Draft Final

Data Evaluation Technical Memorandum
and
Work Plan Addendum

July 1999 – April 2000 Fieldwork for the RI/FS
at the
354 Area Solvent Detections
(Operable Unit 005)
at Main Post
Fort Riley, Kansas

Volume 1: Report

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LIST OF ACRONYMS AND ABBREVIATIONS

ASTM	American Society for Testing and Materials
ATV	All Terrain Vehicle
bgs	Below Ground Surface
BMcD	Burns & McDonnell Engineering Company, Inc.
BMDL	Below Method Detection Limit
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
Building 311	Union Pacific Railroad Station, Fort Riley, Kansas
Building 430	Fire Station, Fort Riley, Kansas
CAS	Continental Analytical Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cm/sec	centimeters per second
DCA	Dichloroethane
DCE	Dichloroethene
DCFA	Dry Cleaning Facilities Area
DCP	Data Control Platform
DES	Fort Riley Directorate of Environment and Safety
DPW	Fort Riley Directorate of Public Works
DSR	Data Summary Report
EDB	Ethylene Dibromide
EDI	Equal Distance Increments
EPS	Environmental Priority Service
EWMF	Environmental Waste Management Facility
FFTA	Former Fire Training Area (at MAAF)
FS	Feasibility Study
FSM	Field Site Manager
ft	Feet
ft/ft	feet per foot (hydraulic gradient)
GC	Gas Chromatograph
GSI	GeoCore Services, Inc.
HRI	Hampshire Research Institute
IDW	Investigation Derived Waste
IFI	Initial Field Investigation

IPS	Innovative Probing Solutions
J	Estimated Value Below Reported Limit
KDHE	Kansas Department of Health and the Environment
KGS	State Geological Survey of Kansas
KR	Kansas River
MAAF	Marshall Army Airfield
MCL	Maximum Contaminant Level
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MSL	Mean Sea Level
MWIP	Monitoring Well Installation Plan
NA	Natural Attenuation
NAD	North American Datum
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
OU	Operable Unit
PAH	Polynuclear Aromatic Hydrocarbons
PCE	Tetrachloroethene
PCOPC	Preliminary Contaminants of Potential Concern
PID	Photoionization Detector
PVC	Polyvinyl Chloride
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QCSR	Quality Control Summary Report
QCTM	Quality Control Technical Memorandum
RBC	Risk-Based Chemical Concentrations
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RFSD	Review of Field Screening Data
RSK	Risk-Based Standards for Kansas

SAP	Sampling and Analysis Plan
SVOC	Semivolatile Organic Compounds
Tech Memo	Technical Memorandum
TCE	Trichloroethene
TM	Technical Memorandum
TOC	Total Organic Carbon
U	Undetected
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compounds
WD	Working Draft
WP	Work Plan

1.0 INTRODUCTION

1.1 Purpose and Scope of Report

The purpose of this Data Evaluation Technical Memorandum (Tech Memo)/Work Plan (WP) Addendum for the 354 Area Solvent Detections (Operable Unit [OU] 005) study area at Fort Riley, Kansas is to:

- Summarize the data that has been collected to date as part of the remedial investigation (RI).
- Provide a preliminary evaluation of this data.
- Identify potential data gaps that need to be addressed prior to completion of the field investigation and subsequent preparation of the RI report.
- Describe the rationale for additional field activities that will be performed to address the identified data gaps.
- Present the Sampling and Analysis Plan (SAP) Addendum

The scope of this report is limited to an initial evaluation of the data collected in July, August, September, October, and November of 1999 and in February, March, and April of 2000 to assist in identifying data gaps. Contaminants of note at the study area include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (DCE), vinyl chloride, and carbon tetrachloride. A detailed evaluation of all data collected from the study area, including data collected under the initial field investigation (IFI), will be included in the final RI report.

1.2 Remedial Investigation Objectives

The overall objectives of the RI/Feasibility Study (FS) are to collect data to evaluate the nature and extent of contamination, to assess the risk to human health and the environment, to conduct a source control action (if warranted), to develop and evaluate remedial action alternatives, and to identify an appropriate remedy as required. Background and detailed field procedures for the RI/FS investigation at the study area are described in:

- *Remedial Investigation/Feasibility Study Work Plan for the Former Building 354 Solvent Detection Site at Main Post, Fort Riley, Kansas* (Burns & McDonnell Engineering Company, Inc. [BMcD], 1999a)[RI/FS WP].

- *Site Specific Sampling and Analysis Plan for the RI/FS at Former Building 354 Solvent Detection Site at Main Post, Fort Riley, Kansas* (BMcD, 1999b)[SAP].

The RI activities are conducted specifically to:

- Determine the nature, extent, and concentrations of contamination at the study area.
- Characterize the physical and chemical nature of the study area, including fate and transport mechanisms.
- Identify potential human and environmental receptors at or near the study area.
- Complete a baseline risk assessment of the study area.
- Obtain information necessary to evaluate remedial action alternatives in the feasibility study.
- Identify source areas for possible source control action.

To accomplish these objectives, the rationale and approach in the WP and the SAP (BMcD, 1999a and 1999b) were developed to describe detailed procedures for performing the field investigation. To date this has included the following activities, which will be described in more detail in Section 2.0:

- On-site groundwater screening
- Soil sampling and on-site screening
- Soil-gas investigation
- Monitoring well and piezometer installation
- Water level measurement at all monitoring wells and piezometers
- Interim groundwater sampling of all monitoring wells
- Surface water sampling of the Kansas River

1.3 Report Organization

This report is arranged in the following manner:

- Section 2.0 provides a review of RI field activities that have been conducted to date.
- Section 3.0 reviews and updates the physical characteristics of the study area, including the geology and hydrogeology.

- Section 4.0 consists of a summary of the nature and extent of contaminants detected during the RI fieldwork to date.
- Section 5.0 briefly addresses the fate and transport of contaminants across the study area.
- Section 6.0 provides a risk evaluation of the Site, including preliminary chemicals of potential concern (PCPOCs), and the revised site conceptual model.
- Section 7.0 provides the work plan rationale and SAP, which covers in detail the additional fieldwork required at the study area.

2.0 FIELD ACTIVITIES

2.1 Overview of Field Activities

RI fieldwork at the 354 Area Solvent Detections study area was conducted between July 1999 and April 2000. The project location is shown in Figure 2-1. The size of the study area has been expanded several times during the course of the fieldwork based upon the results of the field investigation. The study area currently encompasses portions of Main Post as far north as Godfrey Avenue, virtually the entire point bar south of the Union Pacific Railroad (UPRR) grade, and several direct-push locations on the south bank of the Kansas River at Marshall Army Air Field (MAAF) (see Figure 2-2).

Table 2-1 provides a chronology of the fieldwork to date that has been conducted by BMcD for the study area. Other field activities with direct relevance to this investigation have also been included. This fieldwork has resulted in the following:

- Collection of 328 groundwater screening samples at 180 locations
- Collection of 70 soil screening samples at 20 locations
- Collection of 110 soil-gas samples at 57 locations
- Off-site laboratory analysis of selected confirmation samples (soil and groundwater)
- Installation of 11 monitoring wells and 11 piezometers
- Surveying of direct-push sampling locations, monitoring wells and piezometers
- Interim groundwater sampling events
- Surface water sampling of the Kansas River

Direct-push groundwater, soil, and soil-gas sampling locations are shown on Figure 2-2. This figure also shows originally proposed locations that were not sampled. Monitoring well and piezometer locations are shown on Figure 2-3. Specific sampling procedures are discussed in the RI/FS WP and SAP (BMcD, 1999a and 1999b). Additional information on the study area, field procedures, and the results of fieldwork conducted to date can be found in the following work plans and reports:

- *Sampling and Analysis Plan for Environmental Investigations at Fort Riley, Kansas* (BMcD, 1998a)[Site-Wide SAP]
  - *Volume I, Field Sampling Plan* (Site-Wide SAP)
  - *Volume II, Quality Assurance Project Plan* (Site-Wide QAPP)

- *Monitoring Well Installation Plan for Environmental Investigations at Fort Riley, Kansas* (BMcD, 1998b)[MWIP]

- *Initial Field Investigation Report for the Former Building 354 at Main Post, Fort Riley, Kansas* (BMcD, 1998c)[IFI]

- *Data Summary Report, November 1998 Sampling Event, Former Building 354 Area Solvent Detection Site at Fort Riley, Kansas* (BMcD, 1999c)[354 DSR-A]

- *Quality Control Technical Memorandum, 1999 Confirmation Sampling for the RI/FS at the Former Building 354 Solvent Detection Site at Main Post, Fort Riley, Kansas* (BMcD, 2000a)[QCTM]

- *Quality Control Summary Report, April 2000 Confirmation Sampling for the RI/FS at the 354 Solvent Detection Site at Main Post, Fort Riley, Kansas* (BMcD, 2000b)[QCSR]

- *Review of Field Screening Data for the Former Building 354 at Main Post, Fort Riley, Kansas* (BMcD, 2000c)[354 RFSD]

- *Data Summary Report, February 2000 Sampling Event, 354 Solvent Detection Site at Fort Riley, Kansas* (BMcD, 2000d)[354 DSR-B]

- *Technical Memorandum, July – November 1999 Fieldwork for the RI/FS at the 354 Solvent Detection Site at Main Post, Fort Riley, Kansas* (BMcD, 2000e)[RI/FS TM]

- *Quality Control Technical Memorandum, March 2000 USGS River Sampling Event, Former Building 354 Solvent Detection Site at Fort Riley, Kansas* (BMcD, 2000f)[QCTM-KR]

- *Working Draft Technical Memorandum, July 1999 – April 2000 Fieldwork for the RI/FS at the 354 Solvent Detection Site at Main Post, Fort Riley, Kansas* (BMcD, 2000g)[RI/FS WDTM]

- *Data Summary Report (Working Draft), July 2000 Sampling Event, 354 Solvent Detection Site at Fort Riley, Kansas* (BMcD, 2000h)[354 DSR-C]

- *Work Plan for Volatile Organic Compound Sampling of the Kansas River Near Marshall Army Airfield, Fort Riley, Kansas* (United States Geological Survey [USGS], 1999)[WP-KRSW]

Appendix A contains copies of informal documentation that discuss expansions of the sampling grids and/or functioned as sampling and analysis plans for phase of fieldwork not described in detail within the formal SAP (BMcD, 1999b). These informal documents include the following:

- Fax Message dated 7/27/99 (BMcD to Fort Riley Directorate of Public Works [DPW]) – Utility clearance for locations B174 – B186.
- Fax Message dated 7/30/99 (BMcD to Fort Riley DPW) – Utility clearance for locations B187 – B201.
- Fax Message dated 8/11/99 (BMcD to Fort Riley DPW) – Utility clearance for locations B202 – B205.
- Tech Memo – Expansion of Groundwater Screening, dated 8/30/99.
- Tech Memo – Groundwater Screening, dated 8/30/99 and revised 9/17/99.
- Fax Message dated 10/4/99 (BMcD to Fort Riley Directorate of Environmental Safety [DES] and United States Army Corps of Engineers [USACE]) – Direct push locations (B209 – B222).
- Fax Message dated 10/26/99 (BMcD to Fort Riley DES and USACE) – "F" Line direct push locations.
- Fax Message dated 11/5/99 (BMcD to Fort Riley DES and USACE) – Modified Grid for 354 Investigation (B223 – B269).
- Tech Memo, Site-Specific Sampling and Analysis Plan, Building 354 Solvent Detection Site, February 2000 Sampling Event (dated 2/18/00).
- Memorandum dated 3/3/00 – Additional Direct-Push Activities at Former Building 354 Solvent Detection Site, Main Post, Fort Riley, Kansas.

Direct-push activities were conducted using either a van-mounted or all-terrain vehicle (ATV) mounted geoprobe equipment. Van-mounted direct-push and on-site gas chromatograph (GC) analyses were performed by Innovative Probing Solutions (IPS) (July through November 1999) and Environmental Priority Service (EPS) (March and April 2000). IPS and EPS data tables are included in this report as Appendix B. ATV direct-push activities were performed by EPS. GeoCore Services Inc. (GSI) and the

USACE conducted monitoring well and piezometer installation activities. Kaw Valley Engineering performed all surveying (survey data is included in Appendix C).

2.2 Groundwater Screening

Van- and ATV-mounted direct-push equipment was used to collect a total of 328 groundwater screening samples from 180 locations in the study area. Groundwater samples collected from July through November of 1999 were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and 1,2-dichloroethane (DCA). Groundwater samples collected during April 2000 were analyzed for BTEX, PCE, TCE, cis-1,2-DCE, and carbon tetrachloride. Carbon tetrachloride was added to the field analysis during the Spring 2000 field investigation because this compound was detected in groundwater within the study area during the Summer and Fall 1999 fieldwork. Trans-1,2-DCE and 1,2-DCA were dropped from the Spring 2000 field analysis because there were no significant detections of these compounds during the 1999 fieldwork. Initial screening locations were defined in the SAP (BMcD, 1999b). As fieldwork advanced, additional locations were added in consultation with Fort Riley DES personnel. The following bullets describe the expansion of the direct-push groundwater sampling grid at the study area during the Summer and Fall, 1999 field activities (see Figure 2-2 for locations):

- The initial direct-push locations (B89 – B147) were located along Dickman and Carter Avenues, along the drainage ditch just west of Building 310, and in the vicinity of the UPRR station (Building 311). These were the first locations sampled when fieldwork commenced in July 1999.
- In late July 1999, additional direct-push locations were added along Dickman, Carter, and Carr Avenues (B175 – B198). This extended the investigation area to the north and northeast in an effort to delineate extent.
- In early August 1999, four direct-push locations (B202 – B205) were added along Marshall Avenue. Two direct-push locations (B206 and B207) were added between Buildings 303 and 309. These points were added to assist in delineating extent in the western portion of the study area.

- In September 1999, the A, B, C, D, E, and HC lines were located on the point bar of the Kansas River. The F line, located north of the horse corral, was subsequently added. These locations extended the study area south to the Kansas River in an effort to delineate nature and extent of contamination on the point bar.
- In October 1999, a line of direct-push locations (B209 – B222) was added down the middle of the block between Carr and Carter Avenues. These points were added to assist in delineating the extent of contamination.
- In November 1999, a grid of direct-push locations (B224 – B268) was laid out and sampled just east of Building 367. This grid provided information on possible sources in the area. The 20-foot (ft) equilateral grid provided greater than 90 percent confidence of locating a source area 20-ft in diameter.

When direct-push groundwater sampling resumed in April 2000, the following areas were investigated:

- Nine direct-push locations (B696 – B704) were sampled between Building 295 and the extreme southern corner of the Fort Riley DPW compound. These direct-push points provided additional information on the nature of the bedrock surface and groundwater contamination.
- Four direct-push locations (B705 – B708) were sampled in the area between Dickman Avenue and Building 332. These locations were sampled to provide more information on the nature and extent of groundwater contamination in this area.
- Five direct-push locations (B709 – B713) were sampled in the vicinity of the fire station (Building 430) on Godfrey Avenue. These locations were sampled in an effort to determine if the fire station is the possible source of carbon tetrachloride detected within the study area.
- Six direct-push locations (B714 – B725) were sampled along an area just east of the Kansas River levee at MAAF. These locations were sampled to determine if groundwater contamination was present to the east of the Kansas River.
- Five direct-push locations (G1 – G5) were sampled in the horse corral. These locations were sampled to further define nature and extent of groundwater contamination, and to provide additional information on the bedrock surface.

Not all direct-push locations identified in the SAP or subsequent informal guidance were investigated. Figure 2-2 depicts those locations where samples were actually collected.

The basic method for collecting groundwater screening samples involved pushing a mill-slot screen to the desired sampling depth, and obtaining the groundwater sample using a stainless-steel ball-and-seat sampler attached to the end of disposable polyethylene tubing. Field analysis consisted of a purge and trap step to collect a headspace sample, which was injected into a Shimadzu GC-14A GC for analysis.

Field quality assurance/quality control (QA/QC) required blanks, calibration standards, duplicates, and laboratory confirmation samples for the screening work accomplished. Continental Analytical Services (CAS) provided off-site analysis of the laboratory confirmation samples, which were collected at a minimum rate of one per day or 10 percent of total samples analyzed on-site. For samples collected from July through November 1999, CAS analyzed groundwater samples for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and ethylene dibromide (EDB). As no significant detections of SVOCs or EDB were found during the 1999 fieldwork, those compounds were subsequently dropped from off-site analysis of groundwater confirmation samples collected during the April 2000 direct-push activities. In addition, a QA sample was submitted to the USACE Chemistry and Materials Quality Assurance Laboratory. Matrix spike/matrix spike duplicate (MS/MSD) and sampler rinsate samples were collected as required by the SAP. Trip blanks accompanied each cooler with VOC samples, and temperature blanks accompanied all coolers.

