10	470	6/7/10	-744
			H_2O (µg/m^3)	NS	NS	12/1/09	16,400,000	1/19/10	7,850,000	6/7/10	11,600,000
			PCE (µg/m^3)	NS	NS	12/1/09	2370	1/19/10	3710	6/7/10	-797
			Pressure differential (kPa)	NS	NS	12/1/09	0	1/19/10	0	6/7/10	0.03
			TCA (µg/m^3)	NS	NS	12/1/09	-30,000	1/19/10	-60,000	6/7/10	29,200
			TCE (µg/m^3)	NS	NS	12/1/09	4340	1/19/10	718	6/7/10	2060

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-15462	Ambient	Ambient	CO_2 (µg/m^3)	8/6/09	771,000	12/1/09	885,000	1/20/10	1,100,000	6/7/10	686,000
			Freon-11 (µg/m^3)	8/6/09	553	12/1/09	97	1/20/10	573	6/7/10	-129
			H_2O (µg/m^3)	8/6/09	11,400,000	12/1/09	5,030,000	1/20/10	5,790,000	6/7/10	8,460,000
			PCE (µg/m^3)	8/6/09	1370	12/1/09	4650	1/20/10	2730	6/7/10	360
			Pressure differential (kPa)	8/6/09	0	12/1/09	0	1/20/10	NS	6/7/10	NS
			TCA (µg/m^3)	8/6/09	3380	12/1/09	-2500	1/20/10	-7100	6/7/10	2430
			TCE (µg/m^3)	8/6/09	-507	12/1/09	4380	1/20/10	623	6/7/10	684
	10	10-12	CO_2 (µg/m^3)	8/6/09	3,460,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	39	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	15,600,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	233	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	-5100	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	428	NS	NS	NS	NS	NS	NS
	12.5	10-15	CO_2 (µg/m^3)	NS	NS	12/1/09	13,400,000	1/20/10	14,000,000	6/7/10	15,400,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-303	1/20/10	832	6/7/10	-683
			H_2O (µg/m^3)	NS	NS	12/1/09	10,900,000	1/20/10	7,870,000	6/7/10	11,100,000
			PCE (µg/m^3)	NS	NS	12/1/09	2990	1/20/10	4130	6/7/10	1490
			Pressure differential (kPa)	NS	NS	12/1/09	0	1/20/10	0	6/7/10	0.04
			TCA (µg/m^3)	NS	NS	12/1/09	-86,000	1/20/10	-87,000	6/7/10	-20,000
			TCE (µg/m^3)	NS	NS	12/1/09	8070	1/20/10	590	6/7/10	3430
	60	60-62	CO_2 (µg/m^3)	8/6/09	4,970,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	-72	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	21,300,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	3340	NS	NS	NS	NS	NS	NS

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-15462 (cont'd)	60	60-62	Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	-5900	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	-699	NS	NS	NS	NS	NS	NS
	62.5	60-65	CO_2 (µg/m^3)	NS	NS	12/1/09	12,600,000	1/20/10	15,200,000	6/7/10	12,200,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-530	1/20/10	792	6/7/10	-548
			H_2O (µg/m^3)	NS	NS	12/1/09	11,800,000	1/20/10	8,340,000	6/7/10	11,500,000
			PCE (µg/m^3)	NS	NS	12/1/09	5510	1/20/10	5600	6/7/10	644
			Pressure differential (kPa)	NS	NS	12/1/09	0	1/20/10	0	6/7/10	0.04
			TCA (µg/m^3)	NS	NS	12/1/09	-73,000	1/20/10	-95,000	6/7/10	-11,000
			TCE (µg/m^3)	NS	NS	12/1/09	3740	1/20/10	902	6/7/10	2130
	100	100-102	CO_2 (µg/m^3)	8/6/09	6,320,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	1250	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	29,500,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	581	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	-3700	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	-2000	NS	NS	NS	NS	NS	NS
	102.5	100-105	CO_2 (µg/m^3)	NS	NS	12/1/09	10,400,000	1/20/10	12,000,000	6/7/10	10,900,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-5	1/20/10	580	6/7/10	-640
			H_2O (µg/m^3)	NS	NS	12/1/09	11,600,000	1/20/10	8,310,000	6/7/10	12,000,000
			PCE (µg/m^3)	NS	NS	12/1/09	4560	1/20/10	4700	6/7/10	-112
			Pressure differential (kPa)	NS	NS	12/1/09	0	1/20/10	0	6/7/10	0
			TCA (µg/m^3)	NS	NS	12/1/09	-60,000	1/20/10	-75,000	6/7/10	-5900
			TCE (µg/m^3)	NS	NS	12/1/09	3280	1/20/10	1730	6/7/10	2880
	150	150-152	CO_2 (µg/m^3)	8/6/09	4,560,000	NS	NS	NS	NS	NS	NS

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-15462 (cont'd)	150	150-152	Freon-11 (µg/m^3)	8/6/09	55	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	22,900,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	519	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	-3900	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	799	NS	NS	NS	NS	NS	NS
	152.5	150-155	CO_2 (µg/m^3)	NS	NS	12/1/09	9,400,000	1/20/10	10,900,000	6/7/10	9,650,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-1000	1/20/10	751	6/7/10	-497
			H_2O (µg/m^3)	NS	NS	12/1/09	13,500,000	1/20/10	8,570,000	6/7/10	11,900,000
			PCE (µg/m^3)	NS	NS	12/1/09	4690	1/20/10	4340	6/7/10	259
			Pressure differential (kPa)	NS	NS	12/1/09	1	1/20/10	1	6/7/10	-0.11
			TCA (µg/m^3)	NS	NS	12/1/09	-48,000	1/20/10	-67,000	6/7/10	7060
			TCE (µg/m^3)	NS	NS	12/1/09	6420	1/20/10	43	6/7/10	2330
	200	200-202	CO_2 (µg/m^3)	8/6/09	3,990,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	-1200	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	21,200,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	-391	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	-5100	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	4210	NS	NS	NS	NS	NS	NS
	202.5	200-205	CO_2 (µg/m^3)	NS	NS	12/1/09	8,850,000	1/20/10	9,990,000	6/7/10	6,840,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	1630	1/20/10	483	6/7/10	-327
			H_2O (µg/m^3)	NS	NS	12/1/09	16,600,000	1/20/10	8,680,000	6/7/10	11,700,000
			PCE (µg/m^3)	NS	NS	12/1/09	7470	1/20/10	3830	6/7/10	-113
			Pressure differential (kPa)	NS	NS	12/1/09	1	1/20/10	1	6/7/10	-0.25

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-15462 (cont'd)	202.5	200-205	TCA (µg/m^3)	NS	NS	12/1/09	-46,000	1/20/10	-61,000	6/7/10	15,000
			TCE (µg/m^3)	NS	NS	12/1/09	-531	1/20/10	1250	6/7/10	970,000
	247.5	245-250	CO_2 (µg/m^3)	NS	NS	12/1/09	2,990,000	1/20/10	5,870,000	6/7/10	5,260,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-713	1/20/10	411	6/7/10	-427
			H_2O (µg/m^3)	NS	NS	12/1/09	13,200,000	1/20/10	8,620,000	6/7/10	11,700,000
			PCE (µg/m^3)	NS	NS	12/1/09	4550	1/20/10	4070	6/7/10	-222
			Pressure differential (kPa)	NS	NS	12/1/09	1	1/20/10	1	6/7/10	-0.35
			TCA (µg/m^3)	NS	NS	12/1/09	-19,000	1/20/10	-36,000	6/7/10	10,400
			TCE (µg/m^3)	NS	NS	12/1/09	-68	1/20/10	1400	6/7/10	1210
	254	254-256	CO_2 (µg/m^3)	8/6/09	3,330,000	NS	NS	NS	NS	NS	NS
			Freon-11 (µg/m^3)	8/6/09	-46	NS	NS	NS	NS	NS	NS
			H_2O (µg/m^3)	8/6/09	20,600,000	NS	NS	NS	NS	NS	NS
			PCE (µg/m^3)	8/6/09	-291	NS	NS	NS	NS	NS	NS
			Pressure differential (kPa)	8/6/09	0	NS	NS	NS	NS	NS	NS
			TCA (µg/m^3)	8/6/09	-133	NS	NS	NS	NS	NS	NS
			TCE (µg/m^3)	8/6/09	512	NS	NS	NS	NS	NS	NS
	260.5	258-263	CO_2 (µg/m^3)	NS	NS	12/1/09	4,240,000	1/20/10	6,300,000	6/7/10	5,140,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	440	1/20/10	310	6/7/10	-344
			H_2O (µg/m^3)	NS	NS	12/1/09	13,600,000	1/20/10	8,530,000	6/7/10	11,500,000
			PCE (µg/m^3)	NS	NS	12/1/09	2230	1/20/10	3370	6/7/10	-441
			Pressure differential (kPa)	NS	NS	12/1/09	1	1/20/10	1	6/7/10	-0.34
			TCA (µg/m^3)	NS	NS	12/1/09	-24,000	1/20/10	-36,000	6/7/10	12,700
			TCE (µg/m^3)	NS	NS	12/1/09	2120	1/20/10	1630	6/7/10	883
	282.5	280-285	CO_2 (µg/m^3)	NS	NS	12/1/09	7,110,000	1/20/10	7,910,000	6/7/10	5,130,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-473	1/20/10	345	6/7/10	-400

