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Sandia National Laboratories

CORRECTIVE ACTION MANAGEMENT UNIT
VADOSE ZONE MONITORING SYSTEM
ANNUAL MONITORING RESULTS REPORT

SANDIA NATIONAL LABORATORIES/NEW MEXICO
ENVIRONMENTAL PROGRAMS
LONG-TERM ENVIRONMENTAL STEWARDSHIP

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United States Department of Energy
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CORRECTIVE ACTION MANAGEMENT UNIT
VADOSE ZONE MONITORING SYSTEM
ANNUAL MONITORING RESULTS REPORT

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Albuquerque, New Mexico

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Owner and Co-Operator: United States Department of Energy
Sandia Site Office
Key Contact: Mr. John Gould, Long-Term Environmental Stewardship
U.S. Department of Energy, Sandia Site Office
P.O. Box 5400/MS 0184
Albuquerque, NM 87185-5400
(505) 845-6089
jgould@doeal.gov

Co-Operator: Sandia National Laboratories
Sandia Corporation—A Lockheed Martin Company
Key Contact: Mr. Franz Lauffer, Project Lead
CAMU Monitoring Operations
Sandia National Laboratories
P.O. Box 5800/MS 0729
Albuquerque, NM 87185-1042
(505) 845-7697
fclauff@sandia.gov

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ACRONYMS AND ABBREVIATIONS

AR/COC	analysis request/chain-of-custody
°C	degrees Celsius
CAMU	Corrective Action Management Unit
CPN	California Pacific Nuclear
CSS	CWL sanitary sewer
CWL	Chemical Waste Landfill
DOE	U.S. Department of Energy
EDD	Electronic Data Deliverable
EDMS	Environmental Data Management System
EPA	U.S. Environmental Protection Agency
FOP	Field Operating Procedure
HWMF	Hazardous Waste Management Facility
LCRS	Leachate Collection and Removal System
LRL	laboratory reporting limit
MDL	method detection limit
NMED	New Mexico Environment Department
PCE	tetrachloroethene (perchloroethylene)
PSL	primary subliner
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
SMO	Sample Management Office
SNL/NM	Sandia National Laboratories/New Mexico
SOW	Statement of Work
TCE	trichloroethene
TDR	time-domain reflectometry
VCP	vitrified clay pipe
VOC	volatile organic compound
VSA	vertical sensor array
VZMS	Vadose Zone Monitoring System

1.0 PURPOSE AND SCOPE

This is the ninth annual report presenting monitoring data collected from the Sandia National Laboratories/New Mexico (SNL/NM) Corrective Action Management Unit (CAMU). This report is a compilation of data for the monitoring period July 2009 through June 2010 and fulfills the CAMU Permit requirement for annual reporting of Vadose Zone Monitoring System (VZMS) results (EPA 1993, Section U.9). In addition, the report includes a summary of the Leachate Collection and Removal System (LCRS) operations from July 2009 through June 2010.

The report documents and characterizes the vadose zone environment underlying the containment cell during the monitoring period. Monitoring requirements are defined in Appendix E (Proposed Alternative to Groundwater Monitoring for the Corrective Action Management Unit) of the CAMU Permit Application (SNL/NM September 1997), incorporated by reference as part of the Hazardous and Solid Waste Amendments Module of the Resource Conservation and Recovery Act (RCRA) Permit issued by U.S. Environmental Protection Agency (EPA) Region 6 (EPA 1993) and administered by the New Mexico Environment Department (NMED). Monitored parameters include moisture, temperature, and soil-vapor volatile organic compound (VOC) concentrations.

This report is organized as follows:

- Chapter 2.0 provides a description of each VZMS monitoring subsystem.
- Chapter 3.0 reviews the specific Permit monitoring requirements for the VZMS.
- Chapter 4.0 describes the data collection equipment and the data collection methodology for the VZMS.
- Chapter 5.0 discusses the quality assurance (QA)/quality control (QC) procedures employed as part of the data collection process for the VZMS.
- Chapter 6.0 presents an assessment of the distribution and trends noted in the VZMS data sets.
- Chapter 7.0 presents general conclusions concerning the VZMS data set.
- Chapter 8.0 provides a description and summary of the LCRS.
- Chapter 9.0 lists the references cited in this report.

The monitoring results for this period are provided in Annexes A through G.

The scope of this report includes a tabulation of the VZMS monitoring data and LCRS leachate volumes, as well as an assessment of the overall performance of the containment cell.

2.0 VZMS DESCRIPTION

The CAMU containment cell is located in the southeastern portion of SNL/NM Technical Area III directly north of the SNL/NM Radioactive and Mixed Waste Management Facility and approximately 400 feet northwest of the former Chemical Waste Landfill (CWL) (Figure 2-1). Construction of the CAMU containment cell was completed in February 1999. The VZMS was installed directly beneath the containment cell to provide monitoring for early detection of potential leaks. The following sections describe the characteristics of the three monitoring subsystems that comprise the VZMS (Figures 2-2 and 2-3).

2.1 Primary Subliner Monitoring Subsystem

The primary subliner (PSL) monitoring subsystem is the primary monitoring component of the VZMS. This subsystem is designed to detect increased moisture content immediately below the containment cell liner.

Five vitrified clay pipes (VCPs) are located in trenches 4 feet below the cell liner (Figures 2-2 and 2-3). The VCPs allow for soil moisture detection from beneath the containment cell. The pipes are spaced 17 to 27 feet apart (Figure 2-2) and run along the north-south axis of the containment cell. The VCP trenches are backfilled with a wicking material (Figure 2.1-1) consisting of native soil of a specified particle size distribution (i.e., silty sand). The wicking material and ends of the cell subliner drape into each trench to facilitate transport of moisture to the VCP in the event that the primary liner system fails (Figure 2.1-1).

Inclined sections of polyvinyl chloride (PVC) riser pipes are connected to each end of the VCPs to allow access for soil moisture measurements. A neutron moisture probe is deployed into the VCP to collect the soil moisture data. The probe reports neutron counts at preselected points along each pipe run. The neutron counts are then translated into soil moisture data by using an empirical formula relating count values to soil moisture content.

2.2 Vertical Sensor Array Subsystem

The vertical sensor array (VSA) monitoring subsystem provides information on moisture content, temperature, and soil-vapor concentrations beneath the containment cell. The soil moisture data may help determine whether increases are the result of containment cell leakage or related to a source adjacent to the cell.

This subsystem consists of 11 pairs of vertically oriented monitoring locations. Five are located on both the eastern and western margins of the containment cell (Figures 2-2 and 2-3). The eleventh monitoring location is situated at the northern end of the cell, beneath the LCRS sump. Each VSA location contains monitoring points at both 5 and 15 feet beneath the containment cell subliner. Each monitoring point contains the following three components: a time-domain reflectometry (TDR) soil moisture content probe, a soil temperature sensor, and a soil-vapor port (Figure 2.2-1).

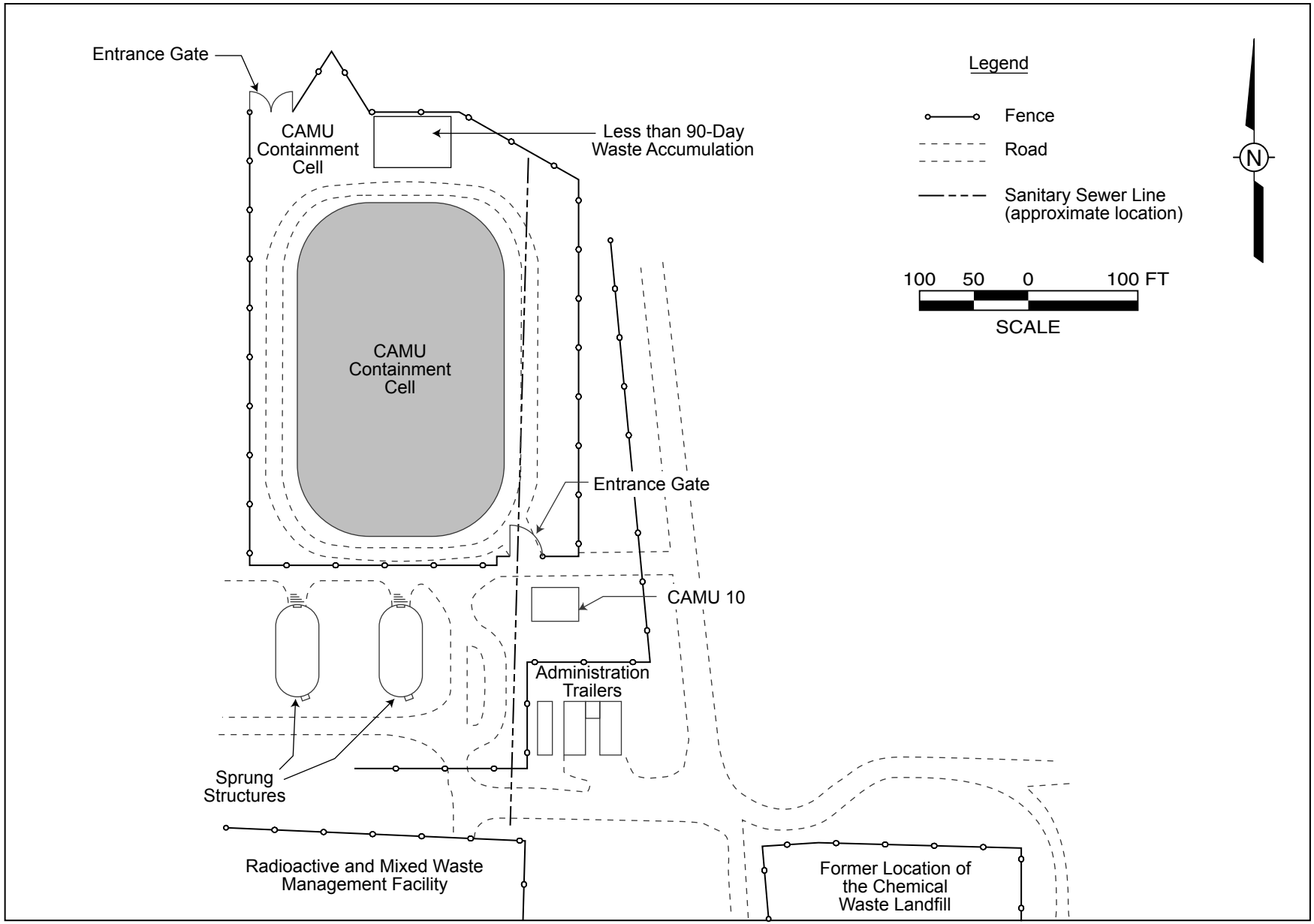

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Figure 2-1
Local Area Map of CAMU Containment Cell

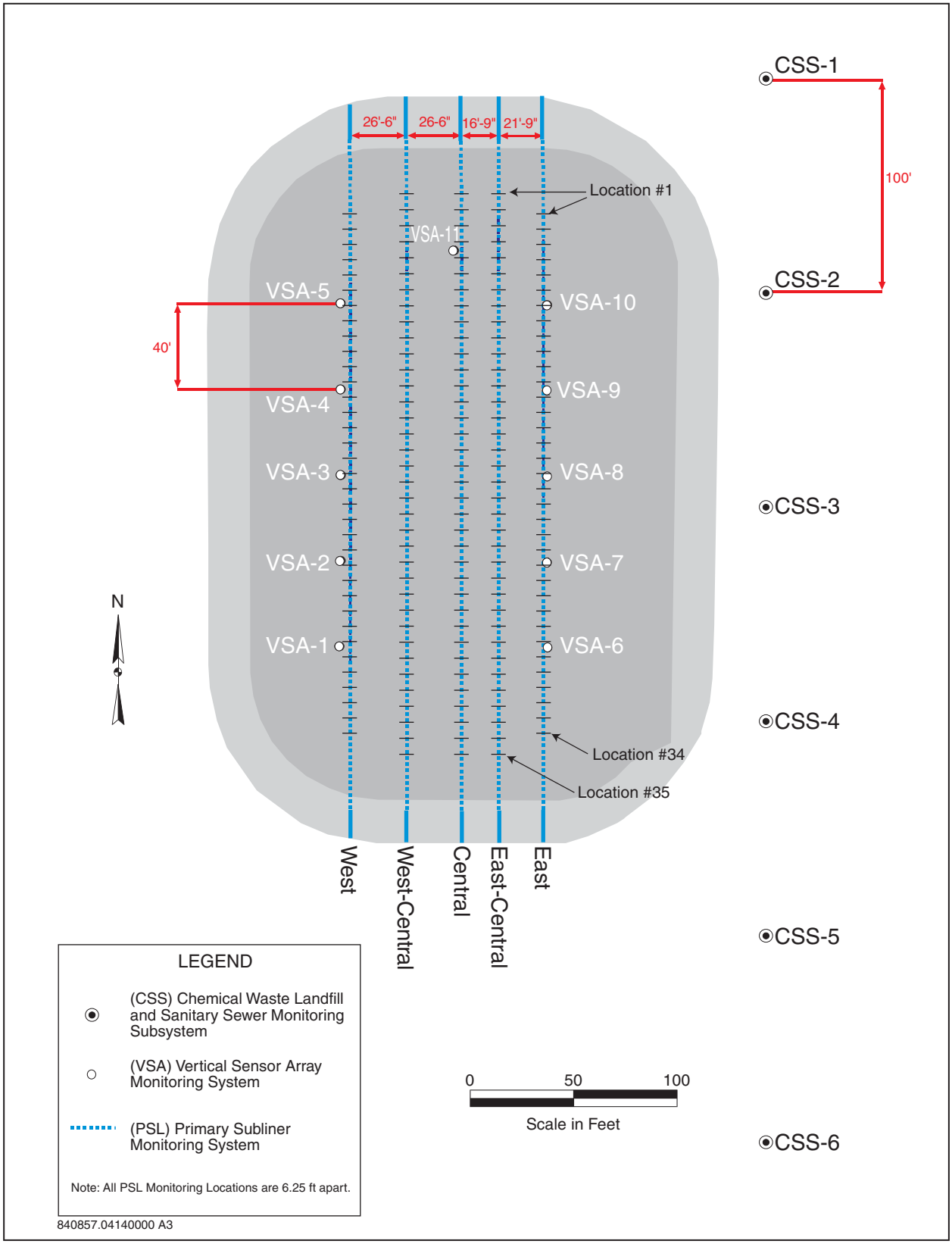

Figure 2-2

Plan View of CAMU Containment Cell and Vadose Zone Monitoring System

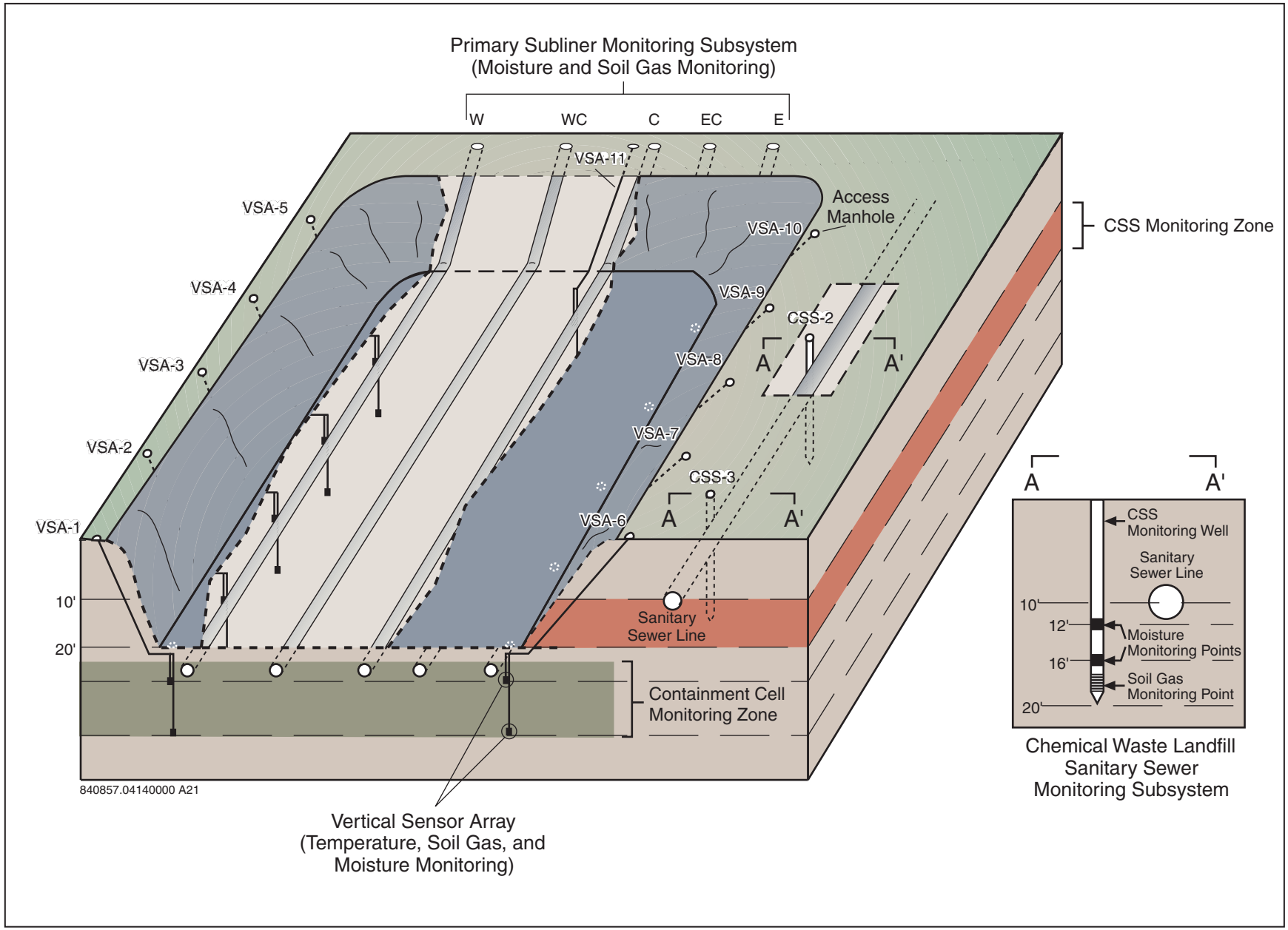

Figure 2-3

Block Diagram of CAMU Containment Cell and Vadose Zone Monitoring System

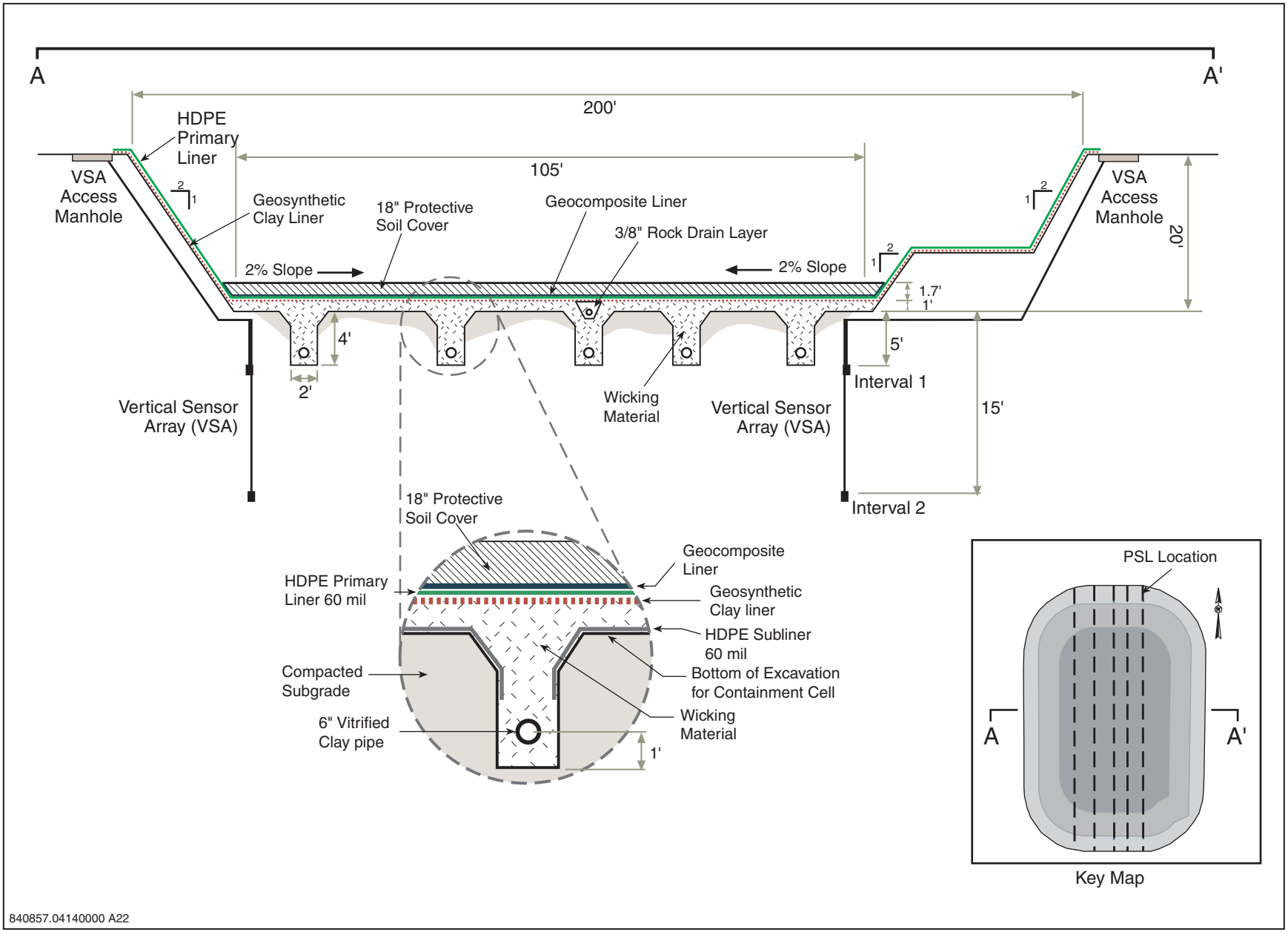

Figure 2.1-1

Cross-Sectional View of CAMU Containment Cell and Primary Subliner Monitoring Subsystem

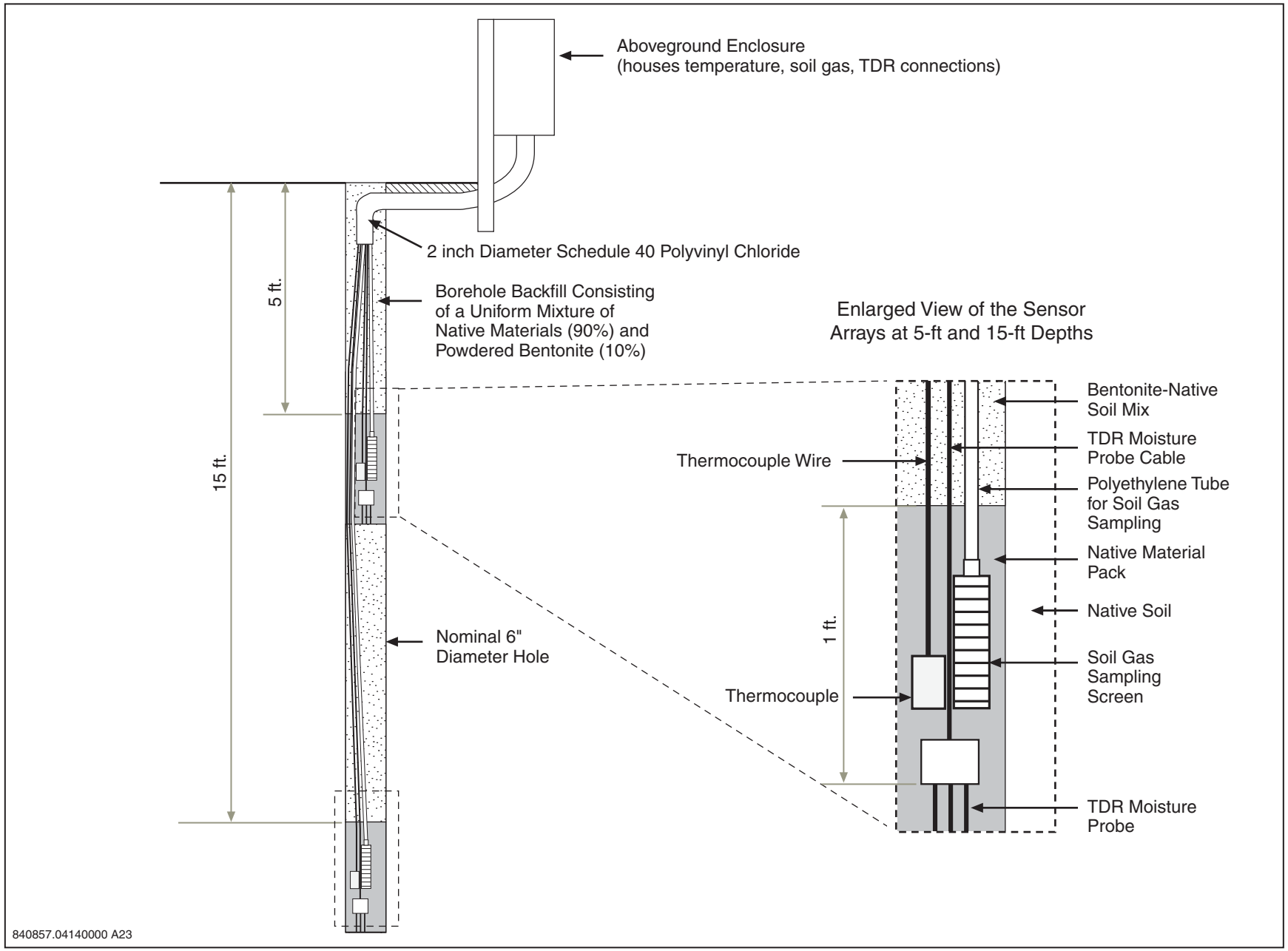

Figure 2.2-1
Configuration of Vertical Sensor Array Monitoring Subsystem

2.3 CWL Sanitary Sewer Subsystem

The CWL sanitary sewer (CSS) monitoring subsystem, located east of the containment cell, is designed to detect leaks emanating from the sanitary sewer line that could impact the PSL or VSA soil moisture monitoring subsystems (Figure 2-3). The sanitary sewer line runs from north to south approximately 45 feet east of the containment cell (Figures 2-1 and 2-2). Six vertical monitoring well points are positioned between the containment cell and the sanitary sewer line. The monitoring well points are approximately 20 feet deep and 100 feet apart. The bottom of each well contains a 2-foot section of galvanized steel screen to support soil-vapor sampling. The remaining length is constructed of 2-inch-diameter, galvanized steel pipe (Figure 2.3-1).

Each monitoring well is equipped for soil-vapor sampling and is accessible by a neutron moisture probe to monitor soil moisture content. The soil-vapor monitoring is used to detect VOCs within the vadose zone.

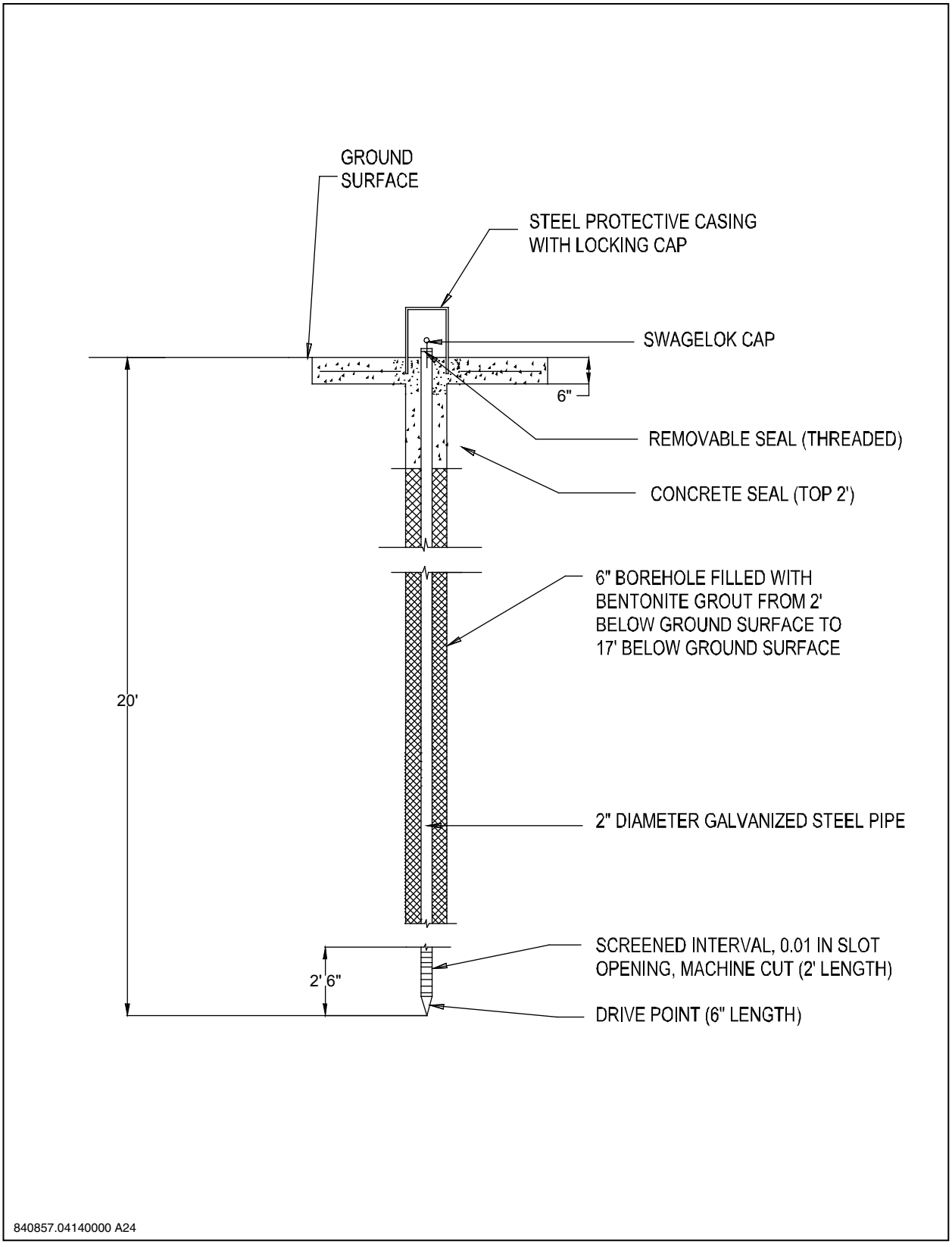

Figure 2.3-1
Cross-Section of the Sanitary Sewer Monitoring Subsystem

3.0 VZMS PERMIT MONITORING REQUIREMENTS

Table 4-1 of Appendix E of the CAMU Permit Application (SNL/NM September 1997) defines the VZMS requirements for monitoring frequency, parameters, and collection methods. Additional requirements are defined in the CAMU Permit conditions. The monitoring frequency and parameters measured in each VZMS subsystem depend upon the operational status of the containment cell. Closure activities for the CAMU were completed in October 2003.

A request to transition from monthly to quarterly VZMS monitoring at the CAMU was submitted by the U.S. Department of Energy (DOE) and Sandia Corporation to the NMED on January 19, 2005. The NMED replied to the request on June 22, 2005, granting approval to transition from monthly to quarterly VZMS monitoring at the CAMU (Moats June 2005). Monthly monitoring was concluded in June 2005. Quarterly monitoring began in September 2005.

Table 3-1 summarizes the VZMS monitoring requirements for the current year.

Table 3-1
Monitoring Frequency, Parameters, and Methods for the VZMS

Monitoring Frequency	Monitoring System	Monitoring Parameter	Monitoring Method
Annually	PSL	Active soil-vapor	EPA Method TO-14A[a]
Quarterly	PSL	Moisture content	Neutron Moisture Probe
	VSA	Moisture content	TDR Probe
		Temperature	Temperature Sensor
		Active soil-vapor	EPA Method TO-14A[a]
	CSS	Moisture content	Neutron Moisture Probe
		Active soil-vapor	EPA Method TO-14A[a]

[a]EPA January 1999.
CSS = CWL sanitary sewer.
CWL = Chemical Waste Landfill.
EPA = U.S. Environmental Protection Agency.
PSL = Primary subliner.
TDR = Time-domain reflectometry.
VSA = Vertical sensor array.
VZMS = Vadose Zone Monitoring System.

4.0 VZMS DATA COLLECTION EQUIPMENT AND PROCEDURES

4.1 Neutron Moisture Probe

A neutron moisture probe manufactured by California Pacific Nuclear (CPN) was used to measure neutron counts in the PSL and CSS monitoring subsystems. The probe is a Model 503 DR Hydroprobe® that utilizes a neutron source (50-milliCuries Americium 241:Beryllium) and a neutron detector. The source emits fast neutrons into the surrounding material. The fast neutrons interact with hydrogen atoms of water molecules and are slowed (thermalized). The detector measures the thermalized neutrons that are returned. The number of thermalized neutrons detected is a function of the hydrogen concentration, which is proportionally related to the soil moisture content. Neutron counts can be directly read and recorded from the CPN probe, which is queried at predetermined locations within the PSL and CSS subsystems.

4.1.1 Neutron Moisture Probe Correlation Formulas

In situ soil moisture content is determined by correlating neutron counts with known moisture values in accordance with Appendix E of the CAMU Permit Application (SNL/NM September 1997). Test fixtures were built (using native soil with a known moisture content) that simulated the configuration of the PSL and CSS subsystems. Instrument measurements were taken within these fixtures to develop empirical formulas that express the correlation between neutron counts and soil moisture content. The correlation formulas provide the basis for determining soil moisture values within the PSL and CSS monitoring subsystems. The values are reported as percent by mass.

4.1.2 PSL Subsystem Neutron Moisture Probe Operations

The neutron moisture probe data collection procedures are the same for each of the VCPs. There are 34 count locations in both the East and West VCPs, and 35 count locations in each of the East-Central, Central, and West-Central VCPs. Count locations are numbered consecutively from north to south along each of the VCPs and are spaced approximately 6.25 feet apart. The neutron moisture probe is stopped at each of the predefined count locations and a neutron count is obtained. The probe is positioned based upon the distance measured by a winch line counter.

4.1.3 CSS Neutron Moisture Probe Operations

Neutron count measurements are collected at depths of approximately 12 and 16 feet below ground surface in each of the six CSS monitoring wells.

4.2 TDR Moisture Probes

TDR soil moisture measurements are made using a Campbell Scientific, Inc. Model CS 610-L TDR probe connected by a coaxial cable to a TDR100 signal generator. The TDR100 sends a voltage signal to the probe. The signal travels from the TDR100 to the probe, then into the surrounding soil, back to the probe, and back to the TDR100. The delay between the initial signal and the return pulse is related to the moisture content of the soil. The TDR100 software uses a preprogrammed algorithm, Topp Equation (Campbell April 2002), to convert this distance into a volumetric soil moisture value.

The probes are positioned at 5 and 15 feet below the containment cell subliner at each VSA location. They have been repacked in native material to duplicate the effective pore size of the adjacent native materials.

4.3 Thermocouple Temperature Probes

Each VSA monitoring location has a thermocouple temperature probe located at 5 and 15 feet below the containment cell subliner. Temperature measurements were obtained by connecting a Fluke 52 II microprocessor-based, digital thermometer to the thermocouple temperature probes. The Fluke 52 II converts the drop in voltage across the thermocouple junction to a temperature in degrees Celsius (°C) and displays the value.

Soil temperature will affect the TDR soil moisture values because the dielectric value of water is temperature-dependent. The effect, however, is negligible (i.e., for a 30°C change in temperature, the change in measured water content using the Topp Equation is approximately 2 percent). Temperature values at the VSA monitoring locations have generally varied less than 5°C (Tables E-1 and E-2 of Annex E).

4.4 Soil-Vapor VOC Sampling

All three VZMS subsystems are sampled for VOCs. A vacuum pump is used to draw soil-vapor through the VSA (5 and 15 feet) and CSS sampling ports. The vacuum pump is also used to draw soil-vapor from the middle of the five PSL VCPs via the use of ¼-inch-outside-diameter polyethylene tubing that is pulled down into each of the five VCPs. Standard practice calls for purging soil-vapor from all three VZMS subsystems until three volumes of the sampling port and tubing are evacuated; consistent purge times have been established for each subsystem. A SUMMA™ canister is connected to the sampling system, and after the sampling port and/or tubing are evacuated, the pump is turned off and a valve is opened that directs soil-vapor flow to the SUMMA™ canister. Because the SUMMA™ canister is under vacuum, it draws the soil-vapor sample into the canister.

5.0 VZMS QA/QC MEASURES AND DATA MANAGEMENT

This chapter summarizes the procedures and QA/QC measures used to collect the VZMS data and to determine whether the data are of sufficient quality to characterize the vadose zone underneath the containment cell. The data flow process, from the initial instrument readings and sample collection through final archival data storage, is also presented.

5.1 Soil-Vapor Data

Soil-vapor samples are submitted to an off-site laboratory for VOC analyses by EPA Method TO-14A (EPA January 1999). The SNL/NM Sample Management Office (SMO) contracts with the laboratory for analytical services. The overall goal of the SMO is to ensure that the laboratory provides accurate and defensible analytical data as specified in the contract (National Nuclear Security Administration Model Statement of Work (SOW), Revision 6 [DOE August 2004]). The SMO establishes performance criteria for the laboratory and conducts audits to assess whether laboratory equipment, instrumentation, and QA/QC procedures are acceptable (SNL/NM May 2009). The SMO also reviews analytical data to determine conformance to QA/QC established criteria. Any data outside the acceptance limits specified in the contract SOW will trigger corrective action that may include requiring the laboratory to provide additional data, qualifying conditionally acceptable data, or requesting sample reanalysis.

The precision of the data collection process was assessed through the collection and review of analytical results of field duplicate samples. Tables F-1, F-2, and F-3 in Annex F present field duplicate results for samples collected from the VSA 5-foot, VSA 15-foot, and CSS locations, respectively.

Analyte concentrations detected in the characterization and/or field duplicate samples are generally at the low parts per billion by volume level. Analytical results above the method detection limit (MDL) but below the laboratory reporting limit (LRL) are qualified as estimated values and designated with a “J” qualifier. Detected analytes generally show low concentration values. Overall, the analytical results for the sample pairs show strong correlation, which indicates precision in both the field collection procedures and laboratory analytical method.

5.2 Data Collection Procedures

The scope of quarterly monitoring includes the following procedures:

- Measurement of soil moisture content using neutron counts at 185 locations within the PSL (173) and CSS (12) subsystems
- Measurement of temperature and soil moisture content using TDR at 22 locations within the VSA subsystem
- Collection of soil-vapor samples from the CSS and VSA subsystems

Chapter 4.0 of this report describes the general data collection procedures. The QA/QC elements designed to minimize errors during data collection include the following:

- Use properly trained and experienced field personnel
- Follow plans and procedures
- Perform field calibrations
- Perform initial data review

The following Field Operating Procedures (FOPs) for the CAMU VZMS define operational and data collection procedures and ensure adherence to a standardized method of data collection:

- FOP 08-20 for use of the CPN neutron moisture probe (SNL/NM January 2009a)
- FOP 08-21 for data collection using TDR and temperature probes (SNL/NM January 2009b)
- FOP 08-22 for soil-vapor sampling procedures (SNL/NM January 2009c)

A brief review of the field data collection procedures specified in the FOPs is provided in the following sections.

5.2.1 Neutron Moisture Probe

A standard count is collected with the CPN probe prior to collecting field data to verify that it is operating properly. When collecting field data, the CPN probe is queried at each monitoring location via a control panel. The neutron count data are displayed on the control panel and recorded in the CAMU field logbook.

A coefficient equation is used to correlate neutron counts to soil moisture content. The equation was developed by measuring neutron counts in drums containing soil of known moisture content. The neutron moisture probe is returned to the manufacturer annually for calibration. It is adjusted to account for the decay of the Americium-241 source. This allows for continual use of the original coefficient equation.

5.2.2 TDR Probes

The TDR waveforms are displayed on a laptop computer when running the TDR100 software. Software settings are selected that ensure the complete TDR waveform is being measured during data collection. Calculated soil moisture content values are read directly from the software display window and entered into the CAMU field logbook.

5.2.3 Thermocouple Temperature Probes

The thermocouple temperature data are collected using a Fluke 52 II microprocessor-based, digital thermometer that converts the voltage drop across the thermocouple junctions to a temperature in °C. The temperatures are read from the Fluke 52 II display and entered into the CAMU field logbook.

5.2.4 Soil-Vapor Sampling

An off-site commercial laboratory performs VOC analyses of the CAMU VZMS soil-vapor samples using EPA Method TO-14A (EPA January 1999). To assess the integrity of the soil-vapor samples, the following procedures are followed:

- The laboratory provides 6-liter SUMMA™ canisters used to collect soil-vapor samples and certifies that the canisters are clean and evacuated to the proper vacuum (approximately 23 to 24 inches of mercury for a 5,400-foot elevation).

- Upon receipt of the SUMMA™ canisters at the SMO, the vacuum of each canister is checked and recorded. The initial vacuum values are supplied to the laboratory with the samples.

- The SMO provides the analysis request/chain-of-custody (AR/COC) forms and sample numbers. Each AR/COC form and assigned sample number is unique. Sample labels with pertinent information (i.e., sample date, time, identification, and location; analysis required; and sampling crew) are attached to each SUMMA™ canister when the samples are collected. The AR/COC form is completed with information from the sample labels.

- The volume of the soil-vapor collected in the SUMMA™ canisters is monitored with a vacuum gauge during the sampling process. With a vacuum of approximately 10 inches of mercury remaining in the SUMMA™ canister, sampling is completed by closing the valve on the canister. The ending vacuum values are recorded and supplied to the laboratory with the samples.