Groundwater screening procedures were controlled by hydrogeological conditions encountered across the study area. At Main Post, in the area between Henry Drive and approximately 200 ft east of Marsall Avenue (north of the UPRR grade), only a few feet of saturated terrace deposits were present above the bedrock surface. A single groundwater sample was collected in this area. At other locations no samples were collected because there was no groundwater present above bedrock and the probeholes were dry (see Figure 2-2). In some cases probeholes produced only a small amount of water, making it difficult to obtain the volume of groundwater required for field analysis and any required off-site laboratory analysis. In these cases either the probe rod was left in place, or the rod was removed and replaced with a

disposable polyvinyl chloride (PVC) screen and riser. These actions provided the opportunity for groundwater to seep into the probehole. Rather than splitting a single sample volume for both on- and off-site analysis, groundwater was collected first for the field sample and then for any required off-site analytical samples.

The method for obtaining and evaluating samples on the terrace was duplicated for the point bar, with the exception that groundwater samples were taken from three depths at each direct-push location (where feasible). The point bar, located within the alluvial aquifer of the Kansas River, had a significant saturated thickness of alluvium in comparison to the terrace deposits. One point bar sample (deep) was taken immediately above the bedrock, one just below the water table (shallow), and a third (intermediate) at the approximate depth midway between the shallow and deep sampling depths. For the three zones, the ranges in depths below ground surface (bgs) were as follows: shallow, 15 to 30 ft bgs; intermediate, 24 to 41.5 ft bgs; and deep, 34 to 55.7 ft bgs.

A detailed explanation of sampling and analysis procedures can be found in the SAP (BMcD, 1999b) and the Site-Wide SAP (BMcD, 1998a). The field data and off-site confirmation data are presented and discussed in Section 4.0 of this report.

2.3 Soil Sampling and Analysis

Logging, field screening, and sampling of soils for both on-site and off-site lab analysis was performed at many direct-push locations during the Summer and Fall 1999 fieldwork. Locations where soil logging and field screening were conducted are shown on Figure 2-2. Soils were continuously collected using a Macrocore (four-ft by two-inch) sampler, advanced by direct-push equipment. Soils were logged by the site geologist and then field screened using a photoionization detector (PID) with an 11.7 electron volt bulb. At locations specified in the SAP (BMcD, 1999b), soil samples were collected for on-site GC analysis. These samples were collected from the following areas:

- At direct-push locations B113, B114, B117, and B118, located along the drainage ditch between Buildings 301 and 310.

- At direct-push locations B119, B120, and B121, located just east of Dickman Avenue and west of the DPW compound.
- At direct-push locations B131 through B134, B136 through B138, B140, B143, B145, and B147, located in the vicinity of the UPRR station (Building 311).
- At direct-push locations B217 and B218A, located just east of Building 367.

A total of 70 soil screening samples were collected at 20 boring locations for field GC analysis for BTEX, PCE, TCE, cis/trans-1,2-DCE, and 1,2-DCA. The soils were screened with a PID over discrete intervals as specified in the SAP (BMcD, 1999b) and samples for on-site GC analysis were selected from those intervals which exhibited the highest PID readings. At those locations where field GC analysis of soil was conducted, CAS collected confirmation samples for off-site analysis. Confirmation samples were collected at a minimum rate of one per day or 10 percent of total samples analyzed on-site. CAS analyzed soil samples for VOCs, SVOCs, EDB, and the eight Resource Conservation and Recovery Act (RCRA) metals. In addition, a QA sample (duplicate) was also submitted to the USACE Chemistry and Materials Quality Assurance Laboratory. MS/MSD and sampler rinsate samples were collected as required by the SAP (BMcD, 1999b).

Detailed procedure regarding sampling and analysis can be found in the SAP (BMcD, 1998b). The field data and off-site confirmation data are presented and discussed in Section 4.0 of this report; boring logs are included as Appendix D.

2.4 Soil-Gas Investigation

During the Spring 2000 fieldwork, van-mounted direct-push equipment was used to collect a total of 110 soil-gas samples from 57 locations in an area located between Carr and Carter Avenues (Figure 2-2, View C). This effort attempted to delineate possible source areas around Building 367. Background for this activity is detailed in a memorandum that is included in Appendix A of this report.

At most locations, samples were collected from depths of nine and 15 ft bgs; although, at four locations (B349, B431, B505, and B599) the nine-ft sample was not collected. The decision to exclude the nine-ft

sample depth at these locations was made with Fort Riley DES personnel based on low to no detectable contaminant concentrations at this depth sampling south from Building 367. Probe rods with a threaded point holder and disposable point were pushed to the desired sampling depth. Polyethylene tubing was lowered down the probe rods and threaded onto the point holder. The rods were then retracted to create a void in the soil, and the drive point was disengaged. At this point, a vacuum was applied to purge the tubing and draw a soil-gas sample. The soil-gas sample was withdrawn from the tubing using a disposable syringe and was immediately injected into a Shimadzu GC-14A GC for analysis. Soil-gas samples were analyzed for BTEX, PCE, TCE, cis-1,2-DCE, and carbon tetrachloride. Field QA/QC included blanks, calibration standards, and duplicates. The field data are presented and discussed in Section 4.0 of this report.

2.5 Monitoring Well and Piezometer Installation

A total of 11 monitoring wells and 11 piezometers were installed in the study area between December 1999 and April 2000. BMcD/GSI installed and developed four monitoring wells between December 1999 and February 2000. The USACE installed and developed seven monitoring wells between December 1999 and January 2000. BMcD/GSI installed 11 piezometers in the study area in April 2000. Well logs, well construction diagrams, and well development forms are included in Appendix E. Following installation, all monitoring wells and piezometers were surveyed. Locations for the wells and piezometers are shown on Figure 2-3, and survey data is included in Appendix C.

BMcD/GSI installed three overburden and one bedrock monitoring wells on the terrace at Main Post. Monitoring wells were installed using standard procedures described in the MWIP (BMcD, 1998b) and the SAP (BMcD, 1999b). The overburden monitoring wells (354-99-07, 354-99-08, and 354-99-09) were placed within the area impacted by contamination (east of Building 367 and along Dickman Avenue) to help determine the nature and extent of contamination. These three wells were installed using the hollow-stem auger drilling method. The single bedrock monitoring well (354-00-10) was installed just east of Building 407 using a combination of cable-tool and air rotary drilling methods. The cable-tool method was used to install a 5 ½-inch PVC surface casing to the top of bedrock, then the air-rotary method was used to core and ream bedrock. This well was installed to investigate the

hydrogeological character of the first competent bedrock unit below the unconsolidated overburden. All monitoring wells were constructed of two-inch, schedule 40 PVC screen and riser. All four monitoring wells were developed using a gas-displacement pump to both surge and pump the wells. Each well was developed until the water removed from the well had a turbidity less than 30 nephelometric turbidity units (NTU) and stable pH, specific conductance, and temperature. Following development, dedicated bladder pump systems were installed in all four wells.

Geotechnical samples were collected from selected boreholes during monitoring well construction. Samples were analyzed for grain size, specific gravity, water content, and porosity. A single sample taken from the screened interval in the boring for Monitoring Well 354-99-08 was also tested for hydraulic conductivity. Selected soil samples were also taken and analyzed at CAS for total organic carbon (TOC). Geotechnical and TOC data are presented in Appendix F.

The USACE installed and developed seven monitoring wells (354-99-11, -11c, -12, -12b, -12c, -13, -13c) between December 20, 1999 and January 13, 2000. These wells are located on the point bar and were installed to assist in delineating the nature and extent of contamination on the point bar. The wells were installed using the cable-tool drilling method. They are constructed of two-inch schedule 40 PVC riser and screen. Following installation, these monitoring wells were developed and dedicated bladder pumps were installed. Well logs, construction diagrams, and well development forms for these monitoring wells are included in Appendix E.

BMcD installed 11 piezometers (354-00-PZ14 through 354-00-PZ23) during April 2000. These piezometers are located on the point bar, with the exception of 354-00-PZ18, which is located just northwest of the UPRR Station (Building 311, see Figure 2-3). These piezometers were installed across the point bar and north of the UPRR station to provide additional measurement points for water level information. The piezometers are constructed of one-inch stainless steel screen and riser. These were installed by drilling a pilot hole through fine-grained material using flight augers. Once sand was penetrated, the flight augers were removed and then the screen and riser were driven to depth using a

hydraulic hammer. The piezometers were not developed. Construction diagrams for these piezometers are included in Appendix E.

2.6 Interim Groundwater Sampling

In September 1997, November 1998, February 2000, and July 2000 interim groundwater sampling of monitoring wells and selected piezometers was conducted at the study area in support of the remedial investigation. Monitoring wells were sampled using either dedicated or non-dedicated bladder pumps. Piezometers were sampled using dedicated or non-dedicated bailers. Monitoring wells were purged and sampled using standard Fort Riley protocols, with minor modifications as specified in informal field guidance (BMcD, 1998a and Appendix A). Off-site laboratory analyses have varied from event to event, but have included VOCs and SVOCs at a minimum. Results for these groundwater sampling events are included in Section 4.0 of this report, and are covered in detail in the IFI Report and the DSRs (BMcD, 1998c, 1999c, 2000d, and 2000h)

2.7 Groundwater Level Measurements

Groundwater level measurements have been taken at the study area several times over the last three years. Water level measurements were taken each time an interim groundwater sampling event was conducted. Additionally, a round of water levels was taken in May 2000, following the installation of the 11 new piezometers on the point bar within the study area. In early 2000, the USGS installed automated water level monitoring equipment at Monitoring Wells MPL94-01, MPL94-03, 354-99-13b, 354-99-13c, 354-00-10, PSF92-05, and Piezometers 354-00-PZ14 and 354-00-PZ14c. Water level data is discussed in Section 3.0.

2.8 Kansas River Surface Water Sampling

The USGS conducted surface water sampling of the Kansas River in March 2000. This sampling took place along three transects, located adjacent to the point bar (see Figure 2-2). The river was sampled during conditions in which the river stage was either stable or falling, rather than rising. The river was sampled from a total of 10 locations along each transect. Based upon river discharge and channel

profile, each transect was divided into 10 equal discharge increments (EDIs). Surface water samples were collected from the centroid of each EDI using a USGS designed VOC sampler (USGS, 1999). USGS surface water samples were analyzed at an off-site analytical laboratory. QA/QC included field blanks, trip blanks, and MS/MSD samples. Results of the surface water sampling are discussed in Section 4.0 of this report.

2.9 Investigation Derived Waste Management

Liquid investigation derived waste (IDW) generated during fieldwork included decontamination water used to clean sampling and drilling equipment, and development and purge water generated during monitoring well development and groundwater sampling activities. Liquid IDW was initially containerized in a tank located at the Fort Riley DPW compound, and was later disposed according to the Fort Riley DES IDW Management Plan. Based on the low level of contaminants present in this water, the Fort Riley DES IDW Management Plan allows disposal of the liquid IDW directly into the Fort Riley sanitary sewer system. After the containment tank was emptied and removed from the Fort Riley DPW compound, liquid IDW was containerized in five-gallon buckets and disposed into the sanitary sewer system on a daily basis. Soil cuttings generated during direct-push soil sampling and monitoring well installation activities were containerized in a roll-off container located at the Building 367 compound. Other disposable materials, including nitrile gloves, sample tubing, and acetate soil sample liners, were bagged and disposed in an authorized dumpster at the Environmental Waste Management Facility (EWMF) at Camp Funston.

3.0 PHYSICAL CHARACTERISTICS OF THE SITE

3.1 Topography and Surface Drainage

3.1.1 Regional Setting

The topography of Fort Riley and the surrounding area consists of a low plain that has been eroded by streams and rivers. The area is designated as the Osage Plains section of the Central Lowlands physiographic province (Schoewe, 1949). Sedimentary bedrock strata dip gently to the west-northwest. East-facing escarpments of more resistant rock units are separated by gentle, westward sloping plains. The resulting topography can be divided into upland areas with bluffs along alluvial valleys and lowland areas that consist of alluvial plains and associated terraces. The upland areas are dissected by numerous intermittent and perennial streams; the lowland areas occur along the banks of the major rivers in the area (Jewett, 1941).

3.1.2 Site Topography and Surface Drainage

A point bar of the Kansas River and a terrace area dominate the topography across the study area. The point bar lies between the UPRR grade and the Kansas River (Figure 3-1). It is an area of low relief, with ground elevations generally between 1057 and 1063 ft above mean sea level (MSL). The area to the north of the UPRR grade is an alluvial terrace. The topography on the terrace generally rises to the north. Elevations vary from about 1065 ft above MSL south along the railroad grade, to approximately 1125 ft above MSL at the north portion of the study area in the vicinity of Godfrey Avenue. With the exception of the Kansas River, no perennial creeks or streams are found in the study area. A swale cuts the terrace immediately to the west of the DPW maintenance compound and Building 310. Within the swale, a concrete-lined drainage ditch drains south towards the Kansas River (Figure 3-1). This ditch carries storm-water runoff only during times of precipitation.

3.2 Geology

3.2.1 Regional Setting

The geology of the area consists of Pennsylvanian and Permian Age sedimentary rock overlain by eolian

and fluvial deposits of Pleistocene and Recent Age (Jewett, 1941). The Nemaha Anticline is the prominent structural feature in the area, and Fort Riley is situated on the western limb of this fold within the Salina Basin (Merriam, 1963). Bedrock in the vicinity of Fort Riley dips gently (less than 10 degrees) to the west-northwest and consists of alternating beds of limestone and shale of the Permian Chase and Council Grove Groups. The Barneston Formation of the Chase Group (composed of the Fort Riley Limestone, Oketo Shale, and Florence Limestone Members) is the uppermost bedrock in the upland areas. This sequence of interbedded limestones and shales continues to depths of several hundred feet. The bedrock surface has been eroded by the major rivers and streams. Geologic literature reviewed for the area makes no mention of karst features being present within the limestone formations. Further, no indications of karst features or terrain were identified during map review and field surveys.

In the major river valleys, alluvial sand, silt, and gravel deposits reach a thickness of approximately 100 ft near the rivers and decrease in thickness toward the margins of the flood plain. Alluvium and loess cover portions of the upland areas, including terraces located on the margins of the major river valleys.

3.2.2 Site Geology

Information obtained from soil borings at the study area indicates that the soils sampled are primarily alluvial sediments. The soil borings exhibit the upward-fining sequence typical of alluvial point bar sediments, with coarse-grained sands at depth, grading upward into medium- to fine-grained sands, then fine-grained silts and clays near the surface. The general nature of the soil overburden was similar both in the point bar borings and in those borings advanced in the terrace area, north of the UPRR grade. Most of the materials encountered are natural deposits; however, there was evidence that possible fill material was present in some locations, especially in the area to the west of Building 332 (BMcD, 1998a).

The alluvial and terrace sediments were deposited on top of calcareous shale or limestone bedrock. Direct-push borings were advanced to refusal, with refusal assumed to occur at the top of bedrock. Bedrock elevations and depths to bedrock across the study area are summarized in Table 3-1. Figure 3-2 presents a bedrock elevation map for data obtained in the study area, including bedrock information

collected during the IFI (BMcD, 1998a). Depth to bedrock across the terrace at the RI boring locations ranged from 9.1 ft bgs at location B140 (north of Building 311) to 64.0 ft bgs at location B241 (east of Building 367). Bedrock elevations across the study area ranged from 1004.9 ft above MSL at location B725 (east of the levee at MAAF) to 1076.4 ft above MSL at location B202 (west of Building 301, along Marshall Avenue).

Representative cross sections of the study area are presented in Figures 3-3 through 3-7. Figure 3-3 (cross section A – A') depicts the bedrock surface and surface topography from the area just east of Building 367 south to the Kansas River floodplain. Figures 3-4 through 3-6 (cross sections B – B', C – C', and D – D') depict the swale and ridge features eroded into the bedrock surface. Figure 3-7 (cross section E – E') shows the bedrock topography across the point bar between the UPRR grade and the Kansas River.