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-15462 (cont'd)	282.5	280-285	H_2O (µg/m^3)	NS	NS	12/1/09	13,600,000	1/20/10	8,520,000	6/7/10	11,300,000
			PCE (µg/m^3)	NS	NS	12/1/09	1540	1/20/10	3160	6/7/10	-1600
			Pressure differential (kPa)	NS	NS	12/1/09	1	1/20/10	1	6/7/10	-0.36
			TCA (µg/m^3)	NS	NS	12/1/09	-32,000	1/20/10	-46,000	6/7/10	48,100
			TCE (µg/m^3)	NS	NS	12/1/09	5680	1/20/10	1670	6/7/10	1060
	297.5	295-300	CO_2 (µg/m^3)	NS	NS	12/1/09	6,080,000	1/20/10	8,020,000	6/7/10	4,730,000
			Freon-11 (µg/m^3)	NS	NS	12/1/09	-256	1/20/10	260	6/7/10	-339
			H_2O (µg/m^3)	NS	NS	12/1/09	15,300,000	1/20/10	8,650,000	6/7/10	10,800,000
			PCE (µg/m^3)	NS	NS	12/1/09	3310	1/20/10	3720	6/7/10	-644
			Pressure differential (kPa)	NS	NS	12/1/09	1	1/20/10	1	6/7/10	-0.33
			TCA (µg/m^3)	NS	NS	12/1/09	-26,000	1/20/10	-46,000	6/7/10	22,500
			TCE (µg/m^3)	NS	NS	12/1/09	6770	1/20/10	1370	6/7/10	824
54-609985	Ambient	Ambient	CO_2 (µg/m^3)	NS	NS	12/4/09	1,460,000	1/20/10	945,000	6/8/10	902,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	218	1/20/10	95	6/8/10	7,250,000
			H_2O (µg/m^3)	NS	NS	12/4/09	3,060,000	1/20/10	6,100,000	6/8/10	8,630,000
			PCE (µg/m^3)	NS	NS	12/4/09	1660	1/20/10	4520	6/8/10	436
			Pressure differential (kPa)	NS	NS	12/4/09	NS	1/20/10	NS	6/8/10	0
			TCA (µg/m^3)	NS	NS	12/4/09	1410	1/20/10	-4300	6/8/10	2000
			TCE (µg/m^3)	NS	NS	12/4/09	2280	1/20/10	2110	6/8/10	633
	6.5	4-9	CO_2 (µg/m^3)	NS	NS	12/4/09	6,170,000	1/20/10	9,080,000	6/8/10	10,100,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-10	1/20/10	274	6/8/10	-654
			H_2O (µg/m^3)	NS	NS	12/4/09	4,130,000	1/20/10	7,280,000	6/8/10	12,700,000
			PCE (µg/m^3)	NS	NS	12/4/09	2640	1/20/10	4470	6/8/10	-139
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	0	6/8/10	0
			TCA (µg/m^3)	NS	NS	12/4/09	-14,000	1/20/10	-69,000	6/8/10	32,500

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-609985	6.5	4-9	TCE (µg/m^3)	NS	NS	12/4/09	3420	1/20/10	2410	6/8/10	2060
(cont'd)	62.5	60-65	CO_2 (µg/m^3)	NS	NS	12/4/09	16,900,000	1/20/10	17,100,000	6/8/10	13,800,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-178	1/20/10	880	6/8/10	-766
			H_2O (µg/m^3)	NS	NS	12/4/09	46,100,000	1/20/10	8,150,000	6/8/10	12,500,000
			PCE (µg/m^3)	NS	NS	12/4/09	3970	1/20/10	4000	6/8/10	18.8
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	0	6/8/10	0
			TCA (µg/m^3)	NS	NS	12/4/09	-50,000	1/20/10	-113,000	6/8/10	39,400
			TCE (µg/m^3)	NS	NS	12/4/09	4940	1/20/10	1260	6/8/10	2390
	102.5	100-105	CO_2 (µg/m^3)	NS	NS	12/4/09	13,500,000	1/20/10	15,600,000	6/8/10	12,900,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-598	1/20/10	614	6/8/10	-526
			H_2O (µg/m^3)	NS	NS	12/4/09	4,520,000	1/20/10	8,450,000	6/8/10	12,500,000
			PCE (µg/m^3)	NS	NS	12/4/09	2890	1/20/10	4850	6/8/10	623
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	0	6/8/10	0
			TCA (µg/m^3)	NS	NS	12/4/09	-45,000	1/20/10	-101,000	6/8/10	38,300
			TCE (µg/m^3)	NS	NS	12/4/09	6530	1/20/10	1140	6/8/10	1700
	152.5	150-155	CO_2 (µg/m^3)	NS	NS	12/4/09	10,700,000	1/20/10	13,700,000	6/8/10	11,300,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-468	1/20/10	698	6/8/10	-749
			H_2O (µg/m^3)	NS	NS	12/4/09	4,580,000	1/20/10	9,080,000	6/8/10	12,400,000
			PCE (µg/m^3)	NS	NS	12/4/09	3290	1/20/10	4330	6/8/10	-18
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	1	6/8/10	0
			TCA (µg/m^3)	NS	NS	12/4/09	-39,000	1/20/10	-86,000	6/8/10	32,300
			TCE (µg/m^3)	NS	NS	12/4/09	5090	1/20/10	1050	6/8/10	2420
	202.5	200-205	CO_2 (µg/m^3)	NS	NS	12/4/09	9,300,000	1/20/10	12,600,000	6/8/10	8,350,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-82	1/20/10	695	6/8/10	-427
			H_2O (µg/m^3)	NS	NS	12/4/09	4,550,000	1/20/10	9,220,000	6/8/10	11,900,000

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-609985 (cont'd)	202.5	200-205	PCE (µg/m^3)	NS	NS	12/4/09	3170	1/20/10	4280	6/8/10	-494
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	1	6/8/10	-0.04
			TCA (µg/m^3)	NS	NS	12/4/09	-31,000	1/20/10	-77,000	6/8/10	22,800
			TCE (µg/m^3)	NS	NS	12/4/09	3920	1/20/10	628	6/8/10	1720
	247.5	245-250	CO_2 (µg/m^3)	NS	NS	12/4/09	7,460,000	1/20/10	10,900,000	6/8/10	6,820,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-263	1/20/10	623	6/8/10	-393
			H_2O (µg/m^3)	NS	NS	12/4/09	4,230,000	1/20/10	9,540,000	6/8/10	11,600,000
			PCE (µg/m^3)	NS	NS	12/4/09	4940	1/20/10	4220	6/8/10	297
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	1	6/8/10	-0.07
			TCA (µg/m^3)	NS	NS	12/4/09	-27,000	1/20/10	-65,000	6/8/10	21,200
			TCE (µg/m^3)	NS	NS	12/4/09	4530	1/20/10	591	6/8/10	1520
	260.5	258-263	CO_2 (µg/m^3)	NS	NS	12/4/09	6,370,000	1/20/10	10,000,000	6/8/10	5,630,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	220	1/20/10	556	6/8/10	-288
			H_2O (µg/m^3)	NS	NS	12/4/09	4,620,000	1/20/10	10,300,000	6/8/10	11,000,000
			PCE (µg/m^3)	NS	NS	12/4/09	3580	1/20/10	3780	6/8/10	791
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	1	6/8/10	-0.09
			TCA (µg/m^3)	NS	NS	12/4/09	-20,000	1/20/10	-58,000	6/8/10	18,000
			TCE (µg/m^3)	NS	NS	12/4/09	3800	1/20/10	764	6/8/10	1170
	282.5	280-285	CO_2 (µg/m^3)	NS	NS	12/4/09	6,240,000	1/20/10	9,610,000	6/8/10	5,750,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-177	1/20/10	501	6/8/10	-524
			H_2O (µg/m^3)	NS	NS	12/4/09	4,860,000	1/20/10	9,160,000	6/8/10	11,700,000
			PCE (µg/m^3)	NS	NS	12/4/09	3540	1/20/10	3880	6/8/10	208
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	1	6/8/10	-0.10
			TCA (µg/m^3)	NS	NS	12/4/09	-23,000	1/20/10	-54,000	6/8/10	20,200
			TCE (µg/m^3)	NS	NS	12/4/09	3740	1/20/10	1040	6/8/10	1540

Table 4.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling-Port Interval (ft bgs)	Analyte (Unit)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
				Date	Result	Date	Result	Date	Result	Date	Result
54-609985 (cont'd)	297.5	295-300	CO_2 (µg/m^3)	NS	NS	12/4/09	5,800,000	1/20/10	8,880,000	6/8/10	5,460,000
			Freon-11 (µg/m^3)	NS	NS	12/4/09	-96	1/20/10	218	6/8/10	-496
			H_2O (µg/m^3)	NS	NS	12/4/09	4,950,000	1/20/10	8,810,000	6/8/10	11,400,000
			PCE (µg/m^3)	NS	NS	12/4/09	2170	1/20/10	2760	6/8/10	99
			Pressure differential (kPa)	NS	NS	12/4/09	0	1/20/10	1	6/8/10	-0.09
			TCA (µg/m^3)	NS	NS	12/4/09	-20,000	1/20/10	-48,000	6/8/10	18,500
			TCE (µg/m^3)	NS	NS	12/4/09	3380	1/20/10	1880	6/8/10	1020

Note: All results reported in µg/m^3 were converted from mg/m^3. B&K detection threshold is gas dependent; reliable values are typically above 1 ppm (1000 to 7000 µg/m^3, depending on the analyte).

* NS = Not sampled.

Table 5.0-1
Pore-Gas VOCs Detected at MDA H, Third Quarter FY2010 and Three Previous Quarters