- A photoionization detector organic vapor meter (Toxi RAE, Model No. PGM-30) is used to measure soil-vapor concentrations at the sampling ports prior to collection of the sample. These data are also recorded and compared with the analytical results provided by the laboratory.

- Following sample collection, the filled SUMMA™ canisters and the AR/COC forms are taken to the SMO and signed over to the SMO technician for shipment to the laboratory. Each sample custodian (sampling crew, SMO, shipping company, and analytical laboratory) signs the AR/COC form upon receipt and transfer and records the time and date when custody of the samples changes.

5.3 Data Management and Archiving

The SNL/NM Environmental Restoration Project has developed standardized procedures for managing and archiving the VZMS monitoring data. The following sections describe the data management and archiving procedures for the following activities:

- Collecting data using mobile and in situ monitoring instrumentation (e.g., the neutron moisture probe, TDR probes, and thermocouple probes)

- Managing soil-vapor VOC data resulting from off-site laboratory analysis

5.3.1 Instrument Field Data

All instrument field data (e.g., neutron counts and TDR soil moisture and temperature data) are entered into electronic spreadsheets for preliminary review. The electronic files and field logbook entries are transferred into a VZMS software program that creates a standardized data set. The program also incorporates the neutron count/soil moisture content correlation equations for the PSL and CSS subsystems and calculates in situ soil moisture values. The output files are downloaded into the Environmental Data Management System (EDMS). The EDMS is used as the repository for electronic storage of the CAMU VZMS data. Hard copies of VZMS field data are sent to the SNL/NM Customer Funded Records Center for archival storage.

5.3.2 Laboratory Soil-Vapor Analytical Reports

The laboratory sends electronic data deliverables (EDDs) and hard copies of the analytical results (including QA/QC documentation) to the SNL/NM SMO. The SMO forwards the EDDs to the EDMS Data Administrator. Prior to input of analytical results into the EDMS, QA/QC checks are performed for the EDDs in accordance with SNL/NM SMO procedure SMO-05-04 (SNL/NM May 2010). The general procedure entails the EDMS Data Administrator loading the electronic data into the EDMS, printing the data, and then comparing it with the hard copy laboratory data package. Any discrepancies are resolved with the laboratory prior to finalizing the electronic results stored in the EDMS. Any corrections to the data are documented and included with the hard copy data stored in the SNL/NM Customer Funded Records Center. Hard copies of the data are also provided to CAMU personnel.

6.0 VZMS DATA ANALYSIS

This chapter presents a discussion of the distribution and trends in the soil moisture, soil temperature, and soil-vapor VOC data collected from the VZMS during the July 2009 to June 2010 monitoring period.

6.1 Soil Moisture Distribution and Trends

Soil moisture data from the VZMS is presented in data tables and corresponding figures provided in Annexes A, B, and C. Each figure shows a graph with the following three plots for each subsystem:

- July 2009–June 2010 soil moisture averages for each monitoring location.
- Baseline soil moisture. (Defined as data collected monthly for one year after the closure of the containment cell in October 2003. The data are averaged at each monitoring location.)
- Baseline soil moisture plus 4 percent moisture. (An unexplained increase of 4 percent soil moisture will trigger a secondary assessment and confirmation/rejection phase. If the 4-percent moisture value increase is confirmed, the NMED will be notified and consulted to determine an appropriate course of action.)

The data tables and figures for each subsystem are located in the following annexes:

- Annex A—PSL Subsystem
- Annex B—VSA Subsystem
- Annex C—CSS Subsystem

Before analyzing soil moisture values from the three monitoring subsystems, the differences between the monitoring devices (Sections 4.1 and 4.2) and their monitoring environments must be considered.

Water was added to the wicking material surrounding each VCP during construction of the PSL subsystem (SNL/NM April 1999). The wicking material received additional moisture from precipitation during construction. Wicking material moisture values ranged from 6.5 to 9.5 (percent by mass) during construction (SNL/NM April 1999). The VCP also absorbs moisture.

When taking soil moisture readings from inside the VCP, the neutron moisture probe detects hydrogen concentrations within a small sphere. The hydrogen is primarily associated with the water molecules in the soil. The sphere includes the air space around the probe, the VCP wall, and a portion of the wicking material in the trench surrounding the pipe. The manufacturer of the CPN probe reports an effective radius measurement of 10 inches or about 6 inches beyond the pipe wall into the surrounding soil (under dry conditions). As moisture values surrounding

the neutron moisture probe increase, the radius of detection decreases. Soil moisture content for the PSL subsystem is reported as percent by mass.

The monitoring environment of the CSS subsystem is different from that of the PSL. The neutron moisture probe is operating in a galvanized steel pipe that has no moisture-absorbing capacity. Material adjacent to the pipe consists of a 2-inch annular borehole space filled with bentonite grout. The grout is surrounded by native soil (Figure 2.3-1). Because the galvanized pipe diameter is smaller than the diameter of the VCP, more of the surrounding material is measured. The effective radius measurement is approximately 8 inches from the outside pipe wall into the surrounding soil. Soil moisture content for the CSS subsystem is reported as percentage of soil mass.

For the VSA subsystem TDR probes measure soil moisture content. The probes are embedded in native soil. Soil moisture content is reported on a volumetric basis as a percentage of soil volume.

6.1.1 Lateral Distribution of Moisture Underlying the Containment Cell as Indicated by the PSL Monitoring Subsystem

Tables A-1 through A-5 of Annex A present soil moisture values (percent by mass) recorded during this reporting period for each PSL monitoring location. The soil moisture averaged 7.8 percent for this reporting period, which is consistent with the baseline average of 7.8 percent.

The historical trend of lateral variability in soil moisture levels was most significant in the West-Central, Central, East-Central, and East VCPs. The levels were consistently lower in the northern portion of these VCPs (i.e., Monitoring Locations 3 through 8) (Tables A-2 through A-5), which is consistent with the baseline average. The zone of lower soil moisture values is attributed to a temporary construction ramp (SNL/NM April 1999) that shielded the area from water infiltration during a significant precipitation event that occurred in November 1998.

Figures A-1 through A-5 of Annex A present soil moisture (percent by mass) graphically for each PSL monitoring location. The PSL data tables and graphs demonstrate stable soil moisture values during this reporting period. The soil moisture values provided in the tables and figures should be associated with only the small region occupied by the VCP and the surrounding wicking material in the subliner trenches.

6.1.2 Vertical Distribution of Moisture Along the Margins of the Containment Cell as Indicated by the VSA Monitoring Subsystem

Tables B-1 and B-2 of Annex B present soil moisture values (percent by volume) recorded during this reporting period for each VSA monitoring location. Soil moisture content was determined using TDR monitoring points at depths of 5 and 15 feet below the containment cell. Annual average soil moisture values range from 5.6 to 13.7 percent at the 5-foot monitoring depth (Table B-1) compared with the baseline average range of 5.2 to 14.6 percent. Annual average soil moisture values range from 5.0 to 8.3 percent at the 15-foot depth (Table B-2), which is consistent with the baseline average range of 4.9 to 8.2 percent.

Figures B-1 and B2 of Annex B present soil moisture (percent volume) graphically for the 5- and 15-foot depths, respectively, for each VSA monitoring location. The VSA data tables and graphs demonstrate stable soil moisture values during the current reporting period.

Occasionally, the TDR coaxial cables at the VSA-4 and VSA-5 locations experience interference from an outside, unidentified source at the 5-foot depths that affects the voltage signal waveform. When this occurs, the TDR100 software cannot read the waveform. Additional attempts are made until the software recognizes the waveform and can calculate a soil moisture value. Thus far, the soil moisture values calculated by the TDR100 have been consistent with baseline values.

6.1.3 Distribution of Moisture Adjacent to the East Side of the Containment Cell as Indicated by the CSS Monitoring Subsystem

Tables C-1 and C-2 of Annex C present soil moisture values (percent by mass) recorded during this reporting period for each CSS monitoring location. The CSS locations were established to monitor potential leakage from a sewer line that runs east of the CAMU facility. Figures C-1 and C-2 of Annex C present soil moisture (percent by mass) graphically for the 12- and 16-foot depths, respectively, for each CSS monitoring location.

Soil moisture values show little variability during this reporting period at the CSS-1, CSS-4, and CSS-5 locations. For these locations, annual average soil moisture values range from 2.1 to 2.3 percent at the 12-foot depth (Table C-1) compared with the baseline average range of 2.1 to 2.3 percent. At these three locations the annual average soil moisture values range from 2.7 to 3.1 percent at the 16-foot depth (Table C-2) compared with the baseline average of 2.7 to 3.1 percent.

Soil moisture content values at the CSS-6 location for the 12- and 16-foot depths are higher compared to the other CSS locations. Annual average soil moisture values measured 3.8 and 5.6 percent at the 12- and 16-foot depths, respectively, compared with the baseline averages of 4.4 and 5.8 percent. Originally, CSS-6 was situated in a slight topographic depression. It is suspected that surface-water runoff accumulated in the depression after heavy rainfall and infiltrated at this location. This would explain the higher soil moisture values associated with this location. In May 2002, the area was graded to direct runoff away from the CSS-6 wellhead.

Annual average soil moisture values of 3.4 and 3.7 percent were recorded for CSS-2 at the 12- and 16-foot depths, respectively, compared with baseline averages of 2.2 and 2.3 percent. Soil moisture values have increased at the CSS-2 location since September 2005; however, they appear to have stabilized. Figure C-3 of Annex C graphically shows the soil moisture (percent by mass) upward trend and the stabilization that occurred at the 12- and 16-foot monitoring depths of location CSS-2.

Annual average soil moisture values of 3.8 and 2.7 percent were recorded for CSS-3 at the 12- and 16-foot depths, respectively, compared with baseline averages of 3.0 and 2.6 percent. Soil moisture values have increased at the 12-foot depth since March 2007 and have remained stable at the 16-foot depth. Figure C-4 of Annex C graphically shows the soil moisture upward trend occurring at the 12-foot monitoring depth, while soil moisture remains stable at the 16-foot monitoring depth of location CSS-3.

Initially, the increased values below the sanitary sewer line were attributed to a leak that might exist in the sewer line near the CSS-2 and CSS-3 locations. A camera survey of the sewer line adjacent to the CSS monitoring wells was conducted by SNL/NM Facilities in September 2006. The camera survey showed no obvious evidence for potential leakage near the CSS-2 and CSS-3 locations. SNL/NM Facilities is continuing to investigate the possibility of a leak in the sanitary sewer line.

6.2 Seasonal Temperature Variations in Soil Underlying the Containment Cell

The VSA subsystem temperature data are provided in Annex E. The soil temperature data exhibits a seasonal variation; it is warmer in winter and cooler in summer. VSA temperature values have remained relatively consistent at the 5- and 15-foot depths since completion of the cell cover in July 2003. Soil temperatures at the 5-foot monitoring points vary no more than 2.5°C (Table E-1). Soil temperatures at the 15-foot monitoring points vary no more than 1.9°C (Table E-2).

6.3 Distribution of VOCs Underlying, and Adjacent to, the Containment Cell

The VSA, CSS, and PSL subsystems were sampled and analyzed for VOC soil-vapor concentrations using EPA Method TO-14A (EPA January 1999). All related data and figures are provided in Annex D. Table D-1 shows the list of analytes, nominal MDLs, and nominal LRLs the laboratory used to analyze the samples. Table D-2 presents sample collection dates and AR/COC numbers for subsystems where duplicate samples were collected.

Annual soil-vapor sampling of the PSL subsystem was conducted in March 2010. Benzene, chloromethane, and methylene chloride were the only VOCs detected. The reported concentration for chloromethane is below the LRL. The reported concentrations for methylene chloride are either below the LRL or results are suspect due to method blank contamination. The reported concentration for benzene is above the LRL. It appears to be an anomaly based on the historical data for benzene. Future monitoring will determine whether or not it is an anomalous value. The results are shown in Table D-3.

Tables D-4 and D-5 list the VOCs detected at VSA locations. The VOCs consistently detected at all VSA locations with some values at, or above, the LRL include the following:

- Dichlorodifluoromethane (Freon-12)
- Tetrachloroethene (PCE)
- 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)
- 1,1,1-Trichloroethane
- Trichloroethene (TCE)
- Trichlorofluoromethane (Freon-11)

Other VOCs with some values at, or above, the LRL were detected, but not as consistently or as widespread as the VOCs listed.

Table D-6 lists the VOCs detected at the CSS locations. VOCs frequently detected with some values at, or above, the LRL include the following analytes:

- Dichlorodifluoromethane (Freon-12)
- PCE
- 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)
- TCE
- Trichlorofluoromethane (Freon-11)

Other VOCs with some values at, or above, the LRL were detected, but not as consistently or as widespread as the VOCs listed.

An extensive baseline of monitoring data has been established over a five-year period for the active soil-vapor. The following compounds have been consistently present since baseline monitoring began in September 2000:

- Dichlorodifluoromethane (Freon-12)
- 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)
- TCE
- Trichlorofluoromethane (Freon-11)

These compounds, as well as PCE and 1,1,1-trichloroethane, have been identified in a residual soil-vapor plume centered beneath the location of the former CWL (SNL/NM May 2000). Although much of the VOC soil-vapor plume was removed and the original sources of contamination were excavated and removed from the former CWL, VOC vapors associated with the residual soil-vapor plume are still present throughout the vadose zone extending beneath the former CWL and the CAMU. The conceptual model of the residual soil-vapor plume indicates it is controlled and slowly dissipating though diffusion and advection (SNL/NM December 2004).

The CAMU containment cell overlies the previously established residual VOC soil-vapor plume as is demonstrated by the detection of VOCs characteristic of this plume. The VOC levels observed beneath the containment cell are well below those measured at the former CWL location and are consistent with the CWL conceptual model. It is expected that the VOC levels will continue to increase at the containment cell until the soil-vapor plume completely dissipates by either one or all of the following mechanisms:

- Escape to the atmosphere
- Degradation by soil bacteria
- Dilution

Directly beneath the containment cell, the VOC concentration levels are expected to be higher relative to the ambient residual soil-vapor plume levels. The relatively higher levels are a result of reduced soil-vapor circulation underneath the containment cell. The containment cell cover prevents the soil gases from venting as the residual soil-vapor plume slowly diffuses underneath the containment cell, thus causing VOC concentration levels to increase until the residual soil-vapor plume follows its expected course of completely dissipating by the mechanisms listed.

Soil conditions (i.e., grain size, pore space, soil moisture) around the containment cell, as well as the residual soil-vapor plume, are not homogeneous, which causes variations in the observed trends. In the 2009 CAMU VZMS annual monitoring results report (SNL/NM September 2009), it was reported that the VOC levels at all CSS locations have shown a slight upward trend similar to the trends observed in the VSA data. During this reporting period, the VOC levels at all CSS locations have shown a slight downward trend, as demonstrated in Figures D-1 through D-6 (locations CSS-1 through CSS-6) in Annex D of this report. VOC concentrations are higher in the CSS locations closest to the former CWL location. They decrease as the distance from the former CWL location increases, as would be expected. This is demonstrated in Figures D-1 through D-6 with the CSS-6 location being the closest to and the CSS-1 location the most distant from the former CWL location.

VOC concentrations appear to correlate with soil temperatures. These trends are visible in Figures D-7 through D-28 in Annex D of this report. As described in Section 6.2, there exists a time lag with soil temperature. The soil temperature is warmer in winter and cooler in summer. The VOC concentration data demonstrate increases during winter months when soil temperature is warmer and decreased values in summer months when soil temperature is cooler. The soil temperature will affect the buoyancy of the residual soil-vapor plume emanating from the location of the former CWL.

In the 2009 CAMU VZMS annual monitoring results report (SNL/NM September 2009), it was reported that TCE; PCE; dichlorodifluoromethane; 1,1,1-trichloroethane; 1,1,2-trichloro-1,2,2-trifluoroethane; and trichlorofluoromethane concentrations at all VSA locations continue on an upward trend with seasonal fluctuations tracking soil temperature. During this reporting period, the VOC levels at all VSA locations have shown a slight downward trend. This correlates with the seasonal trend for soil temperature (Figures D-7 through D-28). Additional data that support the conclusion that the VOCs do not originate from the containment cell are the leachate analytical results. As described in Chapter 8.0, leachate has been pumped from the LCRS on a weekly basis since October 2003. The leachate is routinely sampled for VOCs as part of its waste characterization. None of the previously discussed soil-vapor constituents have been detected in the leachate analytical results.

Based upon the analysis of the existing data, the containment cell is not a source of VOCs in the vadose zone. Residual contamination in the soil beneath the location of the former CWL appears to be the principal source of VOCs identified in the CAMU containment cell area, and it is expected that this residual soil-vapor plume will completely dissipate by either one or all of the following mechanisms:

- Escape to the atmosphere
- Degradation by soil bacteria
- Dilution

7.0 VZMS CONCLUSIONS

This report presents data collected from the CAMU VZMS during the monitoring period from July 2009 through June 2010. The report is submitted as a permit requirement (SNL/NM September 1997) and satisfies the conditions set forth for annual reporting of the CAMU VZMS monitoring results.

This report documents the numerical values of the parameters monitored within the VZMS during the seventh year since the containment cell cover was completed in July 2003. The trends noted are representative of the subsurface environment underlying the containment cell. The data analysis completed as part of this annual report confirms that the monitoring equipment is functioning properly.

The increasing soil moisture trend at the CSS-2 locations (12- and 16-foot depths) was first observed in September 2005. An increasing soil moisture trend at the CSS-3 location (12-foot depth) was first observed in March 2007. During the same periods, however, the PSL and VSA monitoring locations have remained stable indicating that the containment cell is not the source of the moisture. The soil moisture trend at CSS-2 appears to have stabilized. More data are necessary to determine whether the increasing soil moisture trend at the CSS-3 location (12-foot depth) will continue.

The soil-vapor data indicate an influence from the residual soil-vapor plume emanating from the location of the former CWL. This is consistent with the conceptual model of the CWL residual soil-vapor plume (SNL/NM December 2004). In the 2009 VZMS annual monitoring results report (SNL/NM September 2009), it was reported that the residual soil-vapor plume emanating from the location of the former CWL appeared to have been showing an upward trend in VOC concentrations at the CSS and VSA locations. It now appears that the soil-vapor plume VOC concentrations (TCE, PCE, dichlorodifluoromethane, 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, and trichlorofluoromethane) are trending downwards at the CSS and VSA locations with minor seasonal fluctuations.

The former CWL residual soil-vapor plume is expected to continue influencing VZMS soil-vapor sampling results until it dissipates as discussed in Section 6.3.

The moisture in the soil beneath the containment cell liner is the result of historic residual water and water added during containment cell construction activities. The soil and soil moisture content are not homogeneous. Slight soil moisture fluctuations are expected as the soil moisture levels continue to equilibrate and stabilize. The soil moisture monitoring results show no significant changes and are consistent with those presented in the 2009 VZMS annual monitoring results report (SNL/NM September 2009). The results are significantly below the 4-percent moisture increment threshold reporting limit. These trends indicate that the containment cell is performing well and no leaks have been detected.

8.0 LEACHATE COLLECTION AND REMOVAL SYSTEM

8.1 LCRS Description

The LCRS is designed to collect and withdraw leachate from the containment cell during the post-closure care period. The LCRS includes a lined sump at the northern end of the containment cell, a collection pipe in a central trench located above the geomembrane liner, a dedicated pump, and a geocomposite drainage layer (Figure 8.1-1). The central trench extends the length of the bottom of the containment cell from the south to the north and is sloped approximately 1 percent toward the north. The bottom of the containment cell is sloped approximately 2 percent to drain toward the central trench (Figure 8.1-2). The trench receives leachate from the geocomposite drainage layer. The collection pipe in the bottom of the trench is a slotted, 4-inch-diameter, PVC pipe. A sloped, 10-inch-diameter, PVC pipe (Figure 8.1-1) provides pump access to the LCRS sump from the northern end of the containment cell cover. The pump is turned on manually to deliver leachate to aboveground, portable, 55-gallon, polyethylene drums.

8.2 Leachate Management

Leachate is withdrawn from the sump weekly using a manually controlled, submersible, electric pump. The leachate is a listed RCRA Hazardous Waste (F039) and is managed as such. It is pumped directly into 55-gallon, polyethylene drums, which are stored on secondary containment pallets located in an adjacent RCRA Less-Than-90-Day Waste Accumulation Area. The leachate was sampled for the appropriate hazardous constituents used to determine applicable EPA hazardous waste numbers (in this case, F039). The analytical results are used as waste acceptance criteria by the SNL/NM Hazardous Waste Management Facility (HWMF). The leachate was sampled on a weekly basis through June 12, 2006. The DOE submitted a letter to the NMED on March 17, 2006 (Wagner March 2006) requesting modification of the sampling frequency. Approval was received in a letter from the NMED dated June 6, 2006 (Kieling June 2006) that agreed with the proposed sampling frequency of not less than quarterly composite sampling of the collected leachate. The current sampling protocol was initiated on June 20, 2006, with composite samples collected approximately every 10 weeks. The leachate was sampled a total of six times during this reporting period.

Complete details for processing leachate are provided in FOP 04-02, “CAMU Leachate Pumping, Sampling, Waste Management” (SNL/NM January 2009d).

8.3 LCRS Results

Approximately 559 gallons of leachate were generated during this reporting period (July 2009 to June 2010) compared with 665 gallons during the previous reporting period (July 2008 to June 2009) (SNL/NM September 2009). The weekly totals are provided in Table G-1 of Annex G. Figure 8.3-1 presents a graph of the amount of leachate pumped from the LCRS based upon the values listed in Table G-1.

All of the leachate is processed through the SNL/NM HWMF for treatment at an off-site RCRA Subtitle C facility.

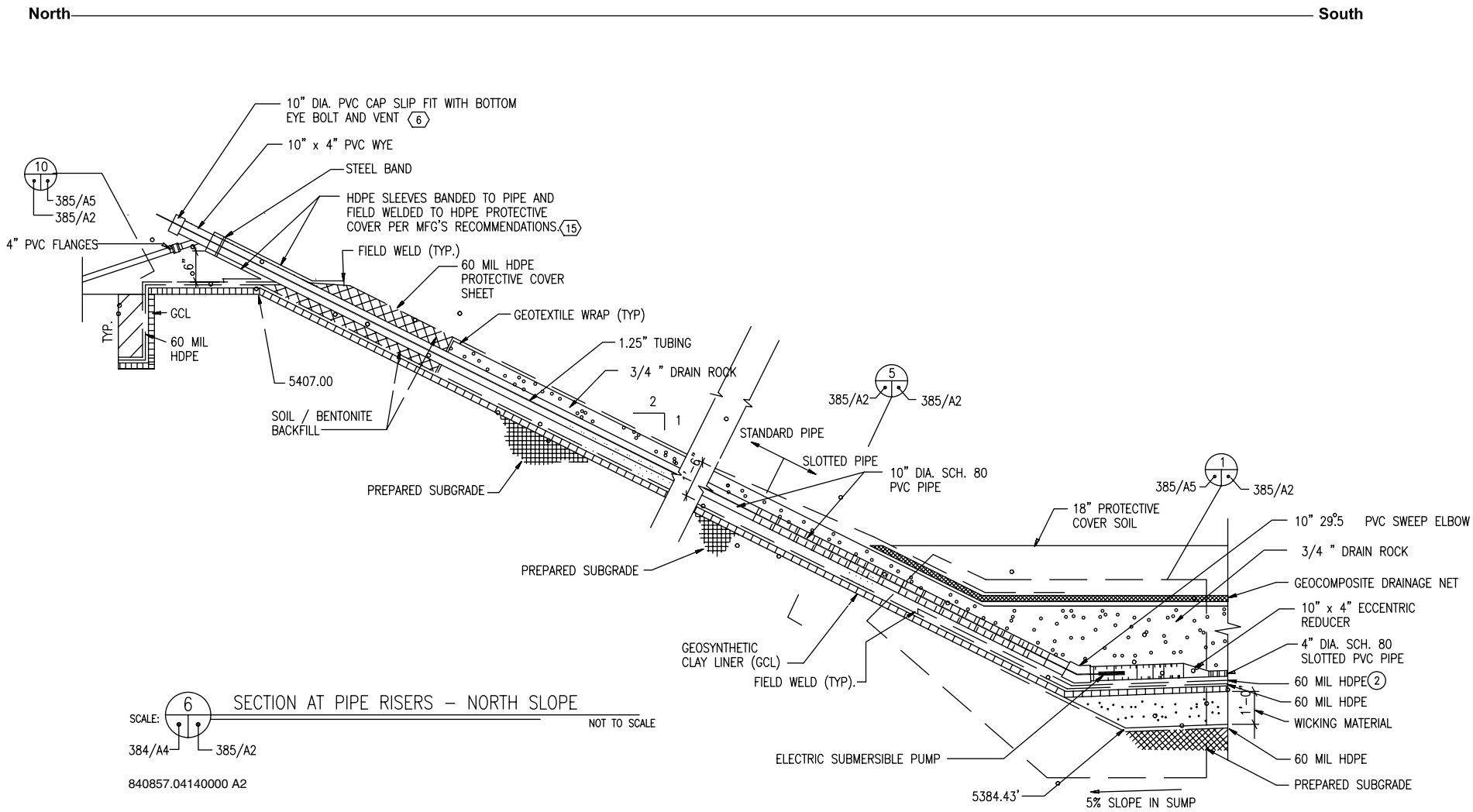

Figure 8.1-1
North-South Cross-Section of LCRS Sump

West — **East**

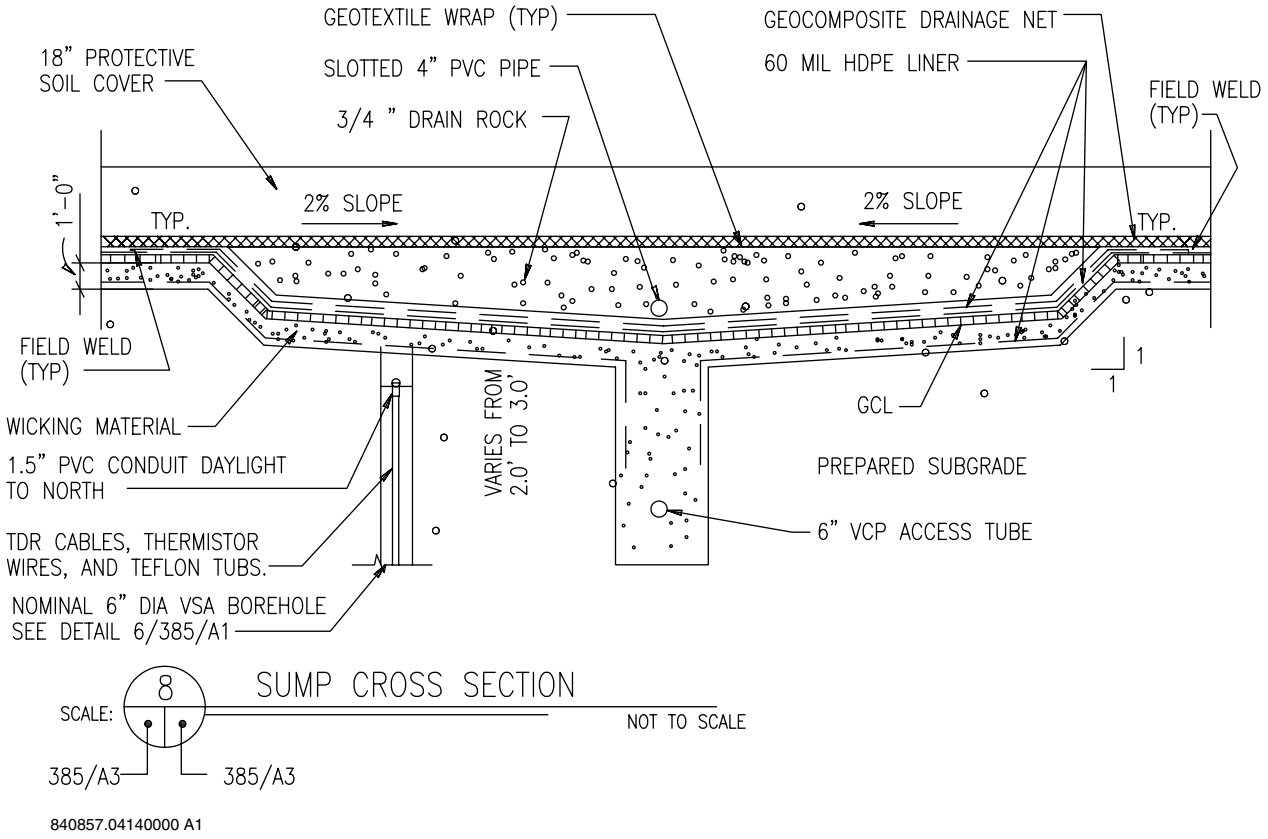

Figure 8.1-2
West-East Cross-Section of Containment Cell

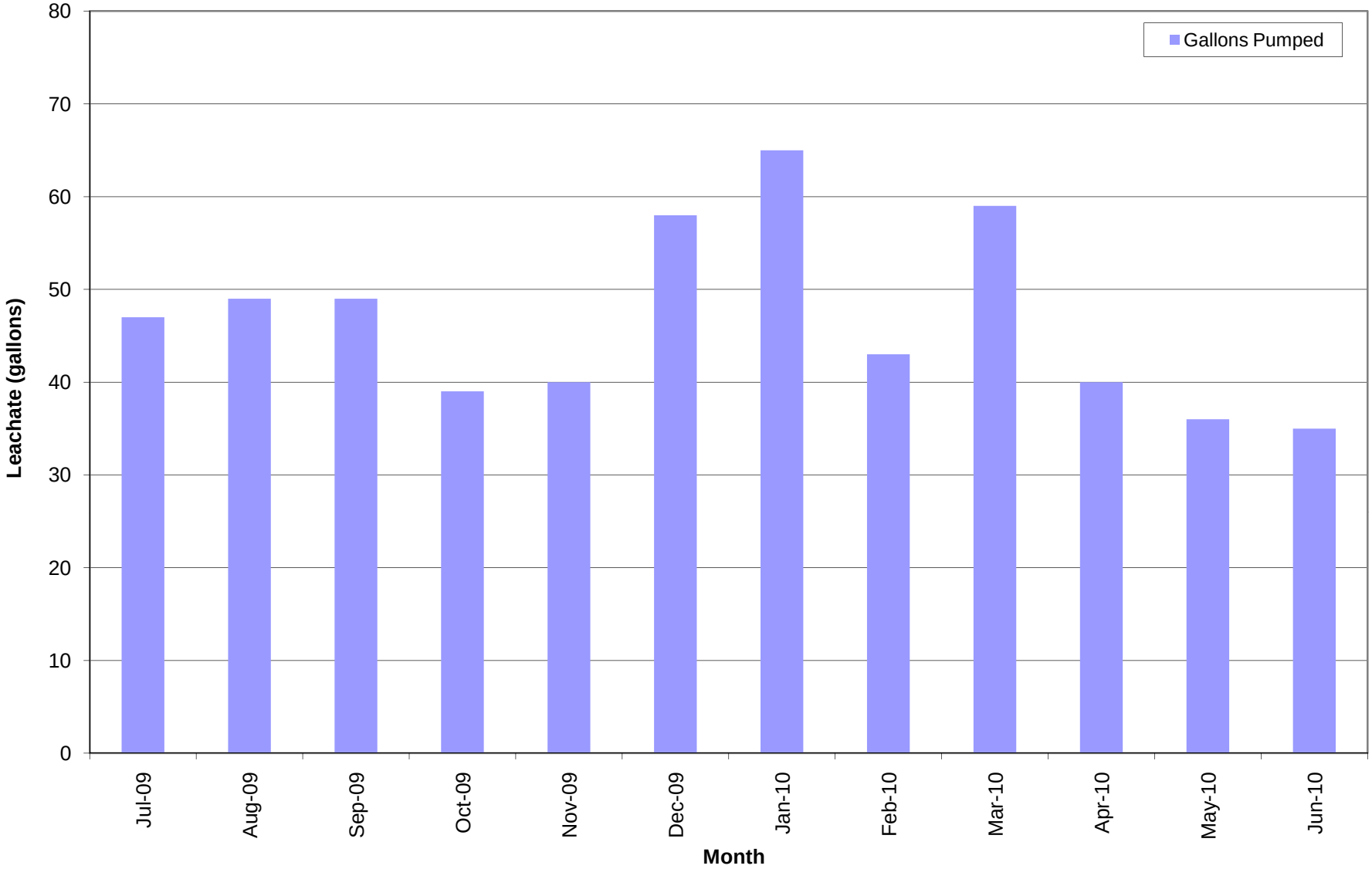

Figure 8.3-1
Leachate Production (July 2009 - June 2010)

9.0 REFERENCES

Campbell, see Campbell Scientific, Inc.

Campbell Scientific, Inc. (Campbell), April 2002. "TDR100 Instruction Manual."

DOE, see U.S. Department of Energy.

EPA, see U.S. Environmental Protection Agency.

Kieling, J. (New Mexico Environment Department), June 2006. Letter to P. Wagner (U.S. Department of Energy) and L. Shepard (SNL/NM), "Re: SNL CAMU Leachate Sampling Strategy Sandia National Laboratories, EPA ID# NM5890110518 HWB-SNL-MISC." June 6, 2006.

Moats, W. (New Mexico Environment Department), June 2005. Letter to P. Wagner (U.S. Department of Energy) and P. Davies (Sandia National Laboratories/New Mexico), "Re: Request to Transition from Monthly to Quarterly Monitoring, Vadose Zone Monitoring System (VZMS), Corrective Action Management Unit (CAMU), January 19, 2005, Sandia National Laboratories, EPA ID No. NM589011518, HWB-SNL-03-025."

Sandia National Laboratories/New Mexico (SNL/NM), September 1997, reprinted June 2002. "Class III Permit Modification Request for the Management of Hazardous Remediation Waste in the Corrective Action Management Unit, Technical Area III," Environmental Restoration Project, Sandia National Laboratories, Albuquerque, New Mexico (as modified).

Sandia National Laboratories/New Mexico (SNL/NM), April 1999. "CAMU Containment Cell Construction Quality Assurance Report–Phase II Subsurface Components," Environmental Restoration Project, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), May 2000. "Chemical Waste Landfill Vapor Extraction Voluntary Corrective Measures Final Report," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), December 2004. "Chemical Waste Landfill Corrective Measures Study Report," Environmental Restoration Project, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), January 2009a. "Field Operating Procedure Utilizing Neutron Logging," SNL/NM FOP 08-20, Environmental Restoration Project, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), January 2009b. "Field Operating Procedure Soil Moisture Monitoring Using Time Domain Reflectometry," SNL/NM FOP 08-21, Environmental Restoration Project, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), January 2009c. "Field Operating Procedure Soil Vapor Sampling Using Method TO-14," SNL/NM FOP 08-22, Environmental Restoration Project, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), January 2009d. "Field Operating Procedure, CAMU Leachate Pumping, Sampling, Waste Management," SNL/NM FOP 04-02, Environmental Management, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), May 2009. "Statement of Work for Analytical Laboratories, Revision 1," Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), September 2009. "Corrective Action Management Unit Vadose Zone Monitoring System Annual Monitoring Results Report," Environmental Restoration Project, Sandia National Laboratories, Albuquerque, New Mexico.

Sandia National Laboratories/New Mexico (SNL/NM), May 2010. "Procedure for Electronic Data Deliverable (EDD) Processing," SMO-05-04, Sample Management Office, Sandia National Laboratories, Albuquerque, New Mexico.

SNL/NM, see Sandia National Laboratories/New Mexico.

U.S. Department of Energy (DOE), August 2004. "Department of Energy National Nuclear Security Administration Model Statement of Work for Analytical Laboratories, Revision 6," U.S. Department of Energy, Albuquerque, New Mexico.

U.S. Environmental Protection Agency (EPA), 1993. "Hazardous and Solid Waste Amendments Module to the Resource Conservation and Recovery Act Permit for Sandia National Laboratories," NM5890110518, Region 6, U.S. Environmental Protection Agency, Dallas, Texas.

U.S. Environmental Protection Agency (EPA) January 1999. "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, Compendium Method TO-14A," Center for Environmental Research Information, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio.

Wagner, P. (U.S. Department of Energy), March 2006. Letter to J. Kieling (New Mexico Environment Department), Re: "SNL CAMU Leachate Sampling Strategy." March 17, 2006.

ANNEX A
PSL Subsystem
Soil Moisture Monitoring Results

Table A-1
PSL Soil Moisture Monitoring Results for the West Access Tube
July 2009 – June 2010

Monitoring Position	Collection Period				2009-2010 Minimum	2009-2010 Maximum	2009-2010 Average	2009-2010 Std Dev	Baseline Average (10/03-9/04)	Difference between Baseline Average & 2009-2010 Average
	2009		2010							
	Sep	Dec	Mar	Jun						
	Moisture (% by mass)								Moisture (% by mass)	
1	7.9	7.7	7.8	7.6	7.6	7.9	7.8	0.1	7.9	-0.1
2	8.1	8.1	8.1	8.0	8.0	8.1	8.1	0.0	8.1	0.0
3	8.4	8.3	8.4	8.0	8.0	8.4	8.3	0.2	8.4	-0.1
4	8.3	8.4	8.3	8.1	8.1	8.4	8.3	0.1	8.2	0.1
5	8.6	8.6	8.6	8.0	8.0	8.6	8.5	0.3	8.5	0.0
6	8.2	8.2	8.2	8.0	8.0	8.2	8.2	0.1	8.3	-0.1
7	8.5	8.4	8.3	7.7	7.7	8.5	8.2	0.4	8.2	0.0
8	8.0	7.9	8.1	7.9	7.9	8.1	8.0	0.1	8.0	0.0
9	8.3	8.2	8.3	8.0	8.0	8.3	8.2	0.1	8.1	0.1
10	8.1	8.1	8.0	7.9	7.9	8.1	8.0	0.1	8.1	-0.1
11	8.0	8.1	8.0	8.0	8.0	8.1	8.0	0.0	8.1	-0.1
12	7.9	8.0	7.9	7.9	7.9	8.0	7.9	0.0	8.0	-0.1
13	8.1	8.1	8.3	7.8	7.8	8.3	8.1	0.2	8.0	0.1
14	8.0	8.0	7.9	7.9	7.9	8.0	8.0	0.1	8.1	-0.1
15	8.0	8.0	8.1	7.8	7.8	8.1	8.0	0.1	7.8	0.2
16	8.0	8.1	8.0	7.9	7.9	8.1	8.0	0.1	8.1	-0.1
17	8.2	7.9	8.2	7.6	7.6	8.2	8.0	0.3	7.9	0.1
18	7.6	7.6	7.6	7.8	7.6	7.8	7.7	0.1	7.8	-0.1
19	7.9	8.0	8.1	7.7	7.7	8.1	7.9	0.2	7.8	0.1
20	7.7	7.7	7.8	7.6	7.6	7.8	7.7	0.1	7.7	0.0
21	8.2	8.0	8.2	7.7	7.7	8.2	8.0	0.2	7.8	0.2
22	7.7	7.8	7.7	7.8	7.7	7.8	7.8	0.1	7.7	0.1
23	8.1	7.9	8.1	7.6	7.6	8.1	7.9	0.2	7.8	0.1
24	7.6	7.7	7.7	7.6	7.6	7.7	7.7	0.1	7.7	0.0
25	8.0	8.1	8.1	7.8	7.8	8.1	8.0	0.1	7.8	0.2
26	7.9	7.9	7.8	7.9	7.8	7.9	7.9	0.1	8.0	-0.1
27	8.2	8.2	8.3	7.9	7.9	8.3	8.2	0.2	8.0	0.2
28	7.8	8.0	7.8	7.8	7.8	8.0	7.9	0.1	8.0	-0.1
29	8.0	7.9	7.8	7.9	7.8	8.0	7.9	0.1	7.8	0.1
30	8.0	8.1	8.1	8.1	8.0	8.1	8.1	0.0	8.1	0.0
31	8.2	8.2	8.4	7.8	7.8	8.4	8.2	0.3	8.1	0.1
32	8.1	8.3	8.1	8.2	8.1	8.3	8.2	0.1	8.0	0.2
33	8.2	8.2	8.2	7.8	7.8	8.2	8.1	0.2	8.2	-0.1
34	7.8	7.9	7.8	7.7	7.7	7.9	7.8	0.1	8.2	-0.4
Average	8.0	8.0	8.1	7.8		Average	8.0	Average	8.0	
Std Dev	0.2	0.2	0.2	0.2						

Note: PSL = Primary subliner.
Std Dev = Standard deviation.