The bedrock surface across the study area consists of a terrace area to the north and a bedrock channel of the ancestral Kansas River to the south. These two areas are separated by an abrupt, south-facing drop-off with about 25 to 30 ft of relief (Figures 3-2 and 3-3). The bedrock surface on the terrace has up to 10 ft of relief locally, and is cut by north-south trending swales and ridges (Figures 3-2, 3-4, 3-5, and 3-6). This bedrock topography is moderately well dissected to the north part of the terrace area, in the vicinity of Carr Avenue. Some areas, such as the bedrock surface below Building 332, are fairly flat. The bedrock surface on the terrace ranges from an elevation of about 1056 ft above MSL to the south (along the UPRR grade), to approximately 1070 ft above MSL to the north (in the vicinity of Godfrey Avenue), and rises to about 1076 ft above MSL to the west (in the vicinity of Marshall Avenue). To the south, on the point bar, a series of bedrock channels of the ancestral Kansas River are developed. These are oriented roughly sub-parallel to the modern Kansas River channel and have a modest relief of just a few feet (Figure 3-7). Elevations here range from about 1006 ft above MSL to the south (along the Kansas River) to approximately 1020 ft above MSL to the north (along the UPRR grade). This bedrock topography was probably developed by subaerial erosion when the ancestral Kansas River was deeply incised into the river valley. Within the bedrock channel of the ancestral Kansas River, channels were cut that were oriented sub-parallel to the direction of river flow. On the more extensive terrace area, the

bedrock topography was sculptured by tributary streams, which flowed into the ancestral Kansas River at roughly right angles to the direction of river flow. Subsequent to this period of bedrock erosion, the river filled the valley with clastic sediment, including the present terrace area to the north of the railroad grade. The Kansas River then eroded the valley to essentially its present configuration.

Alluvium and loess cover portions of the upland areas, including terraces located on the margins of the major river valleys. A portion of the study area is located on a terrace underlain by Buck Creek terrace deposits (Fader, 1974). These terrace deposits include both alluvium and loess. Eudora and Kenesaw soils are developed at the study area (Jantz et al., 1975). Eudora silt loams are well drained, have a moderate permeability, and normally form in coarse, silty alluvium on high flood plains or low terraces. Eudora soils are present in the alluvial valley to the south and east of the UPRR grade. Kenesaw silt loams form on loess on sloping upland and terrace areas. Kenesaw soils are present on the Buck Creek terrace deposits north of the UPRR grade. These soils are also well drained and moderately permeable.

3.3 Hydrogeology

3.3.1 Descriptive Hydrogeology

Generally, three hydrogeologic environments are present at Fort Riley: the river valley consisting of alluvial sediments including clay, silt, sand, and gravel; the terrace areas consisting of an unconsolidated, sedimentary overburden above bedrock; and the transition zones along the river valley margins where colluvial deposits from the terraces overlie and intermingle with alluvial river deposits. All the unconsolidated material is underlain by bedrock, which consists of alternating beds of limestone and shale in the Fort Riley area. The alluvial and terrace aquifers are described in more detail below. The transition zone tends to have a minimal thickness of unconsolidated material over bedrock, with 10 to 15 ft being typical. It is not uncommon for the overburden to be dry down to the top of bedrock within the transition zone. The study area is located across all three of these hydrogeologic environments (Jewett, 1941 and Fader, 1974).

3.3.2 Aquifer Characteristics

The aquifer beneath the study area consists of the alluvial sequence described above in Section 3.2.2. The nature of this material is generally the same both in the Kansas River alluvial valley and on the terrace area to the north. The alluvium becomes coarser-grained with depth, and contains some gravel and thin clay layers. The underlying Permian bedrock has a much lower porosity and permeability, although fractures and solution features may provide conduits for groundwater flow. It is not known whether the bedrock acts as a barrier to the downward movement of groundwater.

Both the Kansas River alluvial aquifer and the thinner aquifer under the terrace are considered unconfined aquifers. On the terrace, the thickness of the saturated zone is highly variable, ranging from zero (dry) along the southern margin of the terrace (to the north of the UPRR station) to about 10 ft in the vicinity of Monitoring Well 354-99-08. This water sits directly on the Permian bedrock. On the terrace, the depth to water varies between less than 10 ft bgs (Piezometer PZ-A) and about 45 ft bgs (Monitoring Well 354-99-08). A greater thickness of saturated alluvium is present under the Kansas River flood plain, with the aquifer thickness varying between 10 and 35 ft thick. The depth to water under the point bar varies from as little as 12 ft bgs near the Kansas River (Piezometer 354-00-PZ20) to depths of approximately 25 ft bgs in the central portion of the point bar (Piezometer 354-00-PZ17). These numbers are based on groundwater conditions as they existed in the Spring of 2000.

Sparse information is available concerning the hydraulic conductivity of the thin aquifer under the terrace area. During the installation of monitoring wells on the terrace in late 1999, geotechnical samples were taken for off-site laboratory analysis. A sample was taken from the boring for Monitoring Well 354-99-08 and analyzed for permeability in the lab using a falling head permeability test (American Society for Testing and Materials [ASTM] D5084). This sample, a sandy clay taken from a depth of 30 to 32 ft bgs, had a permeability of 3.4×10^{-7} centimeters per second (cm/sec), which is a reasonable value for this soil type (Appendix F).

More information is available on the hydraulic conductivity of the alluvial aquifer under the Kansas River floodplain. Data has been collected during aquifer pumping tests performed at various areas

throughout Fort Riley and along the Kansas River valley. These tests were preformed by contractors to both private entities and the USACE for the purpose of constructing water supply wells. An aquifer-pumping test was also performed at MAAF for the purpose of potentially constructing a small groundwater production facility for use during airfield operations. In addition to the aquifer pumping tests, slug tests were performed on eight monitoring wells installed at the Former Fire Training Area (FFTA) RI site at MAAF (*Draft Remedial Investigation Report for the Former Fire Training Area, Marshall Army Airfield at Fort Riley, Kansas*, BMcD, 2000i [FFTA RI]). Information collected includes the following:

- Mean value of horizontal hydraulic conductivity for 18 aquifer pumping tests of the Kansas River Valley alluvium, from Manhattan, Kansas to Kansas City, Kansas was 0.24 cm/sec. The three aquifer tests nearest Junction City, Kansas reported horizontal hydraulic conductivities ranging from 0.26 cm/sec to 0.32 cm/sec (Myers et. al., 1996; Fader, 1974).
- A seven-day pumping test was conducted in the Republican River alluvium by the USACE in 1975. Horizontal hydraulic conductivity ranged from 0.16 cm/sec to 0.36 cm/sec and averaged 0.29 cm/sec (Myers et. al., 1996; USACE, 1975).
- A 10-hour aquifer test was performed approximately 7,000 ft southwest of the FFTA at MAAF by the USACE in 1983. Horizontal hydraulic conductivity ranged from 0.21 cm/sec to 0.26 cm/sec and averaged 0.23 cm/sec (USACE, 1983).
- Values for horizontal hydraulic conductivity calculated from aquifer slug tests performed at FFTA at MAAF ranged from 0.0056 cm/sec to 0.011 cm/sec (BMcD, 2000i). Differences in the calculated horizontal hydraulic conductivity values between the pumping tests and the slug tests might be explained by the difference in areas measured during the tests.

3.3.3 Groundwater Flow

Groundwater elevation data were collected at the study area to provide information on groundwater flow direction and magnitude. Water levels have been measured at monitoring wells and peizometers on a periodic basis since the IFI was conducted in the Summer and Fall of 1997 (Table 3-2). No accurate

measurements of groundwater levels were made during the direct-push fieldwork performed for the RI; however, this work provided qualitative information on the configuration of the unconfined aquifers, both under the terrace area and the Kansas River floodplain. In general, the water table conforms to the slope of the bedrock and ground surface, with groundwater flowing to the south, off the terrace area and onto the Kansas River floodplain.

Potentiometric surface maps are provided, based upon two complete rounds of groundwater level measurements taken during May and July 2000 (Figures 3-8 and 3-9). A hydrograph for the Kansas River stage during the first eight months of calendar year 2000, measured at the USGS gauging station at the Henry Drive bridge, is included as Figure 3-10. No attempt has been made to plot groundwater level data with respect to the depth of the screened intervals on the point bar. Equipotential differences between screened interval are not apparent at Monitoring Well/Piezometer clusters 354-99-12/12b/12c, 354-99-11/11c, or 354-00-PZ14/PZ14c. Significant differences in equipotentials with depth were also not apparent between shallow, intermediate, and deep zones in the alluvial aquifer across the Kansas River at MAAF. The point bar is part of this same aquifer. Groundwater flow across the terrace is generally to the south, towards the Kansas River floodplain (point bar). Groundwater gradients across the terrace range from about 0.006 feet per foot (ft/ft) to about 0.015 ft/ft. Groundwater flow in the alluvial valley is controlled by the Kansas River and generally conforms to the direction of river flow. Groundwater flow across the point bar is generally to the east, with gradients ranging from approximately 0.0005 to 0.0008 ft/ft. An evaluation of Kansas River stage elevations measured at Fort Riley since 1964, when the gauging station was installed, suggest that hydraulic connectivity between the river and the overburden aquifer on the terrace exists only during the highest flood stages. For example, during the 1993 flooding on the Kansas River, the river surface elevation peaked at 1062.62 ft above MSL. This elevation was about six ft above the bedrock surface which defines the base of the terrace aquifer, thus the possibility existed that the river might have provided recharge to the terrace aquifer during this period (losing stream condition). However, this condition exists only during exceptional flood events. Usually, the Kansas River is well within its bedrock channel and groundwater moves from the terrace aquifer south into the alluvial aquifer.

A potentiometric surface low is present just to the east of Henry Drive on the May 2000 map (Figure 3-8). This might be a result of actual hydrogeologic conditions in the subsurface; however, a more likely explanation would be a problem with the surveyed top of casing elevations for those wells and piezometers that are within the potentiometric surface low. Monitoring wells and piezometers MPL94-01, MPL94-02, and PZ-C, for example, probably need to be resurveyed and tied into the survey grid for the more recently installed wells and piezometers.

3.4 Data Gaps

Based on a preliminary evaluation of subsurface data collected to date during the RI, the following data gaps have been identified concerning the site geology and hydrogeology:

1. Water-level measurements should be taken on a periodic basis to assess variation in the direction of groundwater flow and hydraulic gradients. This is important on the point bar in the Kansas River floodplain, where there may be variations in groundwater flow direction and gradient due to the influence of the stage of the Kansas River. This data can also be used to calibrate groundwater models that might be used as part of the RI/FS. A survey of all older wells and piezometers (top of casing only) should be conducted to tie these accurately into the survey grid for all the newly installed monitoring wells and peizometers.

2. The nature of the hydraulic connection between the unconsolidated terrace deposits and the underlying Permian bedrock needs further investigation. This information is especially important in the area just north of the UPRR station, where the overburden is dry down to the top of bedrock. Additional wells, screened within the bedrock interval, would provide necessary data on the lithology and hydrology in these areas.

3. Additional information is required to determine the groundwater flow direction and bedrock topography in the area between the fire station on Godfrey Avenue (Building

430) and the area in the vicinity of Building 367. The fire station (Building 430) has been identified as a possible source for carbon tetrachloride; however, there is incomplete information to determine the direction of groundwater flow from the vicinity of Godfrey Avenue. Additional bedrock sounding along Pershing Avenue, between Carr and Godfrey Avenues, is required. Water level information in the vicinity of the fire station (Building 430) will require the installation of monitoring wells or piezometers in this area.

4. Additional information on hydraulic conductivity within the terrace aquifer might be required to support the feasibility study. Existing information available on the alluvial aquifer should be adequate to characterize that hydrogeological system.

4.0 NATURE AND EXTENT OF CONTAMINATION

4.1 General

Section 4.0 describes the nature and extent of soil, groundwater, and surface water contamination at the study area. This section is organized into the following subsections:

- Section 4.2 discusses the nature and extent of contamination in the subsurface soils at the study area. Chlorinated VOCs, metals, and BTEX are addressed in turn. Both on- and off-site soil analytical results and on-site soil-gas results are described. The data collected during the IFI are also briefly described.
- Section 4.3 covers the nature and extent of contamination (chlorinated VOCs and BTEX) in the groundwater at the study area. The results of both on-site analysis and off-site interim sampling events will be integrated for a complete discussion of the groundwater contamination as understood to date.
- Section 4.4 briefly covers the results of surface water sampling at the Kansas River.
- Section 4.5 discusses the primary source areas under investigation at the study area.
- Section 4.6 summarizes the nature and extent of contamination at the study area.
- Section 4.7 describes data gaps that will require additional field investigation at the study area.

BTEX has been detected in the study area and is addressed in this discussion of nature and extent of contamination. However, because the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) excludes petroleum, the BTEX contamination found in the study area is a secondary issue to the RI/FS when compared to the CERCLA-regulated chlorinated solvents found in the study area.

The two contractors retained for direct-push fieldwork and field analytical testing followed different protocols when recording field analytical detections, which were below the reporting limits of field equipment. The contractor retained for fieldwork performed in Spring of 2000 attempted to quantify those detections that were below the reporting limit. These estimated detections were flagged with a "J"

in the data table to indicate that they were below the reporting limit. The contractor retained for the fieldwork performed in Summer and Fall of 1999 did not quantify those detections below the reporting limit. Such detections were simply flagged as BMDL; that is, below method detection limit. In order to merge the two data sets into a single, integrated data set, the BMDL detections were converted to "J"-flagged detections by adding a less-than sign (<) and a "J" flag to the reporting limit for the compound. For example, if the reporting limit for TCE was 2.0 micrograms per liter (µg /L), then a BMDL designation for that compound would be converted to <2.0J. Note that only BMDL designations from the 1999 field data were converted. J-flagged data from the 2000 field results remain exactly as received from the subcontractor. The data in all Section 4.0 tables has been modified to reflect this change.

4.2 Subsurface Soil/Soil-Gas

Soil samples were collected in order to determine the nature and extent of contamination at the subject property and to evaluate risk under the utility worker scenerio. Near-surface soil samples were collected with direct-push equipment at three to four depths per boring. Soil sampling depths were not to exceed 10 to 12 ft bgs, unless PID readings exceeded background levels. Sampling locations and rationale are described in Section 3 of the SAP (BMcD, 1999b). Not all proposed locations were actually sampled, as discussed in the SAP.

Soil samples were collected at the following locations:

- Along the drainage west of Buildings 309 and 310 (locations B113, B117, and B118). The purpose of sampling this area was to evaluate any potential source located adjacent to or within the natural drainage in this area (BMcD, 1999a).
- Along the east side of Dickman Avenue, in the vicinity of the DPW maintenance facility (B119, B120, and B121). The purpose of sampling this area was to identify and delineate any soil contamination located along the former drainage, extending north from the approximate location of B119.
- In the vicinity of the former service station along Henry Drive (locations B132 through B147). The purpose of sampling in this area was to identify and attempt to delineate any

contamination associated with the former service station and to provide adequate data to conduct the risk assessment.

- In addition, samples were taken at location B217 and B218A (located to the east of Building 367). These were not specified as soil sampling locations in the work plan, but after conferring with Fort Riley DES personnel, the decision was made to sample here because of the high levels of contamination present in the groundwater.

Soil analytical results for both on-site GC and off-site lab confirmation analyses are presented in Table 4-1 and Figure 4-1, View A. Chlorinated solvents and/or BTEX were detected at only four direct-push locations. SVOCs and/or EDB were not detected in any soil sample selected for off-site analysis and were not analyzed by on-site GC. EPA Method 8270 (SVOC) detection limits were above risk based levels for industrial soil for selected carcinogenic polynuclear aromatic hydrocarbons (PAHs). In order to characterize contamination at the study area further, 16 soil samples from 15 locations were analyzed for the RCRA metals at the off-site laboratory. Table 4-2 presents a summary of the RCRA metals data, which are also depicted on Figure 4-1. Figure 4-2 summarizes both soil analytical results collected during the IFI (BMcD, 1998c).

Soil-gas results are presented in Table 4-3. Figures 4-3 through 4-8 present soil-gas results for PCE, TCE, and cis-1,2-DCE for depths of nine and 15 ft bgs for the area between Carr and Carter Avenues. Four additional soil-gas sampling locations (B705, 706, 707, and 708) were located immediately west of the DPW compound (Figure 1-2). No summary figures are presented for these four locations because they either had very low detections or were non-detect. Neither BTEX nor carbon tetrachloride were detected in any of the soil-gas samples. Figure 4-2 presents the generalized extent of soil-gas detections observed during the IFI (BMcD, 1998c).