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-01023	10	10-12	Dichlorodifluoromethane	8/5/09	3.8	19	NS[a]	NS	NS	NS	NS	NS	NS	NS	NS
			Tetrachloroethene	8/5/09	1.1	7.2	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/5/09	1.4	11	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/5/09	3.7	20	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethene	8/5/09	1.2	6.3	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/5/09	10	58	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12.5	10-15	Acetone	NS	NS	NS	12/2/09	ND[b]	ND	1/19/10	ND	ND	06/08/10	5.3	12
			Butanone[2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	0.92	2.7
			Chloroform	NS	NS	NS	12/2/09	41	200	1/19/10	ND	ND	06/08/10	2.6	13
			Dichlorodifluoromethane	NS	NS	NS	12/2/09	2.4	12	1/19/10	ND	ND	06/08/10	5.9 (J+)	29 (J+)
			Tetrachloroethene	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	0.92	6.2
			Trichloroethane[1,1,1-]	NS	NS	NS	12/2/09	0.9	4.9	1/19/10	2.7	15	06/08/10	1.4	7.9
			Trichlorofluoromethane	NS	NS	NS	12/2/09	5.2	29	1/19/10	ND	ND	06/08/10	6.4 (J+)	36 (J+)
	60	60-62	Chlorobenzene	8/5/09	1.2	5.8	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/5/09	4.8	24	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Tetrachloroethene	8/5/09	1.3	9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/5/09	1.7	13	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/5/09	4.5	25	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethene	8/5/09	1.9	10	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/5/09	13	75	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-01023 (cont'd)	62.5	60-65	Acetone	NS	NS	NS	12/2/09	ND	ND	1/19/10	7.6	18	06/08/10	ND	ND
			Butanol[1-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	190	580	06/08/10	ND	ND
			Butanone[2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	12	36	06/08/10	ND	ND
			Carbon disulfide	NS	NS	NS	12/2/09	2	6.4	1/19/10	1	3.2	06/08/10	ND	ND
			Dichlorodifluoromethane	NS	NS	NS	12/2/09	5.2	26	1/19/10	3.5	17	06/08/10	7.9 (J+)	39 (J+)
			Ethanol	NS	NS	NS	12/2/09	ND	ND	1/19/10	200 (J)	380 (J)	06/08/10	ND	ND
			Propanol[2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	14	36	06/08/10	ND	ND
			Tetrachloroethene	NS	NS	NS	12/2/09	ND	ND	1/19/10	0.88	6	06/08/10	ND	ND
			Tetrahydrofuran	NS	NS	NS	12/2/09	ND	ND	1/19/10	1.6	4.8	06/08/10	ND	ND
			Toluene	NS	NS	NS	12/2/09	ND	ND	1/19/10	1.5	5.6	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/2/09	1.3 (J-)	9.8 (J-)	1/19/10	1.3	9.7	06/08/10	1.3	10
			Trichloroethane[1,1,1-]	NS	NS	NS	12/2/09	3	16	1/19/10	3.5	19	06/08/10	3.2	17
			Trichloroethene	NS	NS	NS	12/2/09	1.1	6.1	1/19/10	1.2	6.5	06/08/10	0.92	4.9
			Trichlorofluoromethane	NS	NS	NS	12/2/09	12	65	1/19/10	7.8	44	06/08/10	14 (J+)	77 (J+)
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	0.88	3.8	06/08/10	ND	ND
	100	100-102	Acetone	8/5/09	16	37	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Butanol[1-]	8/5/09	5.2 (J)	16 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Butanone[2-]	8/5/09	2.7	7.8	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/5/09	2	9.1	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/5/09	3.9	19	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/5/09	1.4	10	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-01023 (cont'd)	100	100-102	Trichloroethane[1,1,1-]	8/5/09	3.5	19	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethene	8/5/09	1.2	6.3	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/5/09	10	56	NS	NS	NS	NS	NS	NS	NS	NS	NS
	102.5	100-105	Acetone	NS	NS	NS	12/2/09	ND	ND	1/19/10	3.3	7.8	06/08/10	ND	ND
			Dichlorodifluoromethane	NS	NS	NS	12/2/09	4.3	21	1/19/10	3.1	16	06/08/10	6 (J+)	30 (J+)
			Ethanol	NS	NS	NS	12/2/09	ND	ND	1/19/10	8.7 (J)	16 (J)	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/2/09	1.2 (J-)	9.5 (J-)	1/19/10	1.3	9.9	06/08/10	1.5	12
			Trichloroethane[1,1,1-]	NS	NS	NS	12/2/09	3.7	20	1/19/10	4.1	22	06/08/10	5.3	29
			Trichloroethene	NS	NS	NS	12/2/09	0.88	4.7	1/19/10	ND	ND	06/08/10	1.1	6.1
			Trichlorofluoromethane	NS	NS	NS	12/2/09	7.6	42	1/19/10	5.2	29	06/08/10	11 (J+)	61 (J+)
	150	150-152	Butanol[1-]	8/5/09	9.3 (J)	28 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/5/09	1.5	7.1	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/5/09	3.7	18	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/5/09	1.3	9.7	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/5/09	4	22	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethene	8/5/09	1	5.6	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/5/09	7	39	NS	NS	NS	NS	NS	NS	NS	NS	NS
	152.5	150-155	Acetone	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	7.9	19
			Benzene	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	0.97	3.1
			Butanone[2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	3.2	9.6
			Carbon disulfide	NS	NS	NS	12/2/09	1.4	4.2	1/19/10	ND	ND	06/08/10	ND	ND
			Cyclohexane	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	1.2	4.3

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-01023 (cont'd)	152.5	150-155	Dichlorodifluoromethane	NS	NS	NS	12/2/09	3.2	16	1/19/10	4.4	22	06/08/10	5.6 (J+)	28 (J+)
			Ethanol	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	6.1	12
			Hexane	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	1	3.6
			Toluene	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	2.6	9.9
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/2/09	1.1 (J-)	8.4 (J-)	1/19/10	1.8	14	06/08/10	1.7	13
			Trichloroethane[1,1,1-]	NS	NS	NS	12/2/09	3.2	18	1/19/10	5.7	31	06/08/10	6.5	35
			Trichloroethene	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	0.91	4.9
			Trichlorofluoromethane	NS	NS	NS	12/2/09	3.8	21	1/19/10	4.9	28	06/08/10	6.2 (J+)	35 (J+)
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	0.88 (J)	3.8 (J)
	200	200-202	Acetone	8/5/09	5	12	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Butanone[2-]	8/5/09	0.95	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Carbon disulfide	8/5/09	2.2	7	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Carbon tetrachloride	8/5/09	1	6.6	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/5/09	4.2	21	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichloropropane[1,2-]	8/5/09	0.93 (J)	4.3 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/5/09	2	15	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/5/09	5.2	28	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethene	8/5/09	0.97	5.2	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/5/09	5.5	31	NS	NS	NS	NS	NS	NS	NS	NS	NS
	202.5	200-205	Acetone	NS	NS	NS	12/2/09	4.3	10	1/19/10	ND	ND	06/08/10	ND	ND
			Carbon disulfide	NS	NS	NS	12/2/09	3.6	11	1/19/10	ND	ND	06/08/10	ND	ND

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-01023 (cont'd)	202.5	200-205	Carbon tetrachloride	NS	NS	NS	12/2/09	ND	ND	1/19/10	0.97	6.1	06/08/10	1.1	7
			Cyclohexane	NS	NS	NS	12/2/09	5.5	19	1/19/10	6.8	23	06/08/10	3	10
			Dichlorodifluoromethane	NS	NS	NS	12/2/09	3.8	19	1/19/10	4.3	21	06/08/10	6.2 (J+)	30 (J+)
			Dichloropropane[1,2-]	NS	NS	NS	12/2/09	1.2	5.6	1/19/10	1.3	6.2	06/08/10	1.1	5.2
			Ethanol	NS	NS	NS	12/2/09	ND	ND	1/19/10	3.6 (J)	6.8 (J)	06/08/10	ND	ND
			Toluene	NS	NS	NS	12/2/09	1.9	7.2	1/19/10	ND	ND	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	1.7	13	06/08/10	1.9	15
			Trichloroethane[1,1,1-]	NS	NS	NS	12/2/09	3.2	17	1/19/10	4.7	26	06/08/10	5.4	30
			Trichloroethene	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	0.93	5
			Trichlorofluoromethane	NS	NS	NS	12/2/09	3.9	22	1/19/10	4.3	24	06/08/10	6.1 (J+)	34 (J+)
	247	247-249	Butanol[1-]	8/5/09	19 (J)	59 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Carbon tetrachloride	8/5/09	1.3	8.2	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/5/09	8.4	39	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/5/09	3.5	17	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Toluene	8/5/09	3	11	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/5/09	1.5	12	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/5/09	2.3	12	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/5/09	4.1	23	NS	NS	NS	NS	NS	NS	NS	NS	NS
	247.5	245-250	Acetone	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	6.2	15
			Carbon tetrachloride	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	1 (J+)	6.4 (J+)
			Cyclohexane	NS	NS	NS	12/2/09	6.6	23	1/19/10	7.5	26	06/08/10	4	14

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m³)	Date	Result (ppbv)	Result (µg/m³)	Date	Result (ppbv)	Result (µg/m³)	Date	Result (ppbv)	Result (µg/m³)
54-01023 (cont'd)	247.5	245-250	Dichlorodifluoromethane	NS	NS	NS	12/2/09	2.4	12	1/19/10	2.9	14	06/08/10	4.3 (J)	21 (J)
			Dichloropropane[1,2-]	NS	NS	NS	12/2/09	0.92	4.2	1/19/10	0.94	4.3	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	1.2	9.3	06/08/10	1.2	8.9
			Trichloroethane[1,1,1-]	NS	NS	NS	12/2/09	1.3	6.9	1/19/10	2.4	13	06/08/10	2.1	11
			Trichlorofluoromethane	NS	NS	NS	12/2/09	2.4	13	1/19/10	2.5	14	06/08/10	3.8	21
	260.5	258-263	Acetone	NS	NS	NS	12/2/09	5.8	14	1/19/10	12	27	06/08/10	7.2	17
			Butanone[2-]	NS	NS	NS	12/2/09	0.9	2.6	1/19/10	ND	ND	06/08/10	0.9	2.6
			Carbon tetrachloride	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	1.2 (J+)	7.9 (J+)
			Cyclohexane	NS	NS	NS	12/2/09	4	14	1/19/10	ND	ND	06/08/10	1.5	5.2
			Dichlorodifluoromethane	NS	NS	NS	12/2/09	2.1	10	1/19/10	ND	ND	06/08/10	4.8 (J)	24 (J)
			Ethanol	NS	NS	NS	12/2/09	ND	ND	1/19/10	160 (J)	310 (J)	06/08/10	ND	ND
			Methylene chloride	NS	NS	NS	12/2/09	ND	ND	1/19/10	3.8	13	06/08/10	ND	ND
			Propanol[2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	20	50	06/08/10	ND	ND
			Propylene	NS	NS	NS	12/2/09	3.5	6	1/19/10	ND	ND	06/08/10	ND	ND
			Toluene	NS	NS	NS	12/2/09	ND	ND	1/19/10	3.9	15	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	ND	ND	06/08/10	1.4	11
			Trichloroethane[1,1,1-]	NS	NS	NS	12/2/09	ND	ND	1/19/10	2.5	14	06/08/10	2.1	11
			Trichlorofluoromethane	NS	NS	NS	12/2/09	1.8	10	1/19/10	ND	ND	06/08/10	4.2	24
54-15461	10	10-12	Dichlorodifluoromethane	8/6/09	1.5	7.3	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	1.1	5.9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	1.1	6	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-15461 (cont'd)	11	10-12	Acetone	NS	NS	NS	12/1/09	ND	ND	1/19/10	ND	ND	06/07/10	11	25
			Butanone[2-]	NS	NS	NS	12/1/09	ND	ND	1/19/10	ND	ND	06/07/10	1.1	3.4
			Carbon disulfide	NS	NS	NS	12/1/09	0.9	2.8	1/19/10	ND	ND	06/07/10	ND	ND
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	2.4	12	1/19/10	2.8	14	06/07/10	2.8	14
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	1.7	9.3	1/19/10	1.7	9.1	06/07/10	2.2	12
			Trichlorofluoromethane	NS	NS	NS	12/1/09	1.4	7.8	1/19/10	1.6	9.3	06/07/10	2	11
	60	60-62	Dichlorodifluoromethane	8/6/09	1.8	9.1	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	1.1	6.1	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	1.2	7	NS	NS	NS	NS	NS	NS	NS	NS	NS
	61	60-62	Dichlorodifluoromethane	NS	NS	NS	12/1/09	2.2	11	1/19/10	3.1	15	06/07/10	3.8	19
			Ethanol	NS	NS	NS	12/1/09	ND	ND	1/19/10	3.4 (J)	6.4 (J)	06/07/10	ND	ND
			Tetrachloroethene	NS	NS	NS	12/1/09	ND	ND	1/19/10	ND	ND	06/07/10	1	6.8
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	1.3	7.1	1/19/10	1.8	9.9	06/07/10	2.2	12
			Trichloroethene	NS	NS	NS	12/1/09	ND	ND	1/19/10	ND	ND	06/07/10	0.96	5.2
			Trichlorofluoromethane	NS	NS	NS	12/1/09	1.5	8.7	1/19/10	2.2	12	06/07/10	2.9	16
	95	95-97	Carbon disulfide	8/6/09	2.9	9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/6/09	1.9	9.3	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	1.1	5.9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	1.6	8.8	NS	NS	NS	NS	NS	NS	NS	NS	NS
	96	95-97	Acetone	NS	NS	NS	12/1/09	3.6	8.5	1/19/10	ND	ND	06/07/10	ND	ND
			Carbon disulfide	NS	NS	NS	12/1/09	2.7	8.3	1/19/10	ND	ND	06/07/10	ND	ND
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	2.7	13	1/19/10	3.1	16	06/07/10	4	20
			Toluene	NS	NS	NS	12/1/09	ND	ND	1/19/10	ND	ND	06/07/10	1.6	6.2
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	1.5	8.2	1/19/10	1.8	10	06/07/10	2.2	12
54-15461	96	95-97	Trichlorofluoromethane	NS	NS	NS	12/1/09	2	12	1/19/10	2.4	13	06/07/10	3.2	18