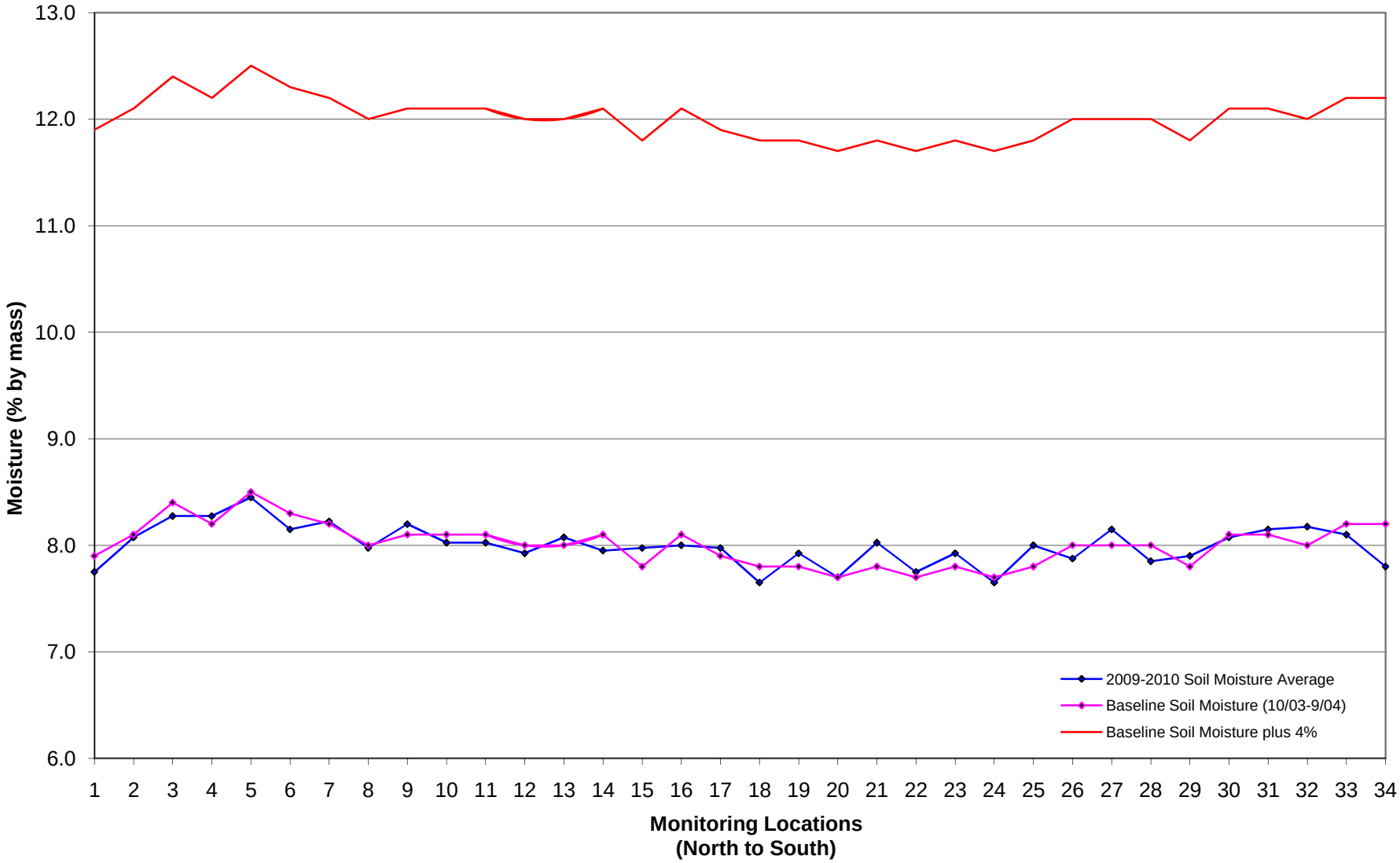

Figure A-1
Graph of PSL Soil Moisture Monitoring Results for the West Access Tube
July 2009 - June 2010

Table A-2
PSL Soil Moisture Monitoring Results for the West-Central Access Tube
July 2009 – June 2010

Monitoring Position	Collection Period				2009-2010 Minimum	2009-2010 Maximum	2009-2010 Average	2009-2010 Std Dev	Baseline Average (10/03-9-04)	Difference between Baseline Average & 2009-2010 Average
	2009		2010							
	Sept	Dec	Mar	Jun						
	Moisture (% by mass)								Moisture (% by mass)	
1	7.6	7.5	7.4	7.3	7.3	7.6	7.5	0.1	7.6	-0.1
2	6.8	6.9	6.9	6.5	6.5	6.9	6.8	0.2	7.5	-0.7
3	6.4	6.6	6.6	6.5	6.4	6.6	6.5	0.1	7.1	-0.6
4	6.6	6.7	6.7	6.6	6.6	6.7	6.7	0.1	6.6	0.1
5	6.8	6.8	6.8	6.7	6.7	6.8	6.8	0.0	6.8	0.0
6	7.3	7.3	7.1	7.2	7.1	7.3	7.2	0.1	7.2	0.0
7	7.4	7.5	7.4	7.3	7.3	7.5	7.4	0.1	7.5	-0.1
8	7.6	7.6	7.6	7.4	7.4	7.6	7.6	0.1	7.5	0.1
9	7.8	7.9	7.9	7.9	7.8	7.9	7.9	0.1	7.8	0.1
10	8.0	8.0	8.0	8.1	8.0	8.1	8.0	0.0	8.1	-0.1
11	7.9	8.0	8.0	8.0	7.9	8.0	8.0	0.0	8.0	0.0
12	8.1	8.4	8.4	8.3	8.1	8.4	8.3	0.1	8.2	0.1
13	8.0	8.0	8.1	8.0	8.0	8.1	8.0	0.0	8.2	-0.2
14	8.2	8.2	8.2	8.2	8.2	8.2	8.2	0.0	8.1	0.1
15	8.1	8.1	8.2	8.1	8.1	8.2	8.1	0.0	8.1	0.0
16	7.9	8.0	7.9	8.0	7.9	8.0	8.0	0.1	8.0	0.0
17	7.7	7.8	7.9	7.9	7.7	7.9	7.8	0.1	7.8	0.0
18	8.0	8.3	8.0	8.1	8.0	8.3	8.1	0.1	8.1	0.0
19	8.0	7.9	7.8	7.8	7.8	8.0	7.9	0.1	7.8	0.1
20	7.9	7.9	7.9	7.8	7.8	7.9	7.9	0.1	8.0	-0.1
21	8.0	8.0	8.1	8.2	8.0	8.2	8.1	0.1	8.0	0.1
22	8.0	7.9	7.9	7.7	7.7	8.0	7.9	0.1	8.0	-0.1
23	7.7	7.8	7.9	7.7	7.7	7.9	7.8	0.1	7.8	0.0
24	8.0	8.0	8.0	8.1	8.0	8.1	8.0	0.0	8.0	0.0
25	7.8	7.8	7.8	7.8	7.8	7.8	7.8	0.0	7.8	0.0
26	7.8	7.8	7.7	7.6	7.6	7.8	7.7	0.1	7.8	-0.1
27	7.8	8.0	7.7	7.7	7.7	8.0	7.8	0.1	7.9	-0.1
28	8.0	7.9	7.9	7.9	7.9	8.0	7.9	0.0	7.9	0.0
29	8.3	7.9	8.0	8.1	7.9	8.3	8.1	0.2	7.9	0.2
30	7.7	7.8	7.7	7.7	7.7	7.8	7.7	0.0	7.7	0.0
31	8.1	8.1	8.1	8.1	8.1	8.1	8.1	0.0	8.0	0.1
32	8.2	8.2	8.2	8.3	8.2	8.3	8.2	0.1	8.1	0.1
33	8.1	8.0	8.3	8.4	8.0	8.4	8.2	0.2	8.1	0.1
34	7.9	7.9	7.9	7.9	7.9	7.9	7.9	0.0	8.1	-0.2
35	7.9	7.7	7.9	7.8	7.7	7.9	7.8	0.1	8.0	-0.2
Average	7.8	7.8	7.8	7.7		Average	7.8	Average	7.8	
Std Dev	0.5	0.4	0.5	0.5						

Note: PSL = Primary subliner.
Std Dev = Standard Deviation.

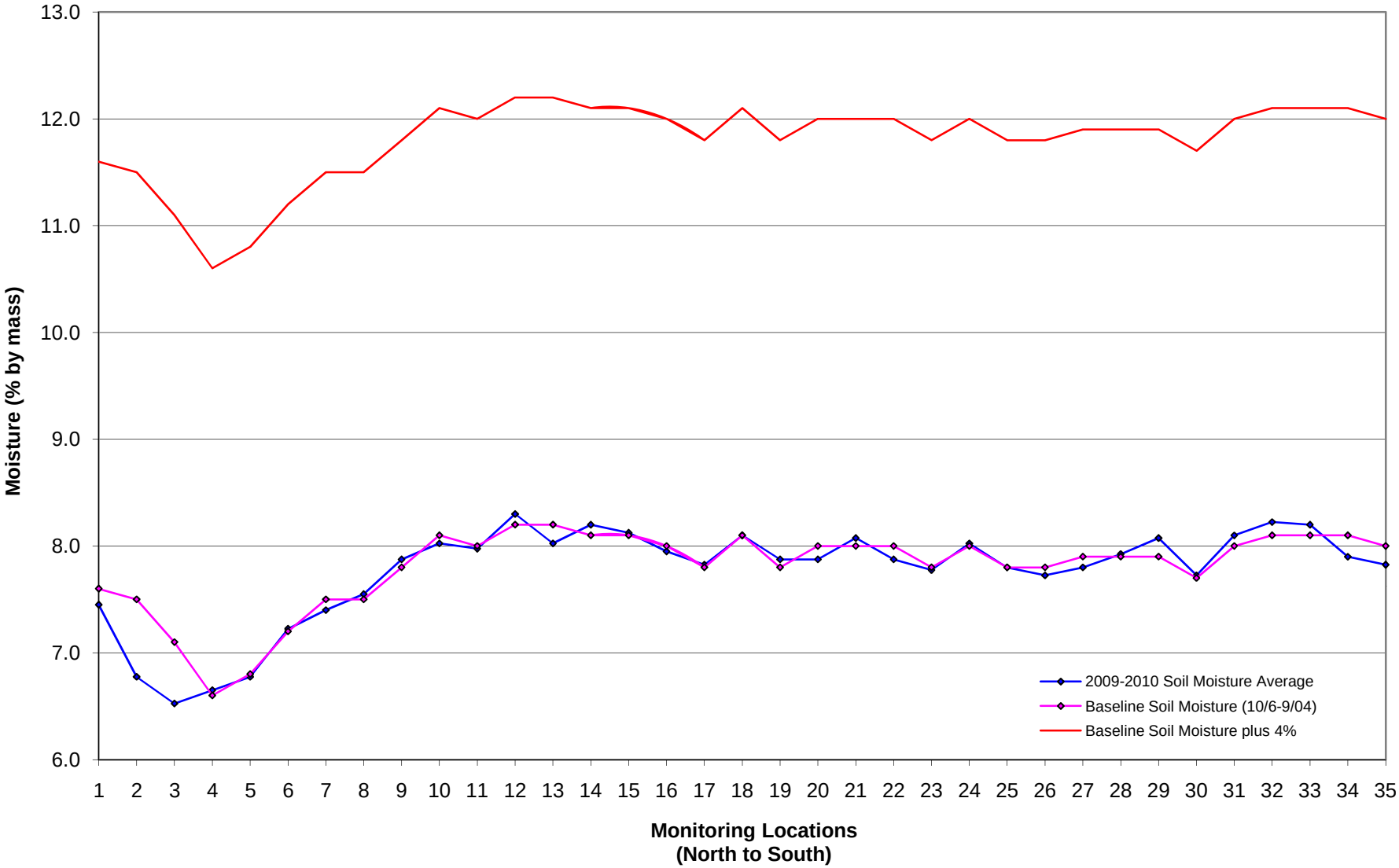

Figure A-2
Graph of PSL Soil Moisture Monitoring Results for the West-Central Access Tube
July 2009 - June 2010

Table A-3
PSL Soil Moisture Monitoring Results for the Central Access Tube
July 2009 – June 2010

Monitoring Position	Collection Period				2009-2010 Minimum	2009-2010 Maximum	2009-2010 Average	2009-2010 Std Dev	Baseline Average (10/03-9-04)	Difference between Baseline Average & 2009-2010 Average
	2009		2010							
	Sep	Dec	Mar	Jun						
	Moisture (% by mass)								Moisture (% by mass)	
1	6.9	8.2	8.0	8.3	6.9	8.3	7.9	0.6	8.2	-0.3
2	8.3	8.2	8.2	8.4	8.2	8.4	8.3	0.1	8.6	-0.3
3	8.2	7.9	8.1	8.1	7.9	8.2	8.1	0.1	8.3	-0.2
4	7.9	7.9	7.9	8.1	7.9	8.1	8.0	0.1	8.2	-0.2
5	7.6	7.6	7.7	7.8	7.6	7.8	7.7	0.1	7.7	0.0
6	7.8	7.8	7.8	7.9	7.8	7.9	7.8	0.1	7.7	0.1
7	7.5	7.5	7.5	7.6	7.5	7.6	7.5	0.0	7.5	0.0
8	7.9	7.8	7.8	8.2	7.8	8.2	7.9	0.2	7.9	0.0
9	8.3	8.2	8.1	8.2	8.1	8.3	8.2	0.1	8.2	0.0
10	8.1	7.9	8.1	8.0	7.9	8.1	8.0	0.1	8.0	0.0
11	7.8	7.8	7.8	7.9	7.8	7.9	7.8	0.1	7.8	0.0
12	8.1	8.0	7.9	8.2	7.9	8.2	8.1	0.1	8.0	0.1
13	7.7	7.9	7.9	8.0	7.7	8.0	7.9	0.1	7.9	0.0
14	8.1	8.1	8.1	8.3	8.1	8.3	8.2	0.1	8.0	0.2
15	7.7	7.9	7.8	7.8	7.7	7.9	7.8	0.1	7.8	0.0
16	7.8	7.9	7.9	8.0	7.8	8.0	7.9	0.1	7.8	0.1
17	8.0	8.0	7.9	8.0	7.9	8.0	8.0	0.0	7.9	0.1
18	8.0	8.2	8.0	8.2	8.0	8.2	8.1	0.1	8.0	0.1
19	7.8	7.9	7.8	7.9	7.8	7.9	7.9	0.1	7.8	0.1
20	7.7	7.8	7.7	7.9	7.7	7.9	7.8	0.1	7.7	0.1
21	7.8	7.7	8.1	7.7	7.7	8.1	7.8	0.2	7.8	0.0
22	7.6	7.6	7.6	7.7	7.6	7.7	7.6	0.1	7.6	0.0
23	7.7	7.7	7.9	7.8	7.7	7.9	7.8	0.1	7.8	0.0
24	7.8	7.9	7.8	8.0	7.8	8.0	7.9	0.1	7.9	0.0
25	7.8	7.7	8.1	7.7	7.7	8.1	7.8	0.2	7.8	0.0
26	7.9	7.8	7.9	8.0	7.8	8.0	7.9	0.1	7.9	0.0
27	8.1	8.0	8.1	7.8	7.8	8.1	8.0	0.1	8.0	0.0
28	7.9	7.8	7.8	7.8	7.8	7.9	7.8	0.1	7.8	0.0
29	7.9	7.8	7.8	7.9	7.8	7.9	7.9	0.1	7.9	0.0
30	7.9	7.9	7.8	7.7	7.7	7.9	7.8	0.1	7.9	-0.1
31	7.7	7.7	7.8	7.7	7.7	7.8	7.7	0.0	7.8	-0.1
32	7.7	7.7	7.8	7.7	7.7	7.8	7.7	0.0	7.7	0.0
33	8.1	8.1	7.8	8.0	7.8	8.1	8.0	0.1	8.0	0.0
34	7.7	7.9	7.8	7.9	7.7	7.9	7.8	0.1	7.8	0.0
35	7.7	7.9	7.8	7.7	7.7	7.9	7.8	0.1	7.9	-0.1
Average	7.8	7.9	7.9	7.9		Average	7.9	Average	7.9	
Std Dev	0.3	0.2	0.2	0.2						

Note: PSL = Primary subliner.

Std Dev = Standard deviation.

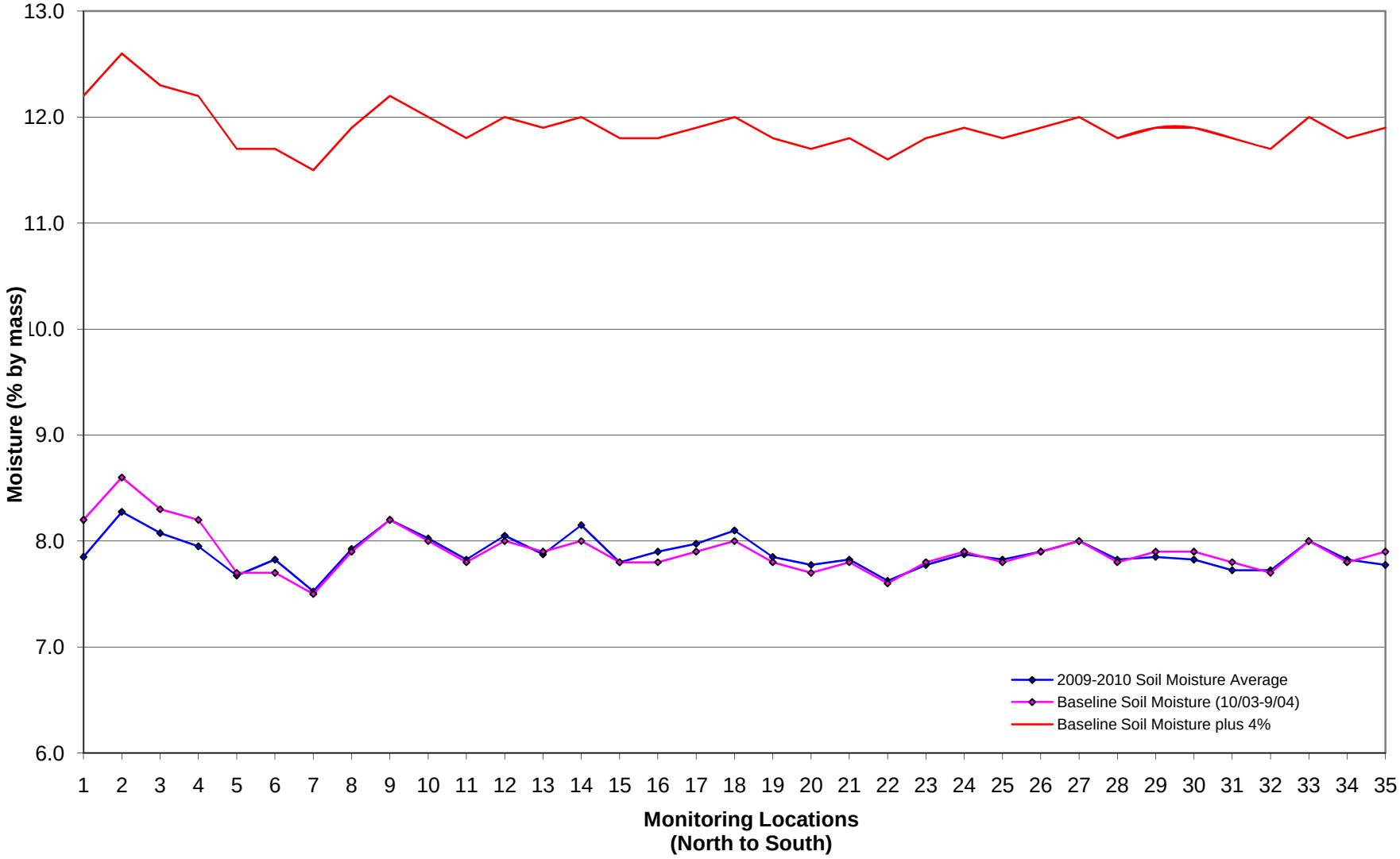

Figure A-3
Graph of PSL Soil Moisture Monitoring Results for the Central Access Tube
July 2009 - June 2010

Table A-4
PSL Soil Moisture Monitoring Results for the East-Central Access Tube
July 2009 – June 2010

Monitoring Position	Collection Period				2009-2010 Minimum	2009-2010 Maximum	2009-2010 Average	2009-2010 Std Dev	Baseline Average (10/03-9-04)	Difference between Baseline Average & 2009-2010 Average
	2009		2010							
	Sep	Dec	Mar	Jun						
	Moisture (% by mass)								Moisture (% by mass)	
1	7.9	7.9	8.0	8.0	7.9	8.0	8.0	0.1	8.2	-0.2
2	8.0	8.1	8.0	7.9	7.9	8.1	8.0	0.1	8.1	-0.1
3	6.9	7.1	7.0	7.0	6.9	7.1	7.0	0.1	6.8	0.2
4	6.6	6.6	6.7	6.7	6.6	6.7	6.7	0.1	6.6	0.1
5	7.0	7.1	7.1	7.3	7.0	7.3	7.1	0.1	7.5	-0.4
6	7.4	7.5	7.4	7.5	7.4	7.5	7.5	0.1	7.5	0.0
7	7.3	7.3	7.2	7.3	7.2	7.3	7.3	0.0	7.4	-0.1
8	7.4	7.5	7.6	7.6	7.4	7.6	7.5	0.1	7.5	0.0
9	7.4	7.5	7.5	7.5	7.4	7.5	7.5	0.0	7.6	-0.1
10	7.7	7.7	7.7	7.8	7.7	7.8	7.7	0.0	7.8	-0.1
11	8.0	8.1	8.1	8.0	8.0	8.1	8.1	0.1	8.1	0.0
12	8.0	8.1	8.0	8.0	8.0	8.1	8.0	0.0	8.0	0.0
13	7.7	7.9	7.8	7.7	7.7	7.9	7.8	0.1	7.9	-0.1
14	7.9	8.0	8.0	7.8	7.8	8.0	7.9	0.1	8.0	-0.1
15	7.7	7.9	8.0	7.8	7.7	8.0	7.9	0.1	7.9	0.0
16	7.8	8.0	7.7	7.7	7.7	8.0	7.8	0.1	7.7	0.1
17	7.8	7.8	7.8	7.8	7.8	7.8	7.8	0.0	7.9	-0.1
18	7.9	8.0	7.8	7.8	7.8	8.0	7.9	0.1	7.9	0.0
19	7.6	7.7	7.6	7.7	7.6	7.7	7.7	0.1	7.7	0.0
20	7.6	8.0	7.7	7.6	7.6	8.0	7.7	0.2	7.7	0.0
21	7.7	7.7	7.7	7.9	7.7	7.9	7.8	0.1	7.7	0.1
22	7.8	8.0	7.8	7.6	7.6	8.0	7.8	0.2	7.7	0.1
23	7.5	7.5	7.6	7.6	7.5	7.6	7.6	0.1	7.6	0.0
24	7.7	7.7	7.6	7.5	7.5	7.7	7.6	0.1	7.6	0.0
25	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0	7.6	-0.1
26	7.7	7.5	7.6	7.5	7.5	7.7	7.6	0.1	7.5	0.1
27	7.4	7.4	7.5	7.5	7.4	7.5	7.5	0.1	7.5	0.0
28	7.6	7.5	7.8	7.5	7.5	7.8	7.6	0.1	7.4	0.2
29	7.6	7.6	7.6	7.6	7.6	7.6	7.6	0.0	7.6	0.0
30	7.7	7.6	7.7	7.5	7.5	7.7	7.6	0.1	7.4	0.2
31	7.7	7.7	7.6	7.7	7.6	7.7	7.7	0.1	7.5	0.2
32	8.1	7.9	8.0	8.0	7.9	8.1	8.0	0.1	7.9	0.1
33	8.0	8.1	8.1	8.1	8.0	8.1	8.1	0.0	8.1	0.0
34	8.1	8.1	8.3	8.0	8.0	8.3	8.1	0.1	8.0	0.1
35	8.3	8.0	8.3	8.4	8.0	8.4	8.3	0.2	8.2	0.1
Average	7.7	7.7	7.7	7.7		Average	7.7	Average	7.7	
Std Dev	0.3	0.3	0.3	0.3						

Note: PSL = Primary subliner.
Std Dev = Standard deviation.

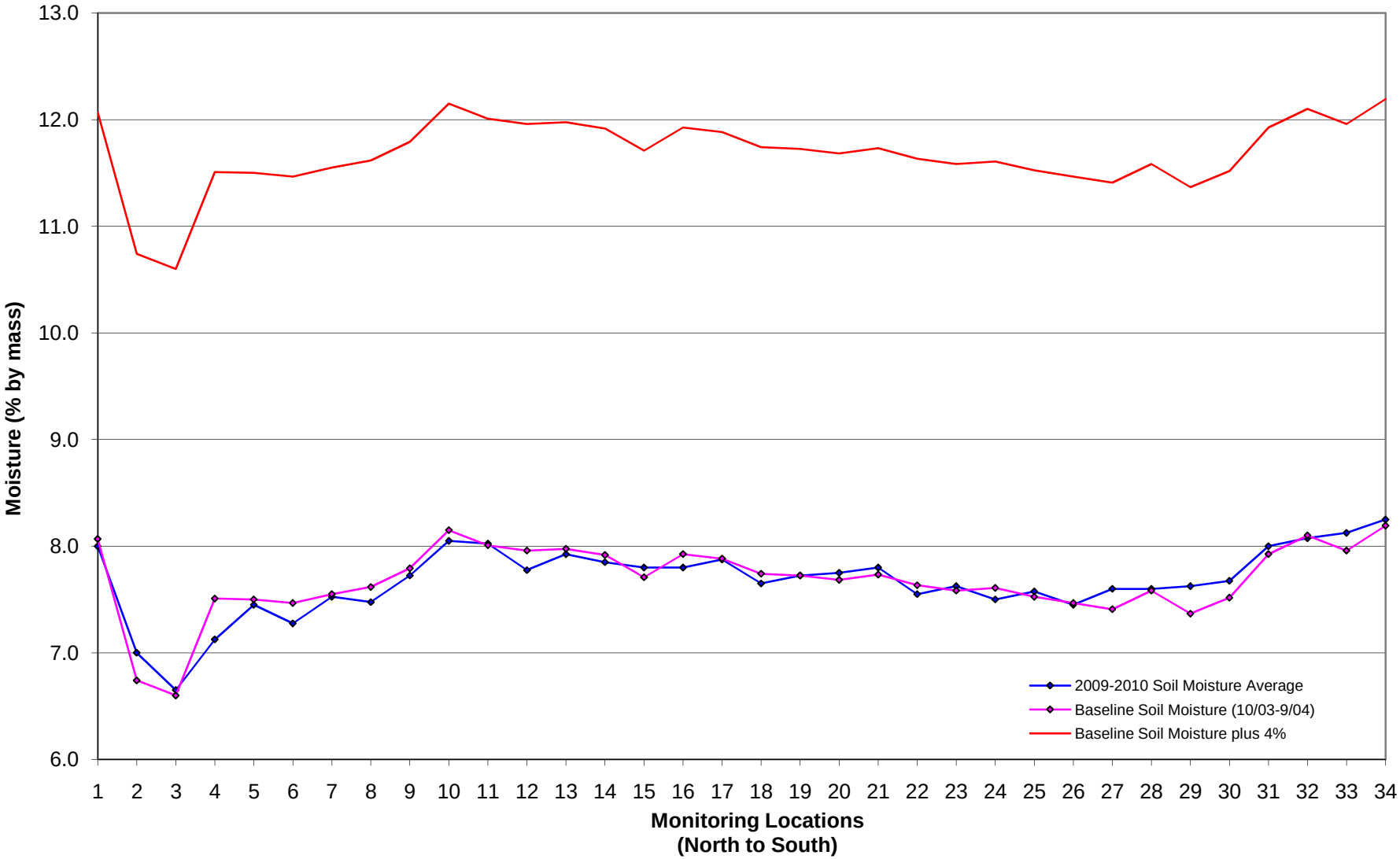

Figure A-4
Graph of PSL Soil Moisture Monitoring Results for the East-Central Access Tube
July 2009 - June 2010

Table A-5
PSL Soil Moisture Monitoring Results for the East Access Tube
July 2009 – June 2010

Monitoring Position	Collection Period				2009-2010 Minimum	2009-2010 Maximum	2009-2010 Average	2009-2010 Std Dev	Baseline Average (10/03-9/04)	Difference between Baseline Average & 2009-2010 Average
	2009		2010							
	Sep	Dec	Mar	Jun						
	Moisture (% by mass)								Moisture (% by mass)	
1	7.5	7.5	7.6	7.4	7.4	7.6	7.5	0.1	7.9	-0.4
2	7.9	7.7	7.6	7.7	7.6	7.9	7.7	0.1	7.9	-0.2
3	7.5	7.5	7.5	7.5	7.5	7.5	7.5	0.0	7.4	0.1
4	7.0	6.9	6.9	7.2	6.9	7.2	7.0	0.1	6.8	0.2
5	6.6	6.7	6.7	6.5	6.5	6.7	6.6	0.1	6.6	0.0
6	7.0	7.5	7.3	7.3	7.0	7.5	7.3	0.2	7.1	0.2
7	7.0	7.2	7.1	7.0	7.0	7.2	7.1	0.1	6.7	0.4
8	6.8	6.8	6.8	6.9	6.8	6.9	6.8	0.1	6.9	-0.1
9	7.1	7.2	7.3	7.1	7.1	7.3	7.2	0.1	7.2	0.0
10	7.5	7.6	7.5	7.5	7.5	7.6	7.5	0.0	7.7	-0.2
11	7.4	7.5	7.7	7.5	7.4	7.7	7.5	0.1	7.5	0.0
12	7.6	7.8	7.9	7.6	7.6	7.9	7.7	0.1	8.1	-0.4
13	7.9	8.1	8.0	7.9	7.9	8.1	8.0	0.1	8.0	0.0
14	8.0	8.1	8.1	8.1	8.0	8.1	8.1	0.0	8.4	-0.3
15	8.2	8.2	8.2	8.1	8.1	8.2	8.2	0.0	8.2	0.0
16	8.2	7.9	7.9	8.3	7.9	8.3	8.1	0.2	8.4	-0.3
17	7.7	7.8	7.7	7.8	7.7	7.8	7.8	0.1	7.8	0.0
18	7.6	7.6	7.6	7.6	7.6	7.6	7.6	0.0	7.7	-0.1
19	7.6	7.6	7.6	7.7	7.6	7.7	7.6	0.1	7.7	-0.1
20	7.7	7.8	7.8	7.7	7.7	7.8	7.8	0.1	7.9	-0.1
21	7.8	7.9	7.8	7.8	7.8	7.9	7.8	0.1	7.8	0.0
22	7.8	7.7	7.7	7.7	7.7	7.8	7.7	0.0	7.9	-0.2
23	7.7	7.7	7.7	7.6	7.6	7.7	7.7	0.1	7.7	0.0
24	7.8	7.7	7.7	7.8	7.7	7.8	7.8	0.1	7.9	-0.1
25	7.7	7.8	7.7	7.7	7.7	7.8	7.7	0.0	7.7	0.0
26	7.5	7.8	7.7	7.6	7.5	7.8	7.7	0.1	7.9	-0.2
27	7.7	7.7	7.8	7.7	7.7	7.8	7.7	0.0	7.8	-0.1
28	7.7	7.7	7.8	7.8	7.7	7.8	7.8	0.1	8.0	-0.2
29	7.9	8.1	7.9	7.8	7.8	8.1	7.9	0.1	7.9	0.0
30	7.8	8.2	8.1	7.8	7.8	8.2	8.0	0.2	8.2	-0.2
31	7.9	8.2	8.2	7.9	7.9	8.2	8.1	0.2	8.1	0.0
32	8.0	8.1	8.0	8.1	8.0	8.1	8.1	0.1	8.4	-0.3
33	8.0	8.1	8.1	8.1	8.0	8.1	8.1	0.0	8.2	-0.1
34	8.2	8.1	8.0	8.1	8.0	8.2	8.1	0.1	8.2	-0.1
Average	7.6	7.7	7.7	7.6		Average	7.7	Average	7.8	
Std Dev	0.4	0.4	0.4	0.4						

Note: PSL = Primary subliner.
Std Dev = Standard deviation.

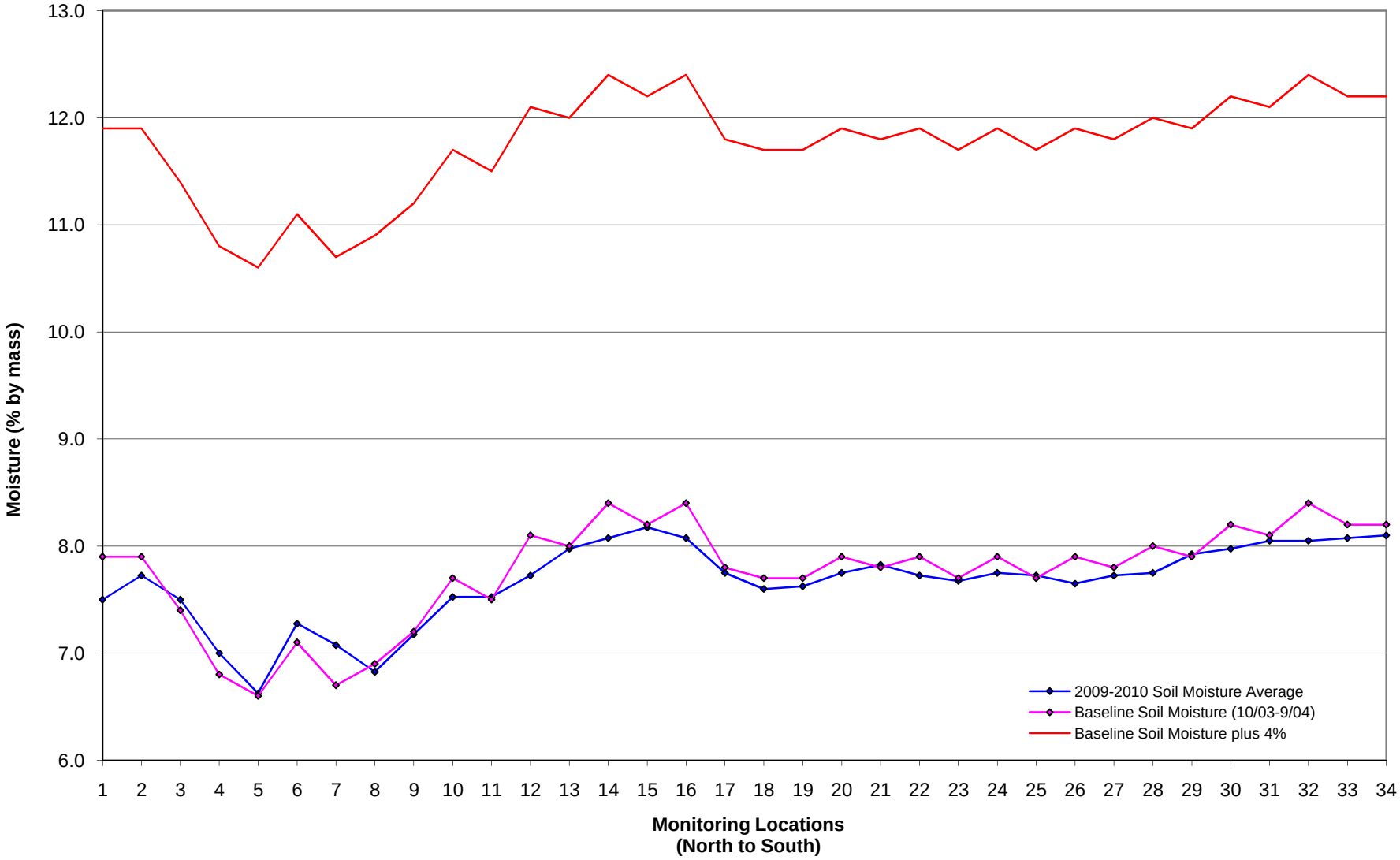

Figure A-5
Graph of PSL Soil Moisture Monitoring Results for the East Access Tube
July 2009 - June 2010

ANNEX B
VSA TDR Waveform and Soil Moisture Monitoring Results

Table B-1
TDR Soil Moisture Monitoring Results for the VSA from 5-Foot Monitoring Depth
July 2009 – June 2010

Collection Date	Instrument Location										
	VSA1-5	VSA2-5	VSA3-5	VSA4-5	VSA5-5	VSA6-5	VSA7-5	VSA8-5	VSA9-5	VSA10-5	VSA11-5
	Moisture (% by volume)										
2009											
Sept	12.0	8.5	7.6	13.6	13.7	9.0	7.4	6.3	8.6	5.4	7.9
Dec	12.0	8.5	7.6	13.5	13.5	8.7	7.2	6.0	8.4	5.5	7.9
2010											
Mar	12.0	8.6	7.6	13.6	13.8	8.9	7.3	6.1	8.4	5.6	7.9
Jun	11.9	8.6	7.7	13.7	13.7	9.0	7.4	6.2	8.5	5.7	7.9
2009-2010 Minimum	11.9	8.5	7.6	13.5	13.5	8.7	7.2	6.0	8.4	5.4	7.9
2009-2010 Maximum	12.0	8.6	7.7	13.7	13.8	9.0	7.4	6.3	8.6	5.7	7.9
2009-2010 Average	12.0	8.6	7.6	13.6	13.7	8.9	7.3	6.2	8.5	5.6	7.9
2009-2010 Std Dev	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Baseline Average (10/03-9/04)	12.4	7.8	6.5	14.0	14.6	9.4	6.8	5.9	7.7	5.2	8.4
Difference between Baseline Average & 2009-2010 Average	-0.4	0.8	1.1	-0.4	-0.9	-0.5	0.5	0.3	0.8	0.4	-0.5

Notes: TDR = Time-domain reflectometry.
VSA = Vertical sensor array.
Std Dev = Standard deviation

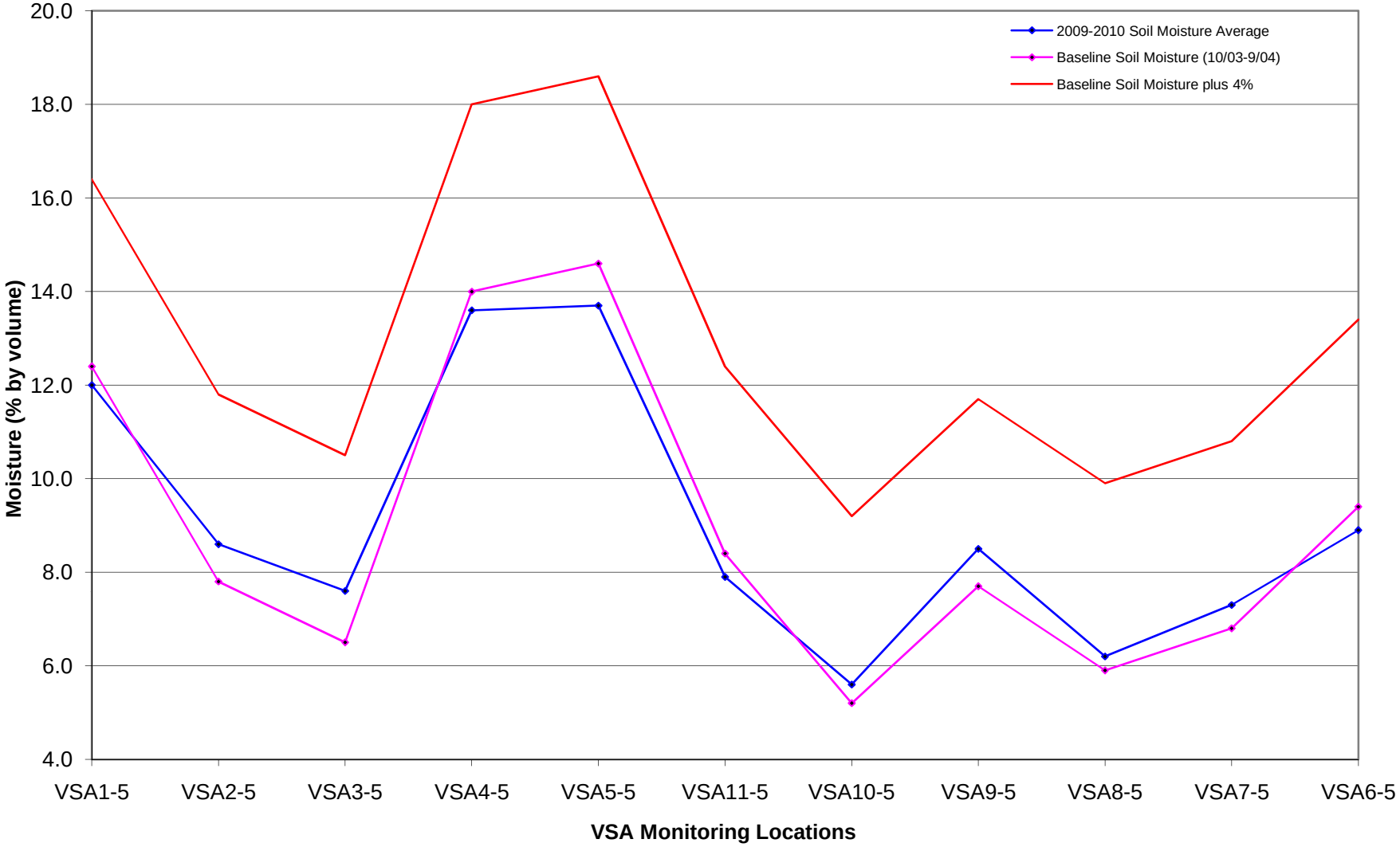

Figure B-1
Graph of VSA Soil Moisture Monitoring Results (5-Foot Monitoring Depth)
July 2009 - June 2010

Table B-2
TDR Soil Moisture Monitoring Results for the VSA from 15-Foot Monitoring Depth
July 2009 – June 2010

Collection Date	Instrument Location										
	VSA1-15	VSA2-15	VSA3-15	VSA4-15	VSA5-15	VSA6-15	VSA7-15	VSA8-15	VSA9-15	VSA10-15	VSA11-15
	Moisture (% by volume)										
2009											
Sep	8.3	7.8	6.8	7.4	7.8	7.7	6.7	6.6	4.9	7.2	5.7
Dec	8.3	7.8	6.8	7.5	7.7	7.7	6.7	6.5	4.9	7.1	5.5
2010											
Mar	8.3	7.8	6.7	7.6	7.7	7.8	6.6	6.5	5.0	7.2	5.8
Jun	8.3	7.8	6.6	7.6	7.7	7.7	6.6	6.6	5.0	7.2	5.7
2009-2010 Minimum	8.3	7.8	6.6	7.4	7.7	7.7	6.6	6.5	4.9	7.1	5.5
2009-2010 Maximum	8.3	7.8	6.8	7.6	7.8	7.8	6.7	6.6	5.0	7.2	5.8
2009-2010 Average	8.3	7.8	6.7	7.5	7.7	7.7	6.7	6.6	5.0	7.2	5.7
2009-2010 Std Dev	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Baseline Average (10/03-9/04)	8.2	7.7	6.7	7.5	7.6	7.7	6.6	6.5	4.9	7.2	5.8
Difference between Baseline Average & 2009-2010 Average	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	-0.1

Notes: TDR = Time-domain reflectometry.
VSA = Vertical sensor array.
Std Dev = Standard deviation

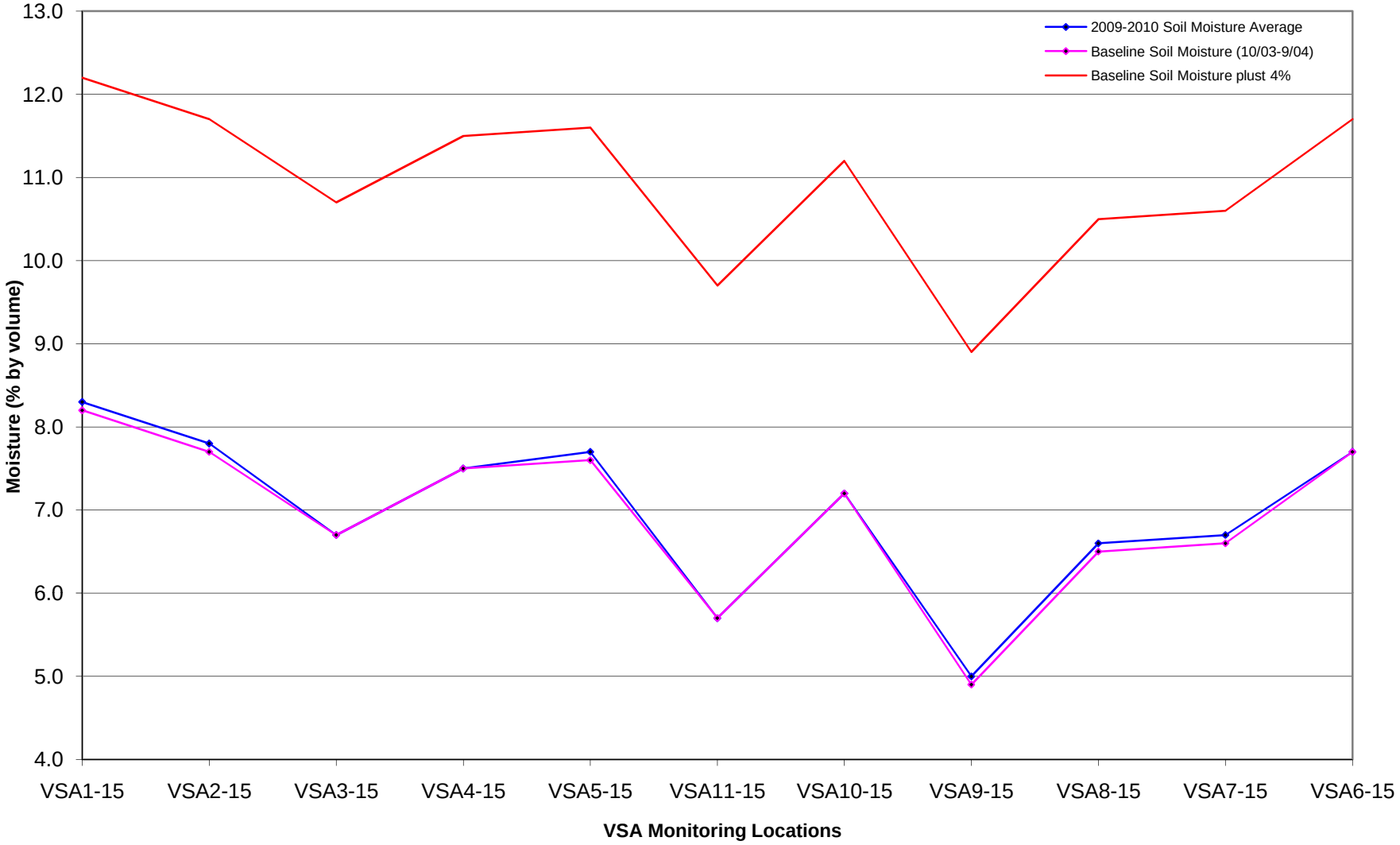

Figure B-2
Graph of VSA Soil Moisture Monitoring Results (15-Foot Monitoring Depth)
July 2009 - June 2010

ANNEX C
CSS Soil Moisture Monitoring Results

Table C-1
CSS Soil Moisture Monitoring Results from 12-Foot Monitoring Depth
July 2009 – June 2010

Collection Date(s)	Monitoring Location					
	CSS-1	CSS-2	CSS-3	CSS-4	CSS-5	CSS-6
	Moisture (% by mass)					
2009						
Sept	2.1	3.4	3.8	2.3	2.1	3.8
Dec	2.1	3.5	3.7	2.2	2.3	3.8
2010						
Mar	2.0	3.4	3.8	2.3	2.1	3.8
Jun	2.1	3.4	3.8	2.3	2.1	3.9
2009-2010 Minimum	2.0	3.4	3.7	2.2	2.1	3.8
2009-2010 Maximum	2.1	3.5	3.8	2.3	2.3	3.9
2009-2010 Average	2.1	3.4	3.8	2.3	2.2	3.8
2009-2010 Std Dev	0.0	0.1	0.0	0.1	0.1	0.1
Baseline Average (10/03-9/04)	2.1	2.2	3.0	2.3	2.2	4.4
Difference between Baseline Average & 2009-2010 Average	0.0	1.2	0.8	0.0	-0.1	-0.6

CSS = CWL sanitary sewer.
CWL = Chemical Waste Landfill.
Std Dev = Standard deviation.