4.2.1 Chlorinated VOCs in Subsurface Soils

Chlorinated VOCs were detected in soil samples taken from direct-push sampling locations B132, B133, B217, and B218A (Figure 4-1). Off-site confirmation samples were collected for each of these locations, and chlorinated VOCs were detected in the confirmation sample for B132. All these detections fell well

below the Kansas Department of Health and the Environment (KDHE) Tier 2 Risk-based standards for both residential and non-residential use, for both the soil and the soil-to-groundwater protection pathways. (The soil-to-groundwater protection pathway standards, shown on Table 4-1, are the more stringent set of values.) The following bullets summarize these detections:

- PCE was detected at a level of 3.2 micrograms per kilogram (µg/kg) in a soil sample collected from 10 ft bgs at location B132 (at the former service station site along Henry Drive). At location B217 (east of Building 367), PCE was detected at 2.0 µg/kg from soil samples collected from both 14 and 28.5 ft bgs. At location B218A (east of Building 367), PCE was detected at a level of 11 µg/kg in soil collected from 16 ft bgs. The corresponding off-site laboratory confirmation sample was non-detect for PCE. PCE was detected below the reporting limit (<2.0 µg/kg) in a soil sample collected from 10 ft bgs at location B133 (north of the UPRR station, Building 311). Because this result was detected below the reporting limit for PCE, the value is not considered conclusive.
- TCE was detected at a level of 2.0 µg/kg in a soil sample collected from 16 ft bgs at location B218A (east of Building 367). The corresponding off-site laboratory confirmation sample was non-detect for TCE.
- Cis-1,2-DCE was detected at a level of 26 µg/kg in a soil sample collected from 16 ft bgs at location B218A (east of Building 367). The corresponding off-site laboratory confirmation sample was non-detect for cis-1,2-DCE.

Figure 4-2 shows the location of soil samples collected for on-site analysis during the IFI in 1997 (BMcD, 1998c). These soil samples were collected in or immediately adjacent to the DPW compound. Detections of PCE ranged from 42.8 µg/kg at location T-15 (in the swale west of Building 310) to 1.4 µg/kg at location T-12 (west of Building 332). TCE was detected in soils from location T-5 (at the former Building 354 site) and T-9 (south of the DPW perimeter fence). These values were 7.8 and 11.3 µg/kg, respectively. Each of these soil samples was taken within a few feet of the overburden – bedrock interface, suggesting that this soil contamination might be the result of PCE and TCE contaminated groundwater moving through the soils at these depths.

Soil-gas sampling provides a screening tool for potential soil and groundwater contamination source areas. Soil-gas detections may indicate volatilization of soil contamination into soil pore space. Alternatively, in sandy soils or in areas with extensive pavement and blacktop, soil-gas detections may indicate volatilization of groundwater contamination into soil pore space. Although both sandy soils and paved areas are present at the study area, the soil-gas data will be described in this section with the soil data. Figures 4-3 through 4-8 show the soil-gas results in the vicinity of Building 367 between Carr and Carter Avenues. Figure 4-2 provides a very generalized summary of soil-gas results for PCE and TCE collected during the IFI. Significant soil-gas results follow:

- PCE was detected at 43 of 49 soil-gas sampling locations at the nine ft bgs sampling depth in the area between Carr and Carter Avenues. PCE detections ranged from a high of 250 µg/L (at B243) to a low of 0.2 µg/L (at B232, B363). Six locations had readings in excess of 100 µg/L (Figure 4-3). PCE was detected at 48 of 53 soil-gas sampling locations at the 15 ft bgs sampling depth. Values ranged from a high of 450 µg/L (at B241) to a low of 0.1 µg/L (at B444). Eleven locations had readings in excess of 100 µg/L (Figure 4-4).
- TCE was detected at 10 of 49 soil-gas sampling locations at the nine ft bgs sampling depth in the area between Carr and Carter Avenues. These ranged from a high of 40 µg/L (at B243) to a low of 0.2 µg/L (at B518) (Figure 4-5). TCE was detected at 17 of 53 soil-gas sampling locations at the 15 ft bgs sampling depth. Values ranged from a high of 46 µg/L (at B241) to a low of 0.1 µg/L (at B443) (Figure 4-6).
- Cis-1,2-DCE was detected at four of 49 soil-gas sampling locations at the nine ft bgs sampling depth in the area between Carr and Carter Avenues. These ranged from a high of 98 µg/L (at B243) to a low of 1.6 µg/L (at B245) (Figure 4-7). Cis-1,2-DCE was detected at eight of 53 soil-gas sampling locations at the 15 ft bgs sampling depth. Values ranged from a high of 87 µg/L (at B243) to a low of 1.5 µg/L (at B245) (Figure 4-8).
- At the four soil-gas sampling locations located just west of the DPW compound, PCE was the only contaminant detected. PCE was detected in samples taken from B707 (nine ft bgs), B707 (15 ft bgs), and B708 (15 ft bgs). Levels ranged from 1.9 µg/L to 0.2 µg/L.
- Soil-gas sampling during the IFI detected widespread PCE contamination in and adjacent to the DPW compound. PCE was detected in 53 of 71 samples at concentrations ranging from

0.2 µg/L in Probehole B-03 to 76.8 µg/L in Probehole B-11 (BMcD, 1998c). Smaller areas of TCE contamination were detected, mainly in the vicinity of the former Building 354 and both east and west of Building 332 (Figure 4-2). TCE was detected in 11 of 71 samples at concentrations ranging from 1.0 µg/L in Probehole B-86 to 4.2 µg/L in Probehole B-21.

Areas where soil-gas detections were observed, which might indicate soil contamination at shallow depths, were located immediately west and east of Building 367. PCE was more widespread at the 15 ft versus nine ft sampling depth (Figures 4-3 and 4-4). Concentrations observed were also higher at the 15 ft sampling depth. TCE detections in soil-gas were less extensive, but still present both east and west of Building 367 (Figures 4-5 and 4-6). Cis-1,2 DCE detections were mainly present at the 15 ft depth and were located primarily to the east of Building 367 (Figures 4-7 and 4-8). In agreement with the soil-gas sample results, soil samples from two locations to the east of Building 367 (Figure 4-1, View A) exhibited chlorinated-solvent contamination.

To summarize chlorinated VOC contamination in subsurface soils:

- The highest chlorinated VOC contamination is present in soils in the area immediately to the east of Building 367.
- Contamination of soils at depth (within a few feet of the overburden-bedrock interface) is probably the result of lateral transport of contaminated groundwater, combined with vertical fluctuations in water table elevation.
- Soil-gas detections are widespread across the terrace area. Although these detections could reflect subsurface soil contamination, it is very possible that these detections result from volatilization of groundwater contamination to soil pore space. This is especially true on the terrace area, given the large areas of blacktop and the sandy nature of the soils in the subsurface.

4.2.2 Metals in Subsurface Soils

A total of 16 soil samples were taken at 15 different direct-push sampling locations. These soil samples were analyzed off-site for the eight RCRA metals (Tables 4-1 and 4-2, and Figure 4-1, View B). The following are results of these analyses, which are also compared to local (MAAF) and regional (USGS) background values, and the KDHE Tier 2 Risk-based standards:

- Arsenic was detected at concentrations ranging from non-detect to 4.7 milligrams per kilogram (mg/kg) at location B117 (depth 3 to 4 ft bgs). Detections were at or below the range for both local and regional background levels for arsenic, and all detections were well below the KDHE Tier 2 Risk-based standards, both residential and non-residential, for both soil and soil to groundwater protection pathways (Table 4-2).
- Barium was detected at concentrations ranging from 15 mg/kg (at B132) to 170 mg/kg (at B137). Detections were below the range for regional background levels for barium, and all detections were well below the KDHE Tier 2 Risk-based standards, both residential and non-residential, for the soil pathway.
- Cadmium was detected at concentrations ranging from not detected to 0.6 mg/kg (at B118). Detections were at or below the range for both local and regional background levels for cadmium. All detections were well below the KDHE Tier 2 Risk-based standards, both residential and non-residential, for the soil pathway.
- Chromium was detected at concentrations ranging from 3.0 mg/kg (at B132) to 15.3 mg/kg (at B119). Detections were at or below the range for both local and regional background levels for chromium. All detections were well below the KDHE Tier 2 Risk-based standards, both residential and non-residential, for the soil pathway.
- Lead was detected at concentrations ranging from 2.8 mg/kg (at B132) to 51 mg/kg (at B117). The 51 mg/kg detection at location B117 (depth 3 – 4 ft bgs) and the detection of 35 mg/kg at B118 (depth 2.5 – 4 ft bgs) are both well below KDHE Tier 2 Risk-based standards, but are both above the value for local background at MAAF of 32.3 mg/kg and the regional value of 15 mg/kg (Table 4-2). Both of these soil samples were taken from the drainage located to the west of Buildings 309 and 310.
- Mercury, selenium, and silver were not detected in soils from the study area.

These data indicate that metals contamination does not appear to be a significant issue at the study area, with the possible exception of lead, which will be discussed further in Section 6.0

4.2.3 BTEX in Subsurface Soils

BTEX was detected in soil from only one location; B132. Location B132 is located at the site of the former service station, just to the northwest of the UPRR station (Building 311; Figure 4-1).

- Benzene was detected at a level below the reporting limit (<5.0 µg/kg). The corresponding off-site laboratory confirmation sample was non-detect for benzene.
- Toluene was detected at a concentration of 53.1 µg/kg; however, the corresponding off-site laboratory confirmation sample was non-detect for toluene.
- Ethylbenzene was detected at a concentration 84.7 µg/kg. The corresponding off-site laboratory confirmation sample detected ethylbenzene at a level of 190 µg/kg.
- M,p-xylenes were detected at a concentration of 94.5 µg/kg. The corresponding off-site laboratory confirmation sample detected m,p-xylenes at 170 µg/kg.

All of these detections fell well below the KDHE Tier 2 Risk-based standards, residential and non-residential, for both the soil and the soil-to-groundwater protection pathways. The soil to groundwater protection pathway is the more stringent set of values.

During the IFI, benzene was detected at three locations. At two of the three locations (T-5 and T-9), benzene detections in soil exceeded the KDHE Tier 2 Risk-based standards, residential and non-residential, for the soil-to-groundwater pathway (80 µg/kg). Benzene was detected at 2899 µg/kg at location T-5 (at the former Building 354 site) and at 335 µg/kg in at location T-9 (south of the DPW compound fence; see Figure 4-2). The soil samples at both T-5 and T-9 were taken within a few feet of the overburden – bedrock interface.

In summary, BTEX contamination in soil is present at and near the former Building 354 site and at the former service station site along Henry Drive. BTEX is not of direct interest to the RI/FS because of the

petroleum exclusion in CERCLA; however, this information is presented to give a complete picture of contamination identified at the study area.

4.3 Groundwater

4.3.1 Chlorinated VOCs in Groundwater

On-site field screening results and off-site laboratory analytical results for direct-push groundwater samples are presented in Table 4-4. Table 4-5 contains the positive detections for both the February and July 2000 groundwater sampling events at the study area. Figures 4-9 through 4-14 depict the distribution of PCE, TCE, and cis-1,2-DCE contamination across the study area. Figures 4-10, 4-12, and 4-14 show the distribution of PCE, TCE, and cis-1,2-DCE in the shallow, intermediate, and deep zones of the alluvial aquifer on the point bar. Figure 4-15 depicts the extent of carbon tetrachloride and trichloromethane contamination across the study area. Areas of groundwater contamination are delineated on all figures based upon those locations that had any detection of a contaminant equal to or in excess of the reporting limits for the compound. Both on-site field screening, off-site laboratory confirmation results, and the February 2000 groundwater sampling results were used to evaluate the areas impacted by groundwater contamination. Where there was a major discrepancy between on-site and off-site results, both values are presented on the figures. The RFSD (BMcD, 2000c) defines major discrepancies as those cases where the on-site and off-site groundwater data values differ by greater than a factor of three. In addition, in those cases where a contaminant of interest was not detected in the field, but was detected in the off-site lab results, then both values are presented on the figures. Both values are also presented where off-site laboratory results were non-detect, but the on-site field screening results indicated a detection. The extent of contamination as determined by the IFI fieldwork completed in 1997 is also presented on the figures (BMcD, 1998c). A total of 328 samples (not including duplicates or confirmation samples) were taken at 180 direct-push boring locations. There were no detections of SVOCs, EDB or vinyl chloride in any of the off-site confirmation groundwater samples collected at the study area during the direct-push investigation; however, there was a single detection of vinyl chloride in the Monitoring Well 354-00-10 sample from February 2000. The field data compared well with the off-site confirmation data (BMcD, 2000c). One data set did not exhibit any consistent pattern of being either higher or lower when compared to the other.

Although the results for both the February and July 2000 groundwater sampling events are included with this tech memo, only the results for February are included on the figures. There are two reasons for this. First, the validated data for the July 2000 groundwater sampling event was not available until late in the preparation period for this document. Second, the February results are more contemporaneous with the other data collected during 1999 and the early part of 2000, providing a "snapshot" of conditions at the study area. The July 2000 data is presented to allow an comparison with the February data. There are no significant discrepancies.

PCE, TCE, Cis-1,2-DCE, and Vinyl Chloride

PCE, TCE, and cis-1,2-DCE are the chlorinated solvents of interest at this study area. These three contaminants can be addressed as a "family" of related compounds, since both TCE and cis-1,2-DCE are byproducts of the reductive dechlorination of PCE and both are included in most commercial grades of PCE. These three contaminants will be treated in the following discussion. Vinyl chloride will also be briefly mentioned, since vinyl chloride is the reductive dechlorination byproduct of DCE.

The distribution of PCE is depicted on Figures 4-9 and 4-10.

- PCE was detected at 60 direct-push sampling locations, at concentrations ranging from 571 µg/L (B218; east of Building 367) to 2.0 µg/L (multiple locations).
- Forty-five of these 60 direct-push sampling locations had detections equal to or above the United States Environmental Protection Agency (USEPA) Maximum Contaminant Level (MCL) of 5.0 µg/L for PCE. The highest concentrations of PCE were detected in the area immediately east of Building 367 (Figure 4-9, View C).
- On the point bar, there were four detections in the shallow zone, six in the intermediate zone, and 10 in the deep zone. Concentrations ranged from 27 µg/L (A2 - shallow) to 2.0 µg/L (multiple locations).
- Groundwater sampling results from the February 2000 event were consistent with the direct-push results. PCE was detected in samples from nine monitoring wells, ranging from 4630 µg/L to 2.7 µg/L. The highest detection of PCE in groundwater was at Monitoring Well 354-99-08 (to the east of Building 367).

The area impacted by PCE contamination extends from the area just east of Building 367 south to the point bar. PCE contamination does not appear to extend west or north of the defined area, based on the distribution of non-detections. The eastern boundary is less well defined, especially in the vicinity of the intersections of Carr and Carter Avenues with Pershing Avenue, and in the eastern portion of the DPW compound. An additional zone of PCE contamination extends just south of the UPRR grade, with the most extensive area of contamination present in the deep portion of the alluvial aquifer (Figure 4-10).

An outlier of PCE contamination was located at direct-push sample location C8, on the extreme eastern edge of the study area along the Kansas River (Figure 4-10). PCE detections ranged from 3.0 µg/L in the shallow zone to 6.0 µg/L in the deep zone. Two days later this location was resampled and there was no PCE detected in either on-site GC results or in the off-site confirmation sample. The initial data collected at C8 will be treated as a valid detection of PCE until additional data is collected.

The distribution of TCE is depicted on Figures 4-11 and 4-12.

- TCE was detected at 21 direct-push sample locations, at concentrations ranging from 41 µg/L (B218) to 1.05 µg/L (G1 – intermediate; at the horse corral).
- Ten of these direct-push sample locations had detections equal to or above the USEPA MCL of 5.0 µg/L for TCE. The highest concentrations of TCE were detected in the area immediately east of Building 367.
- In the point bar area two detections were in the shallow zone, seven in the intermediate zone, and 16 in the deep zone. Concentrations ranged from 12 µg/L (F6 - deep) to 1.05 µg/L (G1 – intermediate; at the horse corral).
- Groundwater sampling results from the February 2000 event were consistent with the direct-push results. There were detections of TCE in samples from eight monitoring wells, ranging from 160 to 0.8 µg/L. The highest detection of TCE in groundwater was at Monitoring Well 354-99-08 (to the east of Building 367). This result was the only TCE detection above the USEPA MCL of 5 µg/L.