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m³)	Date	Result (ppbv)	Result (µg/m³)	Date	Result (ppbv)	Result (µg/m³)	Date	Result (ppbv)	Result (µg/m³)
54-15462	10	10-12	Dichlorodifluoromethane	8/6/09	1	4.9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Tetrahydrofuran	8/6/09	1.1	3.4	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	2.3	12	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12.5	10-15	Butanone[2-]	NS	NS	NS	12/1/09	1.5	4.4	1/20/10	ND	ND	06/07/10	ND	ND
			Chloroform	NS	NS	NS	12/1/09	90	440	1/20/10	14	71	06/07/10	4.4	22
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	4.6	22	1/20/10	5.6	28	06/07/10	6.4	32
			Tetrachloroethene	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1.1	7.7
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	2 (J-)	15 (J-)	1/20/10	1.8 (J-)	14 (J-)	06/07/10	2.6	20
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	9.9	54	1/20/10	10	55	06/07/10	17	93
			Trichloroethene	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1.1	5.7
			Trichlorofluoromethane	NS	NS	NS	12/1/09	4.1	23	1/20/10	5.3	30	06/07/10	6.3	36
	60	60-62	Butanol[1-]	8/6/09	4.9 (J)	15 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/6/09	2.2	10	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/6/09	2.8	14	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Methanol	8/6/09	190 (J)	250 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Toluene	8/6/09	1	3.9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/6/09	1.1	8.7	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	5.5	30	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	2.4	13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	62.5	60-65	Acetone	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	7.5	18
			Bromodichloromethane	NS	NS	NS	12/1/09	0.88	5.9	1/20/10	ND	ND	06/07/10	ND	ND

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-15462 (cont'd)	62.5	60-65	Butanol[1-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	4.3	13
			Butanone[2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1	3
			Chloroform	NS	NS	NS	12/1/09	170	820	1/20/10	26	130	06/07/10	10	49
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	7.4	36	1/20/10	8.7	43	06/07/10	9.8	48
			Dichloroethane[1,1-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	0.86	3.5	06/07/10	0.93	3.8
			Tetrachloroethene	NS	NS	NS	12/1/09	1.1	7.6	1/20/10	ND	ND	06/07/10	1.1	7.2
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	2.9 (J-)	22 (J-)	1/20/10	3.1 (J-)	24 (J-)	06/07/10	3.8	29
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	17	91	1/20/10	18	100	06/07/10	26	140
			Trichloroethene	NS	NS	NS	12/1/09	1.1	5.7	1/20/10	1.1	5.8	06/07/10	1.7	9.2
			Trichlorofluoromethane	NS	NS	NS	12/1/09	7.1	40	1/20/10	8.3	47	06/07/10	9.7	54
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/1/09	1.4	6.2	1/20/10	ND	ND	06/07/10	ND	ND
	100	100-102	Butanol[1-]	8/6/09	47 (J)	140 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/6/09	4.4	20	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/6/09	3.6	18	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Propanol[2-]	8/6/09	26	63	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Toluene	8/6/09	2.2	8.4	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/6/09	1.6	12	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	7.8	43	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	3.4	19	NS	NS	NS	NS	NS	NS	NS	NS	NS
	102.5	100-105	Acetone	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	8.6	20
			Butanone[2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1.7	4.9
			Chloroform	NS	NS	NS	12/1/09	100	490	1/20/10	17	84	06/07/10	7.4	36
			Cyclohexane	NS	NS	NS	12/1/09	0.85 (J)	2.9 (J)	1/20/10	ND	ND	06/07/10	2	6.7

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009 Date	4th Quarter FY2009 Result (ppbv)	4th Quarter FY2009 Result (µg/m^3)	1st Quarter FY2010 Date	1st Quarter FY2010 Result (ppbv)	1st Quarter FY2010 Result (µg/m^3)	2nd Quarter FY2010 Date	2nd Quarter FY2010 Result (ppbv)	2nd Quarter FY2010 Result (µg/m^3)	3rd Quarter FY2010 Date	3rd Quarter FY2010 Result (ppbv)	3rd Quarter FY2010 Result (µg/m^3)
54-15462	102.5	100-105	Dichlorodifluoromethane	NS	NS	NS	12/1/09	6.6	32	1/20/10	5.9	29	06/07/10	8.3	41
(cont'd)			Dichloroethane[1,1-]	NS	NS	NS	12/1/09	0.87	3.5	1/20/10	ND	ND	06/07/10	0.86	3.5
			Ethanol	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	12	22
			Hexane	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	6.5	23
			Propanol[2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	10	25
			Tetrachloroethene	NS	NS	NS	12/1/09	0.85 (J)	5.8 (J)	1/20/10	ND	ND	06/07/10	0.76	5.2
			Toluene	NS	NS	NS	12/1/09	1	3.8	1/20/10	2.2	8.1	06/07/10	4.1	15
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	2.5 (J-)	19 (J-)	1/20/10	1.9 (J-)	15 (J-)	06/07/10	2.8	21
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	14	80	1/20/10	12	65	06/07/10	20	110
			Trichloroethene	NS	NS	NS	12/1/09	1.2	6.5	1/20/10	ND	ND	06/07/10	1.5	8
			Trichlorofluoromethane	NS	NS	NS	12/1/09	6.2	35	1/20/10	5.2	29	06/07/10	7.5	42
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	1.2	5.2	06/07/10	0.82	3.6
	150	150-152	Butanol[1-]	8/6/09	67 (J)	200 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Carbon disulfide	8/6/09	8.8	28	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/6/09	6.8	31	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/6/09	2.8	14	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Propanol[2-]	8/6/09	4	10	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Toluene	8/6/09	2.6	9.7	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/6/09	1.1	8.7	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	5.3	29	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	2.4	13	NS	NS	NS	NS	NS	NS	NS	NS	NS
	152.5	150-155	Bromodichloromethane	NS	NS	NS	12/1/09	1	6.9	1/20/10	ND	ND	06/07/10	ND	ND
			Chloroform	NS	NS	NS	12/1/09	290	1400	1/20/10	57	280	06/07/10	22	100

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-15462 (cont'd)	152.5	150-155	Cyclohexane	NS	NS	NS	12/1/09	1.3	4.5	1/20/10	1.8	6.1	06/07/10	2.3	7.9
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	6.3	31	1/20/10	9.6	47	06/07/10	14	71
			Dichloroethane[1,1-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	0.88	3.6	06/07/10	1.2	4.8
			Dichloroethene[1,1-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	0.9	3.6
			Ethylbenzene	NS	NS	NS	12/1/09	0.97	4.2	1/20/10	ND	ND	06/07/10	ND	ND
			Propylene	NS	NS	NS	12/1/09	4.8	8.3	1/20/10	ND	ND	06/07/10	ND	ND
			Tetrachloroethene	NS	NS	NS	12/1/09	0.98	6.6	1/20/10	ND	ND	06/07/10	0.91	6.2
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	2.3 (J-)	18 (J-)	1/20/10	3.3 (J-)	25 (J-)	06/07/10	5.4	41
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	10	57	1/20/10	15	83	06/07/10	31	170
			Trichloroethene	NS	NS	NS	12/1/09	0.9	4.8	1/20/10	1.2	6.2	06/07/10	1.8	9.5
			Trichlorofluoromethane	NS	NS	NS	12/1/09	5	28	1/20/10	8.1	45	06/07/10	13	73
			Xylene[1,3-] + xylene[1,4-]	NS	NS	NS	12/1/09	1.3	5.8	1/20/10	ND	ND	06/07/10	ND	ND
	200	200-202	Benzene	8/6/09	1.3	4.2	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Butanol[1-]	8/6/09	120 (J)	370 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Carbon disulfide	8/6/09	2.7	8.4	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/6/09	14	66	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/6/09	2.4	12	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Propanol[2-]	8/6/09	78	190	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Toluene	8/6/09	6.2	23	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	8/6/09	0.95	7.2	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	3.7	20	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	1.9	11	NS	NS	NS	NS	NS	NS	NS	NS	NS
	202.5	200-205	Benzene	NS	NS	NS	12/1/09	1.4	4.5	1/20/10	ND	ND	06/07/10	ND	ND

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-15462 (cont'd)	202.5	200-205	Carbon disulfide	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	2.5	7.7
			Chloroform	NS	NS	NS	12/1/09	160	760	1/20/10	39	190	06/07/10	16	77
			Cyclohexane	NS	NS	NS	12/1/09	2.3	7.9	1/20/10	3	10	06/07/10	3.2	11
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	6	30	1/20/10	9.1	45	06/07/10	12	58
			Dichloroethane[1,2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1.4	5.9
			Dichloroethene[1,1-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1.1	4.4
			Ethylbenzene	NS	NS	NS	12/1/09	0.86	3.7	1/20/10	ND	ND	06/07/10	ND	ND
			Propylene	NS	NS	NS	12/1/09	5	8.6	1/20/10	ND	ND	06/07/10	ND	ND
			Toluene	NS	NS	NS	12/1/09	0.97	3.7	1/20/10	ND	ND	06/07/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	2.1 (J-)	16 (J-)	1/20/10	2.8 (J-)	21 (J-)	06/07/10	3.9	30
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	7.8	42	1/20/10	12	64	06/07/10	18	100
			Trichloroethene	NS	NS	NS	12/1/09	ND	ND	1/20/10	1	5.4	06/07/10	2.4	13
			Trichlorofluoromethane	NS	NS	NS	12/1/09	4.3	24	1/20/10	6.6	37	06/07/10	8.2	46
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/1/09	1.5	6.5	1/20/10	ND	ND	06/07/10	ND	ND
	247.5	245-250	Acetone	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	4.6	11
			Benzene	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	3.2	10
			Butanone[2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	2.1	6.2
			Chloroform	NS	NS	NS	12/1/09	77	380	1/20/10	20	96	06/07/10	5.8	28
			Cyclohexane	NS	NS	NS	12/1/09	ND	ND	1/20/10	1.5	5.3	06/07/10	3.3	11
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	1.8	9.1	1/20/10	5.7	28	06/07/10	7.9	39
			Ethanol	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	17	32
			Ethylbenzene	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1.6	6.7
			Hexane	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	8.2	29
			Propanol[2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	5.6	14