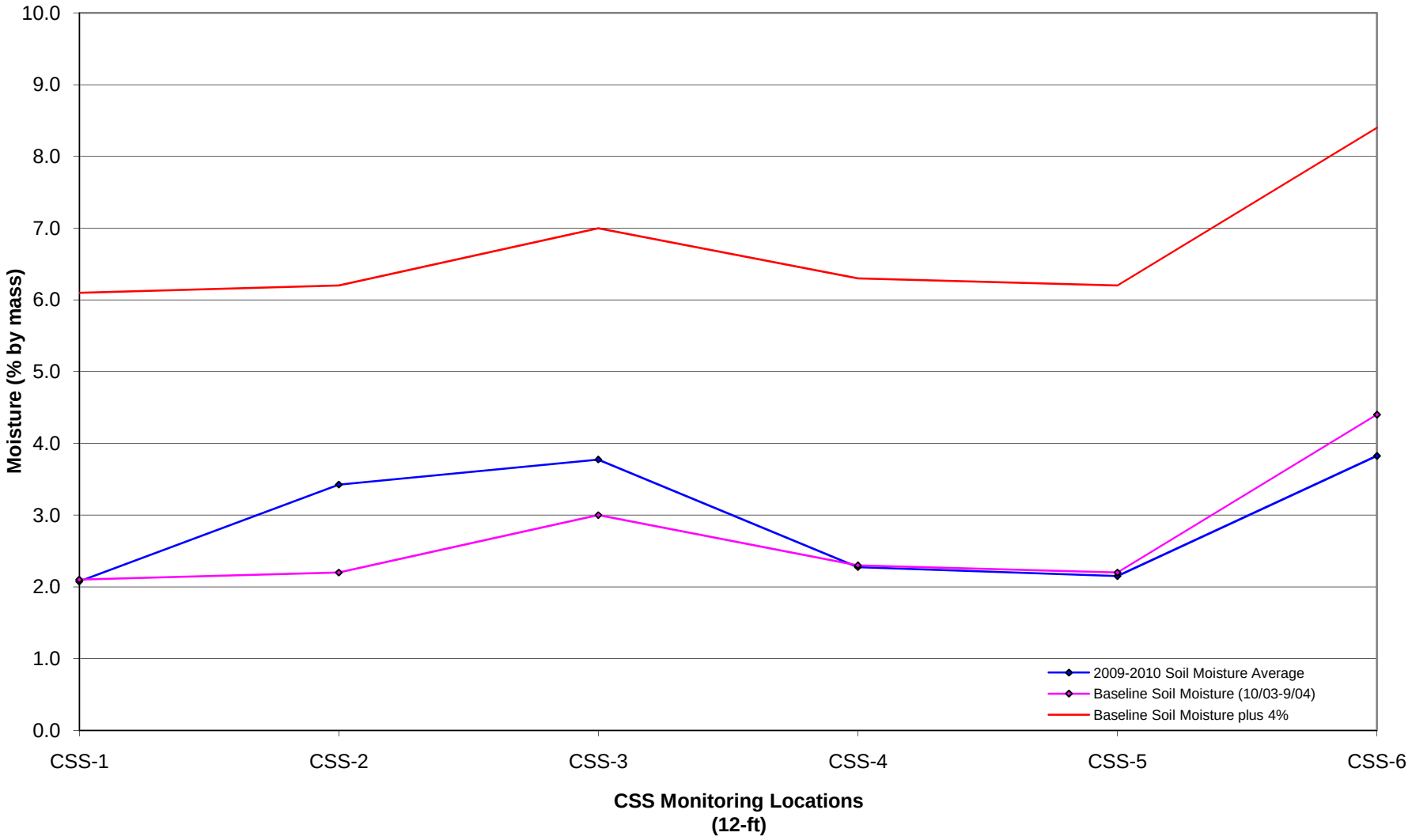

Figure C-1
Graph of CSS Soil Moisture Monitoring Results (12-Foot Monitoring Depth)
July 2009 - June 2010

Table C-2
CSS Soil Moisture Monitoring Results from 16-Foot Monitoring Depth
July 2009 – June 2010

Collection Date(s)	Monitoring Location					
	CSS-1	CSS-2	CSS-3	CSS-4	CSS-5	CSS-6
	Moisture (% by mass)					
2009						
Sept	3.1	3.6	2.6	2.7	2.6	5.6
Dec	3.1	3.7	2.8	2.9	2.8	5.6
2010						
Mar	2.9	3.7	2.6	2.6	2.7	5.6
Jun	3.2	3.6	2.7	2.7	2.7	5.5
2009-2010 Minimum	2.9	3.6	2.6	2.6	2.6	5.5
2009-2010 Maximum	3.2	3.7	2.8	2.9	2.8	5.6
2009-2010 Average	3.1	3.7	2.7	2.7	2.7	5.6
2009-2010 Std Dev	0.1	0.1	0.1	0.1	0.1	0.0
Baseline Average (10/03-9/04)	3.1	2.3	2.6	2.7	2.7	5.8
Difference between Baseline Average & 2009-2010 Average	0.0	1.4	0.1	0.0	0.0	-0.2

CSS = CWL sanitary sewer.
CWL = Chemical Waste Landfill.
Std Dev = Standard deviation.

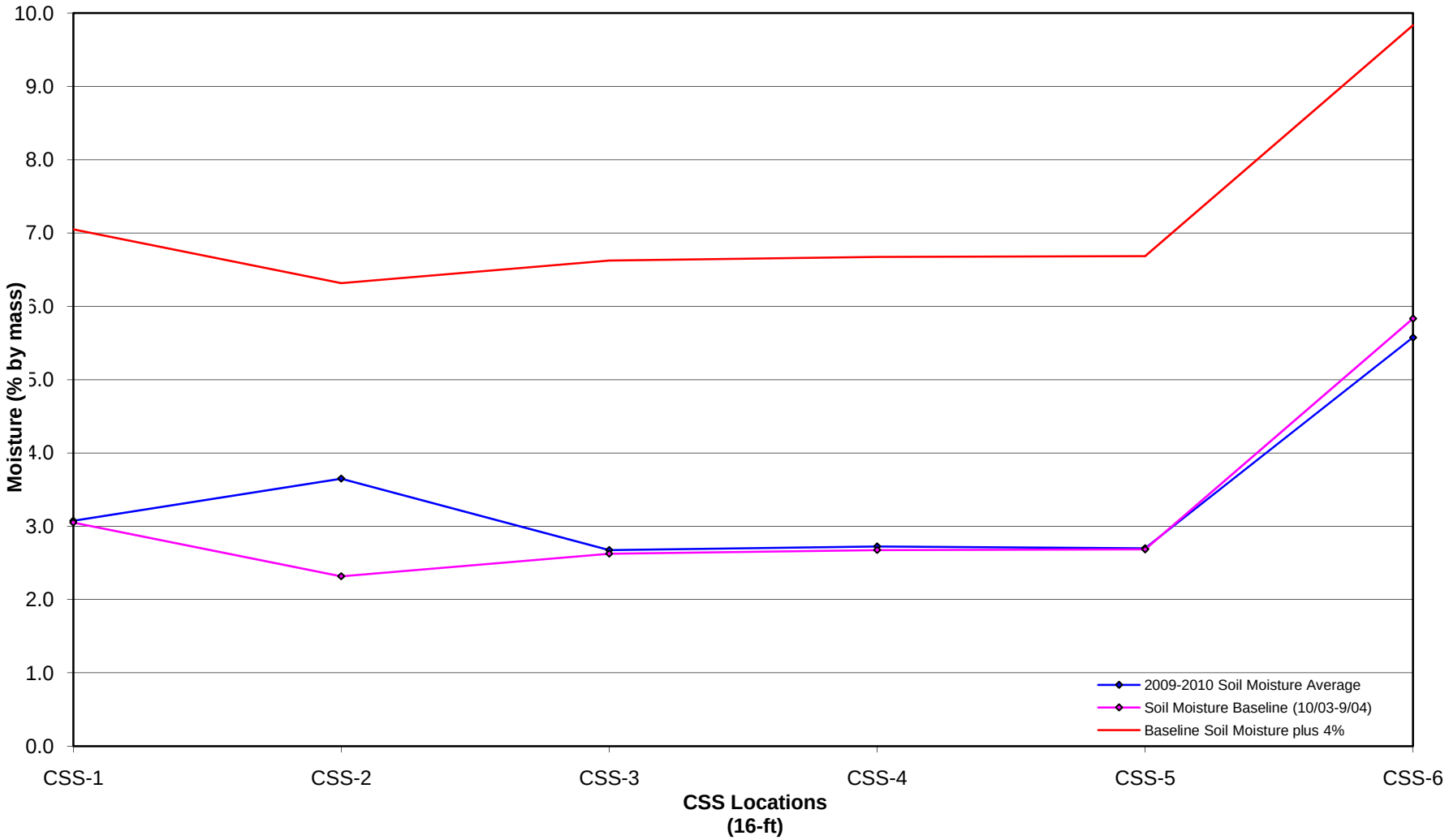

Figure C-2
Graph of CSS Soil Moisture Monitoring Results (16-Foot Monitoring Depth)
July 2009 - June 2010

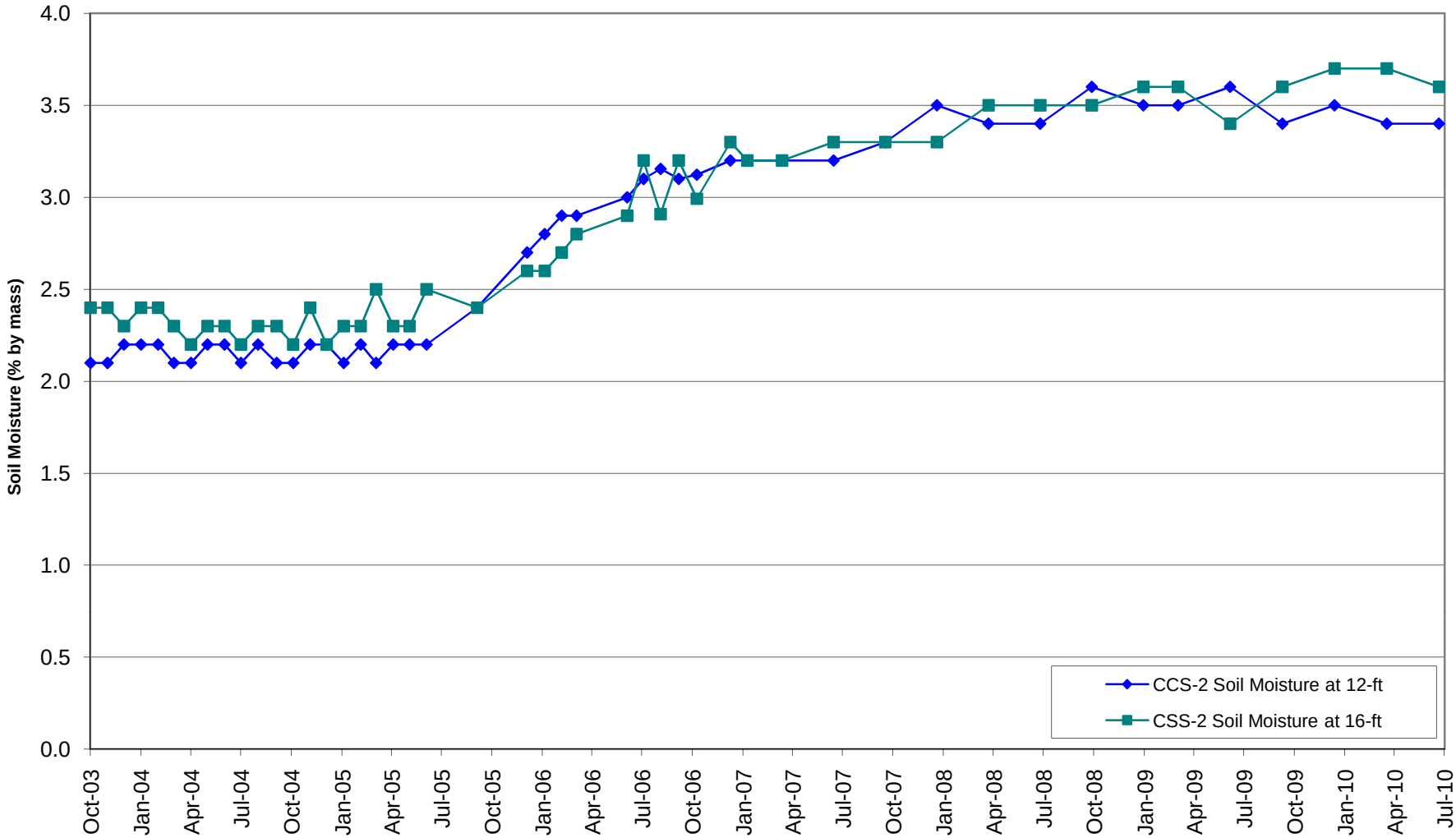

Figure C-3
Graph of CSS-2 Soil Moisture Increase
(12- and 16-Foot Monitoring Depth)
October 2003 - June 2010

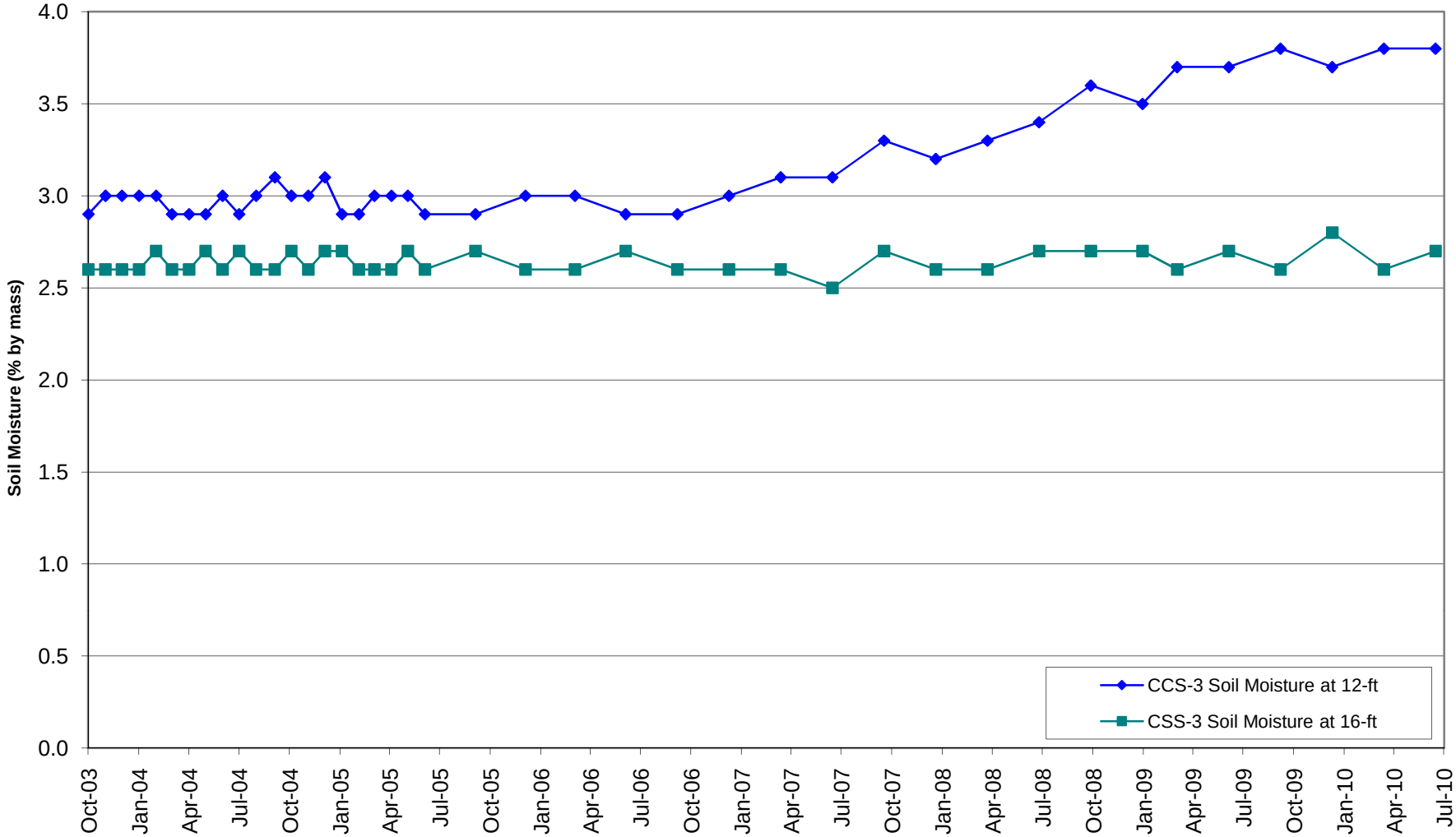

Figure C-4
Graph of CSS-3 Soil Moisture Increase
(12- and 16-Foot Monitoring Depth)
October 2003 - June 2010

ANNEX D
Summaries of VOC
Analyte Detection Statistics
and VOC Analyte Concentrations

Table D-1
EPA Method TO-14 Analyte List, Nominal MDLs, and Nominal LRLs

Analyte List	MDL (ppbv)	LRL (ppbv)
Acetone	2.5	10
Benzene	1.5	3
Benzyl chloride	2	10
Bromodicholoromethane	1	2
Bromoform	0.5	2
Bromomethane	2	4
2-Butanone	2	10
Carbon disulfide	2	10
Carbon tetrachloride	1	2
Chlorobenzene	1	2
Chloroethane	1.5	4
Chloroform	1	2
Chloromethane	2	4
Dibromochloromethane	1	2
1,2-Dibromethane	1	2
1,1,2,2-Dichloro-1,2-tetrafluoroethane	1	2
1,2-Dichlorobenzene	0.9	2
1,3-Dichlorobenzene	0.8	4
1,4-Dichlorobenzene	1	4
Dichlorodifluoromethane	1.5	3
1,1-Dichloroethane	1	2
1,2-Dichloroethane	1.5	3
1,1-Dichloroethene	1	2
cis-1,2-Dichloroethene	0.8	2
1,2-Dichloropropane	1.5	3
cis-1,3-Dichloropropene	1	2
trans-1,3-Dichloropropene	1	2
Ethylbenzene	1	2
4-Ethyltoluene	1	2
Hexachlorobutadiene	1.3	4
2-Hexanone	2	10
Methylene chloride	1	2
4-Methyl-2-pentanone	2	10
Styrene	1	2
1,1,2,2-Tetrachloroethane	1	2
Tetrachloroethene	1	2
Toluene	1	2
1,2,2-Trichloro-1,1,2-trifluoroethane	1	2
1,2,4-Trichlorobenzene	2.5	5
1,1,1-Trichloroethane	1	2
1,1,2-Trichloroethane	1	2
Trichloroethene	1	2
Trichlorofluoromethane	1	2

Refer to footnotes at end of table.

Table D-1
EPA Method TO-14 Analyte List, Nominal MDLs, and Nominal LRLs

Analyte List	MDL (ppbv)	LRL (ppbv)
1,2,4-Trimethylbenzene	1.3	3
1,3,5-Trimethylbenzene	1.1	3
Vinyl acetate	2	10
Vinyl chloride	2	4
m-,p-Xylene	2	4
o-Xylene	1	2

Note: All MDLs and LRLs associated with the analytical results reported by the laboratory for this monitoring period are shown.
EPA = U.S. Environmental Protection Agency.
LRL = Laboratory reporting limit.
MDL = Method detection limit.
ppbv = Parts per billion by volume.

Table D-2
Summary of Sample Collection Dates and Subsystems Sampled
for EPA Method TO-14A[a] Analyses
July 2009–June 2010

Collection Date	AR/COC Number	Subsystem Sampled	Subsystem where Duplicate Sample Collected
2009			
September 16	612335	CSS, VSA	CSS, VSA
December 7	612502	CSS, VSA	CSS, VSA
2010			
March 9, 15	612800	CSS, PSL, VSA	CSS, VSA
June 9, 15	613115	CSS, VSA	CSS, VSA

[a]EPA January 1999.
AR/COC = Analysis request/chain-of-custody record.
CSS = CWL sanitary sewer.
CWL = Chemical Waste Landfill.
EPA = U.S. Environmental Protection Agency.
PSL = Primary subliner.
VSA = Vertical sensor array.

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Acetone	East		4	10	U
	East Central		4	10	U
	Central		4	10	U
	West Central		4	10	U
	West		4	10	U
Benzene	East		1.5	3	U
	East Central		1.5	3	U
	Central		1.5	3	U
	West Central	31.0	1.5	3	
	West		1.5	3	U
Benzyl chloride	East		2	10	U
	East Central		2	10	U
	Central		2	10	U
	West Central		2	10	U
	West		2	10	U
Bromodichloromethane	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Bromoform	East		0.5	2	U
	East Central		0.5	2	U
	Central		0.5	2	U
	West Central		0.5	2	U
	West		0.5	2	U
Bromomethane	East		2	4	U
	East Central		2	4	U
	Central		2	4	U
	West Central		2	4	U
	West		2	4	U
Butanone, 2-	East		3	10	U
	East Central		3	10	U
	Central		3	10	U
	West Central		3	10	U
	West		3	10	U

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Carbon disulfide	East		4	10	U
	East Central		4	10	U
	Central		4	10	U
	West Central		4	10	U
	West		4	10	U
Carbon tetrachloride	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Chlorobenzene	East		0.5	2	U
	East Central		0.5	2	U
	Central		0.5	2	U
	West Central		0.5	2	U
	West		0.5	2	U
Chloroethane	East		1.5	4	U
	East Central		1.5	4	U
	Central		1.5	4	U
	West Central		1.5	4	U
	West		1.5	4	U
Chloroform	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Chloromethane	East		2	4	U
	East Central		2	4	U
	Central		2	4	U
	West Central	2.1	2	4	J
	West		2	4	U
Dibromochloromethane	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results	MDL	LRL	Data Qualifier
		(ppbv)			
Dibromoethane, 1,2-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Dichloro-1,1,2,2-tetrafluoroethane, 1,2-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Dichlorobenzene, 1,2-	East		0.9	2	U
	East Central		0.9	2	U
	Central		0.9	2	U
	West Central		0.9	2	U
	West		0.9	2	U
Dichlorobenzene, 1,3-	East		0.8	4	U
	East Central		0.8	4	U
	Central		0.8	4	U
	West Central		0.8	4	U
	West		0.8	4	U
Dichlorobenzene, 1,4-	East		1	4	U
	East Central		1	4	U
	Central		1	4	U
	West Central		1	4	U
	West		1	4	U
Dichlorodifluoromethane	East		1	3	U
	East Central		1	3	U
	Central		1	3	U
	West Central		1	3	U
	West		1	3	U
Dichloroethane, 1,1-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Dichloroethane, 1,2-	East		1.5	3	U
	East Central		1.5	3	U
	Central		1.5	3	U
	West Central		1.5	3	U
	West		1.5	3	U
Dichloroethene, 1,1-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Dichloroethene, cis-1,2-	East		0.8	2	U
	East Central		0.8	2	U
	Central		0.8	2	U
	West Central		0.8	2	U
	West		0.8	2	U
Dichloropropane, 1,2-	East		1.5	3	U
	East Central		1.5	3	U
	Central		1.5	3	U
	West Central		1.5	3	U
	West		1.5	3	U
Dichloropropene, cis-1,3-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Dichloropropene, trans-1,3-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Ethyl benzene	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results	MDL	LRL	Data Qualifier
		(ppbv)			
Ethyltoluene, 4-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Hexachlorobutadiene	East		1.5	4	U
	East Central		1.5	4	U
	Central		1.5	4	U
	West Central		1.5	4	U
	West		1.5	4	U
Hexanone, 2-	East		2	10	U
	East Central		2	10	U
	Central		2	10	U
	West Central		2	10	U
	West		2	10	U
Methylene chloride	East	1.6	1	2	J
	East Central	1.4	1	2	J
	Central	1.9	1	2	J
	West Central	2.1	1	2	B
	West	2.2	1	2	B
Pentanone, 4-methyl-, 2-	East		2	10	U
	East Central		2	10	U
	Central		2	10	U
	West Central		2	10	U
	West		2	10	U
Styrene	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Tetrachloroethane, 1,1,2,2-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results	MDL	LRL	Data Qualifier
		(ppbv)			
Tetrachloroethene	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Toluene	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Trichlorobenzene, 1,2,4-	East		2.5	5	U
	East Central		2.5	5	U
	Central		2.5	5	U
	West Central		2.5	5	U
	West		2.5	5	U
Trichloroethane, 1,1,1-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Trichloroethane, 1,1,2-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Trichloroethene	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results	MDL	LRL	Data Qualifier
		(ppbv)			
Trichlorofluoromethane	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U
Trimethylbenzene, 1,2,4-	East		1.3	3	U
	East Central		1.3	3	U
	Central		1.3	3	U
	West Central		1.3	3	U
	West		1.3	3	U
Trimethylbenzene, 1,3,5-	East		2	4	U
	East Central		2	4	U
	Central		2	4	U
	West Central		2	4	U
	West		2	4	U
Vinyl acetate	East		10	20	U
	East Central		10	20	U
	Central		10	20	U
	West Central		10	20	U
	West		10	20	U
Vinyl chloride	East		2	4	U
	East Central		2	4	U
	Central		2	4	U
	West Central		2	4	U
	West		2	4	U
Xylene, m-, p-	East		2	4	U
	East Central		2	4	U
	Central		2	4	U
	West Central		2	4	U
	West		2	4	U

Table D-3
Summary of VOC Analyte Concentrations for PSL
Soil-Vapor Sampling
March 2010

Analytes Detected	PSL Location	Date			
		Mar-10			
		Results	MDL	LRL	Data Qualifier
		(ppbv)			
Xylene, o-	East		1	2	U
	East Central		1	2	U
	Central		1	2	U
	West Central		1	2	U
	West		1	2	U

Notes: Concentrations above the MDL and below the LRL are qualified as estimated values by the laboratory.

Shaded areas indicate detections at, or above, the LRL.

Blank cells in results column indicate nondetections.

B = Method blank contamination.

J = Estimated result. Result is less than the LRL.

LRL = Laboratory reporting limit.

MDL = Method detection limit.

ppbv = Part(s) per billion by volume.

RL4 = Reporting limit raised due to insufficient sample volume.

PSL = Primary subliner.

VOC = Volatile organic compound.

U = Nondetect.

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Acetone	VSA-1		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-2		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-3		2.5	10	U		4.3	11	U,RL4		4	10	U		4	10	U
	VSA-4		2.5	10	U		4	10	U		4.5	11	U	8.4	4	10	J
	VSA-5		2.5	10	U		4	10	U		4	10	U	8.4	4	10	J
	VSA-6	18.0	2.5	10			4	10	U		4	10	U		4	10	U
	VSA-7	21.0	2.5	10			4	10	U		4	10	U		4	10	U
	VSA-8		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-9		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-10		2.5	10	U		4	10	U		4	10	U	5.0	4	10	J
	VSA-11		2.5	10	U		4	10	U		4	10	U	9.3	4	10	J
Benzene	VSA-1		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-2		1.5	3	U		1.5	3	U	5.3	1.5	3			1.5	3	U
	VSA-3		1.5	3	U		1.6	3.3	U,RL4		1.5	3	U		1.5	3	U
	VSA-4		1.5	3	U	5.4	1.5	3			1.7	3.3	U		1.5	3	U
	VSA-5		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-7		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-8		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-9		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-10		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-11		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Benzyl chloride	VSA-1		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-2		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-3		2	10	U		2.2	11	U,RL4		2	10	U		2	10	U
	VSA-4		2	10	U		2	10	U		2.2	11	U		2	10	U
	VSA-5		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-6		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-7		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-8		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-9		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-10		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-11		2	10	U		2	10	U		2	10	U		2	10	U
Bromodichloromethane	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Bromoform	VSA-1		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-2		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-3		0.5	2	U		0.54	2.2	U,RL4		0.5	2	U		0.5	2	U
	VSA-4		0.5	2	U		0.5	2	U		0.56	2.2	U		0.5	2	U
	VSA-5		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-6		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-7		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-8		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-9		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-10		0.5	2	U		0.51	2	U		0.5	2	U		0.5	2	U
	VSA-11		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
Bromomethane	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-3		2	4	U		2.2	4.3	U,RL4		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2.2	4.5	U		2	4	U
	VSA-5		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-6	11.0	2	4			2	4	U		2	4	U		2	4	U
	VSA-7	2.4	2	4	J		2	4	U		2	4	U		2	4	U
	VSA-8	2.2	2	4	J		2	4	U		2	4	U	8.7	2	4	
	VSA-9		2	4	U		2	4	U		2	4	U	5.9	2	4	
	VSA-10		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-11		2	4	U		2	4	U		2	4	U	11.0	2	4	
Butanone, 2-	VSA-1		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-2		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-3		2	10	U		3.3	11	U,RL4		3	10	U		3	10	U
	VSA-4		2	10	U		3	10	U		3.3	11	U		3	10	U
	VSA-5		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-6	10.0	2	10	J		3	10	U		3	10	U		3	10	U
	VSA-7	14.0	2	10			3	10	U		3	10	U		3	10	U
	VSA-8		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-9		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-10		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-11		2	10	U		3	10	U		3	10	U		3	10	U
Carbon disulfide	VSA-1		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-2		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-3		2	10	U		4.3	11	U,RL4		4	10	U		4	10	U
	VSA-4		2	10	U		4	10	U		4.5	11	U		4	10	U
	VSA-5		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-6	24.0	2	10			4	10	U		4	10	U		4	10	U
	VSA-7	70.0	2	10			4	10	U		4	10	U		4	10	U
	VSA-8	2.4	2	10	J		4	10	U		4	10	U		4	10	U
	VSA-9	6.7	2	10	J		4	10	U		4	10	U		4	10	U
	VSA-10		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-11		2	10	U		4	10	U		4	10	U	22.0	4	10	

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Carbon tetrachloride	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Chlorobenzene	VSA-1		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-2		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-3		1	2	U		0.54	2.2	U,RL4		0.5	2	U		0.5	2	U
	VSA-4		1	2	U		0.5	2	U		0.56	2.2	U		0.5	2	U
	VSA-5		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-6		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-7		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-8		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-9		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-10		1	2	U		0.51	2	U		0.5	2	U		0.5	2	U
	VSA-11		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
Chloroethane	VSA-1		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-2		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-3		1.5	4	U		1.6	4.3	U,RL4		1.5	4	U		1.5	4	U
	VSA-4		1.5	4	U		1.5	4	U		1.7	4.5	U		1.5	4	U
	VSA-5		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-6		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-7		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-8		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-9		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-10		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-11		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
Chloroform	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Chloromethane	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-3		2	4	U		2.2	4.3	U,RL4		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2.2	4.5	U		2	4	U
	VSA-5		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-6	5.5	2	4			2	4	U		2	4	U		2	4	U
	VSA-7		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-8		2	4	U		2	4	U		2	4	U	6.3	2	4	
	VSA-9		2	4	U		2	4	U		2	4	U	5.9	2	4	
	VSA-10		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-11		2	4	U		2	4	U		2	4	U	9.3	2	4	
Dibromochloromethane	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dibromoethane, 1,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloro-1,1,2,2-tetrafluoroethane, 1,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Dichlorobenzene, 1,2-	VSA-1		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
	VSA-2	3.0	0.9	2		1.5	0.9	2	J	2.4	0.9	2		2.7	0.9	2	
	VSA-3		0.9	2	U	7.7	0.98	2.2	RL4	6.0	0.9	2		6.2	0.9	2	
	VSA-4	1.9	0.9	2	J	1.7	0.9	2	J	1.9	1	2.2	J	1.2	0.9	2	J
	VSA-5		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
	VSA-6		0.9	2	U		0.9	2	U		0.9	2	U	1.2	0.9	2	J
	VSA-7	3.0	0.9	2		2.9	0.9	2		1.6	0.9	2	J	3.1	0.9	2	
	VSA-8	2.7	0.9	2		2.4	0.9	2		2.6	0.9	2		1.9	0.9	2	J
	VSA-9		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
	VSA-10		0.9	2	U		0.91	2	U		0.9	2	U		0.9	2	U
	VSA-11		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
Dichlorobenzene, 1,3-	VSA-1		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-2		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-3		0.8	4	U		0.87	4.3	U,RL4		0.8	4	U		0.8	4	U
	VSA-4		0.8	4	U		0.8	4	U		0.89	4.5	U		0.8	4	U
	VSA-5		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-6		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-7		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-8		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-9		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-10		0.8	4	U		0.81	4	U		0.8	4	U		0.8	4	U
	VSA-11		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
Dichlorobenzene, 1,4-	VSA-1		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-2		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-3		1	4	U		1.1	4.3	U,RL4		1	4	U		1	4	U
	VSA-4		1	4	U		1	4	U		1.1	4.5	U		1	4	U
	VSA-5		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-6		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-7		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-8		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-9		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-10		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-11		1	4	U		1	4	U		1	4	U		1	4	U
Dichlorodifluoromethane	VSA-1	1.8	1.5	3	J		1	3	U	1.4	1	3	J	1.4	1	3	J
	VSA-2	2.2	1.5	3	J	2.1	1	3	J	1.8	1	3	J	2.1	1	3	J
	VSA-3	1.7	1.5	3	J	1.5	1.1	3.3	J,RL4	1.8	1	3	J		1	3	U
	VSA-4	2.1	1.5	3	J	2.2	1	3	J	1.8	1.1	3.3	J	1.9	1	3	J
	VSA-5	2.3	1.5	3	J	2.0	1	3	J	1.6	1	3	J	1.6	1	3	J
	VSA-6	2.4	1.5	3	J		1	3	U		1	3	U	2.5	1	3	J
	VSA-7	1.8	1.5	3	J	2.3	1	3	J		1	3	U	2.0	1	3	J
	VSA-8	2.0	1.5	3	J	2.3	1	3	J	1.7	1	3	J	1.6	1	3	J
	VSA-9	2.2	1.5	3	J	2.7	1	3	J	2.0	1	3	J	2.1	1	3	J
	VSA-10	2.1	1.5	3	J	2.5	1	3	J		1	3	U		1	3	U
	VSA-11	1.5	1.5	3	J	2.1	1	3	J	1.5	1	3	J	1.7	1	3	J

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Dichloroethane, 1,1-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloroethane, 1,2-	VSA-1		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-2		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-3		1.5	3	U		1.6	3.3	U,RL4		1.5	3	U		1.5	3	U
	VSA-4		1.5	3	U		1.5	3	U		1.7	3.3	U		1.5	3	U
	VSA-5		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-7		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-8		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-9		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-10		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-11		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Dichloroethene, 1,1-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloroethene, cis-1,2-	VSA-1		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-2		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-3		0.8	2	U		0.87	2.2	U,RL4		0.8	2	U		0.8	2	U
	VSA-4		0.8	2	U		0.8	2	U		0.89	2.2	U		0.8	2	U
	VSA-5		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-6		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-7		0.8	2	U	1.0	0.8	2	J		0.8	2	U		0.8	2	U
	VSA-8	2.4	0.8	2			0.8	2	U		0.8	2	U		0.8	2	U
	VSA-9		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-10		0.8	2	U		0.81	2	U		0.8	2	U		0.8	2	U
	VSA-11		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Dichloropropane, 1,2-	VSA-1		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-2		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-3		1.5	3	U		1.6	3.3	U,RL4		1.5	3	U		1.5	3	U
	VSA-4		1.5	3	U		1.5	3	U		1.7	3.3	U		1.5	3	U
	VSA-5		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-7		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-8		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-9		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-10		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-11		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Dichloropropene, cis-1,3-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloropropene, trans-1,3-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Ethyl benzene	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U	1.7	1	2	J
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Ethyltoluene, 4-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U	1.6	1	2	J		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U	2.3	1	2	
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Hexachlorobutadiene	VSA-1		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-2		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-3		1.3	4	U		1.6	4.3	U,RL4		1.5	4	U		1.5	4	U
	VSA-4		1.3	4	U		1.5	4	U		1.7	4.5	U		1.5	4	U
	VSA-5		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-6		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-7		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-8		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-9		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-10		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-11		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
Hexanone, 2-	VSA-1		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-2		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-3		2	10	U		2.2	11	U,RL4		2	10	U		2	10	U
	VSA-4		2	10	U		2	10	U		2.2	11	U		2	10	U
	VSA-5		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-6		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-7		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-8		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-9		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-10		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-11		2	10	U		2	10	U		2	10	U		2	10	U
Methylene chloride	VSA-1	1.0	1	2	J		1	2	U		1	2	U	1.2	1	2	J
	VSA-2		1	2	U		1	2	U		1	2	U	1.8	1	2	J
	VSA-3		1	2	U		1.1	2.2	U,RL4	1.8	1	2	J	1.5	1	2	J
	VSA-4	1.3	1	2	J	1.6	1	2	JB	2.0	1.1	2.2	J	4.3	1	2	
	VSA-5	1.5	1	2	J	1.7	1	2	JB	1.3	1	2	J	1.6	1	2	J
	VSA-6		1	2	U		1	2	U	1.2	1	2	J	1.1	1	2	J
	VSA-7		1	2	U		1	2	U	6.2	1	2			1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9	1.8	1	2	J		1	2	U	1.5	1	2	J	1.6	1	2	J
	VSA-10	1.4	1	2	J	1.5	1	2	JB		1	2	U		1	2	U
	VSA-11	1.7	1	2	J	1.1	1	2	JB		1	2	U		1	2	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Pentanone, 4-methyl-, 2-	VSA-1		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-2		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-3		2	10	U		2.2	11	U,RL4		2	10	U		2	10	U
	VSA-4		2	10	U		2	10	U		2.2	11	U		2	10	U
	VSA-5		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-6		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-7		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-8		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-9		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-10		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-11		2	10	U		2	10	U		2	10	U		2	10	U
Styrene	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Tetrachloroethane, 1,1,2,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Tetrachloroethene	VSA-1	5.5	1	2		5.7	1	2		5.4	1	2		5.2	1	2	
	VSA-2	9.4	1	2		9.0	1	2		8.9	1	2		9.4	1	2	
	VSA-3	6.9	1	2		9.9	1.1	2.2	RL4	8.8	1	2		8.9	1	2	
	VSA-4	6.9	1	2		6.6	1	2		7.7	1.1	2.2		7.1	1	2	
	VSA-5	5.6	1	2		5.9	1	2		5.3	1	2		4.6	1	2	
	VSA-6	11.0	1	2		16.0	1	2		12.0	1	2		13.0	1	2	
	VSA-7	11.0	1	2		12.0	1	2		6.2	1	2		11.0	1	2	
	VSA-8	10.0	1	2		12.0	1	2		12.0	1	2		13.0	1	2	
	VSA-9	5.4	1	2		6.9	1	2		6.3	1	2		7.1	1	2	
	VSA-10	6.4	1	2		7.6	1	2		7.7	1	2		8.5	1	2	
	VSA-11	4.6	1	2		5.0	1	2		5.1	1	2		5.2	1	2	