TCE contamination appears to be concentrated in a number of isolated areas of limited extent on the terrace, to the north of the railroad grade (Figure 4-11, View B). The footprint of TCE contamination is much more extensive and integrated on the point bar. Here TCE contamination extends from the vicinity of the horse corral east towards the Kansas River. The area impacted by TCE contamination is most widespread in the deep zone, with smaller areas of contamination present in the intermediate and shallow zones (Figure 4-12).

Cis-1,2-DCE distribution is depicted on Figures 4-13 and 4-14.

- Cis-1,2-DCE was detected at 38 locations, at concentrations ranging from 673 µg/L (B218) to 2.1 µg/L (G3 – deep; at the horse corral).
- Four of these locations had detections equal to or over the USEPA MCL of 70 µg/L for cis-1,2-DCE. Detections were located in the area immediately east of Building 367 (Figure 4-13) or on the Kansas River point bar.
- On the point bar, six detections were in the shallow zone, 22 in the intermediate zone, and 26 in the deep zone. These concentrations ranged from 40 µg/L (HC3 - deep) to 5 µg/L (multiple locations) and there were no detections over the MCL of 70 µg/L for cis-1,2-DCE.
- Groundwater sampling results from the February 2000 event were consistent with the direct-push results. There were detections of cis-1,2-DCE in samples from eleven monitoring wells, ranging from 260 to 0.5 µg/L. The highest detection of cis-1,2-DCE in groundwater was at Monitoring Well B354-99-08 (to the east of Building 367).

On the point bar, the area impacted by cis-1,2-DCE contamination extends from the west corner of the horse corral east to the Kansas River. The deep zone is more extensively impacted by contamination than either the intermediate or shallow zone of the alluvial aquifer (Figure 4-14).

A single detection of vinyl chloride was identified during the February 2000 groundwater sampling event, at the Monitoring Well B354-00-10, located by Building 407. Vinyl chloride was detected at a level of 0.8 µg/L. Because this detection falls exactly on the reporting limit, it does not require a "U," or undetected, qualifier. Of note, vinyl chloride was detected at this same monitoring well during the July

2000 groundwater sampling event at a level of 2.5 µg/L. This is over the MCL for vinyl chloride of 2.0 µg/L.

Carbon Tetrachloride and Trichloromethane

Carbon tetrachloride and trichloromethane (chloroform) are depicted on Figure 4-15. Carbon tetrachloride was not identified as a contaminant of concern until the confirmation sample results from the first phase of field sampling were reviewed. Trichloromethane is a reductive dechlorination byproduct from the biodegradation of carbon tetrachloride and may be related to the carbon tetrachloride contaminant.

- Carbon tetrachloride was detected at 28 direct-push sample locations, at concentrations ranging from 8.5 µg/L (B100, located along Dickman Avenue) to 0.8 µg/L (B93, located near intersection of Dickman and Holbrook Avenues). Carbon tetrachloride was detected in both field and laboratory confirmation VOC analyses.
- Eleven of the 28 carbon tetrachloride detections matched or exceeded the MCL of 5.0 µg/L for carbon tetrachloride. The highest concentrations of carbon tetrachloride (8.2 µg/L to 8.5 µg/L) were detected in the area immediately east and south of Building 367. Carbon tetrachloride was also detected in the vicinity of the fire station (Building 430) on Godfrey Avenue, with the highest detection at this location being 6.9 µg/L (B713, offsite analysis).
- A single detection of carbon tetrachloride was identified on the point bar at location B4 (intermediate depth; see Figure 4-15), at a level of 1.0 µg/L.
- Trichloromethane, the reductive dechlorination byproduct of carbon tetrachloride, was also detected, with a distribution similar to that of carbon tetrachloride (Figure 4-15, green labels). The highest detection of trichloromethane was at location B100 (3.1 µg/L).
- Carbon tetrachloride and trichloromethane were detected in three monitoring wells sampled during the February 2000 groundwater sampling event at the study area.: TS0292-01, MW95-06, 354-PZ-D. The three detections of carbon tetrachloride ranged from 2.3 to 0.9 µg/L, with the highest detection at Monitoring Well MW95-06 at the DPW compound. The three trichloromethane detections ranged from 1.4 to 0.7 µg/L, with the highest detection at Monitoring Well TSO292-01, also within the DPW compound.

The western and southern limits of the area of carbon tetrachloride contamination appears to be well delineated (Figure 4-16). The extent of contamination to the north of Carr Avenue, in the vicinity of the intersections of Carr and Carter Avenues with Pershing Avenue, and in the eastern portion of the DPW compound is currently unknown. Some carbon tetrachloride contamination is present in the immediate vicinity of the fire station (Building 430) on Godfrey Avenue. This may be a potential source area, since carbon tetrachloride was previously used in fire fighting equipment.

4.3.2 BTEX in Groundwater

The highest levels of BTEX compounds were detected at four direct-push locations:

- At location B702 (west of the former Building 354, see Figure 2-2), BTEX was detected by on-site GC analysis at the following levels: benzene – 113 µg/L, toluene – 473 µg/L, ethylbenzene – 511 µg/L, and total xylenes – 958 µg/L. The on-site detection of benzene was greater than the MCL of 5 µg/L for this compound.
- At location B132, BTEX was detected by on-site GC analysis at the following levels: benzene – 10 µg/L, toluene – 165.1 µg/L, ethylbenzene – 54 µg/L, and m,p-xylenes – 75.4 µg/L. The off-site laboratory confirmation results for this location were lower, with detections of 2.0, 1.2, 4.9, and 2.8 µg/L for benzene, toluene, ethylbenzene, and m,p-xylenes, respectively. The on-site detection of benzene at B132 was greater than the MCL for that compound.
- At location A1, benzene (5 µg/L), toluene (95 µg/L), ethylbenzene (68 µg/L), m,p-xylenes (23 µg/L), and o-xylenes (30 µg/L) were detected by on-site GC analysis. Benzene was detected at the MCL of 5 µg/L.
- In addition, benzene, toluene, and/or o-xylenes were detected in off-site laboratory analyses at levels equal to or less than 1.0 µg/L at the following direct-push boring locations: A6 (deep), B94, B99, B119, B120, B127, B128, B224, B248, and C7 (deep).

High levels of BTEX contamination appear to be limited to the areas at or adjacent to the former Building 354 site and the former service station along Henry Drive. As stated previously, this BTEX contamination is not the principle concern of the RI/FS.

4.4 Surface Water

In March 2000, the surface waters of the Kansas River were sampled along three transects in the immediate vicinity of the study area (Figure 2-2). Surface water samples were analyzed for VOCs. No contaminants of interest were detected in surface water at the study area, including PCE, TCE, cis-1,2-DCE, or carbon tetrachloride (BMcD, 2000f).

4.5 Source Areas

The RI/FS WP identified four confirmed or potential source areas for investigation: (1) the vicinity of the former Building 354, (2) the area to the north of Dickman Avenue, (3) the former Service Station area located along Henry Drive to the northwest of the UPRR station (Building 311), and (4) the southeast end of Building 332. Additional areas of contamination may be present directly to the south and west of Building 332; however, confirmatory data are not currently available for these areas. Additional fieldwork to investigate the area to the south and west of Building 332 is discussed in Section 7 of this document.

The area north of Dickman Avenue was defined as a potential source area because of the presence of chlorinated solvents in groundwater samples collected from a temporary monitoring well located along Dickman (near the location of Monitoring Well 354-99-07). Since analytical data from locations north of Dickman Avenue was not available upon completion of the RI/FS WP, this potential source area was broadly defined as the area north of Dickman Avenue. Information obtained during the 1999 and 2000 investigations indicates that chemicals detected in groundwater samples from the temporary monitoring well along Dickman are likely from the areas to the east and west of Building 367. Therefore, the area surrounding Building 367 is now defined as a confirmed source area.

It is possible that the sanitary sewer which runs along the UPRR grade could be a source for contamination detected in groundwater below the point bar. This same sewer line has been investigated to the north of the horse corral as part of the DCFA fieldwork. There is currently no information to confirm that the sanitary sewer is a source.

During the 1999 and 2000 investigations, carbon tetrachloride and trichloromethane were identified in groundwater samples collected from the study area. Carbon tetrachloride was detected in samples collected along Carr Ave. This compound was also detected in groundwater samples collected around the fire station (Building 430) on Godfrey Avenue, which is located approximately 1200 ft north of Carr Avenue. This building is currently presumed to be the potential source for the carbon tetrachloride.

Potential release mechanisms at the study area include surface spills, leaks from tanks, and discharges from drains. The RI/FS WP identified groundwater and soil as the impacted media. Recent investigation results confirm this conclusion.

4.6 Summary of Nature and Extent

Section 4.6 provides a bullet summary of the nature and extent of contamination at the study area. Figure 4-16 provides an overview of PCE, TCE, cis-1,2-DCE, and carbon tetrachloride contamination across the study area.

- PCE-contaminated groundwater appears to extend south from the area immediately east of Building 367, between Carr and Carter Avenues (Figure 4-9). The area of contamination appears to be bound by non-detections of PCE to the west and north. The eastern limit of contamination is not as well defined, with questionable areas located in the vicinity of the intersections of Carr and Carter Avenues with Pershing Avenue, and along the eastern side of the DPW compound. On the point bar, PCE contamination extends from west of the horse corral to the east along the UPRR grade (Figure 4-9). The area impacted by PCE contamination on the point bar increases with depth (Figure 4-10). An outlier is located at C8.
- TCE contamination in groundwater occurs as discontinuous, isolated detections scattered across the terrace area to the north of the UPRR grade (Figure 4-11). On the point bar, the area

impacted by TCE contamination is more extensive and increases with depth (Figures 4-11 and 4-12).

- The area impacted by cis-1,2-DCE contamination is extensive on the point bar (Figures 4-13 and 4-14), but is limited to a small area in the vicinity of Building 367 in the terrace area north of the railroad grade (Figure 4-13).
- Carbon tetrachloride detections are widespread in the terrace area to the north of the railroad grade and are present as far north as the fire station (Building 430) on Godfrey Avenue (Figure 4-16). The aerial limit of contamination is not well defined between Building 430 and Carr Avenue, or in the eastern part of the DPW compound. Carbon tetrachloride was detected once on the point bar (at location B4).
- Chlorinated solvents are present in soils at only two locations: to the north of Building 311 (B132) and just east of Building 367 (B217 and B218A). All detections at both locations fall below the KDHE Tier 2 Risk-based standards.
- Results of the IFI indicated a potential source of chlorinated solvents along Dickman Avenue near Building 332. Based on the distribution of contamination in groundwater and the locations of detected soil contamination, three additional potential source areas have been identified during this investigation. This soil-gas investigation indicates that shallow chlorinated sources exist both immediately to the west and east of Building 367. Building 430 may be a source for carbon tetrachloride.
- No VOCs were detected during surface water sampling of the Kansas River in March 2000.
- Significant BTEX contamination in groundwater and soils is limited to the areas at or adjacent to the former Building 354 site and the former service station along Henry Drive.

4.7 Data Gaps

Based on a preliminary evaluation of data collected to date regarding the nature and extent of contamination for the RI, the following data gaps have been identified:

1. Additional information is required on the nature and extent of carbon tetrachloride contamination in the area between Carter Avenue and Godfrey Avenue. Additional direct-push groundwater sampling should be performed along Pershing Avenue in an effort to better define the carbon tetrachloride contamination. Monitoring wells should also be considered for this area and around Building 430.

2. A confident line of non-detections needs to be determined on the eastern side of the DPW compound. IFI data indicated decreasing concentrations to the east, but a confident line of non-detections was not determined.

3. The origin of contamination on the point bar, to the west of Henry Drive, is open to question. This contamination could be a result of groundwater flowing off the terrace from the Main Post area; however, it is possible that a sanitary sewer line running parallel to the UPRR grade may be a source of the chlorinated solvents detected in the vicinity of the horse corral. This sanitary sewer line handled discharge from the Dry Cleaning Facilities Area (DCFA). Investigation of this sanitary sewer line, including that a source of contamination.

4. Additional investigation at location C8 is necessary because of the questionable nature of the initial detections of PCE at this location. Additional groundwater sampling across the Kansas River and downstream from C8 would help resolve whether contamination is moving under the Kansas River to MAAF.

5. Additional information is required on the nature and extent of all contaminants over time. This includes the extent of vinyl chloride contamination, since this is an end product of the reductive dechlorination process. Periodic groundwater sampling of all monitoring wells and piezometers should be continued at the study area. These sampling events should be coordinated with those at DCFA. Integrating the analysis of data from the two sites will allow for a better understanding of the point bar area.

6. The source of the groundwater plume and soil gas detections in the vicinity of Building 367 has not been determined. Additional investigation of this area is needed to determine if the source is still present in the vadose zone soils, the levels of contaminants present in the vadose zone soils, and the extent of soil contamination, if present. This information will be evaluated to determine if a source removal action is warranted.

7. EPA Method 8270 detection limits were above risk-based levels for industrial soils for select PAHs. This represents a data gap in shallow soil where direct contact could occur.

5.0 PRELIMINARY EVALUATION OF FATE AND TRANSPORT

5.1 General

Contaminant behavior in the environment is an important determinant of exposure pathways and concentrations. The potential for contaminants to migrate from a source area is dependent on three factors: the physical and chemical properties of the contaminants, the environmental processes affecting them, and media characteristics through which the contaminants may migrate. This chapter is intended to provide an overview of chemical fate and transport characteristics as they relate to the study area.

Physical and chemical properties influencing fate and transport include water solubility, vapor pressure, Henry's Law constant, partitioning behavior, and transformation and degradation rates. Section 3.3.2 and Appendix B of the RI/FS WP describe the physical, chemical, and environmental processes that influence the fate and transport characteristics of the previously identified indicator chemicals at the Site (BMcD, 1999a).

5.1 Transport Characteristics

In general, the physical and chemical properties of VOCs allow the contaminants to migrate through soil to groundwater. Alternatively, metals typically exhibit limited mobility in soil and groundwater because of cation exchange and sorption on the surface of mineral grains. Despite the presence of pavement over much of the study area, thus slowing infiltration of precipitation, the potential exists for migration of some contaminants from soil to groundwater.

Once in groundwater, chemical migration is expected to follow groundwater flow patterns. Data collected during 1999 and 2000 indicate that the distribution of chemicals across the study area is consistent with the groundwater flow patterns described in Section 3.3.3. Analytical data indicate movement of chemicals in a south/southeast direction from source areas on the terrace to the Kansas River. There appears to be little lateral contaminant migration to the east and west in the upland terrace deposits. The configuration of the bedrock surface is the dominant control on groundwater flow under

the terrace. Groundwater flow through the transition zone from the upland terrace to the point bar is characterized by high gradients to the southwest, south, and southeast. The distribution of chlorinated solvent concentrations is consistent with that flow pattern, as the plume fans to the east and west at the edge of the terrace. Groundwater flow in the Kansas River alluvial sediment is influenced by the direction of river flow, which results in eastward migration of contaminants across the point bar. Site-related compounds were not detected in surface water samples collected from the Kansas River.

Information obtained during the 1999 and 2000 investigations supports the theory proposed in the RI/FS WP that groundwater transport is the most likely means of contaminant transport at the Site. This hypothesis is further strengthened by the presence of VOCs in groundwater beneath the point bar, where sources in soil are not known to exist.

5.2 Biodegradation Characteristics

Under anaerobic conditions, biodegradation of chlorinated solvents and carbon tetrachloride dissolved in groundwater occurs as a reductive dechlorination process enabled by microorganisms. Anaerobic environments require oxygen-depleted groundwater that typically occurs with depth. The point bar south of the railroad grade is part of the Kansas River alluvial aquifer and has a thick saturated sediment column. This is likely to be anaerobic in nature, which would be favorable for biodegradation of chlorinated solvents and carbon tetrachloride. Shallow, thin aquifers such as that of the upland terrace overburden sediments are expected to be dominantly aerobic in nature due to the high concentration of dissolved oxygen. In an aerobic environment, biodegradation of chlorinated solvents and carbon tetrachloride is expected to be minimal.

Under anaerobic conditions, PCE, the primary chlorinated solvent at the site, is degraded through a process of reductive dechlorination. PCE degrades to TCE, which degrades to DCE, which degrades to vinyl chloride and finally to ethene. As the oxidation state of carbon changes from oxidized (PCE) to reduced (ethene), the rate of degradation decreases. In anaerobic environments, degradation of vinyl chloride is commonly enhanced by creating aerobic conditions.