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-15462 (cont'd)	247.5	245-250	Toluene	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	8.8	33
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	1.5 (J-)	12 (J-)	06/07/10	2.2	17
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	1	5.6	1/20/10	3.7	20	06/07/10	6.6	36
			Trichlorofluoromethane	NS	NS	NS	12/1/09	1	5.9	1/20/10	3.4	19	06/07/10	4.8	27
			Xylene[1,2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	0.95	4.1
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	3.5	15
	254	254-256	Benzene	8/6/09	3.5	11	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Butanol[1-]	8/6/09	200 (J)	600 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Carbon disulfide	8/6/09	1	3.1	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Chlorobenzene	8/6/09	25	110	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorobenzene[1,4-]	8/6/09	1.1	6.9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Dichlorodifluoromethane	8/6/09	1.8	9	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Ethanol	8/6/09	3.8 (J)	7.1 (J)	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Propanol[2-]	8/6/09	170	410	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Toluene	8/6/09	28	110	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichloroethane[1,1,1-]	8/6/09	2.8	15	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Trichlorofluoromethane	8/6/09	1.5	8.2	NS	NS	NS	NS	NS	NS	NS	NS	NS
			Xylene[1,2-]	8/6/09	1.9	8.4	NS	NS	NS	NS	NS	NS	NS	NS	NS
	260.5	258-263	Acetone	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	6.4	15
			Chloroform	NS	NS	NS	12/1/09	74	360	1/20/10	21	100	06/07/10	8.8	43
			Cyclohexane	NS	NS	NS	12/1/09	1.7	5.8	1/20/10	2	7	06/07/10	1.6	5.5
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	2.4	12	1/20/10	5.7	28	06/07/10	11	56
			Hexane	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	1.9	6.6

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-15462 (cont'd)	260.5	258-263	Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	ND	ND	1/20/10	1.6 (J-)	12 (J-)	06/07/10	3.4	26
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	1.6	8.5	1/20/10	3.5	19	06/07/10	8.6	47
			Trichlorofluoromethane	NS	NS	NS	12/1/09	1.5	8.4	1/20/10	3.6	20	06/07/10	6.8	38
	282.5	280-285	Acetone	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	7.3	17
			Carbon disulfide	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	2.1	6.4
			Carbon tetrachloride	NS	NS	NS	12/1/09	ND	ND	1/20/10	0.84	5.3	06/07/10	0.96	6
			Chloroform	NS	NS	NS	12/1/09	77	370	1/20/10	24	120	06/07/10	12	58
			Cyclohexane	NS	NS	NS	12/1/09	8.4	29	1/20/10	7.4	26	06/07/10	5.6	19
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	6.2	30	1/20/10	7	34	06/07/10	9.6	48
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	2 (J-)	15 (J-)	1/20/10	2.2 (J-)	16 (J-)	06/07/10	2.8	22
			Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	4.3	23	1/20/10	4.6	25	06/07/10	6.1	33
			Trichlorofluoromethane	NS	NS	NS	12/1/09	3.9	22	1/20/10	4.7	26	06/07/10	6	34
	297.5	295-300	Acetone	NS	NS	NS	12/1/09	ND	ND	1/20/10	ND	ND	06/07/10	5.8	14
			Butanone[2-]	NS	NS	NS	12/1/09	3.4	10	1/20/10	ND	ND	06/07/10	ND	ND
			Carbon disulfide	NS	NS	NS	12/1/09	4.4	14	1/20/10	ND	ND	06/07/10	ND	ND
			Carbon tetrachloride	NS	NS	NS	12/1/09	ND	ND	1/20/10	1	6.6	06/07/10	0.96 (J)	6 (J)
			Chloroform	NS	NS	NS	12/1/09	92	450	1/20/10	24	110	06/07/10	9.6	47
			Cyclohexane	NS	NS	NS	12/1/09	8.8	30	1/20/10	10	36	06/07/10	9.6	33
			Dichlorodifluoromethane	NS	NS	NS	12/1/09	5.3	26	1/20/10	7.2	36	06/07/10	8.4 (J)	42 (J)
			Ethanol	NS	NS	NS	12/1/09	ND	ND	1/20/10	4.5	8.6	06/07/10	ND	ND
			Toluene	NS	NS	NS	12/1/09	ND	ND	1/20/10	1.4	5.2	06/07/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/1/09	1.8 (J-)	13 (J-)	1/20/10	2.5 (J-)	19 (J-)	06/07/10	2.5	19

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-15462 (cont'd)	297.5	295-300	Trichloroethane[1,1,1-]	NS	NS	NS	12/1/09	3	16	1/20/10	3.8	21	06/07/10	4.7	26
			Trichlorofluoromethane	NS	NS	NS	12/1/09	3.3	19	1/20/10	4.4	25	06/07/10	4.8	27
54-609985	6.5	4-9	Acetone	NS	NS	NS	12/4/09	4.6	11	1/20/10	ND	ND	06/08/10	ND	ND
			Benzene	NS	NS	NS	12/4/09	2.3	7.3	1/20/10	ND	ND	06/08/10	ND	ND
			Cyclohexane	NS	NS	NS	12/4/09	0.94	3.2	1/20/10	ND	ND	06/08/10	ND	ND
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	1.2	6.1	1/20/10	3.1	15	06/08/10	3 (J)	15 (J)
			Hexane	NS	NS	NS	12/4/09	1.6	5.6	1/20/10	ND	ND	06/08/10	ND	ND
			n-Heptane	NS	NS	NS	12/4/09	1.2	5	1/20/10	ND	ND	06/08/10	ND	ND
			Tetrachloroethene	NS	NS	NS	12/4/09	ND	ND	1/20/10	1.1	7.3	06/08/10	ND	ND
			Toluene	NS	NS	NS	12/4/09	2.1	8	1/20/10	ND	ND	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	ND	ND	1/20/10	1.2	9.2	06/08/10	ND	ND
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	1.7	9.1	1/20/10	5.7	31	06/08/10	4.2	23
			Trichloroethene	NS	NS	NS	12/4/09	ND	ND	1/20/10	1.1	6	06/08/10	ND	ND
			Trichlorofluoromethane	NS	NS	NS	12/4/09	0.86	4.8	1/20/10	3.2	18	06/08/10	2.5	14
	62.5	60-65	Chloroform	NS	NS	NS	12/4/09	34	160	1/20/10	8.2	40	06/08/10	4.2	21
			Cyclohexane	NS	NS	NS	12/4/09	ND	ND	1/20/10	0.89	3.1	06/08/10	ND	ND
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	8.3	41	1/20/10	6.1	30	06/08/10	9.9 (J)	49 (J)
			Ethanol	NS	NS	NS	12/4/09	ND	ND	1/20/10	5.1	9.7	06/08/10	ND	ND
			Hexane	NS	NS	NS	12/4/09	ND	ND	1/20/10	0.93	3.3	06/08/10	ND	ND
			Methylene chloride	NS	NS	NS	12/4/09	ND	ND	1/20/10	1.9	6.5	06/08/10	ND	ND
			Tetrachloroethene	NS	NS	NS	12/4/09	ND	ND	1/20/10	0.92	6.2	06/08/10	ND	ND
			Toluene	NS	NS	NS	12/4/09	ND	ND	1/20/10	2.2	8.4	06/08/10	4	15

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result ($\mu g/m^3$)	Date	Result (ppbv)	Result ($\mu g/m^3$)	Date	Result (ppbv)	Result ($\mu g/m^3$)	Date	Result (ppbv)	Result ($\mu g/m^3$)
54-609985 (cont'd)	62.5	60-65	Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	1.7	13	1/20/10	1.9	15	06/08/10	1.9	15
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	8.1	44	1/20/10	7.8	43	06/08/10	11	58
			Trichloroethene	NS	NS	NS	12/4/09	0.86	4.6	1/20/10	1.3	7.2	06/08/10	1	5.5
			Trichlorofluoromethane	NS	NS	NS	12/4/09	8	45	1/20/10	6.7	38	06/08/10	9.9	56
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/4/09	ND	ND	1/20/10	1.3	5.5	06/08/10	ND	ND
	102.5	100-105	Carbon tetrachloride	NS	NS	NS	12/4/09	0.94	5.9	1/20/10	0.88	5.6	06/08/10	ND	ND
			Chloroform	NS	NS	NS	12/4/09	21	100	1/20/10	9.2	45	06/08/10	4.1	20
			Cyclohexane	NS	NS	NS	12/4/09	ND	ND	1/20/10	1.3	4.6	06/08/10	ND	ND
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	8	39	1/20/10	7.6	37	06/08/10	12 (J)	60 (J)
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	1.7	13	1/20/10	2.4	18	06/08/10	2.4	18
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	8	44	1/20/10	9.3	51	06/08/10	12	66
			Trichloroethene	NS	NS	NS	12/4/09	0.95	5.1	1/20/10	1.4	7.8	06/08/10	1.2	6.3
			Trichlorofluoromethane	NS	NS	NS	12/4/09	6.7	38	1/20/10	7.2	40	06/08/10	10	60
	152.5	150-155	Carbon tetrachloride	NS	NS	NS	12/4/09	0.97	6.1	1/20/10	1	6.4	06/08/10	1.2 (J+)	7.5 (J+)
			Chloroform	NS	NS	NS	12/4/09	0.98	4.8	1/20/10	0.92	4.5	06/08/10	1.1	5.3
			Cyclohexane	NS	NS	NS	12/4/09	2.5	8.6	1/20/10	4.6	16	06/08/10	2.4	8.3
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	7.9	39	1/20/10	6.8	33	06/08/10	13 (J)	63 (J)
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	1.9	15	1/20/10	2.3	17	06/08/10	2.7	20
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	8.6	47	1/20/10	9	49	06/08/10	14	76
			Trichloroethene	NS	NS	NS	12/4/09	1.1	6	1/20/10	1.5	7.9	06/08/10	1.4	7.4
			Trichlorofluoromethane	NS	NS	NS	12/4/09	6.4	36	1/20/10	6.2	35	06/08/10	11	60
	202.5	200-205	Acetone	NS	NS	NS	12/4/09	ND	ND	1/20/10	3.6	8.5	06/08/10	ND	ND