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Toluene	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U	23	1	2	
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6	3.5	1	2			1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U	2	1	2	J		1	2	U
	VSA-10		1	2	U	1.3	1	2	J		1	2	U	6.4	1	2	
	VSA-11	1.3	1	2	J		1	2	U		1	2	U		1	2	U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	VSA-1	2.0	1	2		2.0	1	2		1.8	1	2	J		1	2	U
	VSA-2	2.3	1	2		2.2	1	2		1.9	1	2	J	2.3	1	2	
	VSA-3	1.8	1	2	J	2.1	1.1	2.2	J,RL4	1.7	1	2	J	2.0	1	2	J
	VSA-4	1.8	1	2	J	2.1	1	2		3.5	1.1	2.2		1.7	1	2	J
	VSA-5	1.3	1	2	J	1.4	1	2	J		1	2	U	1.2	1	2	J
	VSA-6	5.0	1	2		5.3	1	2		2.4	1	2		4.5	1	2	
	VSA-7	3.6	1	2		4.0	1	2		1.4	1	2	J	3.7	1	2	
	VSA-8	3.6	1	2		3.5	1	2		2.4	1	2		3.3	1	2	
	VSA-9	3.6	1	2		3.8	1	2		2.6	1	2		3.5	1	2	
	VSA-10	3.3	1	2		3.9	1	2		2.9	1	2		3.1	1	2	
	VSA-11	1.8	1	2	J	2.0	1	2		1.8	1	2	J	2.1	1	2	
Trichlorobenzene, 1,2,4-	VSA-1		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-2		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-3		2.5	5	U		2.7	5.4	U,RL4		2.5	5	U		2.5	5	U
	VSA-4		2.5	5	U		2.5	5	U		2.8	5.6	U		2.5	5	U
	VSA-5		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-6		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-7		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-8		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-9		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-10		2.5	5	U		2.5	5.1	U		2.5	5	U		2.5	5	U
	VSA-11		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
Trichloroethane, 1,1,1-	VSA-1	1.8	1	2	J		1	2	U	1.7	1	2	J		1	2	U
	VSA-2	2.1	1	2		2.4	1	2		2.0	1	2	J	2.0	1	2	J
	VSA-3	2.0	1	2	J	2.3	1.1	2.2	RL4	2.1	1	2		1.8	1	2	J
	VSA-4	2.6	1	2		2.7	1	2		2.3	1.1	2.2		1.5	1	2	J
	VSA-5	2.4	1	2		2.4	1	2		1.9	1	2	J	2.2	1	2	
	VSA-6	2.2	1	2		2.7	1	2		1.8	1	2	J	2.1	1	2	
	VSA-7	1.6	1	2	J	1.8	1	2	J		1	2	U	1.5	1	2	J
	VSA-8	2.3	1	2		2.7	1	2		2.3	1	2		2.4	1	2	
	VSA-9	3.4	1	2		4.0	1	2		3.2	1	2		3.8	1	2	
	VSA-10	3.5	1	2		4.3	1	2		3.8	1	2		4.2	1	2	
	VSA-11	1.7	1	2	J	2.2	1	2		2.0	1	2	J		1	2	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Trichloroethane, 1,1,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Trichloroethene	VSA-1	31.0	1	2		33.0	1	2		31.0	1	2		26.0	1	2	
	VSA-2	60.0	1	2		69.0	1	2		62.0	1	2		56.0	1	2	
	VSA-3	47.0	1	2		62.0	1.1	2.2	RL4	54.0	1	2		49.0	1	2	
	VSA-4	47.0	1	2		49.0	1	2		50.0	1.1	2.2		39.0	1	2	
	VSA-5	39.0	1	2		63.0	1	2		38.0	1	2		31.0	1	2	
	VSA-6	41.0	1	2		50.0	1	2		33.0	1	2		35.0	1	2	
	VSA-7	51.0	1	2		64.0	1	2		27.0	1	2		46.0	1	2	
	VSA-8	63.0	1	2		70.0	1	2		52.0	1	2		65.0	1	2	
	VSA-9	24.0	1	2		30.0	1	2		24.0	1	2		27.0	1	2	
	VSA-10	24.0	1	2		27.0	1	2		25.0	1	2		29.0	1	2	
	VSA-11	21.0	1	2		25.0	1	2		22.0	1	2		24.0	1	2	
Trichlorofluoromethane	VSA-1	3.8	1	2		2.9	1	2		2.6	1	2		3.2	1	2	
	VSA-2	4.4	1	2		3.0	1	2		3.3	1	2		5.0	1	2	
	VSA-3	4.3	1	2		3.7	1.1	2.2	RL4	3.4	1	2		5.3	1	2	
	VSA-4	6.1	1	2		4.2	1	2		4.3	1.1	2.2		4.7	1	2	
	VSA-5	6.7	1	2		4.4	1	2		4.5	1	2		5.1	1	2	
	VSA-6	6.6	1	2		5.8	1	2		2.9	1	2		7.3	1	2	
	VSA-7	4.5	1	2		3.5	1	2		1.4	1	2	J	4.9	1	2	
	VSA-8	4.9	1	2		3.9	1	2		3.1	1	2		6.0	1	2	
	VSA-9	6.5	1	2		5.4	1	2		4.2	1	2		8.2	1	2	
	VSA-10	7.7	1	2		7.6	1	2		4.4	1	2			1	2	U
	VSA-11	5.5	1	2		5.4	1	2		3.6	1	2		7.8	1	2	
Trimethylbenzene, 1,2,4-	VSA-1		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-2		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-3		1.3	3	U		1.4	3.3	U,RL4		1.3	3	U		1.3	3	U
	VSA-4		1.3	3	U		1.3	3	U		1.4	3.3	U		1.3	3	U
	VSA-5		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-6		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-7		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-8		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-9		1.3	3	U		1.3	3	U	2.1	1.3	3	J		1.3	3	U
	VSA-10		1.3	3	U		1.3	3	U		1.3	3	U	2.4	1.3	3	J
	VSA-11		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Trimethylbenzene, 1,3,5-	VSA-1		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-2		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-3		1.1	3	U		2.2	4.3	U,RL4		2	4	U		2	4	U
	VSA-4		1.1	3	U		2	4	U		2.2	4.5	U		2	4	U
	VSA-5		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-6		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-7		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-8		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-9		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-10		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-11		1.1	3	U		2	4	U		2	4	U		2	4	U
Vinyl acetate	VSA-1		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-2		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-3		2	10	U		11	22	U,RL4		10	20	U		10	20	U
	VSA-4		2	10	U		10	20	U		11	22	U		10	20	U
	VSA-5		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-6		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-7		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-8		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-9		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-10		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-11		2	10	U		10	20	U		10	20	U		10	20	U
Vinyl chloride	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-3		2	4	U		2.2	4.3	U,RL4		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2.2	4.5	U		2	4	U
	VSA-5		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-6		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-7		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-8		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-9		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-10		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-11		2	4	U		2	4	U		2	4	U		2	4	U
Xylene, m-, p-	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-3		2	4	U		2.2	4.3	U,RL4		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2.2	4.5	U		2	4	U
	VSA-5		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-6		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-7		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-8		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-9		2	4	U		2	4	U	3	2	4	J		2	4	U
	VSA-10		2	4	U		2	4	U		2	4	U	5.6	2	4	
	VSA-11		2	4	U		2	4	U		2	4	U		2	4	U

Table D-4
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 5-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Xylene, o-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1.1	2.2	U,RL4		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1	2	U	1.4	1	2	J		1	2	U
	VSA-10		1	2	U		1	2	U		1	2	U	1.8	1	2	J
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Notes: Concentrations above the MDL and below the LRL are qualified as estimated values by the laboratory.

Shaded areas indicate detections at, or above, the LRL.

Blank cells in results column indicate nondetections.

J = Estimated result. Result is less than the LRL.

LRL = Laboratory reporting limit.

MDL = Method detection limit.

ppbv = Part(s) per billion by volume.

RL4 = Reporting limit raised due to insufficient sample volume.

U = Nondetect.

VOC = Volatile organic compound.

VSA = Vertical sensor array.

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Acetone	VSA-1		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-2		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-3		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-4		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-5		2.5	10	U		4	10	U		4.4	11	U		4	10	U
	VSA-6		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-7		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-8		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-9		2.5	10	U		4.2	11	U,RL4		4	10	U		4.5	11	U
	VSA-10		2.5	10	U		4	10	U		4	10	U		4	10	U
	VSA-11		2.5	10	U		4	10	U		4	10	U	4.5	4	10	J
Benzene	VSA-1		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-2		1.5	3	U		1.5	3	U	1.7	1.5	3	J		1.5	3	U
	VSA-3		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-4		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-5		1.5	3	U		1.5	3	U		1.6	3.3	U		1.5	3	U
	VSA-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-7		1.5	3	U	8.2	1.5	3			1.5	3	U		1.5	3	U
	VSA-8		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-9		1.5	3	U	7.2	1.6	3.2	RL4		1.5	3	U		1.7	3.4	U
	VSA-10		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-11		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Benzyl chloride	VSA-1		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-2		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-3		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-4		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-5		2	10	U		2	10	U		2.2	11	U		2	10	U
	VSA-6		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-7		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-8		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-9		2	10	U		2.1	11	U,RL4		2	10	U		2.3	11	U
	VSA-10		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-11		2	10	U		2	10	U		2	10	U		2	10	U
Bromodichloromethane	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Bromoform	VSA-1		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-2		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-3		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-4		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-5		0.5	2	U		0.5	2	U		0.55	2.2	U		0.5	2	U
	VSA-6		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-7		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-8		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-9		0.5	2	U		0.53	2.1	U,RL4		0.5	2	U		0.56	2.3	U
	VSA-10		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-11		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
Bromomethane	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-3		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-5		2	4	U		2	4	U		2.2	4.4	U		2	4	U
	VSA-6	3.2	2	4	J		2	4	U		2	4	U		2	4	U
	VSA-7		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-8		2	4	U		2	4	U		2	4	U	13.0	2	4	
	VSA-9		2	4	U		2.1	4.2	U,RL4		2	4	U	16.0	2.3	4.5	
	VSA-10		2	4	U		2	4	U		2	4	U	9.8	2	4	
	VSA-11		2	4	U		2	4	U		2	4	U		2	4	U
Butanone, 2-	VSA-1		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-2		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-3		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-4		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-5		2	10	U		3	10	U		3.3	11	U		3	10	U
	VSA-6		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-7		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-8		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-9		2	10	U		3.2	11	U,RL4		3	10	U		3.4	11	U
	VSA-10		2	10	U		3	10	U		3	10	U		3	10	U
	VSA-11		2	10	U		3	10	U		3	10	U		3	10	U
Carbon disulfide	VSA-1		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-2		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-3		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-4		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-5		2	10	U		4	10	U		4.4	11	U		4	10	U
	VSA-6		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-7		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-8		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-9		2	10	U		4.2	11	U,RL4		4	10	U		4.5	11	U
	VSA-10		2	10	U		4	10	U		4	10	U		4	10	U
	VSA-11		2	10	U		4	10	U		4	10	U		4	10	U

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Carbon tetrachloride	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Chlorobenzene	VSA-1		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-2		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-3		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-4		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-5		1	2	U		0.5	2	U		0.55	2.2	U		0.5	2	U
	VSA-6		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-7		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-8		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-9		1	2	U		0.53	2.1	U,RL4		0.5	2	U		0.56	2.3	U
	VSA-10		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	VSA-11		1	2	U		0.5	2	U		0.5	2	U	3.0	0.5	2	
Chloroethane	VSA-1		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-2		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-3		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-4		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-5		1.5	4	U		1.5	4	U		1.6	4.4	U		1.5	4	U
	VSA-6		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-7		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-8		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-9		1.5	4	U		1.6	4.2	U,RL4		1.5	4	U		1.7	4.5	U
	VSA-10		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-11		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
Chloroform	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Chloromethane	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-3		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-5		2	4	U		2	4	U		2.2	4.4	U		2	4	U
	VSA-6	3.8	2	4	J		2	4	U		2	4	U		2	4	U
	VSA-7		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-8		2	4	U		2	4	U		2	4	U	12.0	2	4	
	VSA-9	2.2	2	4	J		2.1	4.2	U,RL4		2	4	U	12.0	2.3	4.5	
	VSA-10		2	4	U		2	4	U		2	4	U	8.0	2	4	
	VSA-11		2	4	U		2	4	U		2	4	U		2	4	U
Dibromochloromethane	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dibromoethane, 1,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloro-1,1,2,2-tetrafluoroethane, 1,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Dichlorobenzene, 1,2-	VSA-1		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
	VSA-2	5.3	0.9	2		5.7	0.9	2		4.1	0.9	2		5.5	0.9	2	
	VSA-3	5.9	0.9	2		4.0	0.9	2		5.6	0.9	2		5.3	0.9	2	
	VSA-4	1.1	0.9	2	J	1.5	0.9	2	J	1.5	0.9	2	J	1.4	0.9	2	J
	VSA-5		0.9	2	U		0.9	2	U		0.99	2.2	U	1.2	0.9	2	J
	VSA-6	11.0	0.9	2		11.0	0.9	2		5.7	0.9	2		9.0	0.9	2	
	VSA-7	2.9	0.9	2		3.3	0.9	2		3.1	0.9	2		4.8	0.9	2	
	VSA-8	2.2	0.9	2		2.0	0.9	2	J		0.9	2	U		0.9	2	U
	VSA-9		0.9	2	U		0.95	2.1	U,RL4		0.9	2	U		1	2.3	U
	VSA-10		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
	VSA-11		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
Dichlorobenzene, 1,3-	VSA-1		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-2		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-3		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-4		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-5		0.8	4	U		0.8	4	U		0.88	4.4	U		0.8	4	U
	VSA-6	1.2	0.8	4	J	1.3	0.8	4	J		0.8	4	U	1.6	0.8	4	J
	VSA-7		0.8	4	U		0.8	4	U		0.8	4	U	1.1	0.8	4	J
	VSA-8		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-9		0.8	4	U		0.84	4.2	U,RL4		0.8	4	U		0.9	4.5	U
	VSA-10		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	VSA-11		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
Dichlorobenzene, 1,4-	VSA-1		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-2		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-3		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-4		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-5		1	4	U		1	4	U		1.1	4.4	U		1	4	U
	VSA-6		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-7		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-8		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-9		1	4	U		1.1	4.2	U,RL4		1	4	U		1.1	4.5	U
	VSA-10		1	4	U		1	4	U		1	4	U		1	4	U
	VSA-11		1	4	U		1	4	U		1	4	U		1	4	U
Dichlorodifluoromethane	VSA-1	2.3	1.5	3	J	2.2	1	3	J	1.8	1	3	J	1.8	1	3	J
	VSA-2		1.5	3	U	2.4	1	3	J	1.8	1	3	J	1.8	1	3	J
	VSA-3	2.3	1.5	3	J	2.3	1	3	J	1.8	1	3	J		1	3	U
	VSA-4	2.1	1.5	3	J	2.2	1	3	J		1	3	U	1.6	1	3	J
	VSA-5	2.6	1.5	3	J	2.0	1	3	J		1.1	3.3	U	1.6	1	3	J
	VSA-6	2.7	1.5	3	J		1	3	U		1	3	U	2.4	1	3	J
	VSA-7		1.5	3	U	2.4	1	3	J	1.9	1	3	J	2.1	1	3	J
	VSA-8	2.0	1.5	3	J	2.3	1	3	J		1	3	U	2.2	1	3	J
	VSA-9	2.3	1.5	3	J	2.4	1.1	3.2	J,RL4		1	3	U	2.2	1.1	3.4	J
	VSA-10	2.2	1.5	3	J	2.6	1	3	J	2.2	1	3	J	2.5	1	3	J
	VSA-11	1.5	1.5	3	J		1	3	U		1	3	U		1	3	U

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Dichloroethane, 1,1-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloroethane, 1,2-	VSA-1		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-2		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-3		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-4		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-5		1.5	3	U		1.5	3	U		1.6	3.3	U		1.5	3	U
	VSA-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-7		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-8		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-9		1.5	3	U		1.6	3.2	U,RL4		1.5	3	U		1.7	3.4	U
	VSA-10		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-11		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Dichloroethene, 1,1-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloroethene, cis-1,2-	VSA-1		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-2		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-3		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-4		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-5		0.8	2	U		0.8	2	U		0.88	2.2	U		0.8	2	U
	VSA-6		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-7		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-8		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-9		0.8	2	U		0.84	2.1	U,RL4		0.8	2	U		0.9	2.3	U
	VSA-10		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	VSA-11		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Dichloropropane, 1,2-	VSA-1		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-2		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-3		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-4		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-5		1.5	3	U		1.5	3	U		1.6	3.3	U		1.5	3	U
	VSA-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-7		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-8		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-9		1.5	3	U		1.6	3.2	U,RL4		1.5	3	U		1.7	3.4	U
	VSA-10		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	VSA-11		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Dichloropropene, cis-1,3-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Dichloropropene, trans-1,3-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Ethyl benzene	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U	2.0	1	2	J		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U	1.2	1	2	J
	VSA-11		1	2	U		1	2	U		1	2	U	3.9	1	2	

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Ethyltoluene, 4-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U	3.6	1	2			1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U	1.3	1	2	J		1	2	U	2.4	1	2	
	VSA-7		1	2	U		1	2	U		1	2	U	7.5	1	2	
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U	3.6	1	2	
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Hexachlorobutadiene	VSA-1		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-2		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-3		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-4		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-5		1.3	4	U		1.5	4	U		1.6	4.4	U		1.5	4	U
	VSA-6		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-7		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-8		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-9		1.3	4	U		1.6	4.2	U,RL4		1.5	4	U		1.7	4.5	U
	VSA-10		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	VSA-11		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
Hexanone, 2-	VSA-1		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-2		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-3		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-4		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-5		2	10	U		2	10	U		2.2	11	U		2	10	U
	VSA-6		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-7		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-8		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-9		2	10	U		2.1	11	U,RL4		2	10	U		2.3	11	U
	VSA-10		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-11		2	10	U		2	10	U		2	10	U		2	10	U
Methylene chloride	VSA-1		1	2	U		1	2	U	1.1	1	2	J	1.0	1	2	J
	VSA-2		1	2	U		1	2	U	1.5	1	2	J	1.4	1	2	J
	VSA-3	1.0	1	2	J		1	2	U	1.3	1	2	J		1	2	U
	VSA-4	1.4	1	2	J	1.9	1	2	JB	1.6	1	2	J	1.7	1	2	J
	VSA-5		1	2	U	1.1	1	2	JB		1.1	2.2	U		1	2	U
	VSA-6	1.4	1	2	J		1	2	U	1.5	1	2	J	1.1	1	2	J
	VSA-7		1	2	U		1	2	U	1.1	1	2	J	2.0	1	2	J
	VSA-8	1.4	1	2	J		1	2	U		1	2	U		1	2	U
	VSA-9	1.3	1	2	J	1.3	1.1	2.1	J,RL4	2.0	1	2	J		1.1	2.3	U
	VSA-10	1.7	1	2	J		1	2	U	1.4	1	2	J		1	2	U
	VSA-11	1.8	1	2	J		1	2	U	1.2	1	2	J	2.0	1	2	J

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Pentanone, 4-methyl-, 2-	VSA-1		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-2		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-3		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-4		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-5		2	10	U		2	10	U		2.2	11	U		2	10	U
	VSA-6		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-7		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-8		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-9		2	10	U		2.1	11	U,RL4		2	10	U		2.3	11	U
	VSA-10		2	10	U		2	10	U		2	10	U		2	10	U
	VSA-11		2	10	U		2	10	U		2	10	U		2	10	U
Styrene	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Tetrachloroethane, 1,1,2,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Tetrachloroethene	VSA-1	4.8	1	2		5	1	2		5.2	1	2		4.9	1	2	
	VSA-2	8.1	1	2		8	1	2		8.3	1	2		8.5	1	2	
	VSA-3	8.3	1	2		8	1	2		8.0	1	2		9.0	1	2	
	VSA-4	7.0	1	2		7	1	2		6.3	1	2		5.9	1	2	
	VSA-5	8.7	1	2		5	1	2		5.8	1.1	2.2		5.4	1	2	
	VSA-6	13.0	1	2		14	1	2		14.0	1	2		13.0	1	2	
	VSA-7	11.0	1	2		11	1	2		11.0	1	2		12.0	1	2	
	VSA-8	9.1	1	2		10	1	2		10.0	1	2		12.0	1	2	
	VSA-9	6.0	1	2		7	1.1	2.1	RL4	7.5	1	2		8.4	1.1	2.3	
	VSA-10	6.3	1	2		7	1	2		7.5	1	2		8.8	1	2	
	VSA-11	4.5	1	2		5	1	2		3.1	1	2		4.2	1	2	

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Toluene	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U	9.3	1	2			1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4	2.6	1	2			1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U	4.0	1	2	
	VSA-11		1	2	U	1.6	1	2	J		1	2	U	3.7	1	2	
Trichloro-1,2,2-trifluoroethane, 1,1,2-	VSA-1	3.1	1	2		3.2	1	2		2.7	1	2		2.8	1	2	
	VSA-2	2.7	1	2		2.8	1	2		2.2	1	2		2.5	1	2	
	VSA-3	2.4	1	2		2.4	1	2		2.1	1	2			1	2	U
	VSA-4	1.4	1	2	J	1.4	1	2	J	1.4	1	2	J		1	2	U
	VSA-5	2.1	1	2		1.8	1	2	J	1.7	1.1	2.2	J	1.7	1	2	J
	VSA-6	6.4	1	2		6.4	1	2		4.3	1	2		5.7	1	2	
	VSA-7	4.4	1	2		5.1	1	2		3.6	1	2		4.8	1	2	
	VSA-8	4.3	1	2		4.7	1	2		3.5	1	2		4.9	1	2	
	VSA-9	4.0	1	2		4.1	1.1	2.1	RL4	3.1	1	2		4.3	1.1	2.3	
	VSA-10	3.7	1	2		4.1	1	2		2.9	1	2		4.1	1	2	
	VSA-11		1	2	U	1.7	1	2	J		1	2	U		1	2	U
Trichlorobenzene, 1,2,4-	VSA-1		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-2		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-3		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-4		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-5		2.5	5	U		2.5	5	U		2.7	5.5	U		2.5	5	U
	VSA-6		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-7		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-8		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-9		2.5	5	U		2.6	5.3	U,RL4		2.5	5	U		2.8	5.6	U
	VSA-10		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	VSA-11		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
Trichloroethane, 1,1,1-	VSA-1	1.6	1	2	J	1.8	1	2	J	1.9	1	2	J	1.8	1	2	J
	VSA-2	2.1	1	2		2.3	1	2		2	1	2		2.2	1	2	
	VSA-3	2.5	1	2		2.5	1	2		2	1	2	J	2.2	1	2	
	VSA-4	2.3	1	2		2.8	1	2		2.4	1	2		1.7	1	2	J
	VSA-5	2.5	1	2		2.4	1	2		2.1	1.1	2.2	J	2.1	1	2	
	VSA-6	2.3	1	2		2.7	1	2		2.2	1	2		2.1	1	2	
	VSA-7	1.5	1	2	J		1	2	U	1.7	1	2	J	1.8	1	2	J
	VSA-8	2.2	1	2		2.7	1	2		2.6	1	2		3.2	1	2	
	VSA-9	3.4	1	2		3.6	1.1	2.1	RL4	3.6	1	2		4.1	1.1	2.3	
	VSA-10	3.4	1	2		4.2	1	2		3.8	1	2		5.1	1	2	
	VSA-11	1.8	1	2	J	2.1	1	2		1.2	1	2	J	2.2	1	2	

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Trichloroethane, 1,1,2-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-11		1	2	U		1	2	U		1	2	U		1	2	U
Trichloroethene	VSA-1	26.0	1	2		31.0	1	2		29.0	1	2		27.0	1	2	
	VSA-2	51.0	1	2		60.0	1	2		54.0	1	2		50.0	1	2	
	VSA-3	53.0	1	2		56.0	1	2		54.0	1	2		48.0	1	2	
	VSA-4	52.0	1	2		56.0	1	2		52.0	1	2		39.0	1	2	
	VSA-5	39.0	1	2		39.0	1	2		40.0	1.1	2.2		33.0	1	2	
	VSA-6	43.0	1	2		45.0	1	2		36.0	1	2		39.0	1	2	
	VSA-7	53.0	1	2		57.0	1	2		48.0	1	2		50.0	1	2	
	VSA-8	49.0	1	2		53.0	1	2		49.0	1	2		60.0	1	2	
	VSA-9	28.0	1	2		29.0	1.1	2.1	RL4	30.0	1	2		37.0	1.1	2.3	
	VSA-10	28.0	1	2		33.0	1	2		30.0	1	2		35.0	1	2	
	VSA-11	17.0	1	2		19.0	1	2		12.0	1	2		18.0	1	2	
Trichlorofluoromethane	VSA-1	4.3	1	2		3.2	1	2		3.4	1	2		4.4	1	2	
	VSA-2	4.7	1	2		3.4	1	2		3.1	1	2		4.9	1	2	
	VSA-3	5.6	1	2		3.7	1	2		4.0	1	2		5.5	1	2	
	VSA-4	5.1	1	2		3.9	1	2		4.1	1	2		4.1	1	2	
	VSA-5	7.5	1	2		4.6	1	2		4.8	1.1	2.2		6.1	1	2	
	VSA-6	8.1	1	2		6.2	1	2		4.4	1	2		8.6	1	2	
	VSA-7	5.1	1	2		4.3	1	2		3.4	1	2		6.4	1	2	
	VSA-8	5.4	1	2		4.6	1	2		3.8	1	2		8.1	1	2	
	VSA-9	7.0	1	2		5.8	1.1	2.1	RL4		1	2	U	9.0	1.1	2.3	
	VSA-10	7.9	1	2		7.3	1	2		6.2	1	2		12.0	1	2	
	VSA-11	5.1	1	2		4.9	1	2		2.1	1	2			1	2	U
Trimethylbenzene, 1,2,4-	VSA-1		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-2		1.3	3	U		1.3	3	U	4.0	1.3	3			1.3	3	U
	VSA-3		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-4		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-5		1.3	3	U		1.3	3	U		1.4	3.3	U		1.3	3	U
	VSA-6		1.3	3	U	1.9	1.3	3	J		1.3	3	U	3.1	1.3	3	
	VSA-7		1.3	3	U		1.3	3	U		1.3	3	U	5.9	1.3	3	
	VSA-8		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	VSA-9		1.3	3	U		1.4	3.2	U,RL4		1.3	3	U		1.5	3.4	U
	VSA-10		1.3	3	U		1.3	3	U		1.3	3	U	5.5	1.3	3	
	VSA-11		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Trimethylbenzene, 1,3,5-	VSA-1		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-2		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-3		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-4		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-5		1.1	3	U		2	4	U		2.2	4.4	U		2	4	U
	VSA-6		1.1	3	U		2	4	U		2	4	U	2.1	2	4	J
	VSA-7		1.1	3	U		2	4	U		2	4	U	7.7	2	4	
	VSA-8		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-9		1.1	3	U		2.1	4.2	U,RL4		2	4	U		2.3	4.5	U
	VSA-10		1.1	3	U		2	4	U		2	4	U		2	4	U
	VSA-11		1.1	3	U		2	4	U		2	4	U		2	4	U
Vinyl acetate	VSA-1		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-2		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-3		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-4		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-5		2	10	U		10	20	U		11	22	U		10	20	U
	VSA-6		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-7		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-8		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-9		2	10	U		11	21	U,RL4		10	20	U		11	23	U
	VSA-10		2	10	U		10	20	U		10	20	U		10	20	U
	VSA-11		2	10	U		10	20	U		10	20	U		10	20	U
Vinyl chloride	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-3		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-5		2	4	U		2	4	U		2.2	4.4	U		2	4	U
	VSA-6		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-7		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-8		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-9		2	4	U		2.1	4.2	U,RL4		2	4	U		2.3	4.5	U
	VSA-10		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-11		2	4	U		2	4	U		2	4	U		2	4	U
Xylene, m-, p-	VSA-1		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-2		2	4	U		2	4	U	9.6	2	4			2	4	U
	VSA-3		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-4		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-5		2	4	U		2	4	U		2.2	4.4	U		2	4	U
	VSA-6		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-7		2	4	U		2	4	U		2	4	U	6.2	2	4	
	VSA-8		2	4	U		2	4	U		2	4	U		2	4	U
	VSA-9		2	4	U		2.1	4.2	U,RL4		2	4	U		2.3	4.5	U
	VSA-10		2	4	U		2	4	U		2	4	U	7.1	2	4	
	VSA-11		2	4	U		2	4	U		2	4	U	19.0	2	4	

Table D-5
Summary of VOC Analyte Concentrations for VSA Soil-Vapor Sampling from 15-Foot Monitoring Depth
July 2009–June 2010

Analytes Detected	VSA Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Xylene, o-	VSA-1		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-2		1	2	U		1	2	U	4.0	1	2			1	2	U
	VSA-3		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-4		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-5		1	2	U		1	2	U		1.1	2.2	U		1	2	U
	VSA-6		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-7		1	2	U		1	2	U		1	2	U	4.3	1	2	
	VSA-8		1	2	U		1	2	U		1	2	U		1	2	U
	VSA-9		1	2	U		1.1	2.1	U,RL4		1	2	U		1.1	2.3	U
	VSA-10		1	2	U		1	2	U		1	2	U	3.5	1	2	
	VSA-11		1	2	U		1	2	U		1	2	U	5.2	1	2	

Notes: Concentrations above the MDL and below the LRL are qualified as estimated values by the laboratory.

Shaded areas indicate detections at, or above, the LRL.

Blank cells in results column indicate nondetections.

J = Estimated result. Result is less than the LRL.

LRL = Laboratory reporting limit.

MDL = Method detection limit.

ppbv = Part(s) per billion by volume.

RL4 = Reporting limit raised due to insufficient sample volume.

U = Nondetect.

VOC = Volatile organic compound.

VSA = Vertical Sensor Array

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Acetone	CSS-1		2.5	10	U		4.5	11	U,RL4		4	10	U		3.5	8.6	U
	CSS-2		2.5	10	U		4	10	U		4	10	U		4	10	U
	CSS-3		2.5	10	U		4	10	U		4	10	U		4.5	11	U
	CSS-4		2.5	10	U		4.1	10	U		4	10	U	12.0	4	10	
	CSS-5		2.5	10	U		4.1	10	U		4	10	U	5.9	4	10	J
	CSS-6		2.5	10	U		4.1	10	U		4	10	U		4	10	U
Benzene	CSS-1		1.5	3	U		1.7	3.3	U,RL4	1.6	1.5	3	J		1.3	2.6	U
	CSS-2		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	CSS-3		1.5	3	U		1.5	3	U		1.5	3	U		1.7	3.4	U
	CSS-4		1.5	3	U		1.5	3.1	U		1.5	3	U		1.5	3	U
	CSS-5		1.5	3	U		1.5	3.1	U		1.5	3	U		1.5	3	U
	CSS-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Benzyl chloride	CSS-1		2	10	U		2.2	11	U,RL4		2	10	U		1.7	8.6	U
	CSS-2		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-3		2	10	U		2	10	U		2	10	U		2.2	11	U
	CSS-4		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-5		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-6		2	10	U		2	10	U		2	10	U		2	10	U
Bromodichloromethane	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Bromoform	CSS-1		0.5	2	U		0.56	2.2	U,RL4		0.5	2	U		0.43	1.7	U
	CSS-2		0.5	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	CSS-3		0.5	2	U		0.51	2	U		0.5	2	U		0.56	2.2	U
	CSS-4		0.5	2	U		0.51	2	U		0.5	2	U		0.5	2	U
	CSS-5		0.5	2	U		0.51	2	U		0.5	2	U		0.5	2	U
	CSS-6		0.5	2	U		0.51	2	U		0.5	2	U		0.5	2	U
Bromomethane	CSS-1		2	4	U		2.2	4.5	U,RL4		2	4	U		1.7	3.5	U
	CSS-2		2	4	U		2	4	U		2	4	U		2	4	U
	CSS-3		2	4	U		2	4	U		2	4	U		2.2	4.5	U
	CSS-4		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-5		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-6		2	4	U		2	4.1	U		2	4	U		2	4	U
Butanone, 2-	CSS-1		2	10	U		3.3	11	U,RL4		3	10	U		2.6	8.6	U
	CSS-2		2	10	U		3	10	U		3	10	U		3	10	U
	CSS-3		2	10	U		3	10	U		3	10	U		3.4	11	U
	CSS-4		2	10	U		3.1	10	U		3	10	U		3	10	U
	CSS-5		2	10	U		3.1	10	U		3	10	U		3	10	U
	CSS-6		2	10	U		3	10	U		3	10	U		3	10	U
Carbon disulfide	CSS-1		2	10	U		4.5	11	U,RL4		4	10	U		3.5	8.6	U
	CSS-2		2	10	U		4	10	U		4	10	U		4	10	U
	CSS-3		2	10	U		4	10	U		4	10	U		4.5	11	U
	CSS-4		2	10	U		4.1	10	U		4	10	U		4	10	U
	CSS-5		2	10	U		4.1	10	U		4	10	U		4	10	U
	CSS-6		2	10	U		4.1	10	U		4	10	U		4	10	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Carbon tetrachloride	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Chlorobenzene	CSS-1		1	2	U		0.56	2.2	U,RL4		0.5	2	U		0.43	1.7	U
	CSS-2		1	2	U		0.5	2	U		0.5	2	U		0.5	2	U
	CSS-3		1	2	U		0.51	2	U		0.5	2	U		0.56	2.2	U
	CSS-4		1	2	U		0.51	2	U		0.5	2	U		0.5	2	U
	CSS-5		1	2	U		0.51	2	U		0.5	2	U		0.5	2	U
	CSS-6		1	2	U		0.51	2	U		0.5	2	U		0.5	2	U
Chloroethane	CSS-1		1.5	4	U		1.7	4.5	U,RL4		1.5	4	U		1.3	3.5	U
	CSS-2		1.5	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	CSS-3		1.5	4	U		1.5	4	U		1.5	4	U		1.7	4.5	U
	CSS-4		1.5	4	U		1.5	4.1	U		1.5	4	U		1.5	4	U
	CSS-5		1.5	4	U		1.5	4.1	U		1.5	4	U		1.5	4	U
	CSS-6		1.5	4	U		1.5	4.1	U		1.5	4	U		1.5	4	U
Chloroform	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Chloromethane	CSS-1		2	4	U		2.2	4.5	U,RL4		2	4	U		1.7	3.5	U
	CSS-2		2	4	U		2	4	U		2	4	U		2	4	U
	CSS-3		2	4	U		2	4	U		2	4	U		2.2	4.5	U
	CSS-4		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-5		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-6		2	4	U		2	4.1	U		2	4	U		2	4	U
Dibromochloromethane	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Dibromoethane, 1,2-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Dichloro-1,1,2,2-tetrafluoroethane, 1,2-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Dichlorobenzene, 1,2-	CSS-1		0.9	2	U		1	2.2	U,RL4		0.9	2	U		0.78	1.7	U
	CSS-2		0.9	2	U		0.9	2	U		0.9	2	U		0.9	2	U
	CSS-3		0.9	2	U		0.91	2	U		0.9	2	U		1	2.2	U
	CSS-4		0.9	2	U		0.92	2	U		0.9	2	U		0.9	2	U
	CSS-5		0.9	2	U		0.92	2	U		0.9	2	U		0.9	2	U
	CSS-6		0.9	2	U		0.91	2	U		0.9	2	U		0.9	2	U
Dichlorobenzene, 1,3-	CSS-1		0.8	4	U		0.89	4.5	U,RL4		0.8	4	U		0.69	3.5	U
	CSS-2		0.8	4	U		0.8	4	U		0.8	4	U		0.8	4	U
	CSS-3		0.8	4	U		0.81	4	U		0.8	4	U		0.9	4.5	U
	CSS-4		0.8	4	U		0.82	4.1	U		0.8	4	U		0.8	4	U
	CSS-5		0.8	4	U		0.81	4.1	U		0.8	4	U		0.8	4	U
	CSS-6		0.8	4	U		0.81	4.1	U		0.8	4	U		0.8	4	U
Dichlorobenzene, 1,4-	CSS-1		1	4	U		1.1	4.5	U,RL4		1	4	U		0.86	3.5	U
	CSS-2		1	4	U		1	4	U		1	4	U		1	4	U
	CSS-3		1	4	U		1	4	U		1	4	U		1.1	4.5	U
	CSS-4		1	4	U		1	4.1	U		1	4	U		1	4	U
	CSS-5		1	4	U		1	4.1	U		1	4	U		1	4	U
	CSS-6		1	4	U		1	4.1	U		1	4	U		1	4	U
Dichlorodifluoromethane	CSS-1		1.5	3	U		1.1	3.3	U,RL4		1	3	U		0.86	2.6	U
	CSS-2		1.5	3	U	1.6	1	3	J		1	3	U	1.4	1	3	J
	CSS-3		1.5	3	U	1.1	1	3	J		1	3	U		1.1	3.4	U
	CSS-4	1.6	1.5	3	J	2.2	1	3.1	J	1.4	1	3	J	1.6	1	3	J
	CSS-5		1.5	3	U		1	3.1	U		1	3	U	1.5	1	3	J
	CSS-6	2.6	1.5	3	J	3.4	1	3		1.8	1	3	J	2.4	1	3	J

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier	Results	MDL	LRL	Data Qualifier
		(ppbv)				(ppbv)				(ppbv)				(ppbv)			
Dichloroethane, 1,1-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Dichloroethane, 1,2-	CSS-1		1.5	3	U		1.7	3.3	U,RL4		1.5	3	U		1.3	2.6	U
	CSS-2		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	CSS-3		1.5	3	U		1.5	3	U		1.5	3	U		1.7	3.4	U
	CSS-4		1.5	3	U		1.5	3.1	U		1.5	3	U		1.5	3	U
	CSS-5		1.5	3	U		1.5	3.1	U		1.5	3	U		1.5	3	U
	CSS-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Dichloroethene, 1,1-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Dichloroethene, cis-1,2-	CSS-1		0.8	2	U		0.89	2.2	U,RL4		0.8	2	U		0.69	1.7	U
	CSS-2		0.8	2	U		0.8	2	U		0.8	2	U		0.8	2	U
	CSS-3		0.8	2	U		0.81	2	U		0.8	2	U		0.9	2.2	U
	CSS-4		0.8	2	U		0.82	2	U		0.8	2	U		0.8	2	U
	CSS-5		0.8	2	U		0.81	2	U		0.8	2	U		0.8	2	U
	CSS-6		0.8	2	U		0.81	2	U		0.8	2	U		0.8	2	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Dichloropropane, 1,2-	CSS-1		1.5	3	U		1.7	3.3	U,RL4		1.5	3	U		1.3	2.6	U
	CSS-2		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
	CSS-3		1.5	3	U		1.5	3	U		1.5	3	U		1.7	3.4	U
	CSS-4		1.5	3	U		1.5	3.1	U		1.5	3	U		1.5	3	U
	CSS-5		1.5	3	U		1.5	3.1	U		1.5	3	U		1.5	3	U
	CSS-6		1.5	3	U		1.5	3	U		1.5	3	U		1.5	3	U
Dichloropropene, cis-1,3-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Dichloropropene, trans-1,3-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Ethyl benzene	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Ethyltoluene, 4-	CSS-1		1	2	U		1.1	2.2	U,RL4	1	1	2	J		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Hexachlorobutadiene	CSS-1		1.3	4	U		1.7	4.5	U,RL4		1.5	4	U		1.3	3.5	U
	CSS-2		1.3	4	U		1.5	4	U		1.5	4	U		1.5	4	U
	CSS-3		1.3	4	U		1.5	4	U		1.5	4	U		1.7	4.5	U
	CSS-4		1.3	4	U		1.5	4.1	U		1.5	4	U		1.5	4	U
	CSS-5		1.3	4	U		1.5	4.1	U		1.5	4	U		1.5	4	U
	CSS-6		1.3	4	U		1.5	4.1	U		1.5	4	U		1.5	4	U
Hexanone, 2-	CSS-1		2	10	U		2.2	11	U,RL4		2	10	U		1.7	8.6	U
	CSS-2		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-3		2	10	U		2	10	U		2	10	U		2.2	11	U
	CSS-4		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-5		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-6		2	10	U		2	10	U		2	10	U		2	10	U
Methylene chloride	CSS-1	1.6	1	2	J		1.1	2.2	U,RL4	1.1	1	2	J	1.1	0.86	1.7	J
	CSS-2	1.4	1	2	J	1.9	1	2	J	1.1	1	2	J		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U	1.6	1.1	2.2	J
	CSS-4	1.2	1	2	J		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U	1.6	1	2	J	1.1	1	2	J
	CSS-6		1	2	U	1.3	1	2	J	1.6	1	2	J	1.5	1	2	J