The distribution of PCE, TCE, and cis-1,2-DCE across the study area suggests that two very different biogeochemical environments exist in the subsurface. To the north of the railroad grade, the PCE contamination dominates, with lesser amounts of TCE occurring as isolated incidences. Very little cis-1,2-DCE was detected in this area. This distribution of PCE, TCE, and cis-1,2-DCE indicates an unfavorable environment for reductive dechlorination. The saturated zone in this area is thin, with a maximum saturated thickness on bedrock of 3 to 6 feet. This suggests that aquifer conditions here might be more oxidizing, which would not be conducive to reductive dechlorination. This could also explain the virtual lack of cis-1,2-DCE across the terrace. The isolated areas of TCE occurrence suggest that there could be localized areas where conditions are more favorable for the degradation of PCE to TCE. Field parameters collected during the February and July 2000 interim groundwater sampling events at the study area provide some insight into aquifer conditions on the terrace. In general, dissolved oxygen values were high, ferrous iron values low, and oxidation-reduction potential values were higher than in the alluvial aquifer of the Kansas River (copies of data tables from the data summary reports are included as Appendix G). These parameters suggest more oxidizing conditions, supporting the type and distribution of contaminants observed.

South of the railroad grade, the biogeochemical environment is much different. The point bar is part of the Kansas River alluvial aquifer, with a much thicker saturated sediment column. This thickness can range up to approximately 25 ft. The deeper groundwater within the saturated alluvium will have more reducing conditions; hence, a more favorable environment for reductive dechlorination. The widespread presence of TCE and cis-1,2-DCE throughout the point bar supports the theory that the geochemical environment in this area of the Kansas River alluvium is conducive to the reductive dechlorination of chlorinated solvents. Field parameters collected during the February and July 2000 sampling events provide some information on aquifer conditions on the point bar. In general, dissolved oxygen values were low, ferrous iron values high, and oxidation-reduction potential values were lower than in the overburden aquifer on the terrace (Appendix G). These parameters suggest more reducing conditions, supporting the type and distribution of contaminants observed.

Carbon tetrachloride, recently detected near Building 367 and the fire station (Building 430), also undergoes anaerobic reductive dechlorination. Carbon tetrachloride degrades to trichloromethane, which degrades to dichloromethane, which degrades to chloromethane. Chloromethane degrades to the final daughter products - chloride, water, and carbon dioxide.

The presence of carbon tetrachloride and trichloromethane at the fire station (Building 430) and Building 367 suggests that some degradation has occurred. The absence of further daughter products - dichloromethane and chloromethane - is consistent with the absence of TCE degradation products in the upland terrace sediments. The absence of carbon tetrachloride degradation products supports the theory that the upland terrace aquifer is likely to be predominantly aerobic and therefore not conducive to reductive dechlorination.

5.4 Summary

The distribution of PCE, TCE, and cis-1,2-DCE across the study area suggests that the migration and degradation of PCE is taking place along a flow path directed to the south and east. TCE and cis-1,2-DCE are more widely distributed in the point bar area, suggesting that conditions in the point bar area are potentially more favorable for reductive dechlorination than are conditions in the terrace area. It is noteworthy that the areas impacted by TCE and cis-1,2-DCE contamination occur within or near the periphery of the PCE contamination area, both on the terrace and the point bar.

The distribution of carbon tetrachloride and its degradation product trichloromethane is confined to the north portion of the study area. Although there is no data to confirm the northern extent of this contamination, the source area is thought to be the area surrounding the fire station (Building 430) with groundwater transporting those chemicals in a southward direction. Because of the suspected aerobic nature of this environment, significant degradation would not be expected, and has not been observed, as evidenced by the absence of dichloromethane and chloromethane. The current flow and degradation trends are expected to continue in the future unless remediation efforts alter the physical or chemical conditions.

5.5 Data Gaps

Based upon an evaluation of fate and transport at the study area, the following data gap has been identified:

Reductive dechlorination plays an important role in controlling the distribution and presence of contaminants across the study area. In order to fully understand these processes, complete geochemical data will be required for both the alluvial and overburden (terrace) aquifers. A complete set of natural attenuation parameters should be collected for all monitoring wells to provide the data required to evaluate the role of reductive dechlorination in controlling the fate of contaminants across the study area.

6.0 PRELIMINAY RISK CONSIDERATIONS

6.1 General

As part of the RI/FS WP, existing data were evaluated to identify chemical indicators of contamination and develop a preliminary site conceptual model. This information aided in the development of the baseline risk assessment process that was also presented in the RI/FS WP. The purpose of this section is to review existing site data to identify PCOPCs, update and refine the previous site conceptual model based on information obtained during the 1999 and 2000 field investigations, and identify any remaining data requirements. This section is organized into the following subsections:

- In Section 6.2, analytical data are used to identify PCOPCs. Since the RI/FS WP did not identify PCOPCs, this section will specify the PCOPC selection process and describe the rationale for inclusion/exclusion of specific chemicals and/or chemical groups.
- Section 6.3 provides an update to the site conceptual model based on data obtained during the 1999 and 2000 field investigations. Information provided in chapters 4 and 5 will be related to specific risk assessment considerations of potential exposure routes and potentially exposed populations. Changes to the preliminary site conceptual model presented in the RI/FS WP will be addressed.
- Section 6.4 describes data gaps that will require additional field investigation at the study area.

As stated in Section 1.1, the scope of this report is limited to an initial evaluation of the data collected to date to assist in identifying data gaps. Although some reiteration of the information presented in the RI/FS WP may be necessary to aid comprehension, the primary purpose of this section is to integrate the new data into the previously presented information and provide additional refinements where needed.

6.2 Identification of PCOPCs

The identification of PCOPCs is intended to serve two purposes. Primarily, the PCOPC selection process identifies those chemicals that should be included in the ongoing sampling and analysis activities. PCOPCs also represent a preliminary list of chemicals that are likely to be considered in future risk assessment activities. The final selection of chemicals of potential concern will take place as part of the baseline risk assessment portion of the RI and both the selection process and final list of chemicals are expected to closely mimic those identified in the following subsections.

As a means of focusing the investigation, Section 3.2 of the RI/FS WP identified chemical indicators of contamination (BMcD, 1999a). At the time the RI/FS WP was being developed it was determined that sufficient data was not yet available to identify PCOPCs for risk assessment purposes. Therefore, indicator chemicals were identified for the specific purpose of focusing investigation efforts and were not intended to represent PCOPCs for the risk assessment, or chemicals to be selected for fate and transport evaluations. Unlike the RI/FS WP, this section is intended to identify PCOPCs for eventual risk assessment purposes; the resulting list of chemicals may or may not include those chemicals previously identified as indicator chemicals.

6.2.1 PCOPC Selection Process

PCOPCs were identified through a review of analytical data collected during the RI. For soil, the data set under consideration includes soil data collected during and subsequent to the IFI. Since groundwater is a dynamic medium, groundwater data from several years ago may not accurately reflect current site conditions. Therefore, groundwater data collected prior to 1999 were generally not included in this evaluation.

Initially, chemicals that were positively detected in the aforementioned data sets were considered. The list of chemicals was then evaluated through a series of screening processes. Analytical data for metals were initially evaluated in relation to regional background concentrations. For this evaluation, regional background data was obtained from the *Revised Draft Remedial Investigation Report for the Former Fire Training Area of Marshall Army Airfield at Fort Riley, Kansas* (BMcD, 2000i) and *Elemental*

Concentrations in Soil and Other Surficial Materials of the Conterminous United States (USGS, 1984). Those metals present at concentrations below regional expected background levels were eliminated from further consideration. Maximum detected chemical concentrations were then compared to media-specific screening criteria. In groundwater, detected chemical concentrations were compared to both MCLs and risk-based chemical concentrations (RBCs) for ingestion of tap water obtained from the USEPA Region III Risk-Based Concentration Table (USEPA, 2000). Concentrations of chemicals detected in soil were compared the risk-based concentrations published by KDHE in *Risk-Based Standards for Kansas* [RSK Manual] (KDHE, 1999) for protection of human health from direct contact with soil and migration from soil to groundwater. Chemicals detected at concentrations exceeding screening levels were retained for further consideration.

This screening process was then expanded to include considerations of toxicity and degradation. Those chemicals identified by USEPA as Class A known human carcinogens were retained as PCOPCs, with the exception of metals determined to be present at natural background levels. Similarly, chemicals known to be degradation products of currently detected compounds were included as PCOPCs regardless of detection history. For example, dichloromethane has not been detected at the site, but will remain a PCOPC because it is a degradation product of carbon tetrachloride and could be detected in the future.

As a final step in the PCOPC selection process, the list of chemicals was reviewed and modified to include those chemicals that may not meet the above criteria, but are associated with site-related contamination and/or have been frequently detected. Table 6-1 provides the physical and chemical properties for all PCOPCs.

6.2.2 List of PCOPCs

The following chemicals were selected as PCOPCs: PCE and related compounds (TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE and vinyl chloride), 1,2-dichloroethane (1,2-DCA), carbon tetrachloride and related compounds (trichloromethane, dichloromethane, and chloromethane), and BTEX petroleum constituents. Metals, SVOCs, and EDB were excluded from the list of PCOPCs. The following discussion briefly presents the rationale behind the selection or exclusion of each group of PCOPCs. The

explanation for selecting chemicals that were already identified as indicator chemicals in the RI/FS WP will focus on additional data that differs from that evaluated for the RI/FS WP.

PCE and Related Compounds

As discussed in the RI/FS WP, PCE and TCE have been detected in groundwater at concentrations above their respective MCL of 5 µg/L and RBCs of 1.1 µg/L and 1.6 µg/L. Analytical data from 1999 and 2000 confirmed this exceedence, as well as the presence of cis-1,2-DCE in several groundwater samples at concentrations exceeding the MCL of 70 µg/L and RBC of 61 µg/L. Trans 1,2-DCE has been detected in the study area, but screening levels have not been exceeded. Vinyl chloride was detected at concentrations above the MCL and RBC (2 µg/L and 0.08 µg/L, respectively) in the groundwater sample collected from Monitoring Well B354-00-10 during the July 2000 sampling event.

As described in the RI/FS WP, USEPA classifies TCE as a Group B2 probable human carcinogen: sufficient evidence of carcinogenicity in animals is available to meet USEPA criteria, but the availability of human data is inadequate or lacking. USEPA classifies 1,1-DCE as a Group C possible human carcinogen: limited evidence of carcinogenicity in animals is available, but evidence in humans is inadequate or lacking. 1,1-DCE has not been detected at the site but is potentially a minor degradation product of TCE. USEPA classifies vinyl chloride as a Group A human carcinogen: adequate direct evidence of carcinogenicity in humans is available. Vinyl chloride has been used in plastic manufacturing, as a refrigerant, and in adhesives; however, its presence in the study area is probably as a degradation product.

PCE and the related constituents were detected at concentrations exceeding screening levels. Additionally, TCE, 1,1-DCE, and vinyl chloride are considered by USEPA to be probable, possible, or known human carcinogens. TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and vinyl chloride are known to be potential degradation products of PCE. For these reasons, the PCE family of compounds was retained as PCOPCs.

1,2-DCA

As discussed in the RI/FS WP, 1,2-DCA has historically been detected in both groundwater and soil at concentrations above the MCL and RBC (5 µg/L and 0.12 µg/L, respectively). It should be noted that 1,2-DCA was not detected during the 1999 and 2000 field investigations.

As described in the RI/FS WP, USEPA classifies 1,2-DCA as a Group B2 probable human carcinogen: sufficient evidence of carcinogenicity in animals is available to meet USEPA criteria, but the availability of human data is inadequate or lacking. 1,2-DCA has been used as a gasoline additive and a solvent.

1,2-DCA was detected at concentrations exceeding screening levels and is considered by USEPA to be a probable human carcinogen. For these reasons, 1,2-DCA was retained as a PCOPC.

Carbon Tetrachloride and Related Compounds

Carbon tetrachloride was detected in groundwater samples collected from several locations at concentrations exceeding the MCL of 5 µg/L and RBC of 0.16 µg/L. USEPA classifies carbon tetrachloride as a Group B2 probable human carcinogen. Carbon tetrachloride has historically been used as a solvent, fire extinguisher, grain fumigant, and dry cleaning agent. Based on exceedences of screening levels and its classification by USEPA as a probable human carcinogen, carbon tetrachloride was selected as a PCOPC.

Trichloromethane, a degradation product of carbon tetrachloride, was also detected in groundwater samples from several locations at concentrations above the RBC of 0.15 µg/L, although the MCL (100 µg/L for total trihalomethanes) was not exceeded. Subsequent degradation products, dichloromethane and chloromethane, have not been detected at the study area. Both trichloromethane and dichloromethane have been classified by USEPA as Group B2 probable human carcinogens. Despite the absence of either detections or screening criteria exceedences, trichloromethane, dichloromethane, and chloromethane were retained as PCOPCs because trichloromethane and dichloromethane are classified by USEPA as probable human carcinogens, and all three compounds could be produced in the future by possible reductive dechlorination processes.

Petroleum Constituents

As discussed in the RI/FS WP, benzene has been detected in both groundwater and soil at concentrations above the media-specific criteria. Analytical data from 1999 and 2000 confirm the presence of benzene in groundwater at concentrations above the MCL (5 µg/L) and the RBC (0.32 µg/L). Additionally, benzene is classified by USEPA as a Group A human carcinogen: adequate direct evidence of carcinogenicity in humans is available.

Xylene has historically been detected in soil at concentrations above screening levels, although analytical data from 1999 and 2000 do not indicate the presence of xylene above the screening levels in the locations sampled for either soil or groundwater. Toluene and ethylbenzene have been detected at the study area; although, at concentrations below screening levels. However, toluene and ethylbenzene are known to be common petroleum constituents. For these reasons, all four of the BTEX constituents were retained as PCOPCs. EDB and the SVOCs have not been detected in soil gas, soil, or groundwater at the study area, and were not retained for further evaluation.

Metals

As discussed in Section 4.0, metals were generally detected at concentrations below regional background levels, with the exception of lead. However, the detected concentrations of lead were well below screening levels. Since most metals were detected at concentrations below background, and the detected concentrations of all metals were below screening levels, no metals were retained as PCOPCs.

6.3 Update to Site Conceptual Model

The site conceptual model is developed to establish a baseline understanding of Site conditions as they may contribute to potential human health and ecological impacts. The model should be based on historical information, research, previous investigations, and technical judgement. The site conceptual model illustrates the relationships among contaminant sources, release mechanisms, affected media, transport mechanisms, contact media, exposure routes, and potential receptors. Figures 6-1 and 6-2 illustrate the human health and ecological conceptual models, respectively.

A preliminary site conceptual model was developed for the RI/FS WP based on Site characterization information that was available at that time (BMcD, 1999a). The primary purpose of this subsection is to integrate the 1999 and 2000 data into the previously developed conceptual model and provide additional refinements where needed. As with the previous subsection, the following discussions will focus on additional information that differs from that available during development of the RI/FS WP. It is important to note that the current site conceptual model has been developed based on existing data. As sampling efforts continue, the additional data will continue to be reviewed with reference to the site conceptual model. Should additional data disagree with the current evaluation, the site conceptual model will be reevaluated as appropriate.

6.3.1 Contaminant Sources, Release Mechanisms, and Affected Media

Section 4.5, Source Areas, presented a description of potential source areas, release mechanisms, and affected media. The contaminant source areas were identified as the vicinity of the former Building 354, the former Service Station area located northwest of Building 311, the area around Building 332, the area surrounding Building 367, and the area around the fire station (Building 430). Potential release mechanisms at this Site include surface spills, leaks from tanks, and discharges from drains. The RI/FS WP identified groundwater and soil as the impacted media. Recent investigation results confirm this conclusion.

6.3.2 Transport Mechanisms

Section 5.0 presented a description of the physical and chemical properties influencing fate and transport. Both chemical migration and degradation characteristics were described.

In general, physical and chemical properties of VOCs allow the contaminants to migrate through soil to groundwater. Despite the presence of pavement over much of the Site, which slows infiltration of precipitation, the potential exists for migration of some contaminants from soil to groundwater. Information obtained during the 1999 and 2000 investigations supports the theory proposed in the RI/FS WP that groundwater transport is the most likely means of contaminant transport at the Site. This

hypothesis is further strengthened by the presence of VOCs in groundwater beneath the point bar, where sources in soil are not known to exist.