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-609985 (cont'd)	202.5	200-205	Carbon tetrachloride	NS	NS	NS	12/4/09	3	19	1/20/10	2.2	14	06/08/10	2.2 (J+)	14 (J+)
			Chlorodifluoromethane	NS	NS	NS	12/4/09	5	18	1/20/10	5.2	19	06/08/10	5.1	18
			Chloroform	NS	NS	NS	12/4/09	55	270	1/20/10	24	120	06/08/10	12	56
			Cyclohexane	NS	NS	NS	12/4/09	10	34	1/20/10	15	52	06/08/10	11	37
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	9.2	45	1/20/10	8	40	06/08/10	12 (J)	58 (J)
			Dichloropropane[1,2-]	NS	NS	NS	12/4/09	1.2	5.7	1/20/10	1.5	6.7	06/08/10	1	4.9
			Tetrachloroethene	NS	NS	NS	12/4/09	0.84	5.7	1/20/10	ND	ND	06/08/10	ND	ND
			Toluene	NS	NS	NS	12/4/09	1.8	6.6	1/20/10	ND	ND	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	2.5	19	1/20/10	3	23	06/08/10	2.9	22
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	7.3	40	1/20/10	7.8	42	06/08/10	9.7	53
			Trichloroethene	NS	NS	NS	12/4/09	0.88	4.7	1/20/10	1.3	7.1	06/08/10	1.1	5.8
			Trichlorofluoromethane	NS	NS	NS	12/4/09	6.6	37	1/20/10	6.4	36	06/08/10	8.5	48
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/4/09	1.4	5.9	1/20/10	ND	ND	06/08/10	ND	ND
	247.5	245-250	Acetone	NS	NS	NS	12/4/09	ND	ND	1/20/10	ND	ND	06/08/10	9.1	22
			Benzene	NS	NS	NS	12/4/09	4.4	14	1/20/10	ND	ND	06/08/10	ND	ND
			Butanone[2-]	NS	NS	NS	12/4/09	ND	ND	1/20/10	ND	ND	06/08/10	0.86	2.5
			Carbon disulfide	NS	NS	NS	12/4/09	ND	ND	1/20/10	1	3.2	06/08/10	ND	ND
			Carbon tetrachloride	NS	NS	NS	12/4/09	3	19	1/20/10	2.3	14	06/08/10	2.8 (J+)	17 (J+)
			Chlorodifluoromethane	NS	NS	NS	12/4/09	5.7	20	1/20/10	4.3	15	06/08/10	5.8	20
			Chloroform	NS	NS	NS	12/4/09	27	130	1/20/10	11	52	06/08/10	5.6	27
			Cyclohexane	NS	NS	NS	12/4/09	19	64	1/20/10	25	85	06/08/10	16	56
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	8	39	1/20/10	6.4	32	06/08/10	10 (J)	49 (J)
			Dichloropropane[1,2-]	NS	NS	NS	12/4/09	1.2	5.5	1/20/10	1.3	5.9	06/08/10	0.96	4.4

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-609985 (cont'd)	247.5	245-250	Ethylbenzene	NS	NS	NS	12/4/09	0.8 (J)	3.5 (J)	1/20/10	ND	ND	06/08/10	ND	ND
			Ethyltoluene[4-]	NS	NS	NS	12/4/09	0.92	4.5	1/20/10	ND	ND	06/08/10	ND	ND
			Hexane	NS	NS	NS	12/4/09	4.6	16	1/20/10	ND	ND	06/08/10	ND	ND
			Methylene chloride	NS	NS	NS	12/4/09	ND	ND	1/20/10	ND	ND	06/08/10	0.92	3.2
			n-Heptane	NS	NS	NS	12/4/09	4.2	17	1/20/10	ND	ND	06/08/10	ND	ND
			Toluene	NS	NS	NS	12/4/09	1.5	5.8	1/20/10	ND	ND	06/08/10	2.5	9.3
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	1.9	15	1/20/10	2.2	17	06/08/10	2.2	17
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	3.7	20	1/20/10	3.9	21	06/08/10	4.9	27
			Trichloroethene	NS	NS	NS	12/4/09	ND	ND	1/20/10	0.89	4.8	06/08/10	ND	ND
			Trichlorofluoromethane	NS	NS	NS	12/4/09	5.1	29	1/20/10	3	17	06/08/10	6.6	37
			Xylene[1,3-]+ xylene[1,4-]	NS	NS	NS	12/4/09	1.2	5.3	1/20/10	ND	ND	06/08/10	ND	ND
	260.5	258-263	Acetone	NS	NS	NS	12/4/09	3.7	8.8	1/20/10	ND	ND	06/08/10	ND	ND
			Butanone[2-]	NS	NS	NS	12/4/09	0.91	2.7	1/20/10	ND	ND	06/08/10	ND	ND
			Carbon disulfide	NS	NS	NS	12/4/09	0.86	2.7	1/20/10	ND	ND	06/08/10	ND	ND
			Carbon tetrachloride	NS	NS	NS	12/4/09	2.7	17	1/20/10	2.3	14	06/08/10	2.3 (J+)	14 (J+)
			Chlorodifluoromethane	NS	NS	NS	12/4/09	5.2	18	1/20/10	4.4	16	06/08/10	ND	ND
			Chloroform	NS	NS	NS	12/4/09	24	120	1/20/10	10	51	06/08/10	4.1	20
			Cyclohexane	NS	NS	NS	12/4/09	17	59	1/20/10	26	89	06/08/10	16	55
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	6.8	34	1/20/10	6	30	06/08/10	8.3 (J)	41 (J)
			Dichloropropane[1,2-]	NS	NS	NS	12/4/09	1	4.7	1/20/10	1.1	5.1	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	1.6	12	1/20/10	2.2	17	06/08/10	2	15

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-609985 (cont'd)	260.5	258-263	Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	2.9	16	1/20/10	3.2	17	06/08/10	3.6 (J+)	20 (J+)
			Trichlorofluoromethane	NS	NS	NS	12/4/09	4.4	25	1/20/10	2.6	15	06/08/10	5.4 (J+)	30 (J+)
	282.5	280-285	Acetone	NS	NS	NS	12/4/09	ND	ND	1/20/10	11	27	06/08/10	ND	ND
			Butanone[2-]	NS	NS	NS	12/4/09	ND	ND	1/20/10	4.3	13	06/08/10	ND	ND
			Carbon tetrachloride	NS	NS	NS	12/4/09	3.1	19	1/20/10	1.8	12	06/08/10	2.6 (J+)	16 (J+)
			Chlorodifluoromethane	NS	NS	NS	12/4/09	5.2	18	1/20/10	ND	ND	06/08/10	ND	ND
			Chloroform	NS	NS	NS	12/4/09	24	120	1/20/10	11	55	06/08/10	5.2	25
			Cyclohexane	NS	NS	NS	12/4/09	22	78	1/20/10	22	76	06/08/10	23	80
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	6.3	31	1/20/10	5.6	28	06/08/10	8.9 (J)	44 (J)
			Dichloropropane[1,2-]	NS	NS	NS	12/4/09	0.96	4.4	1/20/10	1.1	5.3	06/08/10	ND	ND
			Propylene	NS	NS	NS	12/4/09	ND	ND	1/20/10	9.8	17	06/08/10	ND	ND
			Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	1.6	12	1/20/10	1	8	06/08/10	1.8	14
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	2.3	13	1/20/10	1.8	9.6	06/08/10	3 (J+)	16 (J+)
			Trichlorofluoromethane	NS	NS	NS	12/4/09	4	22	1/20/10	2.5	14	06/08/10	5.5 (J+)	31 (J+)
	297.5	295-300	Carbon tetrachloride	NS	NS	NS	12/4/09	2.8	18	1/20/10	2.6	16	06/08/10	2.5 (J+)	16 (J+)
			Chlorodifluoromethane	NS	NS	NS	12/4/09	4.8	17	1/20/10	4.1	14	06/08/10	ND	ND
			Chloroform	NS	NS	NS	12/4/09	11	54	1/20/10	6.1	30	06/08/10	4.1	20
			Cyclohexane	NS	NS	NS	12/4/09	24	81	1/20/10	35	120	06/08/10	25	85
			Dichlorodifluoromethane	NS	NS	NS	12/4/09	5.7	28	1/20/10	5.6	28	06/08/10	8 (J)	40 (J)
			Dichloropropane[1,2-]	NS	NS	NS	12/4/09	ND	ND	1/20/10	0.93	4.3	06/08/10	ND	ND

Table 5.0-1 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	Analyte	4th Quarter FY2009			1st Quarter FY2010			2nd Quarter FY2010			3rd Quarter FY2010		
				Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)	Date	Result (ppbv)	Result (µg/m^3)
54-609985 (cont'd)	297.5	295-300	Trichloro-1,2,2-trifluoroethane[1,1,2-]	NS	NS	NS	12/4/09	1.4	10	1/20/10	1.8	14	06/08/10	ND	ND
			Trichloroethane[1,1,1-]	NS	NS	NS	12/4/09	1.7	9.3	1/20/10	2	11	06/08/10	2.6 (J+)	14 (J+)
			Trichloroethene	NS	NS	NS	12/4/09	ND	ND	1/20/10	1.9	10	06/08/10	ND	ND
			Trichlorofluoromethane	NS	NS	NS	12/4/09	3.5	20	1/20/10	3.9	22	06/08/10	5.1 (J+)	29 (J+)

Note: See Appendix A for data qualifier definitions.

[a] NS = Not sampled.

[b] ND = Not detected.