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Pentanone, 4-methyl-, 2-	CSS-1		2	10	U		2.2	11	U,RL4		2	10	U		1.7	8.6	U
	CSS-2		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-3		2	10	U		2	10	U		2	10	U		2.2	11	U
	CSS-4		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-5		2	10	U		2	10	U		2	10	U		2	10	U
	CSS-6		2	10	U		2	10	U		2	10	U		2	10	U
Styrene	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Tetrachloroethane, 1,1,2,2-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Tetrachloroethene	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2	3.3	1	2		3.3	1	2		1.0	1	2	J	2.4	1	2	
	CSS-3		1	2	U	1.9	1	2	J		1	2	U	1.4	1.1	2.2	J
	CSS-4	2.6	1	2		3.1	1	2		2.1	1	2		3.6	1	2	
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Toluene	CSS-1		1	2	U		1.1	2.2	U,RL4	3.4	1	2			0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U	3.6	1.1	2.2	
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	CSS-1	1.2	1	2	J		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2	2.0	1	2		2.5	1	2		1.3	1	2	J		1	2	U
	CSS-3		1	2	U	1.8	1	2	J		1	2	U		1.1	2.2	U
	CSS-4	6.5	1	2		9.0	1	2		5.1	1	2		6.5	1	2	
	CSS-5	7.0	1	2		11.0	1	2		1.2	1	2	J	8.3	1	2	
	CSS-6	22	1	2		28.0	1	2		13.0	1	2		20.0	1	2	
Trichlorobenzene, 1,2,4-	CSS-1		2.5	5	U		2.8	5.6	U,RL4		2.5	5	U		2.2	4.3	U
	CSS-2		2.5	5	U		2.5	5	U		2.5	5	U		2.5	5	U
	CSS-3		2.5	5	U		2.5	5.1	U		2.5	5	U		2.8	5.6	U
	CSS-4		2.5	5	U		2.6	5.1	U		2.5	5	U		2.5	5	U
	CSS-5		2.5	5	U		2.5	5.1	U		2.5	5	U		2.5	5	U
	CSS-6		2.5	5	U		2.5	5.1	U		2.5	5	U		2.5	5	U
Trichloroethane, 1,1,1-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2	1.8	1	2	J	2.1	1	2		1	1	2	J	2.0	1	2	
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U	1.2	1	2	J		1	2	U	1.1	1	2	J
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Trichloroethane, 1,1,2-	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U
Trichloroethene	CSS-1		1	2	U	1.4	1.1	2.2	JRL4		1	2	U		0.86	1.7	U
	CSS-2	8.0	1	2		8.4	1	2		4.1	1	2		8.5	1	2	
	CSS-3		1	2	U	6.8	1	2			1	2	U	4.2	1.1	2.2	
	CSS-4	5.5	1	2		9.3	1	2		4.7	1	2		7.0	1	2	
	CSS-5	4.8	1	2		8.1	1	2			1	2	U	6.4	1	2	
	CSS-6	20.0	1	2		13.0	1	2		11.0	1	2		21.0	1	2	
Trichlorofluoromethane	CSS-1		1	2	U		1.1	2.2	U,RL4		1	2	U	1.2	0.86	1.7	J
	CSS-2	3.5	1	2		2.1	1	2		1.4	1	2	J	3.9	1	2	
	CSS-3		1	2	U	1.1	1	2	J		1	2	U		1.1	2.2	U
	CSS-4	4.4	1	2			1	2	U	2.9	1	2		5.0	1	2	
	CSS-5	2.9	1	2		3.1	1	2			1	2	U	3.8	1	2	
	CSS-6	7.5	1	2		6.9	1	2		3.5	1	2		8.2	1	2	
Trimethylbenzene, 1,2,4-	CSS-1		1.3	3	U		1.4	3.3	U,RL4		1.3	3	U		1.1	2.6	U
	CSS-2		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U
	CSS-3		1.3	3	U		1.3	3	U		1.3	3	U		1.5	3.4	U
	CSS-4		1.3	3	U		1.3	3.1	U		1.3	3	U		1.3	3	U
	CSS-5		1.3	3	U		1.3	3.1	U		1.3	3	U		1.3	3	U
	CSS-6		1.3	3	U		1.3	3	U		1.3	3	U		1.3	3	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Trimethylbenzene, 1,3,5-	CSS-1		1.1	3	U		2.2	4.5	U,RL4		2	4	U		1.7	3.5	U
	CSS-2		1.1	3	U		2	4	U		2	4	U		2	4	U
	CSS-3		1.1	3	U		2	4	U		2	4	U		2.2	4.5	U
	CSS-4		1.1	3	U		2	4.1	U		2	4	U		2	4	U
	CSS-5		1.1	3	U		2	4.1	U		2	4	U		2	4	U
	CSS-6		1.1	3	U		2	4.1	U		2	4	U		2	4	U
Vinyl acetate	CSS-1		2	10	U		11	22	U,RL4		10	20	U		8.6	17	U
	CSS-2		2	10	U		10	20	U		10	20	U		10	20	U
	CSS-3		2	10	U		10	20	U		10	20	U		11	22	U
	CSS-4		2	10	U		10	20	U		10	20	U		10	20	U
	CSS-5		2	10	U		10	20	U		10	20	U		10	20	U
	CSS-6		2	10	U		10	20	U		10	20	U		10	20	U
Vinyl chloride	CSS-1		2	4	U		2.2	4.5	U,RL4		2	4	U		1.7	3.5	U
	CSS-2		2	4	U		2	4	U		2	4	U		2	4	U
	CSS-3		2	4	U		2	4	U		2	4	U		2.2	4.5	U
	CSS-4		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-5		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-6		2	4	U		2	4.1	U		2	4	U		2	4	U
Xylene, m-, p-	CSS-1		2	4	U		2.2	4.5	U,RL4	3.5	2	4	J		1.7	3.5	U
	CSS-2		2	4	U		2	4	U		2	4	U		2	4	U
	CSS-3		2	4	U		2	4	U		2	4	U		2.2	4.5	U
	CSS-4		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-5		2	4	U		2	4.1	U		2	4	U		2	4	U
	CSS-6		2	4	U		2	4.1	U		2	4	U		2	4	U

Table D-6
Summary of VOC Analyte Concentrations for CSS Soil-Vapor Sampling
July 2009–June 2010

Analytes Detected	CSS Location	Date															
		Sep-09				Dec-09				Mar-10				Jun-10			
		Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier	Results (ppbv)	MDL (ppbv)	LRL (ppbv)	Data Qualifier
Xylene, o-	CSS-1		1	2	U		1.1	2.2	U,RL4	1.1	1	2	J		0.86	1.7	U
	CSS-2		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-3		1	2	U		1	2	U		1	2	U		1.1	2.2	U
	CSS-4		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-5		1	2	U		1	2	U		1	2	U		1	2	U
	CSS-6		1	2	U		1	2	U		1	2	U		1	2	U

Notes: Concentrations above the MDL and below the LRL are qualified as estimated values by the laboratory.

Shaded areas indicate detections at, or above, the LRL.

Blank cells in results column indicate nondetections.

CSS = CWL sanitary sewer.

CWL = Chemical Waste Landfill.

J = Estimated result. Result is less than the LRL.

LRL = Laboratory reporting limit.

MDL = Method detection limit.

ppbv = Part(s) per billion by volume.

RL4 = Reporting limit raised due to insufficient sample volume.

U = Nondetect.

VOC = Volatile organic compound.