6.3.3 Contact Media and Exposure Routes

An exposure route is the mechanism by which receptors come into contact with chemicals. Exposure routes for human receptors include ingestion, inhalation, and dermal contact. The exposure routes for ecological receptors include ingestion, dermal contact, inhalation, leaf sorption, and root uptake. The following paragraphs provide a medium-specific discussion of potential exposure routes at this Site.

Air Exposure Routes

Chemicals in the subsurface can transfer to air through either the generation of fugitive dust or migration of chemical vapors from impacted soil or groundwater. Airborne chemicals can then be inhaled by a receptor. Ecological receptors can be exposed to chemicals in air through either respiration (fauna) or leaf sorption (flora). Similar to the smaller study area evaluated for the RI/FS WP, much of the expanded study area is covered with asphalt or concrete, and the remaining areas are well vegetated. Although current conditions are likely to limit dust generation and vapor migration, future activities at the Site could involve excavation thus increasing the opportunity for exposure. As was mentioned in Section 6.3.1 of this report, current Site data indicates a possible source for carbon tetrachloride near the fire station (Building 430). The potential presence of impacted soil and/or groundwater in the area near the fire station (Building 430) could result in migration of vapors from soil and/or groundwater into nearby residences. Additionally, it is possible for vapors in other portions of the study area to migrate into non-residential buildings on the site and be present in the workplace. Therefore, the air exposure route will be evaluated further in the RI.

Soil Exposure Routes

Human exposure to chemicals in soil may occur through ingestion, dermal contact, inhalation of dust, and inhalation of volatiles. Ecological receptors may contact chemicals in soil through ingestion, dermal contact, or root uptake. Throughout much of the Site, the surface covering described above limits the potential for routine contact with soil; however, the potential for excavation activities provides an

opportunity for exposure. Additionally, the possible presence of carbon tetrachloride impacted soil near the fire station (Building 430) provides an opportunity for nearby residents to become exposed to carbon tetrachloride via soil. Although there is some opportunity for direct contact with soil, inhalation of vapors from soil is likely the primary exposure route of concern. Therefore, exposure to soil will be evaluated further in the RI.

Groundwater Exposure Routes

Human exposure to chemicals in groundwater typically occurs through ingestion, dermal contact, and inhalation of volatiles. Ecological receptors may contact chemicals in groundwater through root uptake. As described in Section 3.3.3 of the RI/FS WP, ingestion of and dermal contact with groundwater are unlikely to occur since there are no potable wells at the Site, nor are any likely to be installed in the future. Additionally, excavation into groundwater is unlikely because of its depth. Inhalation of vapors continues to be the likely exposure route for human receptors to groundwater. Therefore, exposure to chemicals in groundwater will be further evaluated in the RI.

Surface Water Exposure Routes

Human exposure to chemicals in surface water typically occurs through ingestion, dermal contact, and inhalation of volatiles. Ecological receptors may become exposed to chemicals in surface water through ingestion and dermal contact (fauna) or root uptake and leaf sorption (flora). Similar to the area evaluated in the RI/FS WP, most of the expanded study area is paved over or well vegetated. Although drainage ditches are present throughout the study area, some of these ditches are lined with concrete and most only hold water on an intermittent basis. For these reasons, exposure to chemicals in surface water is unlikely.

The RI/FS WP identified the possibility for chemicals in groundwater to flow into the Kansas River. Analyses from groundwater samples collected near the Kansas River indicated the presence of site-related chemicals in limited areas at low concentrations, and analysis of surface water samples collected from the Kansas River resulted in no detections of site-related compounds. Future analytical data from near the river will continue to be evaluated with respect to this exposure pathway; however, based on

currently available data, it is not anticipated that quantitative evaluation of exposure to surface water will be necessary in the RI.

Food Chain Transfer Exposure Routes

Humans may become exposed to contaminants through consumption of plants or animals that have been exposed to chemicals from the Site. As stated in the RI/FS WP, there are no agriculture land uses at or near the Site thereby limiting the potential for crop or animal uptake to occur. Additionally, the lack of detections of site-related contaminants in the Kansas River precludes the likelihood of ingestion of exposed fish. Therefore, the potential for exposure to chemicals through transfer to food will not be quantitatively evaluated in the RI.

6.3.4 Potential Human and Environmental Receptors

Potential receptors are defined as the human or environmental populations that may be exposed to chemicals from the Site. Section 3.3.4 of the RI/FS WP identified likely human and environmental receptors (BMcD, 1999a). The following paragraphs reevaluate those receptor groups and explain revisions that may be appropriate based on information obtained during the 1999 and 2000 investigations.

Potentially exposed human populations include those persons whose locations and activities create an opportunity for contact with impacted media. Site conditions and land and water uses influence human activities and patterns of behavior and are considered in identifying potential receptors. The RI/FS WP identified current and future indoor and outdoor workers, occasional trespassers, and future temporary excavation workers as the likely human receptors; residential receptors were not considered likely due to the designated use established in the master plan. Current data confirms the appropriateness of these assumptions for most of the expanded study area. However, should additional data identify the presence of carbon tetrachloride impacted soil or groundwater near the fire station (Building 430), the nearby residential populations should be considered possible human receptors.

Potentially exposed ecological receptors include terrestrial, wetland, and aquatic species that are broadly grouped into flora (plants) and fauna (animals). Possible ecological receptors were identified in Section 2.2.8 of the RI/FS WP (BMcD, 1999a). The area included in that evaluation encompasses the expanded study area; therefore, revision of this list is not necessary at this time.

6.4 Data Gap

Based upon a re-evaluation of the site conceptual model, the following data gap has been identified:

A limited number of soil samples have been collected from locations throughout the study area. The majority of the available soil data has been obtained from samples collected at depths greater than those likely to be contacted by human receptors. Therefore, it is likely that the extent of contamination in surface soil and shallow subsurface soil (depths less than 12 ft bgs) has not been sufficiently characterized, particularly in potential source areas, i.e. the areas surrounding the former Building 354, Building 367, and the fire station (Building 430). To adequately evaluate potential risks to human health and the environment, additional soil samples should be collected from the surface and from depths less than 12 ft bgs and sent for laboratory analysis of VOCs.

7.0 WORKPLAN ADDENDUM/SAMPLING AND ANALYSIS PLAN (REVISED)

7.1 General

In order to fill data gaps identified during this data evaluation, additional field activities are required to provide a complete picture of the physical and chemical nature of the study area. The following SAP describes the additional planned field activities, including sampling locations and rationale. Specific areas targeted for additional RI/FS field activities include the following (these are listed from most to least urgent in terms of investigation priority):

- Area south of Building 430 (Main Post Fire Station), along Pershing Ave.
- Vicinity of Building 430
- Vicinity of Building 367
- Area east of Building 332, within the DPW compound
- Point bar, in the vicinity of the sanitary sewer along the UPRR grade and at C8, and across the Kansas River
- Vicinity of the former drain and wash rack at Building 332
- Vicinity of former underground storage tanks (USTs) and former Building 354
- Area along and west of Holbrook and Dickman Avenues
- Entire site for groundwater investigation

Field activities planned for these individual areas include soil-gas, soil, and/or groundwater sampling with direct-push equipment for on-site screening and/or off-site laboratory analyses. In addition, installation of three overburden, six alluvial, and two bedrock monitoring wells are proposed for the study area. Groundwater sampling of existing monitoring wells, selected piezometers, and newly installed monitoring wells will also be performed. Sequencing of activities in each area targeted for additional fieldwork will be discussed in subsequent sections.

This section replaces and updates the sampling and analysis plan presented in the RI/FS SAP (BMcD, 1999b). EDB has been dropped from both groundwater and soil analysis, and SVOCs have been dropped from soil analysis only. No detections of these compounds have been identified in samples collected at the study area. EDB was not expected at this study area, but was initially included as requested by the regulatory agencies.

7.2 Field Activities

7.2.1 Area South of Building 430

Locations and Rationale

During RI fieldwork conducted to date, carbon tetrachloride was detected in numerous groundwater samples taken from the terrace area. Specifically, carbon tetrachloride was detected in the vicinity of the Building 430 and to the south of that location, near Carr Avenue; however, the extent was not defined. In order to define the area of carbon tetrachloride contamination and to determine if Building 430, an active fire station, is the source of the carbon tetrachloride contamination present to the south of that location, groundwater screening samples will be collected along four direct-push sampling lines placed between Building 430 and the intersection of Carter and Pershing Avenues (B767 through B843, see Figure 7-1, View C). In addition, a north/south line is proposed along Pershing Avenue from Godfrey Avenue to Carter Avenue. Probe locations are proposed, although field results may not warrant that all locations are sampled. If warranted, additional sampling locations will be located by stepping-out in undefined directions from the contaminated groundwater locations.

Groundwater Sampling and Analysis

Probehole locations will be marked as indicated on Figure 7-1. Some adjustment to probehole locations may be necessary in the field due to utilities or inaccessibility. The direct-push contractor will advance the water sampling tool to refusal. The screen on the sampling tool will be exposed and a groundwater sample will be collected using an inertial lift check-valve. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 50 to 60 ft bgs. Probeholes will be abandoned following the procedures outlined in Section 10.2 of the MWIP (BMcD, 1998b).

Groundwater samples will be analyzed on-site for PCE, TCE, cis-1,2-DCE, carbon tetrachloride, and BTEX. Selected confirmation groundwater samples will also be analyzed for VOCs at a laboratory validated by USACE and certified by the State of Kansas. Section 7.2.11 describes QA/QC procedures for on-site analysis. Depth to bedrock data will be collected to determine the subsurface bedrock topography and the potential influence of that topography on groundwater movement across the study area.

7.2.2 Vicinity of Building 430 (Fire Station)

Location and Rationale

During the RI fieldwork, carbon tetrachloride was detected in groundwater screening samples collected in the vicinity of Building 430, an active fire station. The fire station (Building 430) may be a potential source for the carbon tetrachloride contamination, since this compound was used in fire suppression equipment. Soil gas and subsurface soil samples are proposed for this area to better determine the nature and extent of contamination. Soil analytical results will also be used to evaluate potential exposure in the risk assessment. A grid of direct-push soil gas sampling locations (B844 through B1021, see Figure 7-2) is planned for the area around the fire station (Building 430). Following completion of soil gas investigation, the data will be evaluated and nine soil sampling locations (B743 through B751) will be selected and sampled. A line of three groundwater screening locations (B767 through B769, see Figure 7-1, View C) will be placed to the north of the fire station (Building 430) in an effort to define a non-detect line for carbon tetrachloride. Two additional groundwater screening locations (B770 and B771, see Figure 7-1, View C) will be located to the northeast of the fire station (Building 430), in order to determine if any movement of contaminants is taking place in that direction. A monitoring well is planned in the immediate vicinity of the fire station (Building 430; see Section 7.2.13). Table 7-1 presents the analytical parameters and QA/QC samples for off-site soil analysis. Table 7-2 presents the analytical methods and holding times for off-site soil analysis. These field activities will be sequenced, with the soil-gas investigation taking place first, followed respectively by the groundwater screening, soil sampling for offsite analysis, and monitoring well installation. This order may be modified if required to accommodate the efficient use of subcontractor resources.

Soil-Gas Sampling and Analysis

The soil-gas investigation will be conducted with the purpose of isolating any shallow source of chlorinated VOCs, specifically targeting carbon tetrachloride, which has been detected in groundwater just south of the fire station (Building 430). Figure 7-2 depicts the sampling grid composed of equilateral triangles with sampling locations on 20-ft centers. The grid extends in a radial pattern from the building to a distance of 100 ft. As described below, an iterative method will be used to investigate the area defined by the grid. Not all locations will necessarily be sampled.

Using direct-push sampling equipment, soil-gas samples will be obtained from two depth intervals at each sampling location. A shallow sample will be taken at a depth of eight to 10 ft bgs. This depth should be deep enough to avoid pulling surface air down along the proberod when applying vacuum to draw the soil-gas sample. A second sample will be taken at a depth of approximately 14 to 16 ft bgs. All soil-gas samples will be analyzed for carbon tetrachloride, PCE, TCE, cis-1,2-DCE, and BTEX. These parameters will be analyzed in the field using a portable GC.

Every other location immediately adjacent to the fire station (Building 430) will be evaluated (locations B909, B911, B913, B932, B933, B952, B954, and B956 on Figure 7-2). Then, the investigation will step out 40 ft and evaluate on 40-ft centers. The field analytical data for these locations will be evaluated to determine which direction(s) and how far (20 or 40 ft) to step out for the next series of samples. The investigation will proceed in the direction(s) of positive contaminant detections. When non-detect points are reached, the investigation will step back 20 ft for further delineation. This methodology will be used to isolate the locations of single or multiple source(s). Field duplicates will be collected and analyzed, with a minimum of 10% of the samples taken.

Soil Sampling and Analysis

In order to determine the nature and extent of contamination at this location and evaluate the risk to the utility worker scenario, the following soil sampling intervals were selected:

0-12 inches (surface soil)

1-4 ft

4-7 ft

7-10 ft

Soil samples will be collected using truck or van-mounted direct-push equipment, following the procedures outlined in Section 4.4.2 of the Site-Wide SAP (BMcD, 1998a). A macro-core (4-inch diameter) soil sampler with acetate liners will be driven with the direct-push equipment to one foot below ground surface, and then in three-ft intervals to 10 ft bgs. Upon reaching a depth of approximately 10 ft, the sampler will be driven in four-ft intervals to the top of bedrock. PID readings will be obtained from the length of the sample. Additional soil samples for offsite analysis can be taken at depths below 10 ft bgs if PID screening indicates the presence of VOCs. Samples will be taken, at the discretion of the onsite geologist, when PID readings are above background. Analytical parameters and QA/QC samples for soil are presented in Table 7-1. Soil sampling intervals will begin below any surface pavement and/or gravel sub-grade.

A drill log will be prepared for each direct-push sampling location. Subsurface materials will be described using the procedures outlined in Section 7.0 of the MWIP (BMcD, 1998b). Soil samples selected for VOC analysis will be collected from discrete, one-ft intervals that exhibit the highest PID reading. Soil from the remainder of the sampler will be homogenized according to Section 4.4.3.2 of the Site-Wide SAP (BMcD, 1998a) and packed in containers for polynuclear aromatic hydrocarbon (PAH) analysis. Subsurface soil samples will be collected for off-site analysis by a laboratory validated by USACE and certified by the State of Kansas. Refer to Table 7-2 for soil sample analytical methods and holding times. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 50 ft bgs. Direct-push borings will be abandoned following the procedures outlined in Section 10.2 of the Site-Wide MWIP (BMcD, 1998b).

Groundwater Sampling and Analysis

Procedures will follow those detailed in Section 7.2.1 of this report.

7.2.3 Vicinity of Building 367

Location and Rationale

Soil, soil-gas and groundwater samples collected during the RI indicated the presence of chlorinated solvents (PCE, TCE, 1,2-DCE, and carbon tetrachloride) in the areas immediately west and east of Building 367. Subsurface soil samples are planned for this area to locate and define potential sources of contamination in the soil. Soil analytical results will also be used to evaluate potential exposure in the risk assessment. Soil sampling here will consist of a two-stage process. Initially, soil samples will be taken across the area and analyzed onsite for PCE only. This will take place on a sampling grid located to correspond to those areas with the highest detections of PCE in soil gas (Figure 4-3). Based upon the results of this onsite screening, a total of 18 locations (B725 through B742) will be selected for soil sampling for offsite laboratory analysis. In addition, several soil samples will be taken around the sanitary sewer line located east of Building 367 to determine if this is a potential source of soil and groundwater contamination (B1398 through B1403; see Figure 7-1, View C). No additional groundwater samples will be collected at these locations for the RI/FS, as significant groundwater screening has already been performed at this area. However, a monitoring well (354-99-08) located east of Building 367 and an overburden monitoring well (354-01-27) proposed west of Building 367 (see Section 7.2.13) will provide defensible data regarding contaminant transport in groundwater. Table 7-1 presents the analytical parameters and QA/QC samples for off-site soil analysis. Table 7-2 presents the analytical methods and holding times for off-site soil analysis. These field activities will be sequenced, with the soil sampling for onsite analysis taking place first, followed by soil sampling for offsite analysis, and then monitoring well installation. This order may be modified if required to accommodate the efficient use of subcontractor resources.