Table 5.0-2
Tritium Pore-Vapor Results at MDA H, Third Quarter FY2010 and Three Previous Quarters

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
			Date	Result (pCi/L)	Date	Result (pCi/L)	Date	Result (pCi/L)	Date	Result (pCi/L)
54-01023	10	10-12	8/6/09	6,836,460	NS[a]	NS	NS	NS	NS	NS
	12.5	10-15	NS	NS	12/15/09	271,780 (J)	1/20/10	1,000,390	6/23/10	4,151,700
	60	60-62	8/6/09	2,963,040	NS	NS	NS	NS	NS	NS
	62.5	60-65	NS	NS	12/15/09	398,879 (J)	1/20/10	1,761,090	6/23/10	5,069,990
	100	100-102	8/6/09	2,057,790	NS	NS	NS	NS	NS	NS
	102.5	100-105	NS	NS	12/15/09	284,857 (J)	1/20/10	472,913	6/23/10	856,297
	150	150-152	8/6/09	1,320,480	NS	NS	NS	NS	NS	NS
	152.5	150-155	NS	NS	12/15/09	132,499 (J)	1/20/10	270,615	6/23/10	463,456

Table 5.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
			Date	Result (pCi/L)	Date	Result (pCi/L)	Date	Result (pCi/L)	Date	Result (pCi/L)
54-01023	200	200-202	8/6/09	699,163	NS	NS	NS	NS	NS	NS
(cont'd)	202.5	200-205	NS	NS	12/15/09	7090.85 (J)	1/20/10	31,219	6/23/10	162,662
	247	247-249	8/6/09	860,847	NS	NS	NS	NS	NS	NS
	247.5	245-250	NS	NS	12/16/09	86,977 (J)	1/20/10	48,600.2	6/23/10	162,946
	260.5	258-263	NS	NS	12/16/09	104,258 (J)	1/20/10	1,706,060	6/23/10	187,329
54-15461	10	10-12	8/7/09	3112.83	NS	NS	NS	NS	NS	NS
	11	10-12	NS	NS	12/14/09	2928.45	1/20/10	1460.9	6/9/10	2678.23
	60	60-62	8/10/09	1183.58	NS	NS	NS	NS	NS	NS
	61	60-62	NS	NS	12/14/09	ND[b]	1/20/10	708.047	6/9/10	ND
	95	95-97	8/7/09	1558.41	NS	NS	NS	NS	NS	NS
	96	95-97	NS	NS	12/14/09	ND	1/20/10	385.205	6/9/10	ND
54-15462	10	10-12	8/7/09	864.929	NS	NS	NS	NS	NS	NS
	12.5	10-15	NS	NS	12/10/09	2304.88	1/21/10	44,444.7	6/15/10	ND
	60	60-62	8/7/09	1068.52	NS	NS	NS	NS	NS	NS
	62.5	60-65	NS	NS	12/11/09	ND	1/21/10	7612.51	6/15/10	ND
	100	100-102	8/10/09	668.452	NS	NS	NS	NS	NS	NS
	102.5	100-105	NS	NS	12/14/09	ND	1/21/10	8379.91	6/16/10	ND
	150	150-152	8/7/09	475.882	NS	NS	NS	NS	NS	NS
	152.5	150-155	NS	NS	12/15/09	3037.27	1/21/10	2075.23	6/15/10	ND
	200	200-202	8/7/09	566.728	NS	NS	NS	NS	NS	NS
	202.5	200-205	NS	NS	12/15/09	1043.86 (J)	1/21/10	2986.25	6/15/10	ND
	247.5	245-250	NS	NS	12/14/09	ND	1/21/10	92,820.1	6/16/10	ND
	254	254-256	8/10/09	1492.27	NS	NS	NS	NS	NS	NS
	260.5	258-263	NS	NS	12/15/09	-46.98 (R)	1/25/10	ND	6/16/10	ND

Table 5.0-2 (continued)

Borehole ID	Port Depth (ft bgs)	Sampling Port Depth or Interval (ft bgs)	4th Quarter FY2009		1st Quarter FY2010		2nd Quarter FY2010		3rd Quarter FY2010	
			Date	Result (pCi/L)	Date	Result (pCi/L)	Date	Result (pCi/L)	Date	Result (pCi/L)
54-15462	282.5	280-285	NS	NS	12/14/09	ND	1/25/10	ND	6/17/10	ND
(cont'd)	297.5	295-300	NS	NS	12/14/09	ND	1/25/10	ND	6/17/10	ND
54-609985	6.5	4-9	NS	NS	12/15/09	ND	1/21/10	1633.18	6/10/10	ND
	62.5	60-65	NS	NS	12/16/09	ND	1/21/10	165,743	6/14/10	8345.66
	102.5	100-105	NS	NS	12/16/09	ND	1/21/10	568.1	6/10/10	ND
	152.5	150-155	NS	NS	12/16/09	ND	1/21/10	1599.36	6/10/10	ND
	202.5	200-205	NS	NS	12/16/09	ND	1/21/10	12,543.3	6/10/10	ND
	247.5	245-250	NS	NS	12/16/09	ND	1/21/10	ND	6/10/10	ND
	260.5	258-263	NS	NS	12/16/09	ND	1/25/10	549.258	6/14/10	ND
	282.5	280-285	NS	NS	12/16/09	ND	1/25/10	2847.15	6/14/10	ND
	297.5	295-300	NS	NS	12/16/09	ND	1/25/10	386.428	6/14/10	4474.4

Note: See Appendix A for data qualifier definitions.

[a] NS = Not sampled.

[b] ND = Not detected.

Appendix A

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

A-1.0 ACRONYMS AND ABBREVIATIONS

B&K	Brüel and Kjær
bgs	below ground surface
CAS	Chemical Abstract Service
DER	duplicate error ratio
EPA	Environmental Protection Agency (U.S.)
FLUTe	Flexible Liner Underground Technology
FY	fiscal year
kPa	kilopascal
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
PCE	tetrachlorethene
QA	quality assurance
QC	quality control
RPD	relative percent difference
SL	screening level
SOP	standard operating procedure
SOW	statement of work
SV	screening value
TA	technical area
TCA	1,1,1-trichloroethane
TCE	trichloroethene
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

Quality Assurance/Quality Control Program

B-1.0 INTRODUCTION

This appendix discusses analytical methods and data quality review and summarizes the effects of data quality exceptions on the acceptability of the analytical laboratory data.

Quality assurance (QA), quality control (QC), and data validation procedures were implemented in accordance with the Los Alamos National Laboratory (LANL or the Laboratory) "Quality Assurance Project Plan Requirements for Sampling and Analysis" (LANL 1996, 054609) and the Laboratory's statement of work (SOW) for analytical services (LANL 2000, 071233). 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 (LCS), 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 contract. Other QC factors, such as sample preservation and holding times, were also assessed. The requirements for sample preservation and holding times are given 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 results. The procedures used for data validation are listed in Table B-1.0-1. Copies of the raw analytical data, laboratory logbooks, and instrument printouts are provided in data packages as part of Appendix C (on CD included with this document).

Analytical data were reviewed and evaluated based on U.S. Environmental Protection Agency (EPA) National Functional Guidelines where applicable (EPA 1994, 048639; EPA 1999, 066649). Data have also been assessed using guidelines established in "Test Methods for Evaluating Solid Waste, Laboratory Manual, Physical/Chemical Methods," EPA SW-846 (EPA 1997, 057589). As a result of the data validation and assessment efforts, qualifiers have been assigned to some of the analytical records.

B-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-5058, 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, and to final maintenance as a record. The chain-of-custody forms are provided in Appendix C (on CD).

B-1.2 Sample Documentation

Establishing sample documentation acceptability, described in SOP-5058, is the first step toward verifying 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.

B-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.

B-1.4 Holding Time

Holding time, the maximum amount of time a sample can be stored without 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.

B-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 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.

B-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.

B-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, and internal standards 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.

Radionuclide results reported at less than the minimum detectable activity are not detected (U). Each radiochemical 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 U.

B-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 which 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 2000, 071233).

B-1.9 Matrix Spike Recoveries

A matrix spike is an aliquot of 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 2000, 071233).

B-1.10 Surrogate Recoveries

A surrogate (an organic chemical compound) is similar in composition and behavior to target analytes but is 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 2000, 071233).

B-1.11 Internal Standard Responses

Internal standards are chemical compounds that are 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 2000, 071233).

B-1.12 Laboratory Control Sample Recoveries

An LCS is a known matrix that has been spiked with compound(s) that are 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 2000, 071233).

B-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) used to assess or demonstrate acceptable laboratory-method precision at the time of analysis. Each duplicate sample is equally representative of the original material. Duplicate analyses are also performed to generate data and to determine the long-term precision of an analytical method on various matrices. All relative percent differences (RPD) for laboratory duplicates should be within 20% (LANL, 2000 071233). Field duplicates are independent samples collected as closely as possible at the same point in space and time. They are two separate samples taken from the same source, stored in separate containers, and analyzed independently. Field duplicates should have RPDs less than 20%, as described in SOP-5059, Field Quality Control Samples. The RPD is defined by the equation RPD = [|D1-D2|]/[(D1+D2)/2) × 100, where D1 and D2 represent the analytical measurements on duplicate samples.

Serial dilution checks are performed for certain inorganic analyses to determine if dilutions have been prepared correctly and to identify any effects that may arise from characteristics of the sample matrix.

For radionuclides, the duplicate error ratio (DER) may also be 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 2σS and 2σD represent the 2-sigma uncertainties surrounding the original and duplicate samples, respectively. A DER below 3 indicates sample-to-duplicate precision that is in control.

B-1.14 Field Blanks

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.

B-2.0 LABORATORY ANALYSIS SUMMARY

During the third quarter fiscal year 2010, 28 pore-gas volatile organic compound (VOC) samples, 3 VOC field duplicates, 3 VOC field blanks, 3 VOC performance evaluation samples, 28 tritium samples, 3 tritium field duplicates, and 3 tritium field blanks were collected at Solid Waste Management Unit 54-004, also known as Material Disposal Area (MDA) H. Analyses for VOCs were performed using EPA Method TO-15 and for tritium using EPA Method 906.0. All QC procedures were followed as required by the analytical services SOW (LANL 2000, 071233). Table B-2.0-1 lists the analytical methods used for VOC and tritium analyses.

Sampling locations, sampling ports, and validated analytical results are presented in Tables 5.0-1 and 5.0-2 of the periodic monitoring report for MDA H. The data, including the qualified data, are usable for evaluation purposes.

The tritium and VOCs analyses are summarized in the following sections. The required minimum detectable activity or estimated quantitation limit is prescribed in the analytical services SOW (LANL 2000, 071233).

B-3.0 ORGANIC CHEMICAL ANALYSES

No VOC data were rejected.

B-3.1 Maintenance of Chain of Custody

Chain of custody was properly maintained for all samples.

B-3.2 Sample Documentation

All samples were properly documented in the field.

B-3.3 Sample Preservation

No sample preservation is required for VOCs.

B-3.4 Holding Time

The holding times were met for all samples.

B-3.5 Initial and Continuing Calibration Verification

Thirteen results were qualified as estimated (J) because initial calibration verification and/or the continuing calibration verification were recovered outside of method-specific limits.

B-3.6 Analyte Identification (Including Internal Standards and Spectra Review)

Mass spectra met specifications for all results.

B-3.7 Method Blank

Method blank results for VOC analyses were within acceptable limits for all results.

B-3.8 Surrogate Recoveries

All surrogate recoveries for VOC analyses were within acceptable limits.

B-3.9 Internal Standard Responses

All internal standard responses for VOC analyses were within acceptable limits.

B-3.10 Laboratory Control Sample Recoveries

Twenty-four results were qualified as estimated and biased high (J+) because the laboratory-control spike percent recovery was greater than the upper allowable limit.

B-3.11 Laboratory and Field Duplicates

Laboratory duplicates indicate acceptable precision. Four field sampling results and their associated field duplicate results had RPDs greater than 35%. The results for butanone[2-] and ethanol from borehole 54-01023 at 260.5 ft bgs had RPDs of 63% and 140%, respectively. The results for carbon disulfide from borehole 54-15462 at 297.5 ft bgs had an RPD of 92%. The results for toluene from borehole 54-609985 at 297.5 ft bgs had an RPD of 36%.