FIGURES

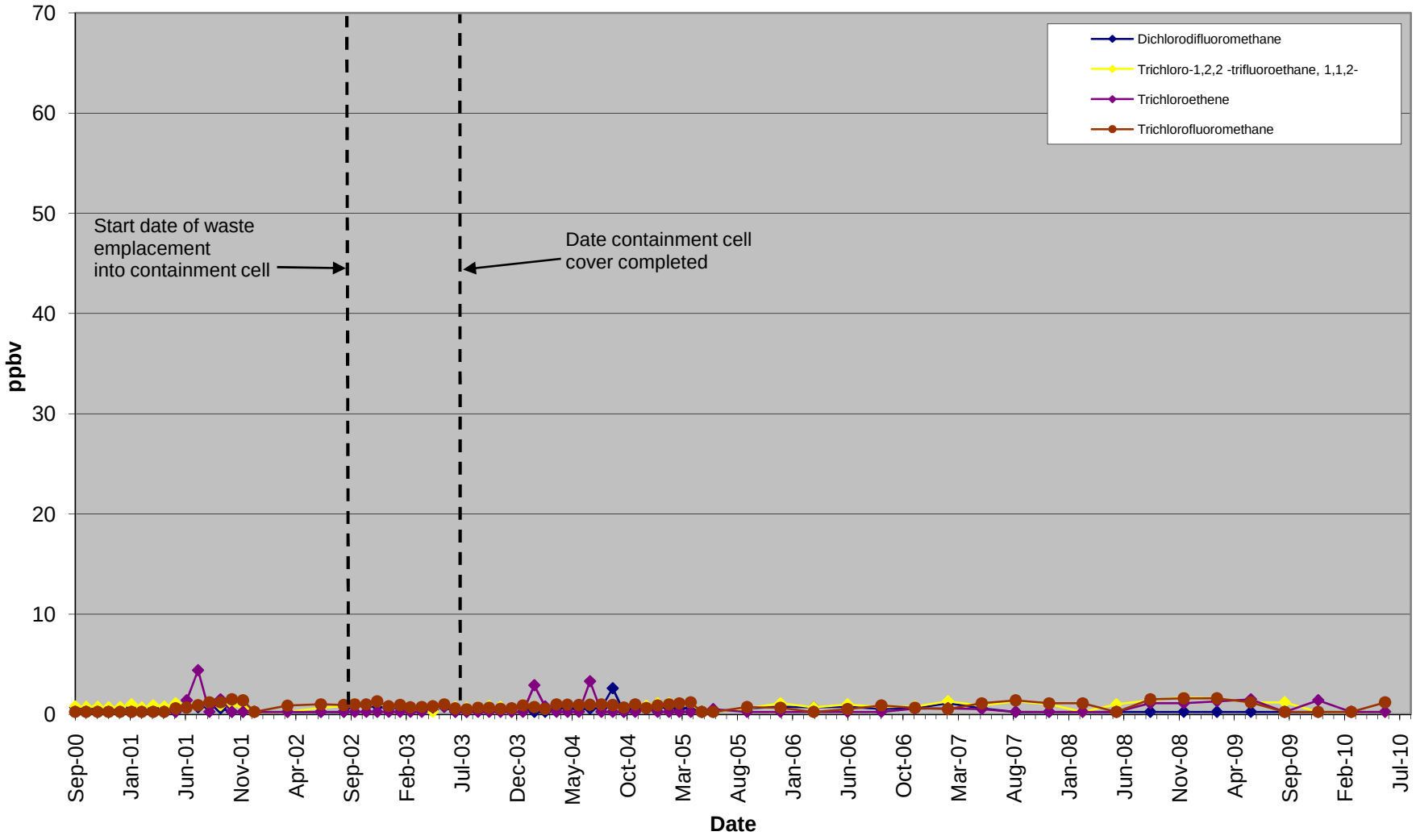

Figure D-1
Graph of VOC Concentrations at CSS-1

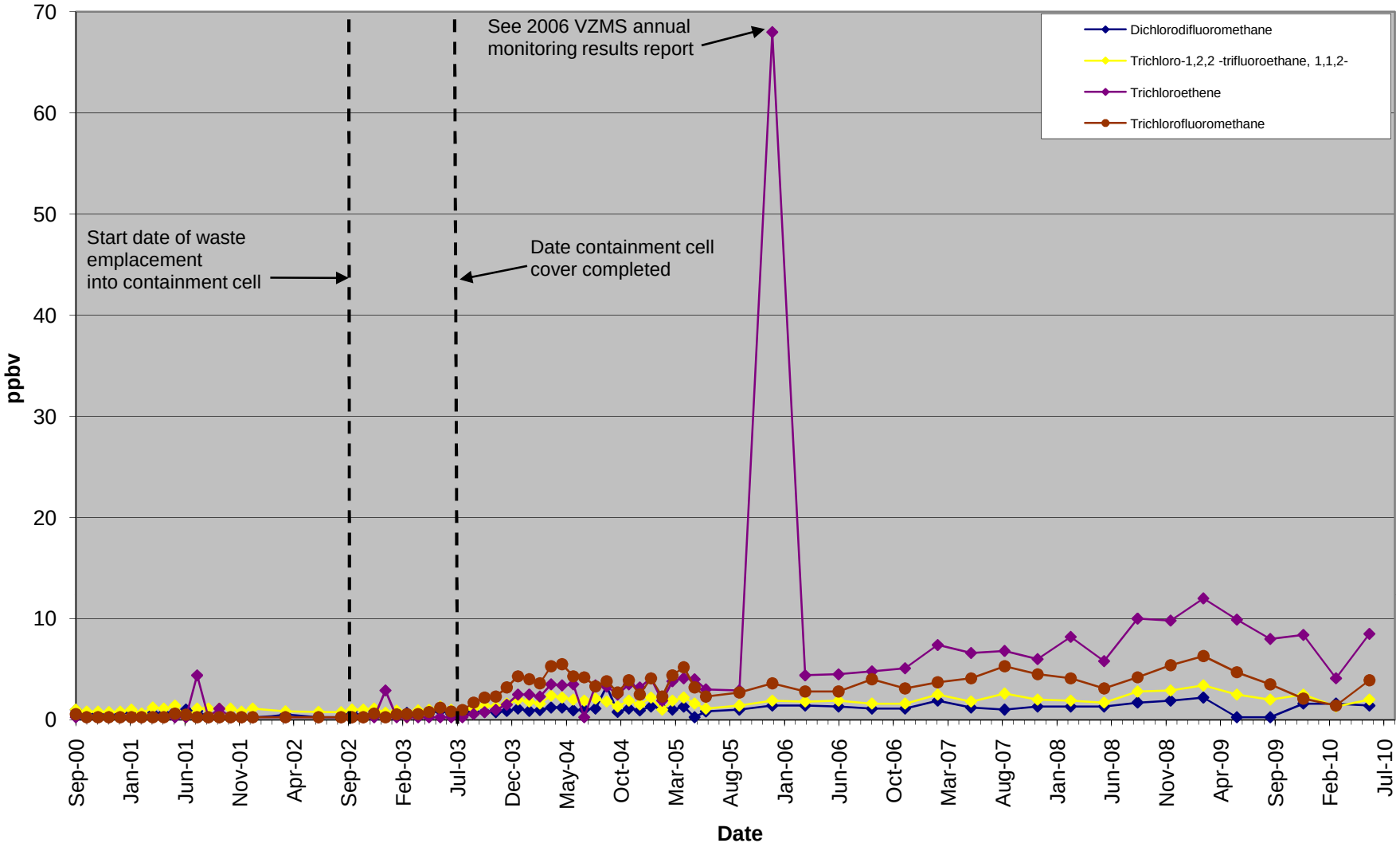

Figure D-2
Graph of VOC Concentrations at CSS-2

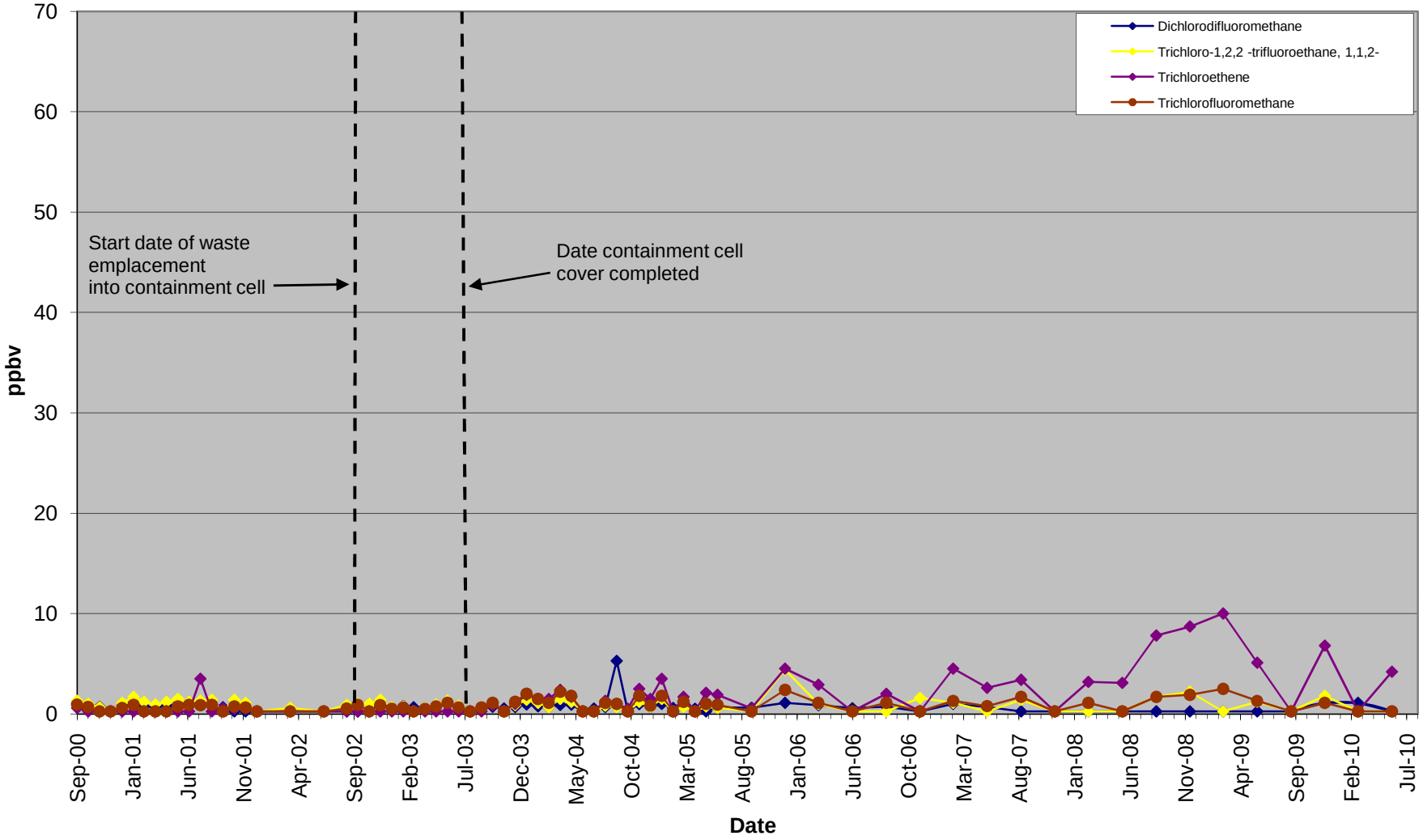

Figure D-3
Graph of VOC Concentrations at CSS-3

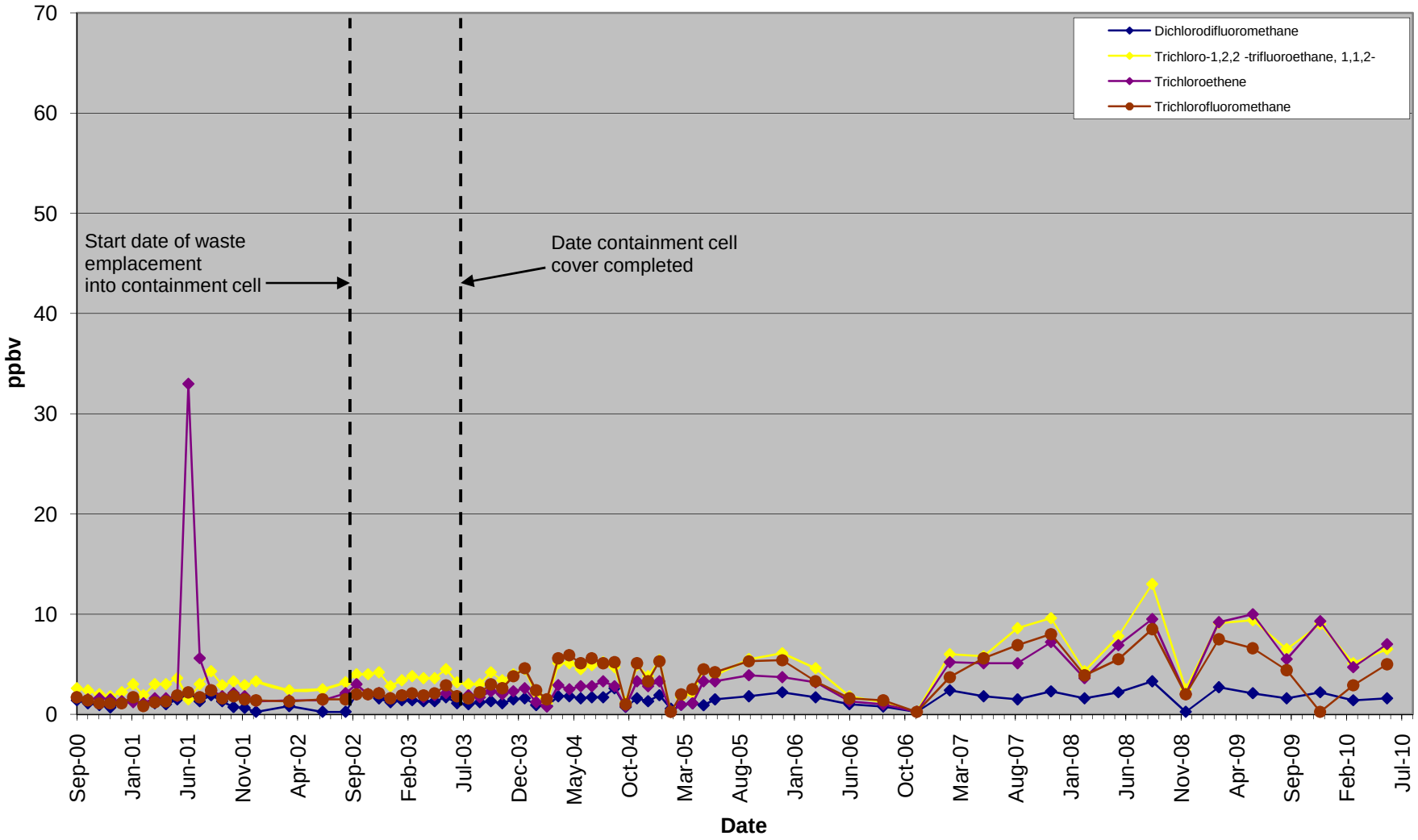

Figure D-4
Graph of VOC Concentrations at CSS-4

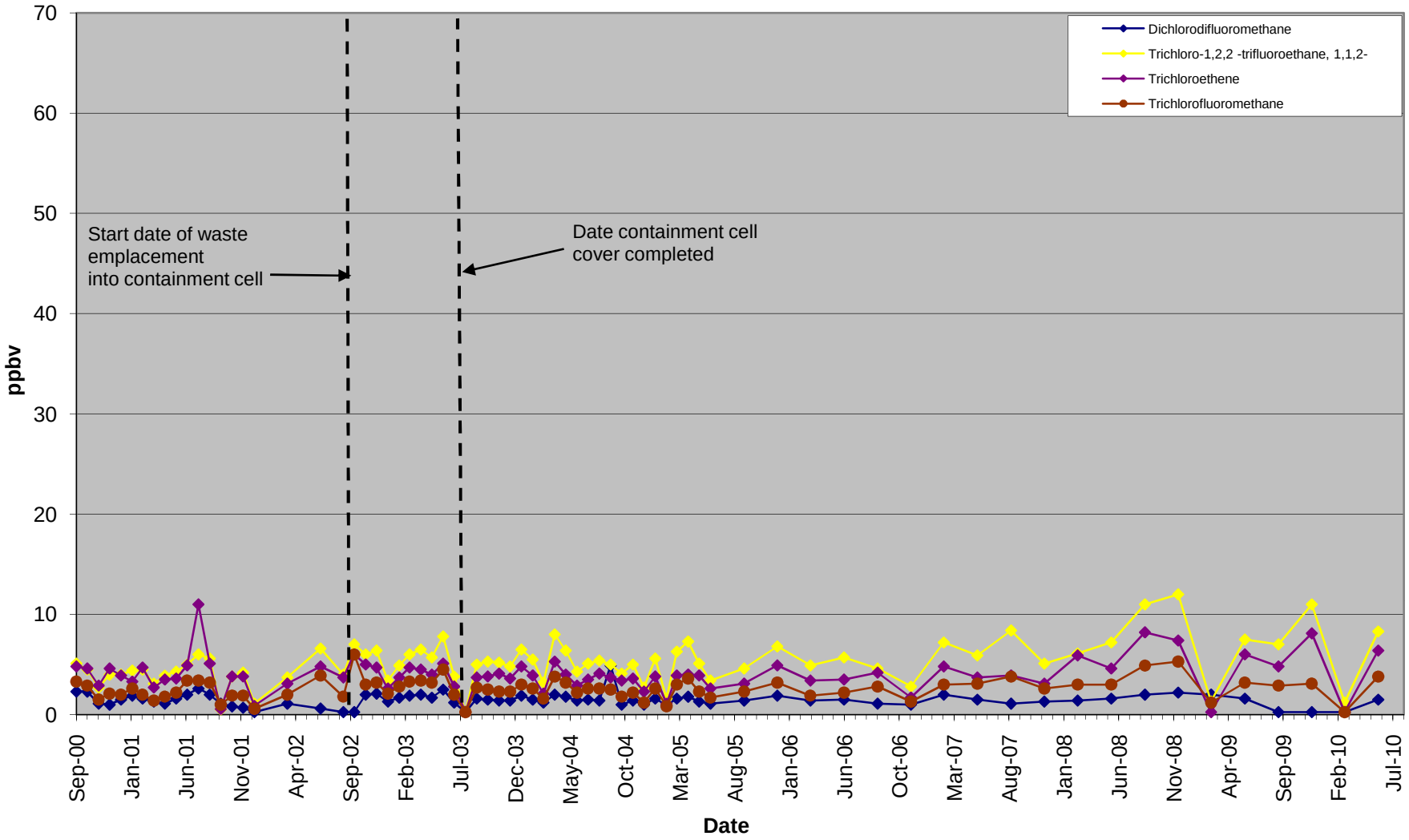

Figure D-5
Graph of VOC Concentrations at CSS-5

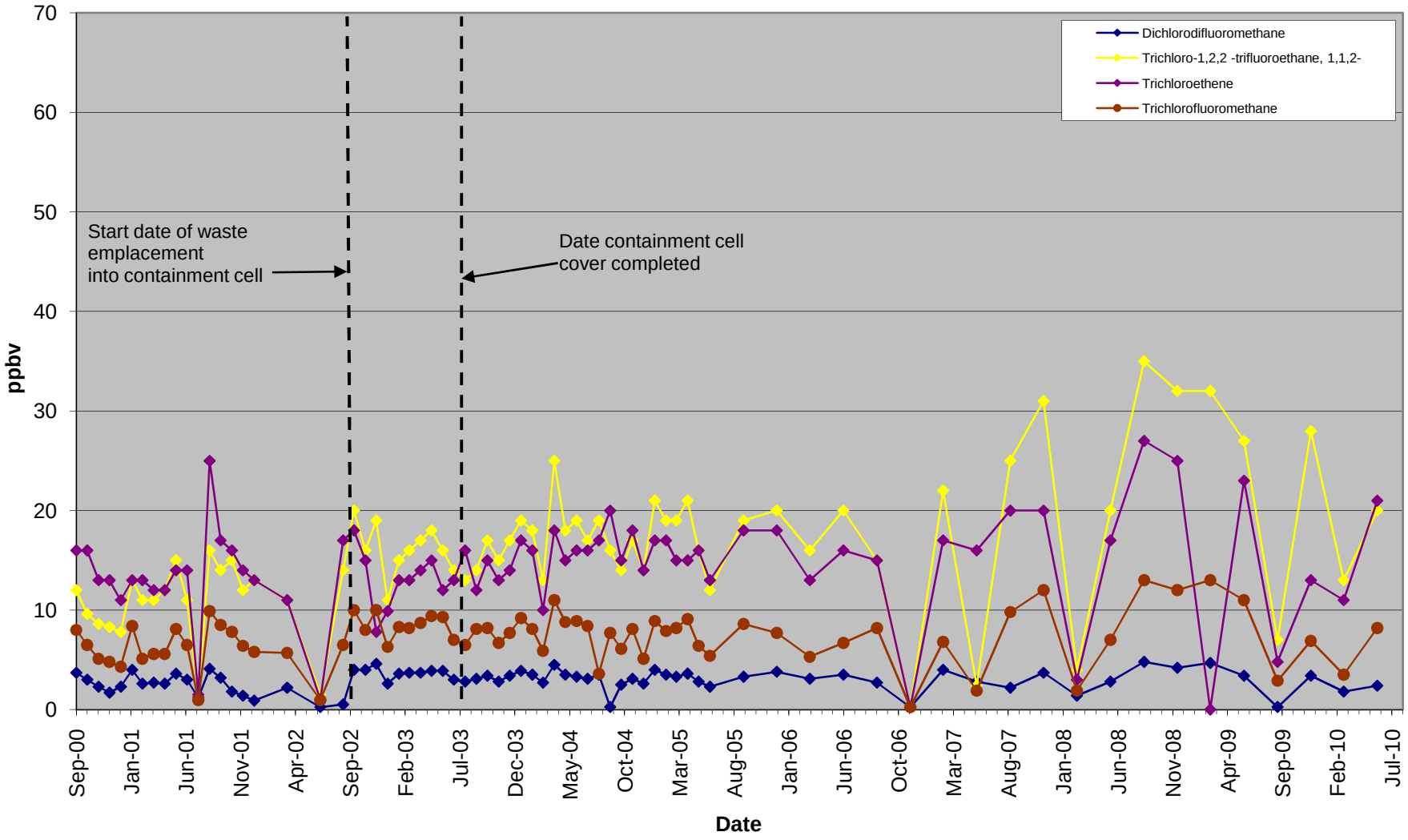

Figure D-6
Graph of VOC Concentrations at CSS-6

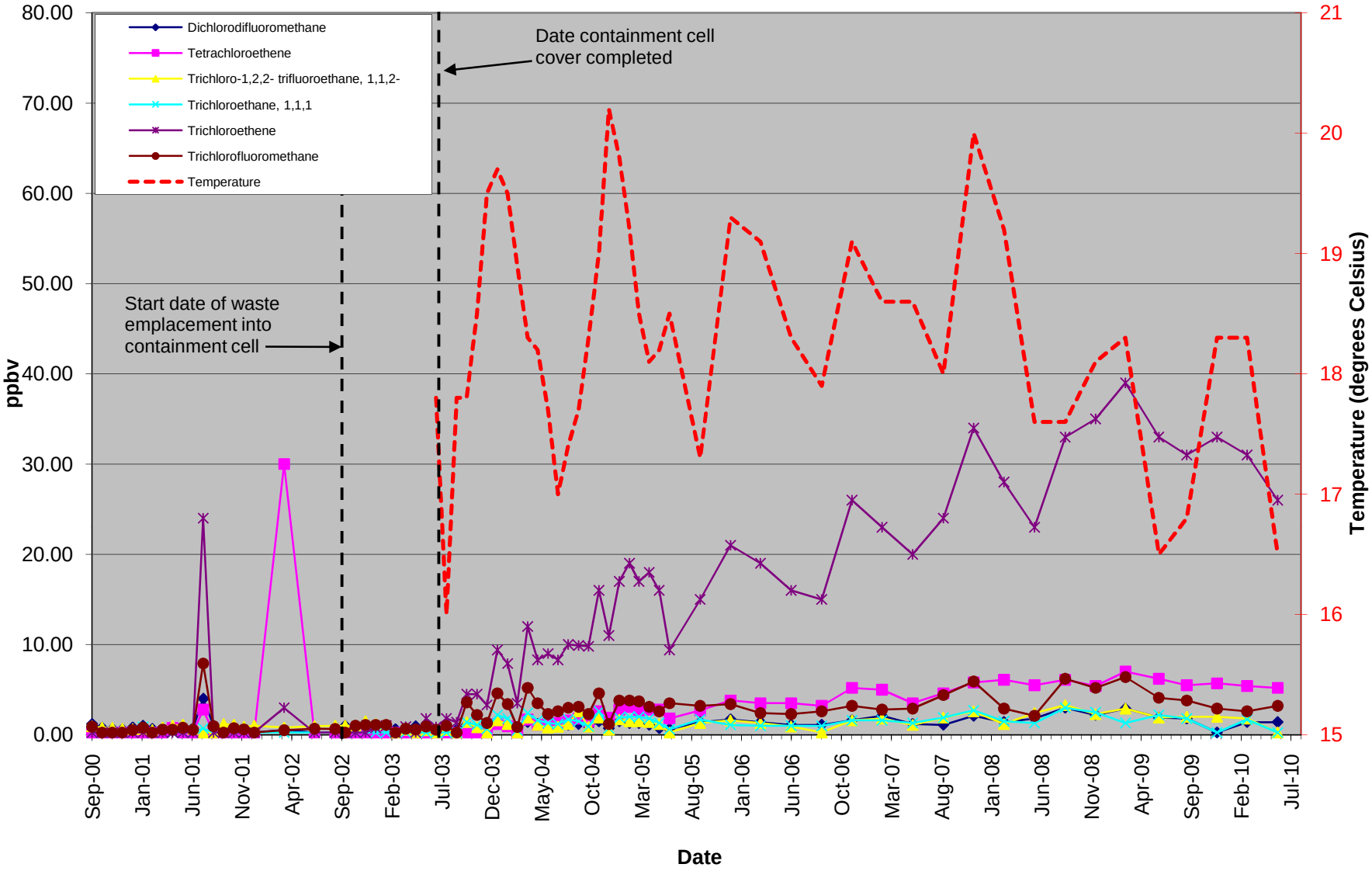

Figure D-7
Graph of VOC Concentrations at VSA1-5

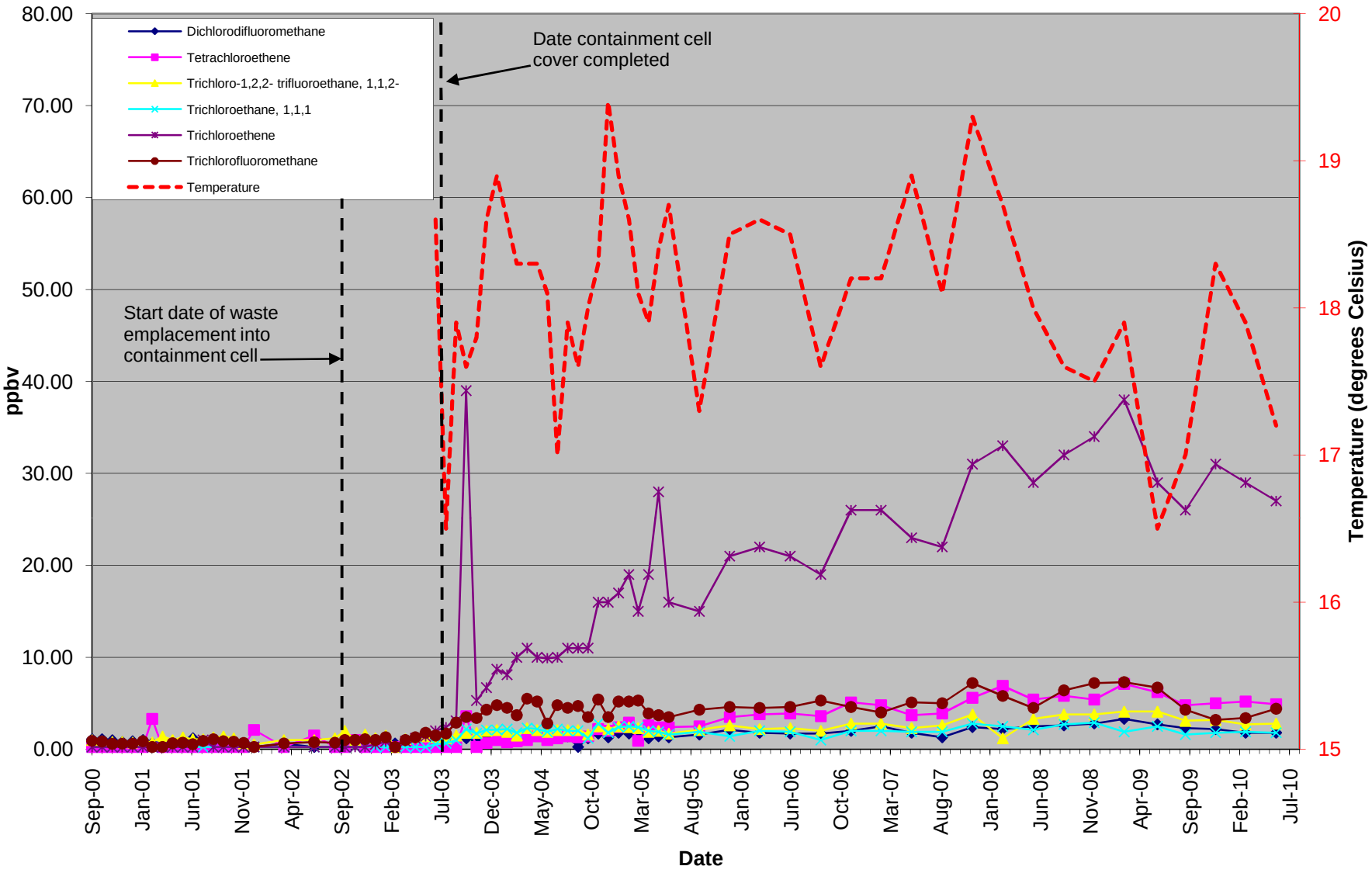

Figure D-8
Graph of VOC Concentrations at VSA1-15

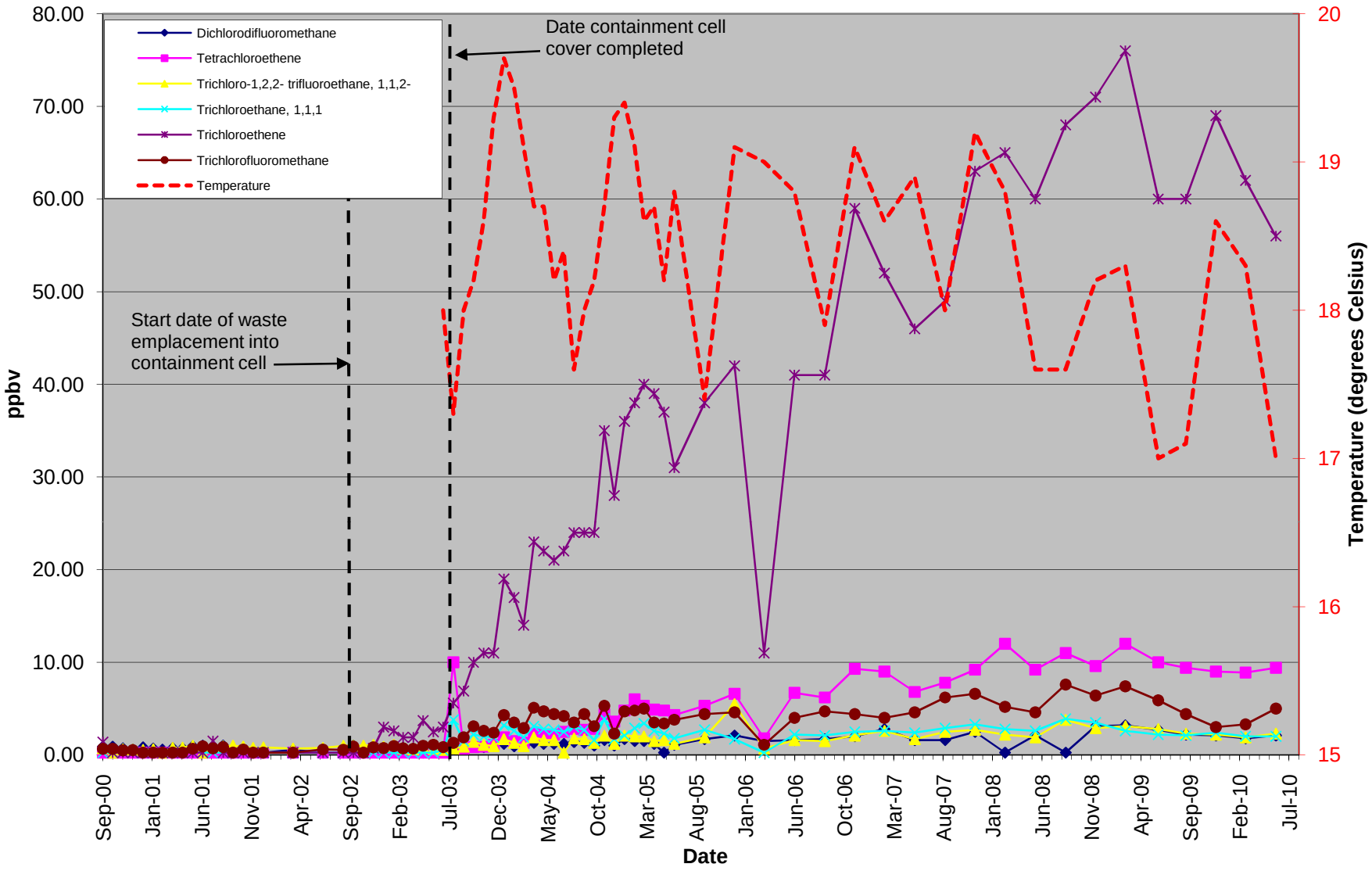

Figure D-9
Graph of VOC Concentrations at VSA2-5

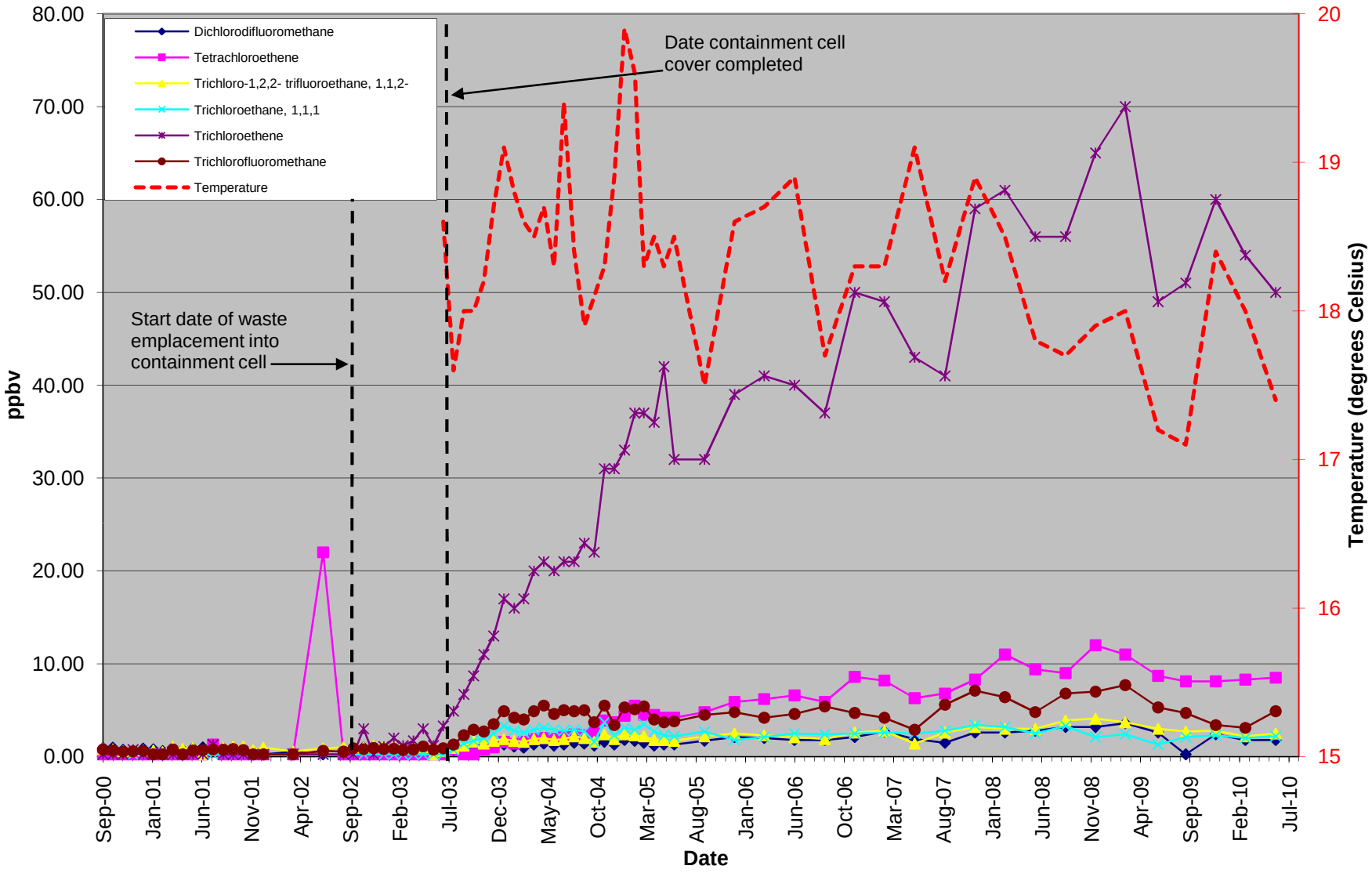

Figure D-10
Graph of VOC Concentrations at VSA2-15

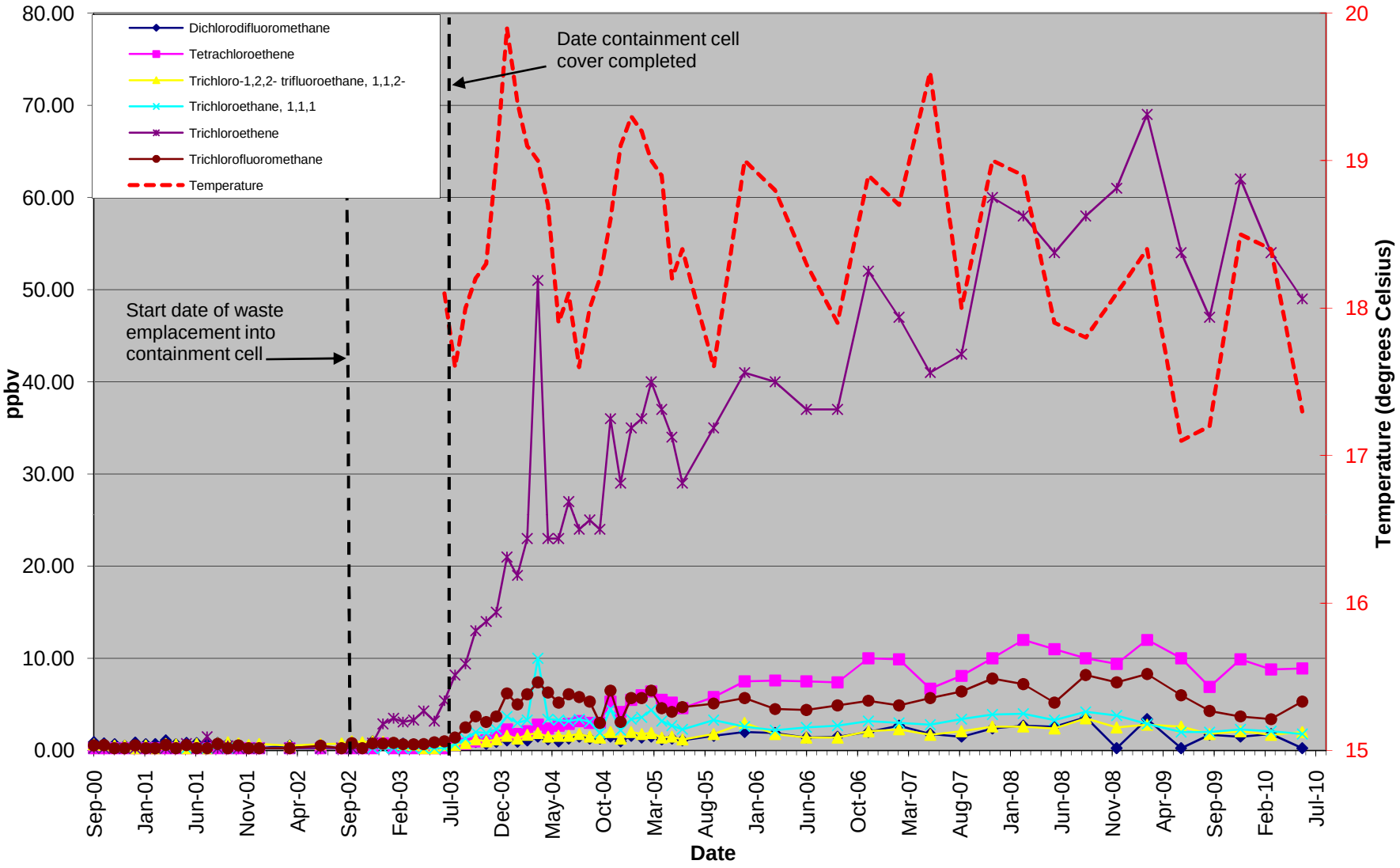

Figure D-11
Graph of VOC Concentrations at VSA3-5

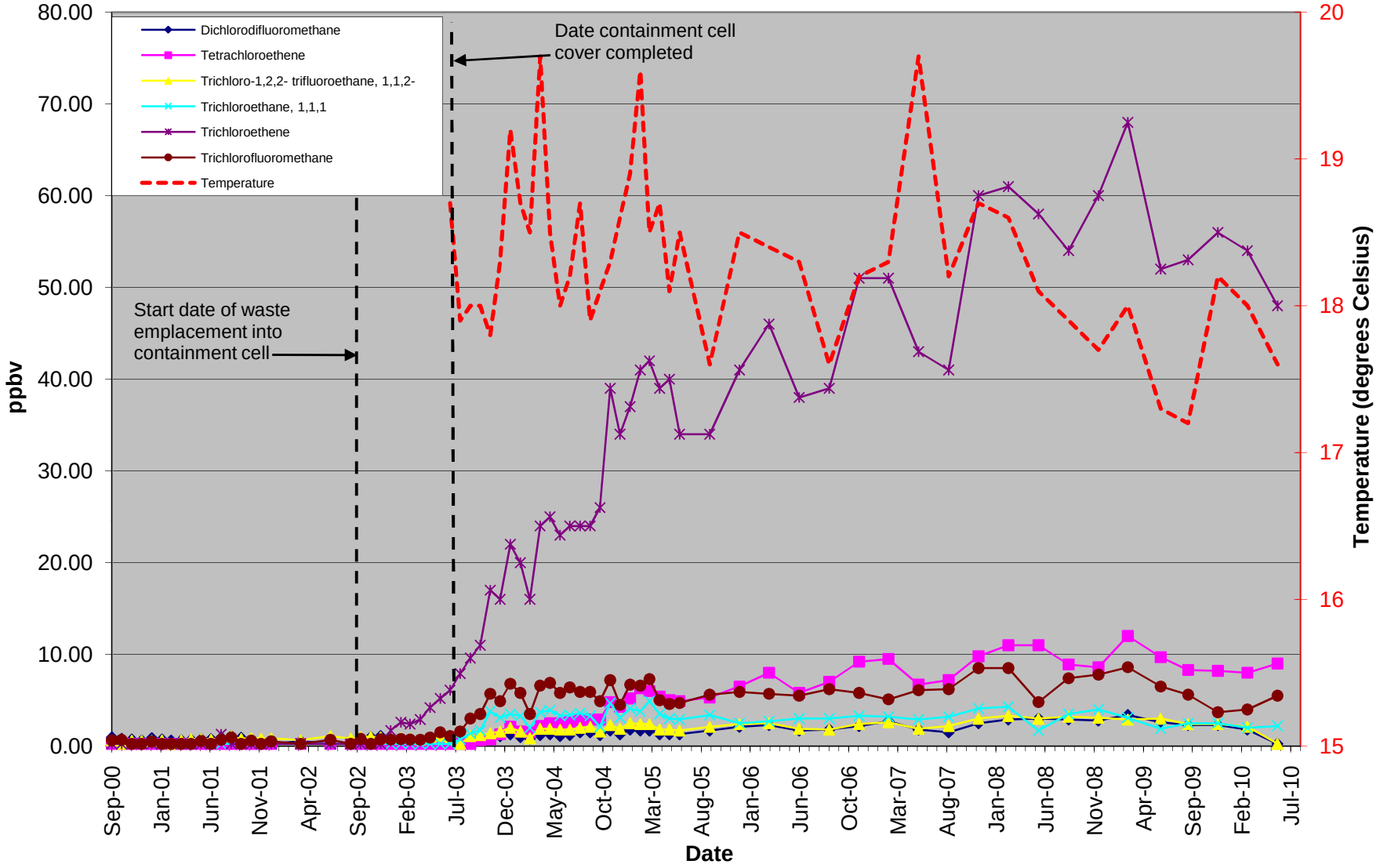

Figure D-12
Graph of VOC Concentrations at VSA3-15

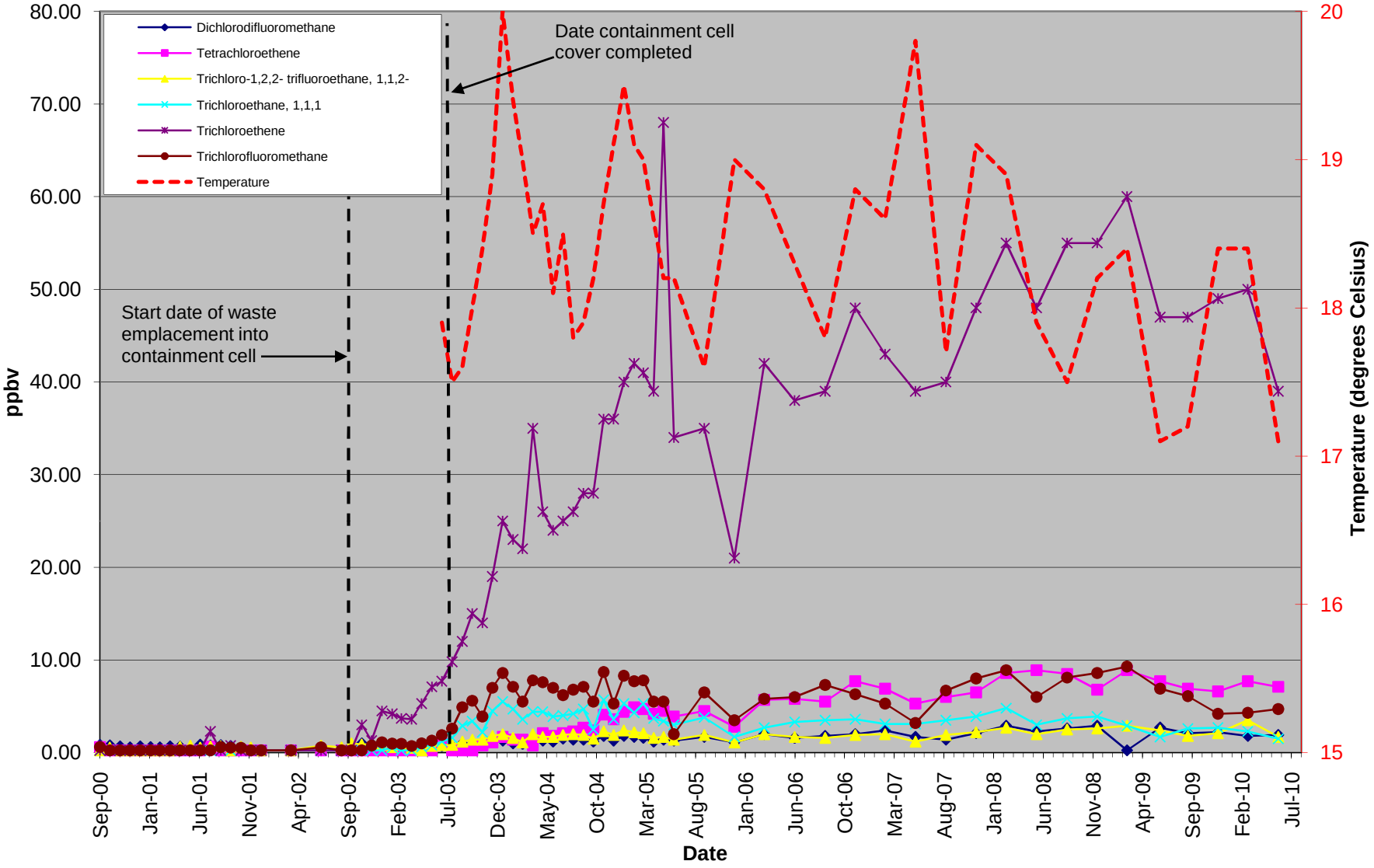

Figure D-13
Graph of VOC Concentrations at VSA4-5

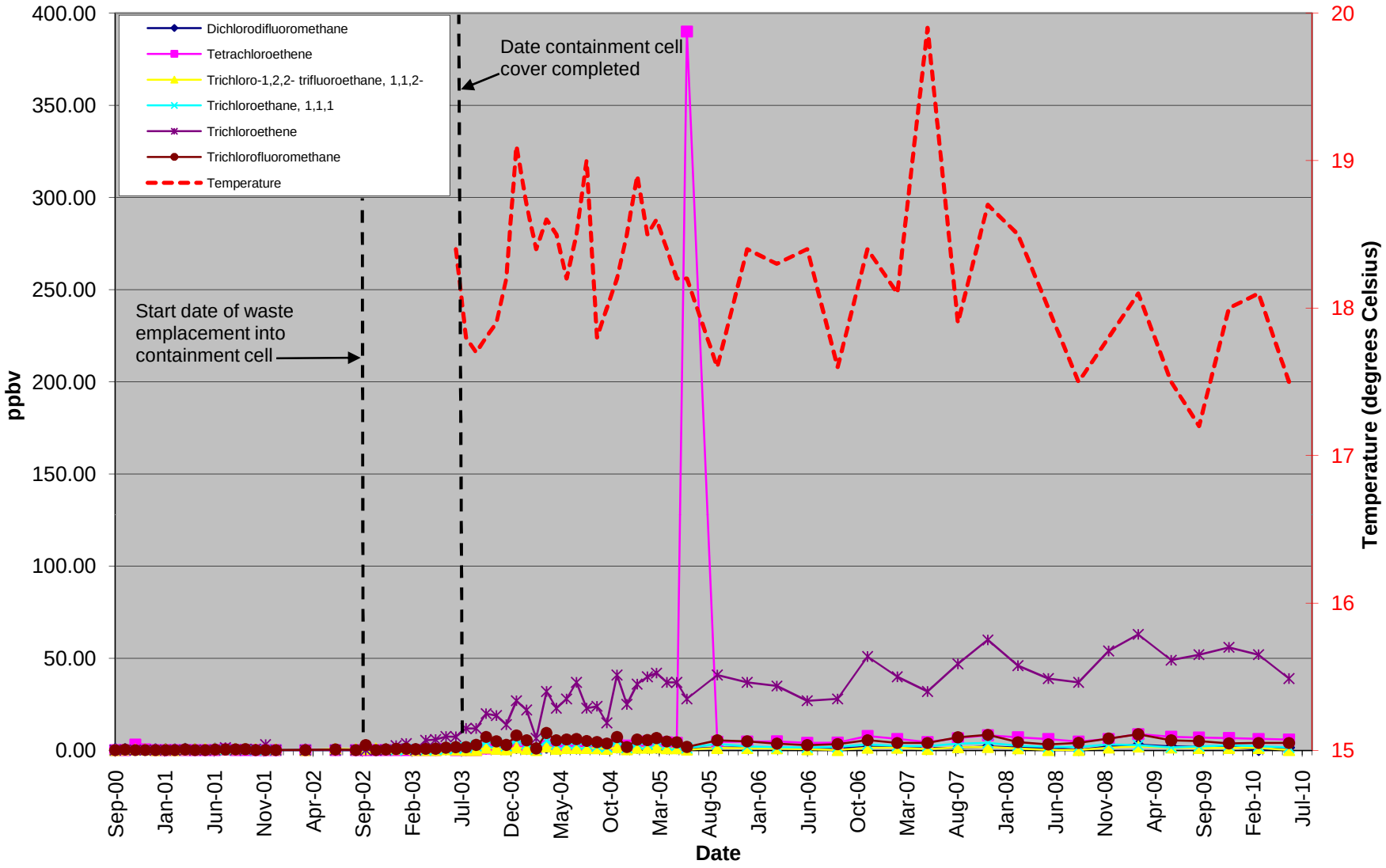

Figure D-14
Graph of VOC Concentrations at VSA4-15

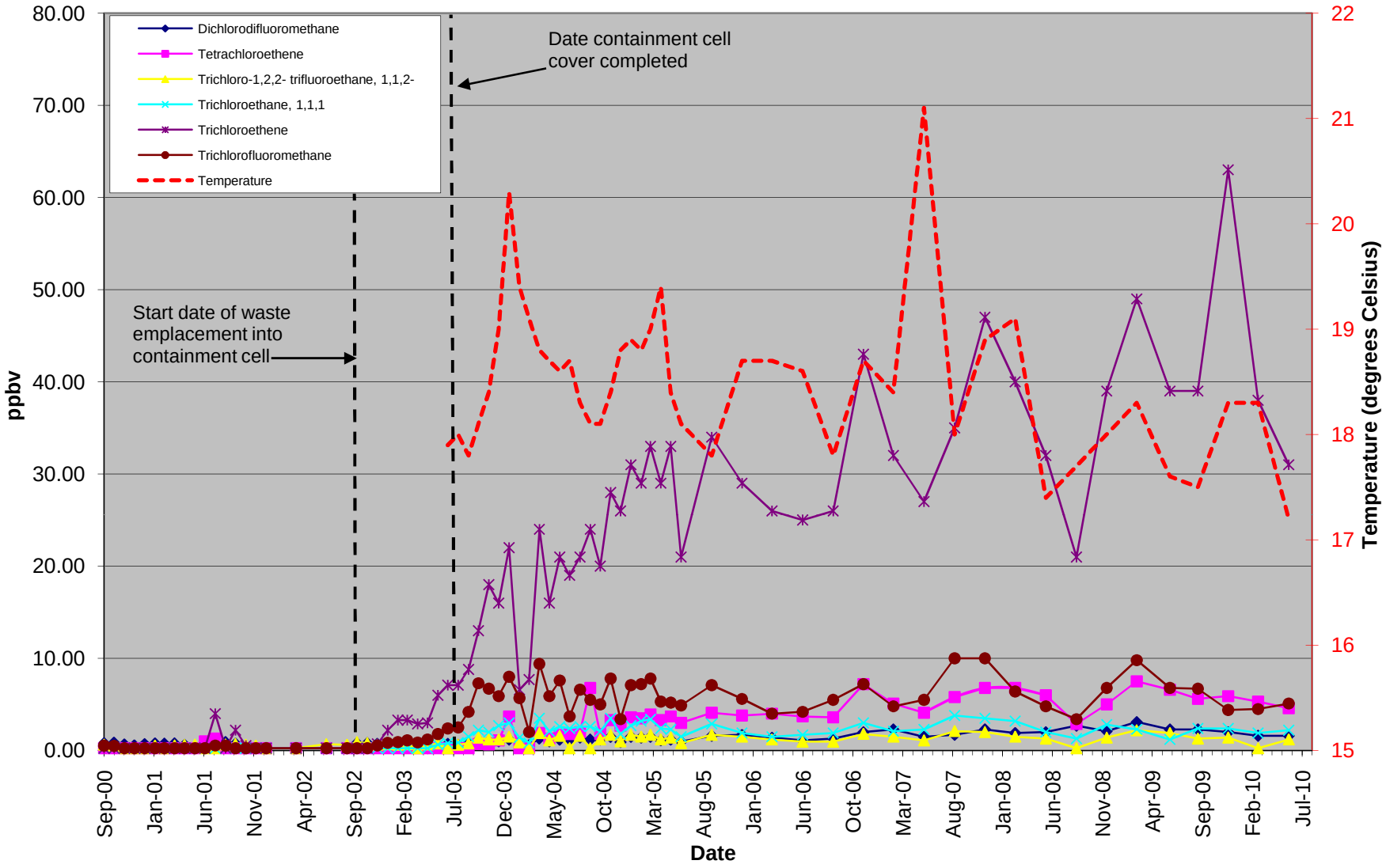

Figure D-15
Graph of VOC Concentrations at VSA5-5

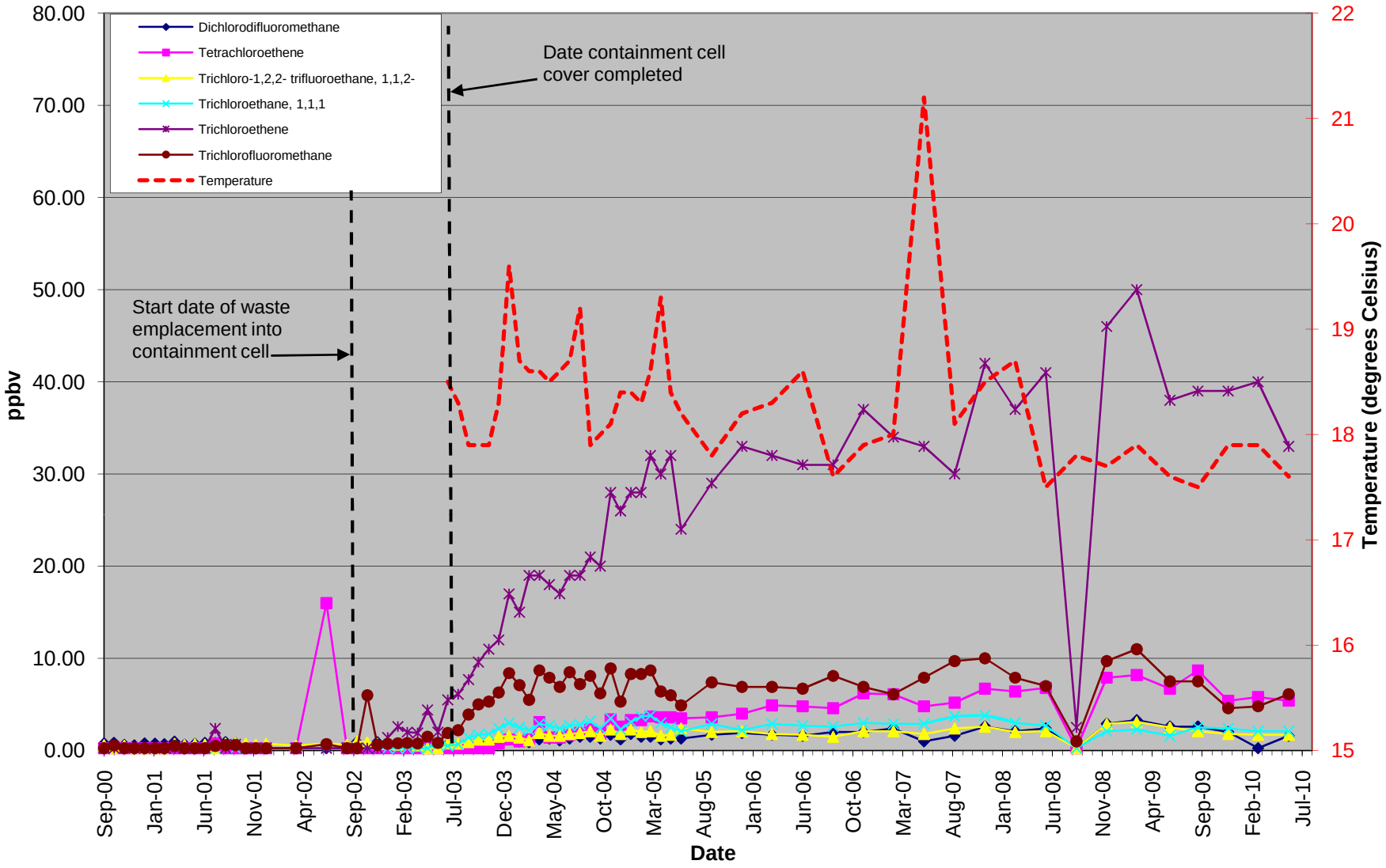

Figure D-16
Graph of VOC Concentrations at VSA5-15

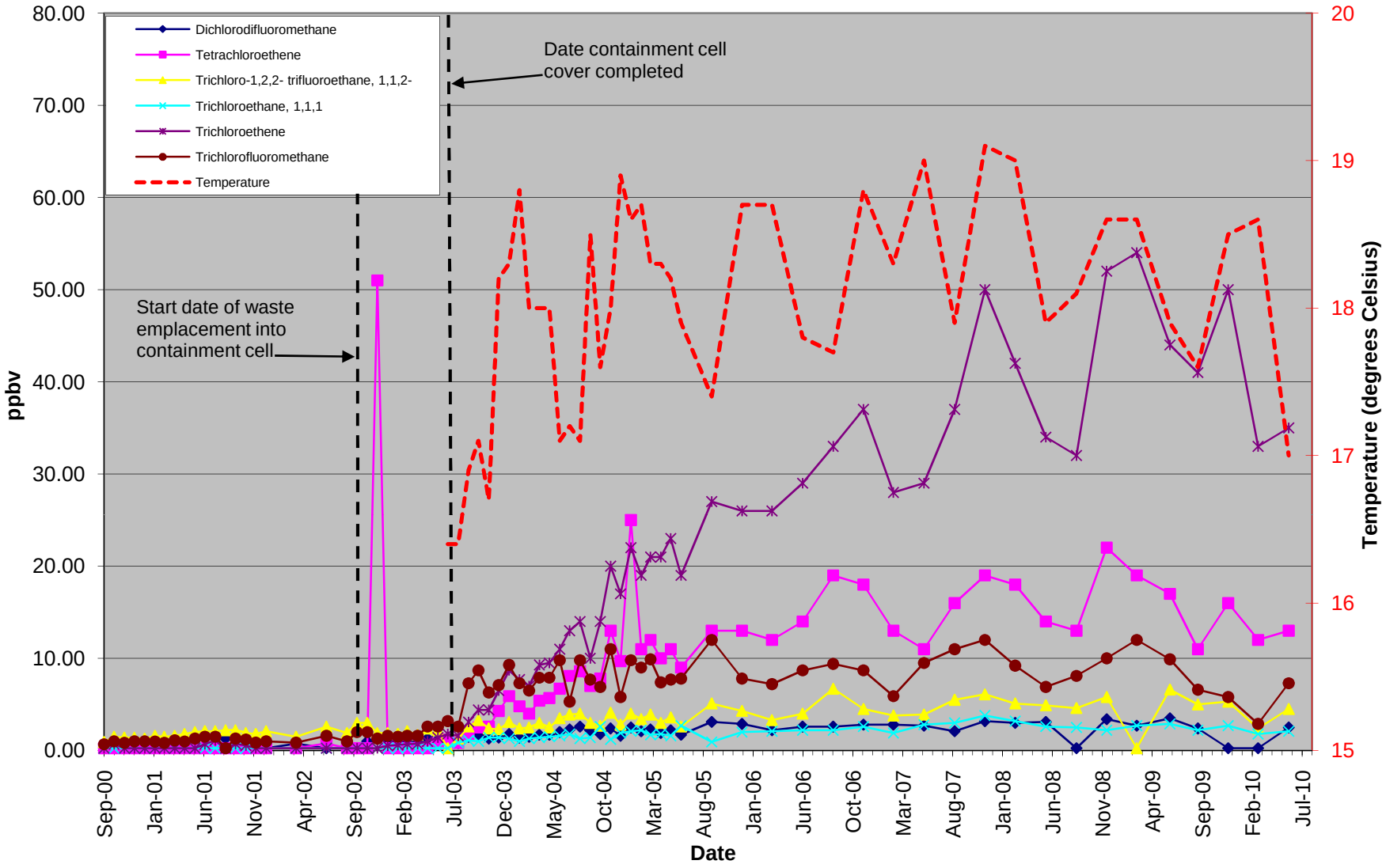

Figure D-17
Graph of VOC Concentrations at VSA6-5

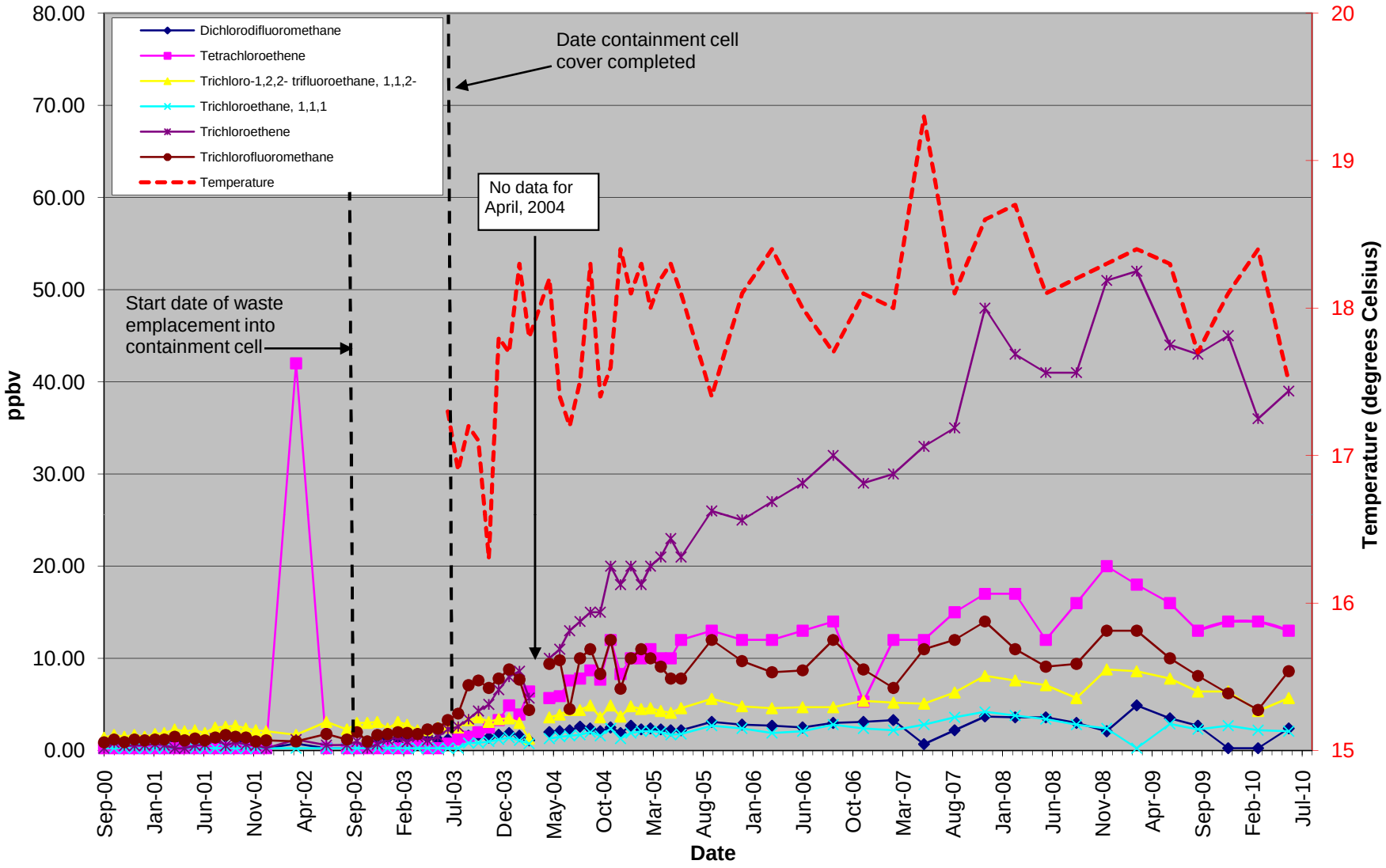

Figure D-18
Graph of VOC Concentrations at VSA6-15

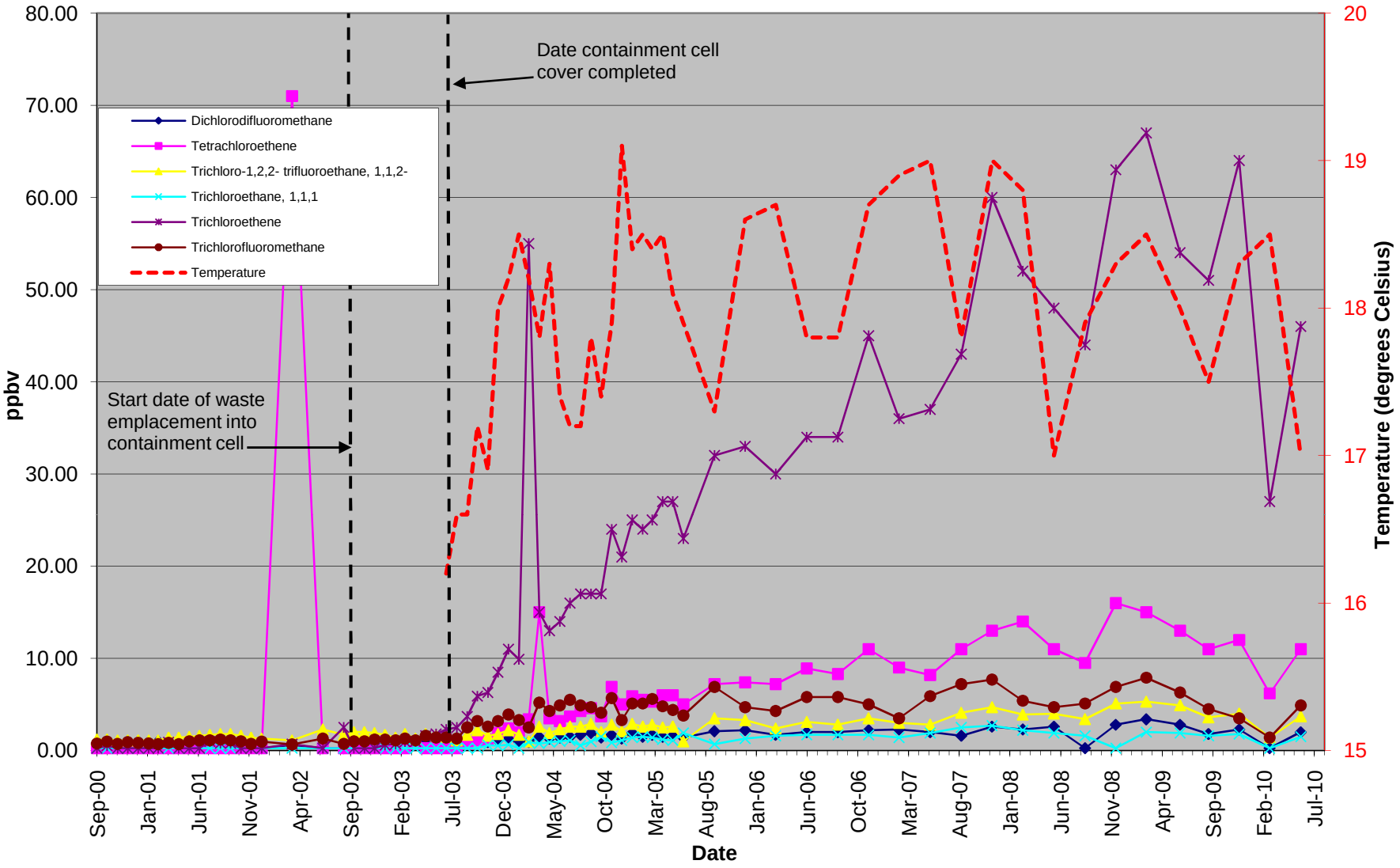

Figure D-19
Graph of VOC Concentrations at VSA7-5

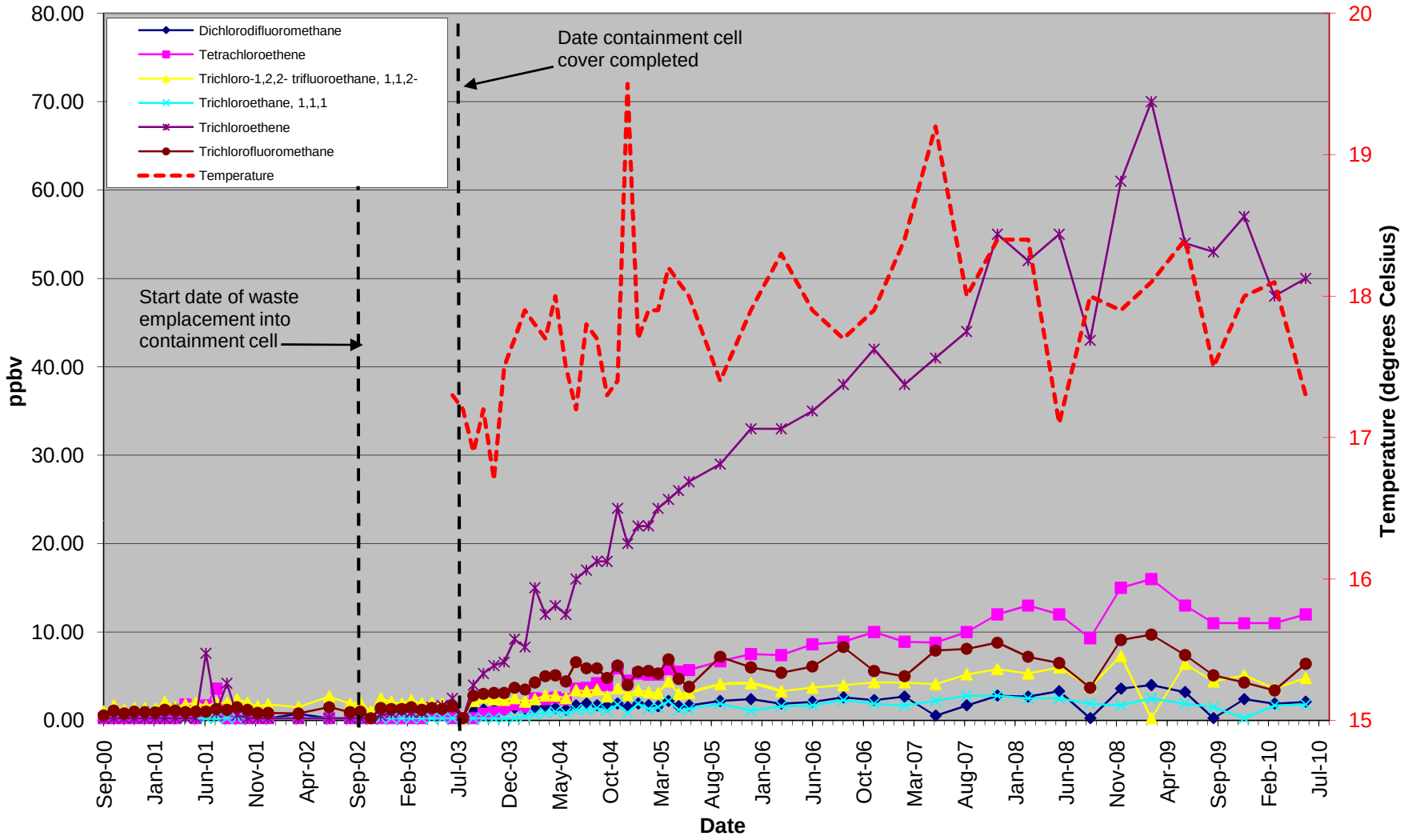

Figure D-20
Graph of VOC Concentrations at VSA7-15

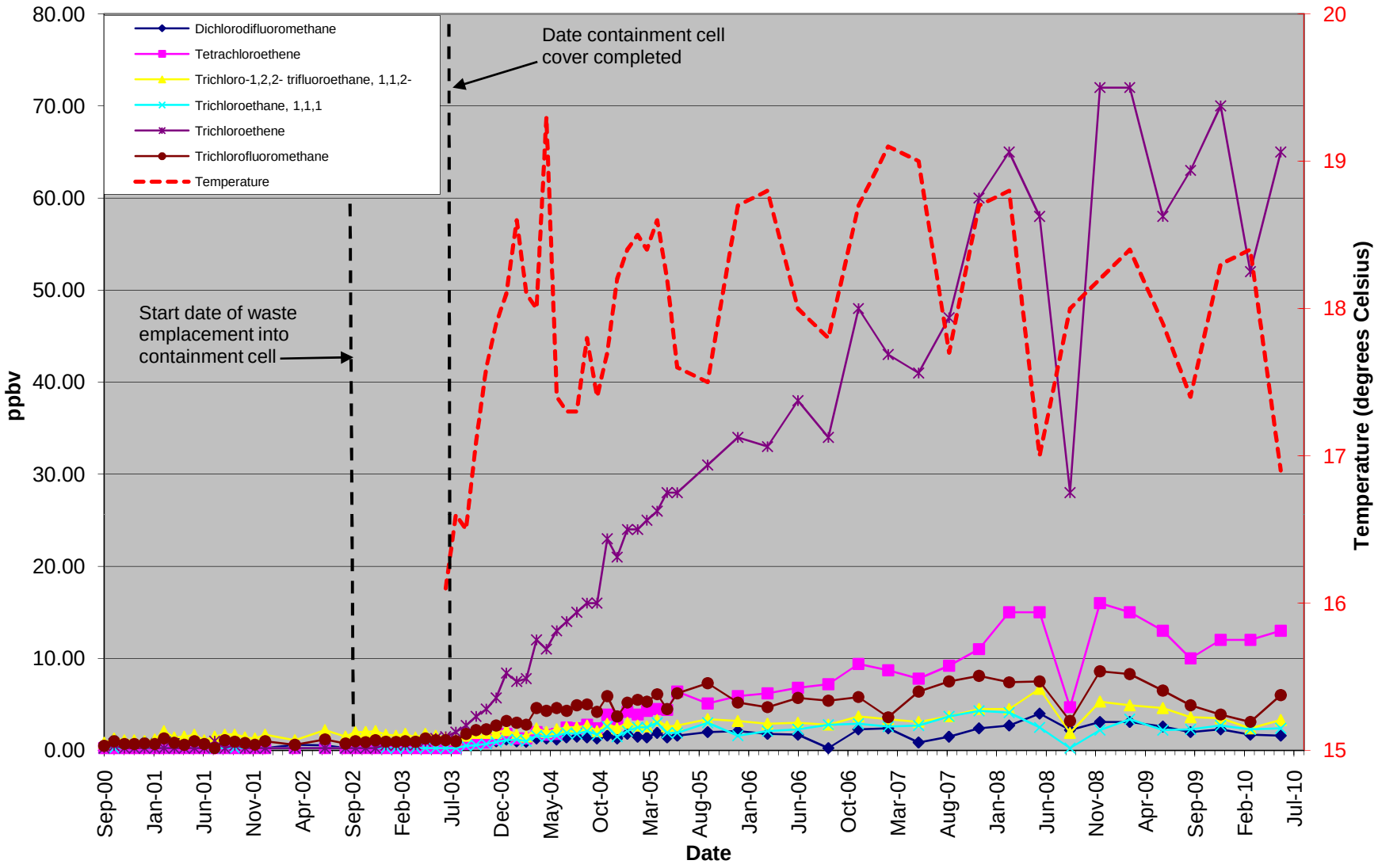

Figure D-21
Graph of VOC Concentrations at VSA8-5

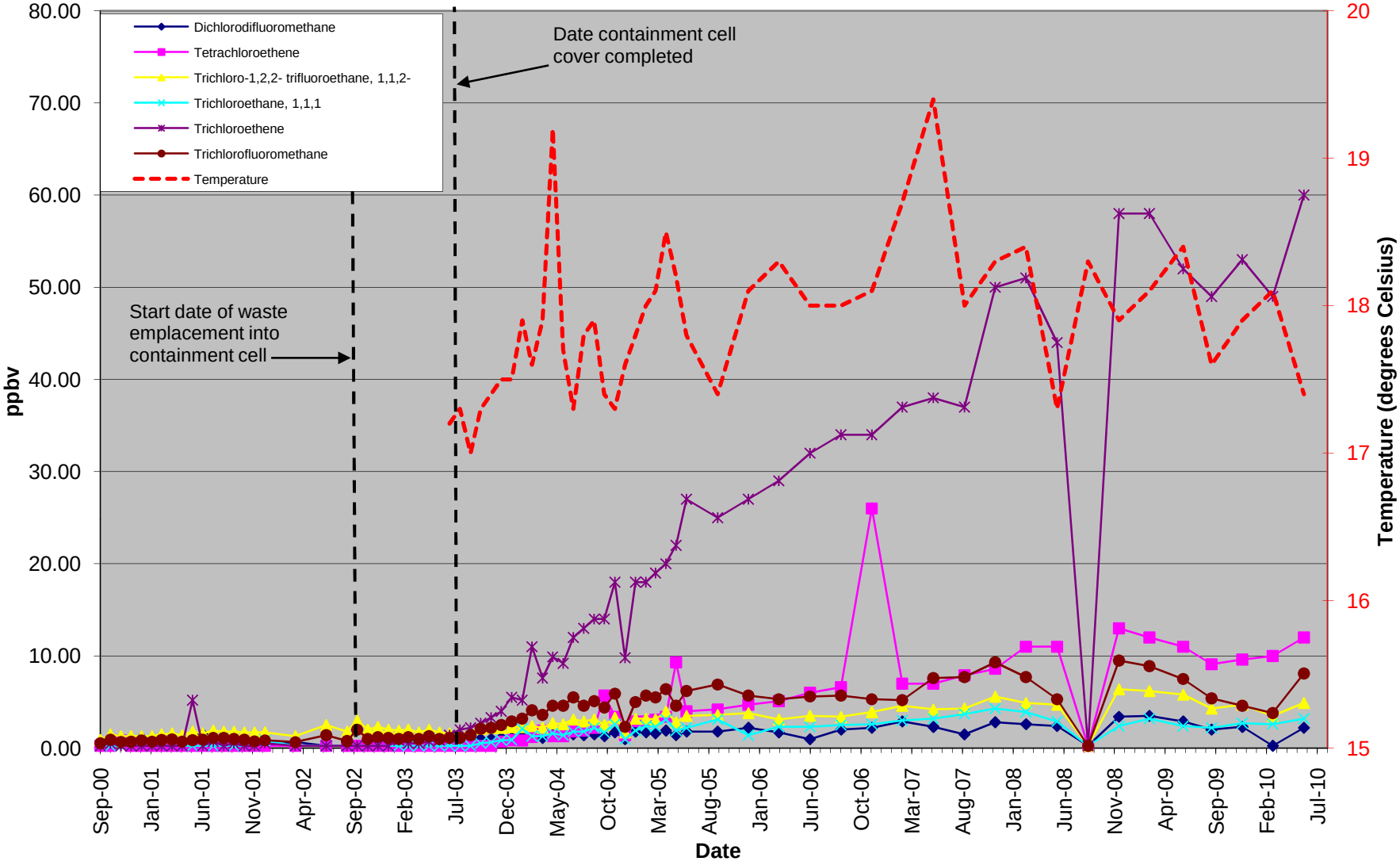

Figure D-22
Graph of VOC Concentrations at VSA8-15

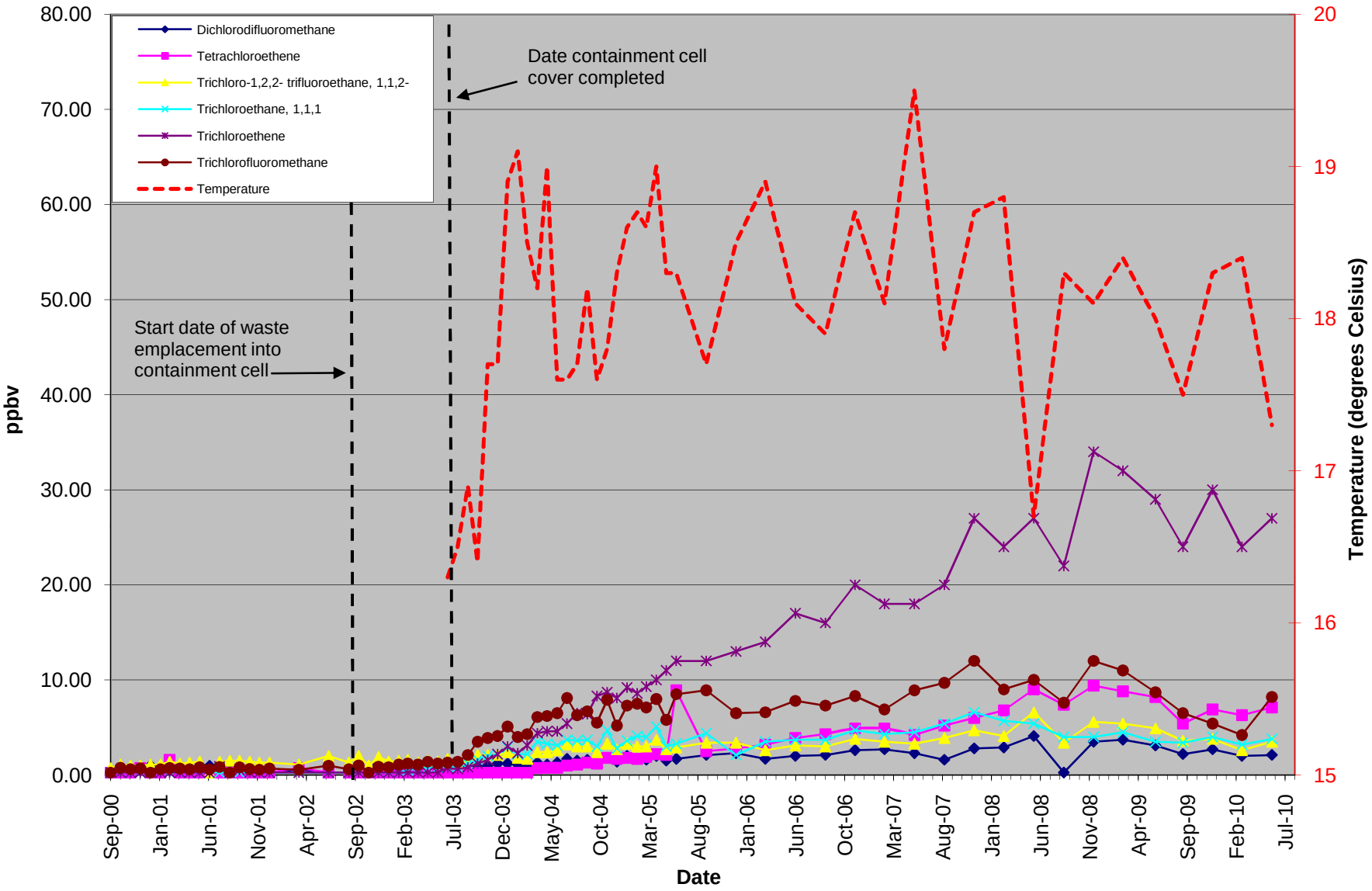

Figure D-23
Graph of VOC Concentrations at VSA9-5

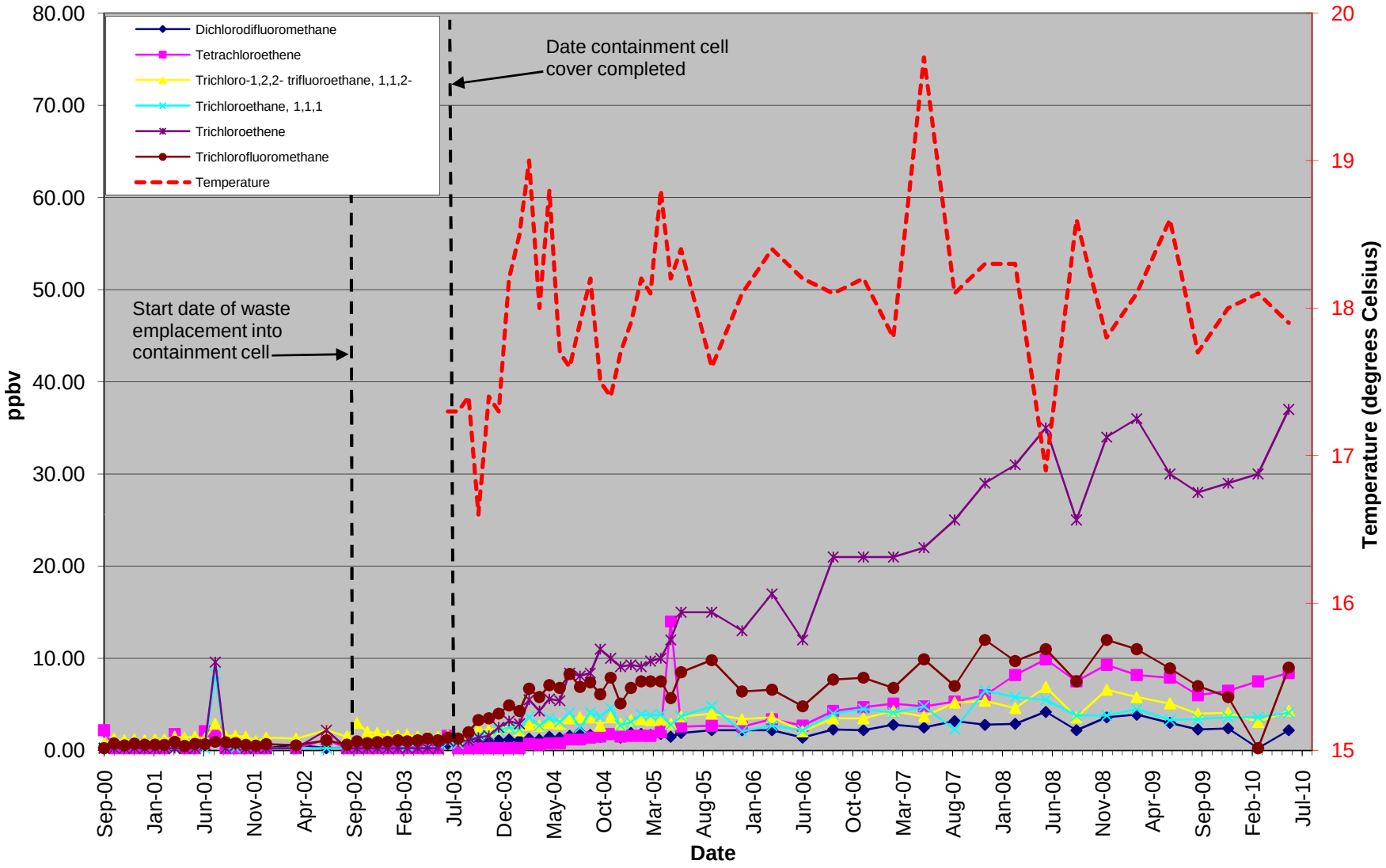

Figure D-24
Graph of VOC Concentrations at VSA9-15

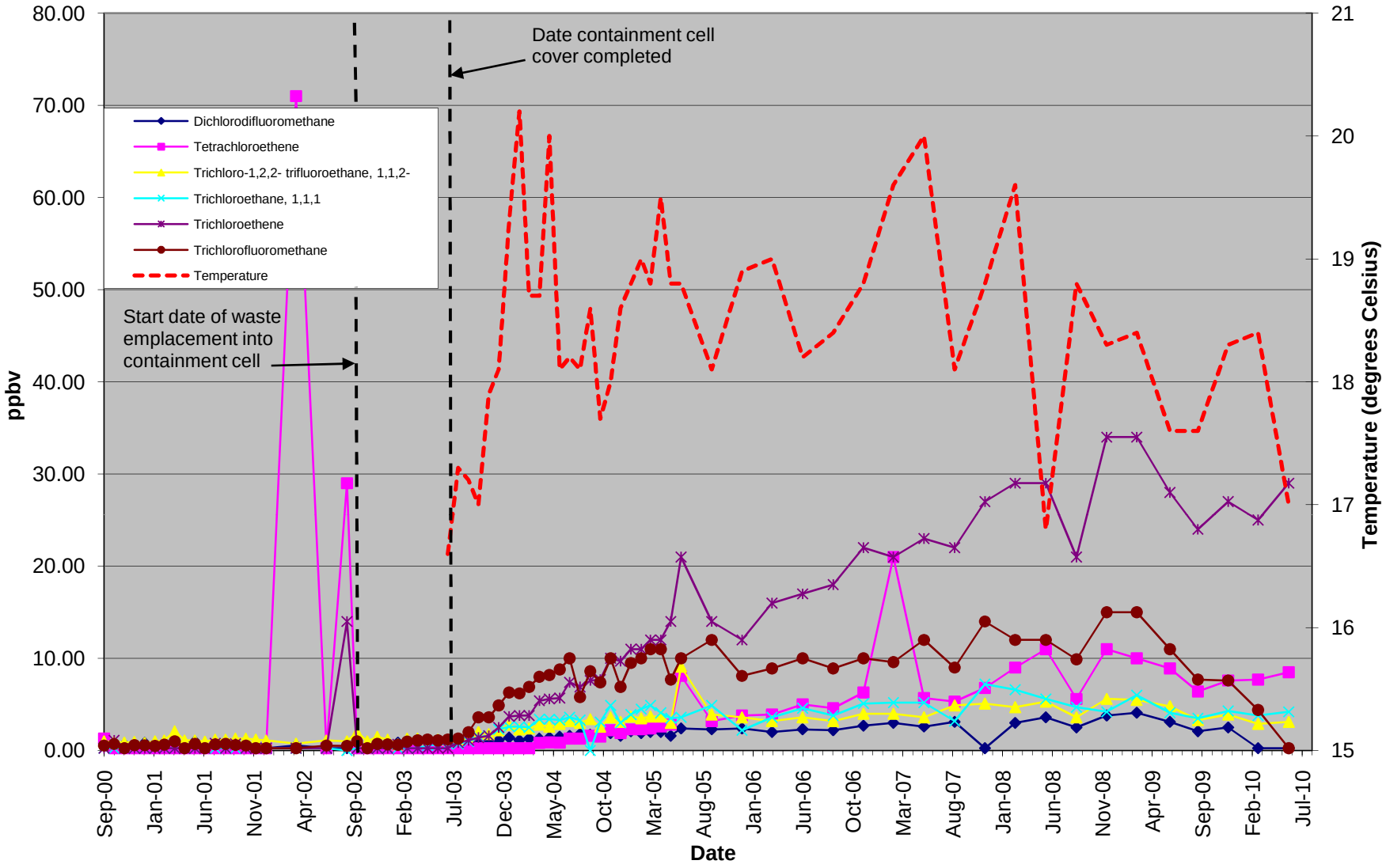

Figure D-25
Graph of VOC Concentrations at VSA10-5

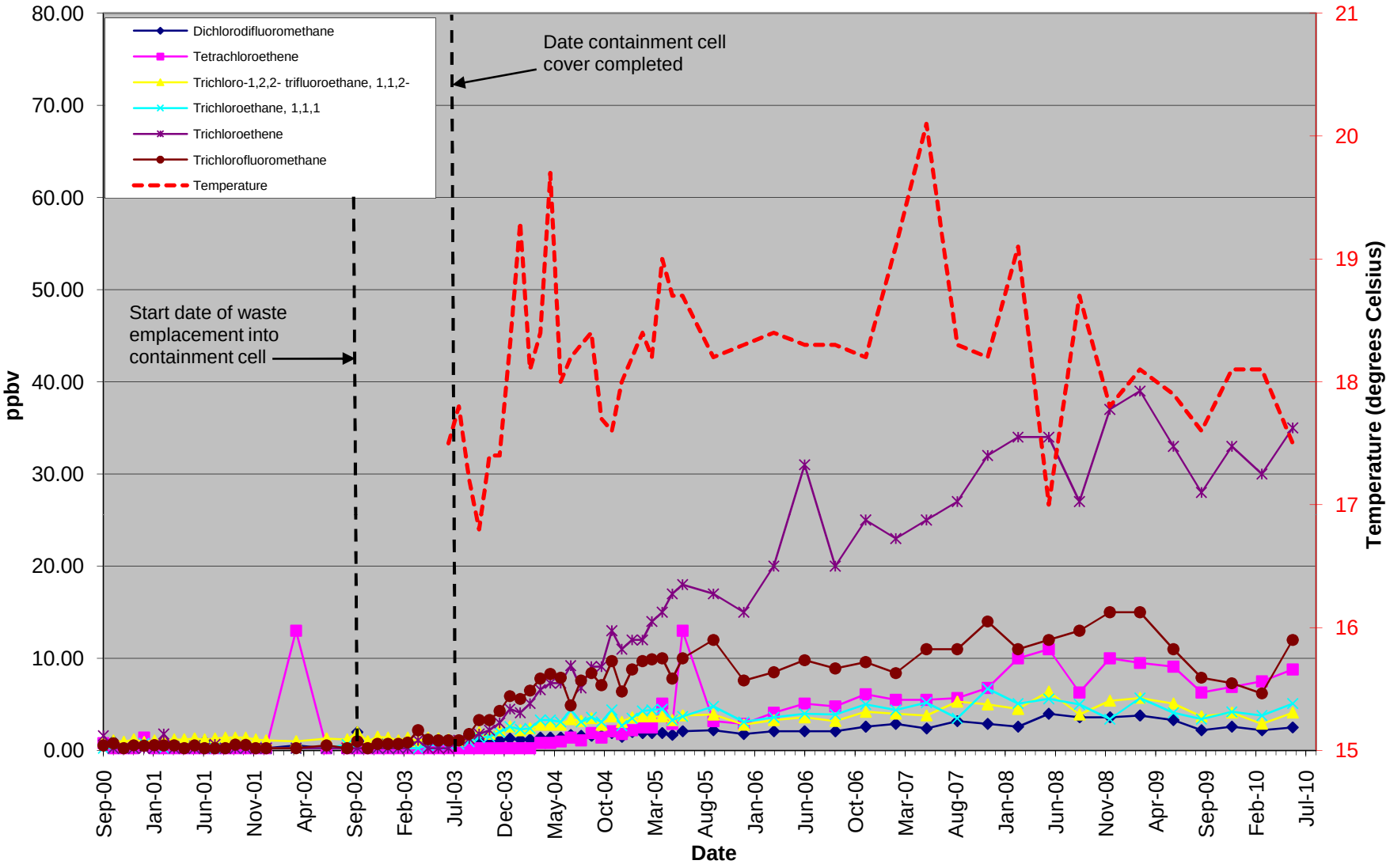

Figure D-26
Graph of VOC Concentrations at VSA10-15

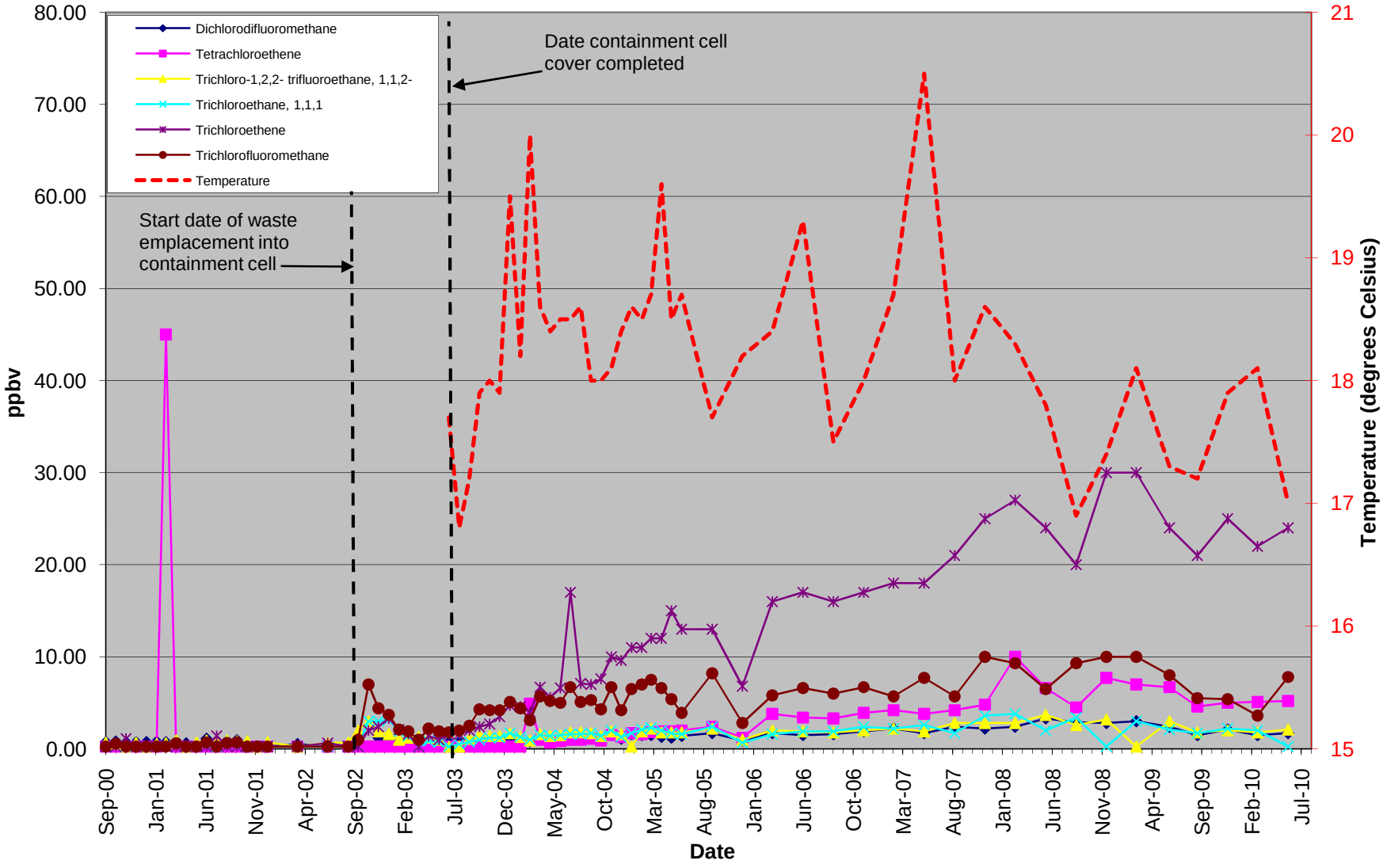

Figure D-27
Graph of VOC Concentrations at VSA11-5

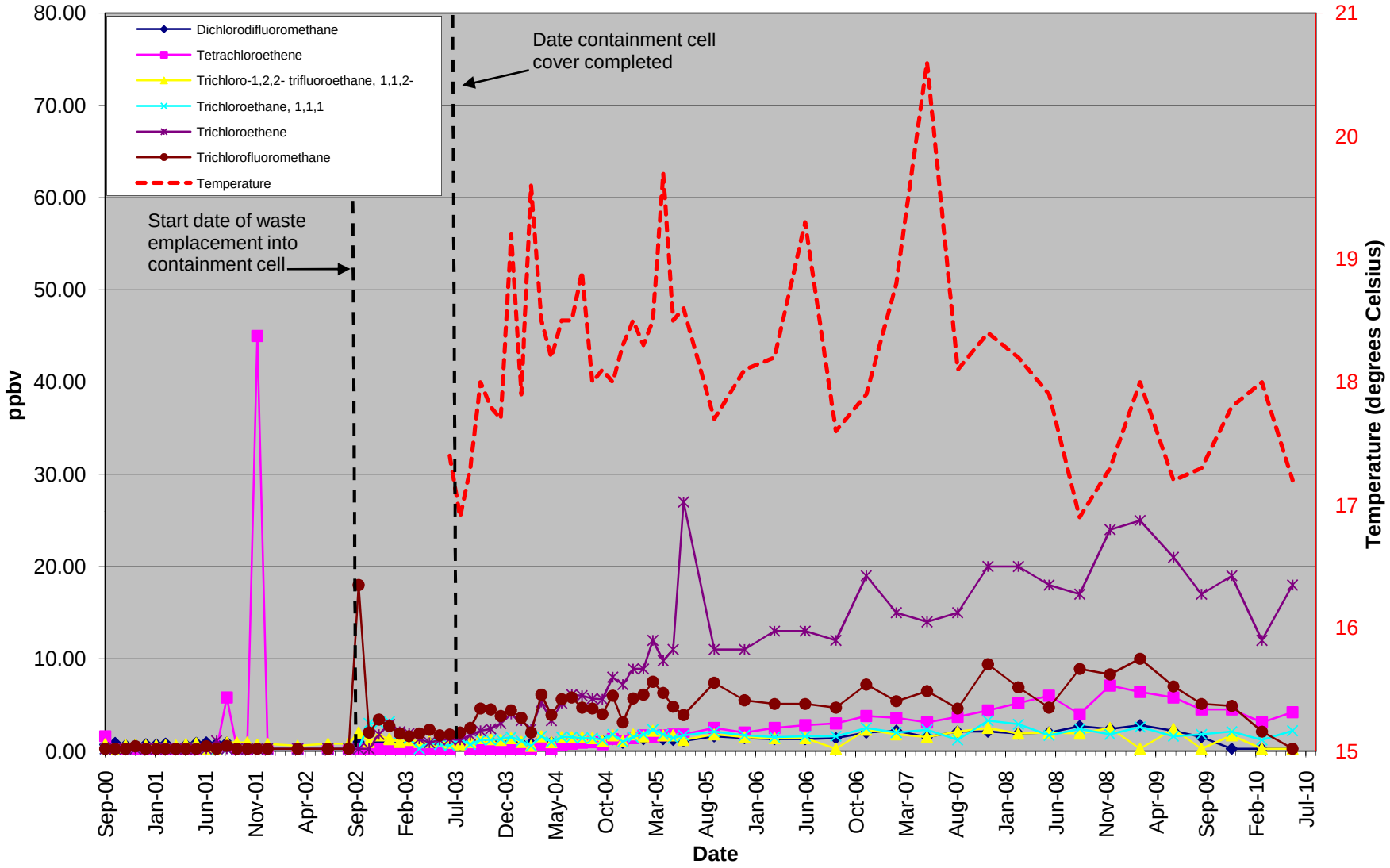

Figure D-28
Graph of VOC Concentrations at VSA11-15

ANNEX E
VSA Temperature Monitoring Results

Table E-1
VSA Temperature Monitoring Results from 5-Foot Monitoring Depth
July 2009–June 2010

Collection Date	Instrument Location										
	VSA1-5	VSA2-5	VSA3-5	VSA4-5	VSA5-5	VSA6-5	VSA7-5	VSA8-5	VSA9-5	VSA10-5	VSA11-5
	(Temperature in Degrees Celsius)										
2009											
Sep	16.8	17.1	17.2	17.2	17.5	17.6	17.5	17.4	17.5	17.6	17.2
Dec	18.3	18.6	18.5	18.4	18.3	18.5	18.3	18.3	18.3	18.3	17.9
2010											
Mar	19.0	18.9	18.6	18.5	18.3	18.4	18.3	18.3	18.5	18.4	18.4
Jun	16.5	17.0	17.3	17.1	17.2	17.0	17.0	16.9	17.3	17.0	17.0
Minimum	16.5	17.0	17.2	17.1	17.2	17.0	17.0	16.9	17.3	17.0	17.0
Maximum	19.0	18.9	18.6	18.5	18.3	18.5	18.3	18.3	18.5	18.4	18.4
Difference	2.5	1.9	1.4	1.4	1.1	1.5	1.3	1.4	1.2	1.4	1.4

VSA = Vertical Sensor Array.

Table E-2
VSA Temperature Monitoring Results from 15-Foot Monitoring Depth
July 2009–June 2010

Collection Date	Instrument Location										
	VSA1-15	VSA2-15	VSA3-15	VSA4-15	VSA5-15	VSA6-15	VSA7-15	VSA8-15	VSA9-15	VSA10-15	VSA11-15
	(Temperature in Degrees Celsius)										
2009											
Sep	17.0	17.1	17.2	17.2	17.5	17.7	17.5	17.6	17.7	17.6	17.3
Dec	18.3	18.4	18.2	18.0	17.9	18.1	18.0	17.9	18.0	18.1	17.8
2010											
Mar	18.9	18.5	18.3	18.3	18.2	18.3	18.2	18.0	18.3	18.2	18.2
Jun	17.2	17.4	17.6	17.5	17.6	17.5	17.3	17.4	17.9	17.5	17.2
Minimum	17.0	17.1	17.2	17.2	17.5	17.5	17.3	17.4	17.7	17.5	17.2
Maximum	18.9	18.5	18.3	18.3	18.2	18.3	18.2	18	18.3	18.2	18.2
Difference	1.9	1.4	1.1	1.1	0.7	0.8	0.9	0.6	0.6	0.7	1.0

VSA = Vertical Sensor Array.

ANNEX F
EPA Method TO-14A
Duplicate Analytical Results

Table F-1

EPA Method TO-14A[a] Duplicate Analytical Results for Samples Collected from the VSA 5-Foot Monitoring Depth
July 2009–June 2010

Sample Date	7-Dec-09	7-Dec-09	9-Jun-10	9-Jun-10
AR/COC	612502	612502	613115	613115
Sample Location	CAMUVZMSBH9-5-S	CAMUVZMSBH9-5-SD	CAMUVZMSBH10-5-S	CAMUVZMSBH10-5-SD
Characterization Sample No./Duplicate Sample No.	087986-023	087986-030	089216-025	089216-030
Analyte Detected	(Concentration in ppbv)			
Acetone		14.0 RL4	5.0 J	4.8 J
Bromomethane				7.4
Chlorobenzene				3.3
Chloromethane				5.6
Dichlorodifluoromethane	2.7 J	3.3 RL4		1.8 J
Ethyl benzene			1.7 J	2.1
Ethyltoluene, 4-			2.3	
Methylene chloride		1.8 RL4		
Tetrachloroethene	6.9	7.4 RL4	8.5	7.7
Toluene			6.4	
1,2,2-Trichloro-1,1,2-trifluoroethane	3.8	4.8 RL4	3.1	3.1