B-3.12 Field Blanks and Equipment Blanks

Field blank results indicate no field contamination.

B-4.0 RADIOCHEMICAL ANALYSES

No tritium results were rejected.

B-4.1 Maintenance of Chain of Custody

Chain of custody was properly maintained for all samples.

B-4.2 Sample Documentation

Samples were properly documented in the field.

B-4.3 Sample Preservation

No sample preservation is required for tritium.

B-4.4 Holding Times

The holding times were met for all tritium analyses.

B-4.5 Method Blanks

Method blank results were within acceptable limits for all tritium analyses.

B-4.6 Analyte Identification

Nine tritium results were qualified as not detected (U) because the sampling result was ≤5 times the concentration in the associated field blank. Nine tritium results were qualified as not detected (U) because the sample concentration was less than the minimum detectable concentration.

B-4.7 Laboratory Control Sample Recoveries

The LCS recoveries were within acceptable limits for all tritium analyses.

B-4.8 Laboratory and Field Duplicates

Laboratory duplicate results indicate acceptable laboratory precision. Field duplicates indicate acceptable precision except for one field duplicate and its associated field sample. The tritium sample collected from borehole 54-609985 at 297.5 ft bgs and its associated field duplicate sample had an RPD of 1%. The results are not qualified based on the RPD of the field sample and field duplicate.

B-4.9 Field Blanks and Equipment Blanks

Three field blanks had detectable levels of tritium. These include the blanks collected from borehole 54-15461 at 96 ft bgs, 54-15462 at 297.5 ft bgs, and 54-609985 at 297.5 ft bgs.

B-5.0 FIELD-MONITORING SUMMARY

B-5.1 Volatile Organic Compounds

Field-monitoring data are less costly to generate than analytical laboratory data and are immediately available to guide field decisions. Field-monitoring results are generated by rapid methods of analysis that provide less precision than laboratory analyses. Field-monitoring data provide analyte (or at least chemical class) identification and quantification, although the quantification may be relatively imprecise.

Field monitoring of subsurface vapor monitoring at MDA H is conducted using guidance provided in SOP-5074, Sampling Subsurface Vapor. This procedure covers the use of the Brüel and Kjær (B&K) Type 1302 multigas analyzer and the Landtec GEM 500 gas detector.

The B&K is maintained through calibration and changing or cleaning filters as needed. The B&K is calibrated before use each quarter by a certified calibration laboratory. The B&K is adjusted before each day's use to compensate for ambient pressure and temperature. A daily operational check is conducted

through the analysis of ambient air readings and triplicate readings of known quantities of organic analytes in nitrogen. These verification check analyses confirm analytical stability, the instrument zero point for each analyte is correctly set, and the stored calibration curve remains applicable to current instrument response to the presence of organic chemicals. Concentrations of gas standards analyzed before each day's use are expected to be within ±20% of their known values. Additionally, during each sample analysis, a low sample-flow condition will trigger an alarm on the B&K and the VOC measurement is not completed.

The presence of nontarget VOCs bias B&K target analytes and may skew results if they have an acoustic response to infrared light similar to the target analyte. Trichlorofluoromethane (Freon-11) generates a measurable acoustic signal in response to light with a wavelength of 11.6 µm proportional to its concentration. Other VOCs generating an acoustic signal to light at this wavelength include 1,2-dichloro-1,1,2,2-tetrafluoroethane (Freon-114) and dichlorofluoromethane (Freon-21). Neither Freon-114 nor Freon-21 is reported by EPA Method TO-15. Tetrachloroethene (PCE) generates an acoustic signal in response to light with a wavelength of 11.1 µm. Other VOCs responding to light at this wavelength include styrene and 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113) (neither styrene nor Freon-113 is reported by EPA Method TO-15), dichlorodifluoromethane (Freon-12), ethanol, and 1,1-dichloroethene (DCE). Results indicate that DCE and Freon-113 are detected in most samples at MDA H at concentrations that generate a measurable acoustic signal in response to light with a wavelength included in the acoustic signal interpreted as PCE, which may make the PCE readings appear higher on the B&K analyzer. Table B-5.1-1 presents VOCs that interfere with each of the four B&K target analytes.

Data generated using the B&K Type 1302 are supported by calibration records that bracket the periods of analyses. Calibration information is reported below for the B&K Type 1302 photoacoustic analyzer used to generate results presented in this periodic monitoring report.

> On July 15, 2010, the B&K with serial number 1692083 was calibrated before the third quarter monitoring event. The zero points were set for 1,1,1-trichloroethane (TCA), TCE, Freon-11, PCE, carbon dioxide (CO_2), and water vapor. Span concentrations of TCA at 102.5 ppm, TCE at 19.86 ppm, Freon-11 at 2.65 ppm, PCE at 21 ppm, and CO_2 at 1001 ppm were used to generate calibration response curves.

The Landtec GEM 500 gas detector is calibrated by a certified calibration laboratory. During calibration, methane (CH_4), oxygen (O_2), and CO_2 zero points are set, and each analyte's calibration response curve is developed. The CH_4 reading is filtered to an infrared absorption frequency of 3.41 mm (nominal), the frequency specific to hydrocarbon bonds. Landtec instruments are calibrated using certified CH_4 mixtures and will give correct readings, provided no other hydrocarbon gases are present within the sample (e.g., ethane, propane, or butane). If other hydrocarbons are present, the CH_4 reading will be higher (never lower) than the actual CH_4 concentration being monitored. The extent to which the CH_4 reading is affected depends upon the concentration of the CH_4 in the sample and the concentration of the other hydrocarbons. The effect of other hydrocarbons is nonlinear and difficult to predict. The CO_2 reading is filtered to an infrared absorption frequency of 4.29 µm (nominal), the frequency specific to CO_2. Therefore, any other gases usually found on landfill sites will not affect the CO_2 reading. The O_2 sensor is a galvanic cell type and is not influenced by CO_2, hydrogen sulfide, nitrate, sulfide, or hydrogen.

Calibration of the Landtec GEM-500 gas detector is confirmed before each day's use through multiple readings of ambient air. Zero readings of CH_4 and CO_2 are expected. O_2 is expected to read 20.9%. The Landtec reads with an accuracy of ±1% over an O_2% concentration range of 0% to 25%.

Data generated using the Landtec GEM-500 gas detector is supported by calibration records that arrive with the rented instrument previous to the period of analyses. Calibration is performed by Geotech's

Colorado Service Center in Denver. Calibration information is reported below for the Landtec gas detector used to generate results presented in this periodic monitoring report.

> Unit 937 was calibrated on April 29, 2009. The zero points were set for CH_4, CO_2, and O_2. Calibration was performed so that CH_4 and CO_2 reached ±15% of a known concentration, and O_2 was set to read ambient air at 20.9%. Pump flow was confirmed to be 500 cc/min.

B-5.2 Tritium

All tritium samples were collected in accordance with the current version of SOP-5074. Water vapor intended for tritium analysis was collected from pore gas by means of pulling a pore-gas sample through a canister of silica gel and recording the sample information on the appropriate sample collection log (Appendix C [on CD]). 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.

Following delivery of the canister and silica-gel sample to the analytical laboratory, the silica gel was heated and the moisture driven off was collected for liquid scintillation counting. Silica gel was prepared for sampling by drying at a temperature above 100°C. Before sample collection, the amount of silica gel used in each sample was weighed (approximately 135 g) as well as the sample canister with silica gel. SOP-5074 requires that at least 5 g of moisture be collected. After sampling, the sample canister with silica gel was weighed again.

The sample (canister plus silica gel) was shipped to the analytical laboratory where the canister with silica gel 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 analytical 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 concentration and the calculated percent moisture were reported to the Laboratory in the analytical data package and the electronic data deliverable.

B-6.0 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), December 2000. "University of California, Los Alamos National Laboratory (LANL), I8980SOW0-8S, Statement of Work for Analytical Laboratories," Rev. 1, Los Alamos National Laboratory, Los Alamos, New Mexico. (LANL 2000, 071233)

Table B-1.0-1
Data Validation Procedures

Procedure	Title	Effective Date
SOP-1561, Rev. 0	Routine Validation of Volatile Organic Compound (VOC) Analytical Data	06/10/08
SOP-1566, Rev. 0	Routine Validation of Gamma Spectroscopy, Chemical Separation Alpha Spectrometry, Gas Proportional Counting, and Liquid Scintillation Analytical Data	06/30/08

Table B-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 SOW (LANL 2000, 071233)
EPA Method 906.0	Tritium in pore gas	Tritium

Table B-3.0-1
B&K Target Analytes
and Potential Interfering Analytes

Target	Potential Interfering Analyte
PCE	Styrene
PCE	Freon-113
PCE	Freon-12
PCE	DCE
PCE	Ethylene oxide
PCE	Ethanol
PCE	Dipropylnitrosamine
PCE	1,1-Dimethylhydrazine
PCE	1,4-Diethylene dioxide
PCE	Cyclohexene
PCE	tert-Butyl alcohol
PCE	m-Vinyltoluene
PCE	Vinyl chloride
PCE	Tetrahydrofurane
PCE	Silicium tetrafluoride
PCE	Nitromethane
PCE	Nitrogen trifluoride
PCE	α-Methylstyrene
PCE	Monomethyl hydrazine
PCE	Methyl iodide
PCE	n-Hexane
PCE	Acetic anhydride
PCE	1,3-Butadiene
Freon-11	Freon-114
Freon-11	Freon-21
Freon-11	Carbonyl sulphide
Freon-11	Methyl acetate
Freon-11	Chloropicrine
Freon-11	Cyclohexane
Freon-11	Dimethylnitrosamine
Freon-11	Epichlorohydrine
Freon-11	Ethane
Freon-11	Ethylene oxide
Freon-11	Ethyl formate
Freon-11	2-Nitropropane

Table B-3.0-1 (continued)

Target	Potential Interfering Analyte
Freon-11	Phosgene
Freon-11	Vinyl acetate
TCA	Fluorobenzene
TCA	Ethyl benzene
TCA	Dimethyl formamide
TCA	Dichloromethane
TCA	1,2-Dichloroethane
TCA	o-Dichlorobenzene
TCA	Dibutyl phthalate
TCA	Chloromethane
TCA	m-Xylene
TCA	1,1,2-Trichloroethane
TCA	o-Toluidine
TCA	Toluene
TCA	Phenol
TCA	Chlorobenzene
TCA	Carbon dioxide
TCA	Boron trifluoride
TCA	Aniline
TCA	Acetophenone
TCA	Hydrogen cyanide
TCA	n-Heptane
TCE	Arsine
TCE	Butanone
TCE	1,2-Difluoroethane
TCE	Diethyl ketone
TCE	Dinitrogendifluoride
TCE	2-Pentanone
TCE	2-Propanol
TCE	Sulfur hexafluoride
TCE	Vinyl chloride

Appendix C

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