1,1,1-Trichloroethane	4.0	4.8 RL4	4.2	3.9
Trichloroethene	30.0	29.0 RL4	29.0	28.0
Trichlorofluoromethane	5.4	9.3 RL4	2.4 J	9.5
Trimethylbenzene, 1,2,4-			5.6	
Xylene, m-,p-			1.8 J	

Note: Blank cells indicate nondetections.

[a]EPA January 1999.

AR/COC = Analysis request/chain-of-custody record.
CAMU = Corrective Action Management Unit.
EPA = U.S. Environmental Protection Agency.
J = Estimated result. Result is less than the LRL.
LRL = Laboratory reporting limit.
No. = Number.
ppbv = Parts per billion by volume.
RL4 = Reporting limit raised due to insufficient sample volume.
S = Sample.
SD = Sample duplicate.
VSA = Vertical sensor array.
VZMSBH = Vadose zone monitoring system borehole.

Table F-2

EPA Method TO-14A[a] Duplicate Analytical Results for Samples Collected from the VSA 15-Foot Monitoring Depth
July 2009–June 2010

Sample Date	16-Sep-09	16-Sep-09	15-Mar-10	15-Mar-10
AR/COC	612335	612335	612800	612800
Sample Location	CAMUVZMSBH8-15-S	CAMUVZMSBH8-15-SD	CAMUVZMSBH9-15-S	CAMUVZMSBH9-15-SD
Characterization Sample No./Duplicate Sample No	087616-022	087616-030	088500-024	088500-030
Analyte Detected	(Concentration in ppbv)			
1,2-Dichlorobenzene	2.2	1.9 J		
Dichlorodifluoromethane	2.0 J	2.1 J		2.1 J
Methylene chloride	1.4 J	1.7 J	2.0 J	1.2 J
Tetrachloroethene	9.1	9.3	7.5	8.4
Toluene			2.6	
1,2,2-Trichloro-1,1,2-trifluoroethane	4.3	4.3	3.1	3.1
1,1,1-Trichloroethane	2.2	2.1	3.6	3.2
Trichloroethene	49.0	67.0	30.0	29.0
Trichlorofluoromethane	5.4	5.4		4.9

Note: Blank cells indicate nondetections.

[a]EPA January 1999.
AR/COC = Analysis request/chain-of-custody record.
CAMU = Corrective Action Management Unit.
EPA = U.S. Environmental Protection Agency.
J = Estimated result. Result is less than the LRL.
LRL = Laboratory reporting limit.
No. = Number.
ppbv = Parts per billion by volume.
S = Sample.
SD = Sample duplicate.
VSA = Vertical sensor array.
VZMSBH = Vadose zone monitoring system borehole.

Table F-3

EPA Method TO-14A[a] Duplicate Analytical Results for Samples Collected from the CSS Monitoring Subsystem
July 2009–June 2010

Sample Date	16-Sep-09	16-Sep-09	7-Dec-09	7-Dec-09
AR/COC	612335	612335	612502	612502
Sample Location	CAMUCSSBH2-S	CAMUCSSBH2-SD	CAMUCSSBH3-S	CAMUCSSBH3-SD
Characterization Sample No./Duplicate Sample No.	087616-002	087616-029	087986-003	087986-029
Analyte Detected	(Concentration in ppbv)			
Acetone				
Benzene				8.6
Dichlorodifluoromethane			1.1 J	1.4 J
Methylene Chloride	1.4 J	1.9 J		1.8 JB
Tetrachloroethene	3.3	1.8 J	1.9 J	2.4
1,2,2-Trichloro-1,1,2-trifluoroethane	2.0	1.7 J	1.8 J	2.1
1,1,1-Trichloroethane	1.8 J	1.4 J		
Trichloroethene	8.0	6.7	6.8	8.2
Trichlorofluoromethane	3.5	2.4	1.1 J	2.3

Refer to footnotes at end of table.

Table F-3

EPA Method TO-14A[a] Duplicate Analytical Results for Samples Collected from the CSS Monitoring Subsystem
July 2009–June 2010

Sample Date	15-Mar-10	15-Mar-10	15-Jun-10	15-Jun-10
AR/COC	612800	612800	613115	613115
Sample Location	CAMUCSSBH4-S	CAMUCSSBH4-SD	CAMUCSSBH5-S	CAMUCSSBH5-SD
Characterization Sample No./Duplicate Sample No.	088500-004	088500-029	089216-005	089216-029
Analyte Detected	(Concentration in ppbv)			
Acetone			5.9 J	
Benzene				
Dichlorodifluoromethane	1.4 J		1.5 J	1.4 J
Methylene Chloride		1.2 J	1.1 J	
Tetrachloroethene	2.1	2.0		
1,2,2-Trichloro-1,1,2-trifluoroethane	5.1	4.8	8.3	9.0
1,1,1-Trichloroethane				
Trichloroethene	4.7	4.4	6.4	7.0
Trichlorofluoromethane	2.9	1.5 J	3.8	3.7

Note: Blank cells indicate nondetections.

[a]EPA January 1999.
AR/COC = Analysis request/chain-of-custody record.
B = Method blank contamination.
CAMU = Corrective Action Management Unit.
CSS = CWL sanitary sewer.
CSSBH = CWL sanitary sewer borehole.
CWL = Chemical Waste Landfill.
EPA = U.S. Environmental Protection Agency.
J = Estimated result. Result is less than the LRL.
LRL = Laboratory reporting limit.
No. = Number.
ppbv = Parts per billion by volume.
S = Sample.
SD = Sample duplicate.

ANNEX G
Leachate Production

Table G-1
Gallons of Leachate Pumped from LCRS Sump
July 2009–June 2010 (Weekly Totals)

Collection Date(s)	Leachate Volume (gallons)
2009	
07/01–07/03	9
07/06–07/10	7
07/13–07/17	8
07/20–07/24	12
07/27–07/31	10
08/03–08/07	13
08/10–08/14	12
08/17–08/21	11
08/24–08/28	13
08/31–09/04	10
09/07–09/11	13
09/14–09/18	5
09/21–09/25	13
09/28–10/02	8
10/05–10/09	8
10/12–10/16	10
10/19–10/23	11
10/26–10/30	10
11/02–11/06	14
11/09–11/13	9
11/16–11/20	11
11/23–11/27	6
11/30–12/04	21
12/07–12/11	17
12/14–12/18	10
12/21–12/25	10
12/28–01/01	0
2010	
01/04–01/08	25
01/11–01/15	12
01/18–01/22	12
01/25–01/29	16
02/01–02/05	11
02/08–02/12	15
02/15–02/19	5
02/22–02/26	12
03/01–03/05	10
03/08–03/12	13
03/15–03/19	19
03/22–03/26	5
03/29–04/02	12
04/05–04/09	9
04/12–04/16	9
04/19–04/23	10
04/26–04/30	12
05/03–05/07	10
05/10–05/14	9
05/17–05/21	7
05/24–05/28	10
05/30–06/04	9
06/07–06/11	6
06/14–06/18	10
06/21–06/25	10
06/28–06/30	0
Total Volume (gallons)	559

LCRS = Leachate Collection and Removal System.