Soil Sampling and Onsite Analysis

Soil sampling with onsite analysis will be conducted for the purpose of locating and defining shallow sources of chlorinated solvents (specifically PCE), which have been detected in both soil-gas and groundwater in this area. Figure 7-3 depicts the sampling grid for this area, which is composed of an equilateral triangular grid, with sampling locations on 10-foot centers (direct-push locations B1022 through B1397). This grid covers the area both east and west of Building 367 which had soil-gas

detections of PCE equal to or greater than approximately 100 µg/L. As described below, an iterative method will be used to investigate the grid and not all locations will necessarily be sampled. Based on ELIPGRID calculations, this 10-ft triangular grid will result in a confidence level of 100% of finding a 7.5 ft in diameter or larger circular source, and a 91% confidence level of locating a five ft in diameter circular source.

Soil sampling and analysis will begin in those areas that previously had the highest ("hottest") soil-gas readings both west and east of Building 367. These zones are indicated with black triangles on Figure 7-3. All of these locations will be investigated initially. The field crew will then step-out to the next set of direct-push locations around the "hot spot" and collect soil samples for onsite analysis. This methodology will continue until soil analytical results drop to a threshold level, to be determined by an evaluation of the field data with USACE and Fort Riley DES personnel, where it is determined that the soil no longer presents a potential source problem. If soil results at three locations in a row are below this level, then soil sampling will cease in that direction. Within the "hot spot" all nodes will be sampled in order to ensure that projected confidence levels for source size identification are met.

Soil samples will be collected using truck- or van-mounted direct-push equipment, following the procedures outlined in Section 4.4.2 of the Site-Wide SAP (BMcD, 1998a). A macro-core (4-inch diameter) soil sampler with acetate liners will be driven with the direct-push equipment to one ft bgs, and then in three-ft intervals to 15 ft bgs. PID readings will be obtained from the length of the sample. Soil sampling intervals will begin below any surface pavement and/or gravel sub-grade. A drill log will be prepared for each direct-push sampling location. Subsurface materials will be described using the procedures outlined in Section 7.0 of the MWIP (BMcD, 1998b). Soil samples for analysis of PCE will be collected from depths of approximately nine and 15 feet bgs. These will be run in the field on a mobile GC. Selected samples may be run on the field GC for a full screen (PCE, TCE, cis-1,2-DCE, carbon tetrachloride, and BTEX), based on the judgement of the field site manager. QA/QC procedures and requirements are discussed in Section 7.2.11. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 40 to 65 ft bgs. Direct-push borings will be abandoned following the procedures outlined in Section 10.2 of the Site-Wide MWIP (BMcD, 1998b).

A total of six soil samples will be taken along the sanitary sewer line that crosses the block between Carr and Carter Avenues, to the east of Building 367. These locations (B1398 through B1403) will be located along the sewer line, with B1400 and B1401 being located approximately five to 10 ft from each side of the manhole cover in the middle of the block. The field crew will then determine the depth to the bottom of the sewer line at the manhole. Based on this, the direct-push sampler will be driven to a depth approximately three feet below the bottom of the sewer line. A soil sample will be taken and will be analyzed onsite for PCE, TCE, cis-1,2-DCE, carbon tetrachloride, and BTEX. All procedures described above for soil sampling will apply to these direct-push borings (i.e. logging, QA/QC, and abandonment of borings).

Soil Sampling and Offsite Analysis

Based upon the results of the onsite analysis of soil samples for PCE (described above), nine soil sampling locations will be determined both west and east of Building 367 (for a total of 18 locations). Locations B725 through B733 will be west of Building 367 and locations B734 through B742 will be east of Building 367. Soil samples for offsite analysis will be collected using the procedures outlined in Section 7.2.2 of this document. These samples will be analyzed for VOCs at a laboratory approved by USACE and certified by the State of Kansas.

7.2.4 DPW Compound

Locations and Rationale

Three lines of direct-push groundwater screening locations (B752 through B766, see Figure 7-1, View B) are planned in the DPW Compound. Soil-gas and groundwater screening samples collected during the IFI revealed low levels of chlorinated solvent contamination in the area immediately east of Building 332. However, a confident non-detect line was never established to the east of the area of contamination. Groundwater screening samples will be collected and analyzed on-site for PCE, TCE, cis-1,2-DCE, carbon tetrachloride, and BTEX. Groundwater screening will be performed as described in Section 7.2.1 of this report, with QA/QC procedures as described in Section 7.2.11. Screening will begin at the western end of the north line (location B752) and proceed east. Groundwater screening will cease on the line when non-detections occur at two adjacent locations. Then the field team will begin screening at the

western end of the middle line (location B758) and proceed east. Groundwater screening will cease on the line when non-detections occur at two adjacent locations. Finally, the south line will be investigated beginning at location B763 and working east. A secondary purpose of these direct-push locations will be to collect information on the depth to top of bedrock. Depth to bedrock data will be collected to determine the subsurface bedrock topography and the potential influence of that topography on groundwater movement across the site.

Groundwater Sampling and Analysis

Procedures will follow those detailed in Section 7.2.1 of this report. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 30 to 60 ft bgs.

7.2.5 Point Bar (Sanitary Sewer and C8) and East Bank of Kansas River

Groundwater sampling conducted during the RI indicated the presence of chlorinated solvents (PCE, TCE, and cis-1,2-DCE) under the point bar. Although the distribution of these contaminates appears to be fairly well defined, several questions remain which require additional field investigation. These include the possibility that the sanitary sewer which runs parallel to the UPRR grade might be a source of contamination, whether PCE is present at location C8, and if chlorinated solvents are present in groundwater under the east bank of the Kansas River and downstream from location B714. These areas will be investigated as a part of the Abandoned Gas Line/Terminus Investigation, which is described in *Technical Memorandum Work Plan for the Abandoned Gas Line/Terminus Investigation at Marshall Army Airfield, Fort Riley, Kansas* (BMcD, 1998d) and also in an addendum, which will be issued in March 2001.

7.2.6 Former Drain at Building 332

Locations and Rationale

During the IFI, PCE, TCE, and 1,2-DCA were detected in groundwater screening samples collected from Temporary Monitoring Well T-04 and Temporary Piezometer P-01, located at the southern end of Building 332. An open drain, formerly located inside Building 332, discharged to the ground east of the building and is a potential source of contamination. Subsurface soil samples will be collected in a grid

pattern to attempt to delineate and characterize potential soil contamination resulting from the former drain area. Data from this investigation will also be used to evaluate potential exposure in the risk assessment (B150 through B158, see Figure 7-1, View B). Additional direct-push sampling locations are an option to further delineate detections as required, based on findings. A single groundwater sample will be collected in this area for the RI/FS since no screening samples have been taken from this location since the IFI was completed.

Soil Sampling and Analysis

Soil samples will be collected using the procedures outlined in Section 7.2.2 of this document. These samples will be analyzed for VOCs at a laboratory approved by USACE and certified by the State of Kansas. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 35 ft bgs.

Groundwater Sampling and Analysis

A single groundwater sample will be collected at this location to provide a recent baseline on groundwater contamination. Previous sampling in this area was performed in 1997 for the IFI. A groundwater screening sample will be taken at location B154, which is located in the center of the proposed grid. Procedures will follow those detailed in Section 7.2.1 of this report.

7.2.7 Former Wash Rack at Building 332

Location and Rationale

A wash rack was located off the west corner of Building 332, north of the location of the current equipment wash area (see Figure 7-1, View B). It is possible that the former wash rack may be a source for contamination detected immediately downgradient from the site. In order to investigate the former wash rack as a potential source of contamination, subsurface soil samples will be collected from six direct-push sampling locations in the area (B159 through B164, see Figure 7-1, View B), with additional sampling locations as an option to further delineate the extent of contamination based on findings. No groundwater samples will be collected at the Former Wash Rack at Building 332 location for the RI/FS. This is because recent groundwater sampling has been conducted in vicinity of the wash rack and there

is a monitoring well located just southwest of this area (Monitoring Well 354-99-09). Table 7-1 presents the analytical parameters and QA/QC samples for off-site soil analysis. Table 7-2 presents the analytical methods and holding times for off-site soil analysis.

Soil Sampling and Analysis

Soil samples will be collected using the procedures outlined in Section 7.2.2 of this report. These samples will be analyzed for VOCs at a laboratory approved by USACE and certified by the State of Kansas. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 35 to 40 ft bgs.

7.2.8 Former Building 354 UST Locations

Locations and Rationale

Soil-gas and soil samples collected during the IFI indicated the presence of 1,2-DCA and benzene in an area approximately 100 ft by 150 ft near the former Building 354 UST locations. Subsurface soil samples are planned for this area to better determine the nature and extent of contamination. Soil analytical results will also be used to evaluate potential exposure in the risk assessment. Direct-push sampling locations (B165 through B173, see Figure 7-1, View B) are planned for the approximate former locations of the USTs. Soil samples will be collected at each of the nine direct-push sampling locations, and there are no plans to collect additional samples. No groundwater samples will be collected at these locations for the RI/FS, since Monitoring Wells TSO292-01 and MW95-06 are located in this area. Table 7-1 presents the analytical parameters and QA/QC samples for off-site soil analysis. Table 7-2 presents the analytical methods and holding times for off-site soil analysis.

Soil Sampling and Analyses

Soil samples will be collected using the procedures outlined in Section 7.2.2 of this document. These samples will be analyzed for VOCs at a laboratory approved by USACE and certified by the State of Kansas. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 30 ft bgs.

7.2.9 Area Along and West of Holbrook and Dickman Avenues

Locations and Rationale

Ten direct-push groundwater screening locations (B1405 through B1414, see Figure 7-1, Views B and C) are planned along and to the west of Holbrook and Dickman Avenues. An eleventh point (B1404) is planned along Carr Avenue. The purpose of these locations is to better define the extent of carbon tetrachloride contamination to the west of the identified plume. Groundwater screening samples will be collected and analyzed on-site for PCE, TCE, cis-1,2-DCE, carbon tetrachloride, and BTEX.

Groundwater Sampling and Analysis

Procedures will follow those detailed in Section 7.2.1 of this report. Based upon previous direct-push work done in the area, depths to the top of bedrock should be approximately 20 to 65 ft bgs.

7.2.10 Background Soil Sampling

The WP and SAP for the RI/FS (BMcD, 1999a and 1999b) originally planned for the analysis of the eight RCRA metals in soil samples. This sampling was proposed to determine the natural background concentrations of RCRA metals in soils. Because sampling efforts to date have determined that metals do not appear to be an issue of concern in the study area, additional soil samples will not be collected for RCRA metals analysis at this time. Activities that are likely to produce metals contamination are not known to have occurred at the 354 study site. Additionally, the higher detected concentrations of metals are in deeper samples, below the depth where surface contamination would be expected. Available regional metals data will be used during RI report preparation to evaluate on-site metals data.

7.2.11 Screening QA/QC Procedures

Confirmation Samples

To help insure the validity of on-site analyses, confirmation samples will be selected from groundwater and soil samples to be analyzed at an off-site laboratory approved by USACE and certified by the State of Kansas. Confirmation samples will be collected at a minimum rate of 10% of the field screening samples or one sample per day. The selection of confirmation samples for both soils and groundwater

will be left to the discretion of the field site manager (FSM). Generally, confirmation samples will be collected from the most contaminated media and from those direct-push sample locations that define the extent of contamination (low levels or non-detect). QA samples (split samples of confirmation samples) will be submitted to the QA laboratory for analysis at a rate of 10% of all confirmation samples. All offsite laboratory QC requirements described in the Site-Wide SAP (BMcD, 1998a) will apply to these off-site samples.

On-Site QC Samples

Field duplicate and method blanks will be analyzed on-site at a frequency of 10% of the groundwater screening samples. Each groundwater screening sample will be given a unique number that associates the sample with the 354 Area Solvent Detections RI/FS. The sample number and collection depths will be noted in the logbook. Each sample number will be preceded by the site prefix 354 followed by the probehole number. The designator for groundwater screening samples will be GWS01. The letter D will be added to the designator for groundwater screening duplicates. Groundwater samples for off-site analyses will have the designator GW01. Field duplicate samples will be designated as GW11, QA split samples as GW01QA (for QA laboratory), and MS/MSD samples as GW01MS/MSD. Method blanks analyzed onsite will be identified as BLANK, followed by a consecutive designator number beginning with 01. Examples of the numbering system for groundwater samples are shown below:

Site Prefix	Sample Location	Sample Designator	Explanation
354	B758	GWS01	Groundwater screening sample, on-site GC analysis
354	B758	GWS01D	Groundwater screening sample on-site duplicate
354	B758	GW01	Groundwater sample, off-site analyses
354	B758	GW11	Groundwater field duplicate (off-site analysis)

354	B758	GW01QA	Groundwater sample for QA lab
354	B758	GW01MS/MSD	Groundwater sample matrix spike/matrix spike duplicate

Each soil sample will be given a unique number that associates the sample with the 354 Area Solvent Detections RI/FS. The sample number and collection depths will be noted in the log book. Each sample number will be preceded by the site prefix 354, followed by the sample location number. Soil samples will have consecutive designators at each sample location, starting with SB01 for the first sampling interval, SB02 for the second interval, etc. Blind field duplicate soil samples will be given a unique designator number and this will be noted in the logbook along with the associated sample. Soil samples for the QA Lab will have QA placed at the end of the sample designator. Matrix spike/matrix spike duplicate soil samples will have MS/MSD added to the designator. Examples of the numbering scheme for soil samples are shown below.

Site Prefix	**Sample Location**	**Sample Designator**	**Explanation**
354	B158	SB01	Soil sample, first interval, off-site analysis
354	B158	SB02	Soil sample, second interval, off-site analysis
354	B158	SB11	Soil sample, blind field duplicate (QC)
354	B158	SB01QA	Soil sample, first interval, for QA Lab
354	B158	SB01MS/MSD	Soil sample, first interval, matrix spike/matrix spike duplicate

7.2.12 Physical/Geochemical, and General Water Quality Characterization

Soil Sampling for Physical/Geochemical Analysis

Soil samples will be collected from each of the overburden monitoring wells for physical/geochemical analyses. This data will be used to model groundwater migration in saturated-zone soils, and vapor migration and groundwater leaching in vadose-zone soils, thereby evaluating potential exposure to contaminants through vapor or groundwater. Planned monitoring well locations are shown on Figure 7-4.

At each of the overburden monitoring well locations, soil samples will be collected from two separate depth intervals within the vadose-zone; one sample from the 1- to 10-ft depth interval and one sample from a depth approximately midway between the 10-ft depth and the water table. Samples will be submitted to a geotechnical testing laboratory for analysis of bulk density, moisture content, specific gravity, porosity, Atterberg limits, grain size distribution and classification, and permeability. Each analysis may not be completed for each sample, depending on the nature of the sample material. From each of the depth intervals defined above (1 to 10 ft, and 10 ft to the water table), a vadose-zone sample will also be collected for TOC analysis. Additionally, a sample will also be collected from the 0- to 1-ft depth for TOC analysis. Samples for TOC analysis will be submitted to the analytical laboratory.

At each overburden monitoring well location, one soil sample will be collected from the screened interval for saturated-zone soil testing. Samples will be submitted to a geotechnical laboratory for analysis of bulk density, moisture content, specific gravity, porosity, and grain-size distribution and classification. The actual analyses conducted on each sample will depend upon the nature of the sample material (i.e. coarse-grained or fine-grained). Samples will also be collected from these intervals and submitted to the analytical laboratory for analysis of TOC.

Soil samples will be collected from the screened interval of two monitoring wells completed in the alluvial aquifer (Monitoring Wells 354-00-29c and 354-00-30c). Samples from these locations will be held pending evaluation of groundwater sampling results. Where groundwater samples indicate the

presence of contamination, soil samples will be submitted to the geotechnical laboratory for analysis of the physical/geochemical parameters listed in the paragraph above. These data will aid evaluation of the contaminant migration potential in the alluvial aquifer.

Tables 7-3 and 7-4 provide a summary of the physical/geochemical parameters and the anticipated sampling equipment to be used for appropriate collection of soil samples. Sampling procedures and test methods for physical property analyses are included in Section 4.4 of the Site-Wide SAP (BMcD, 1998a). The analytical methods and holding times for TOC analyses are included on Table 7-2.

Water Quality Analysis

During the RI, two overburden monitoring wells (Monitoring Wells 354-99-07 and 354-99-09), one bedrock well (354-00-10), and two alluvial wells (354-99-12 and MPL94-01) will be sampled for general water quality analysis. This information will be used in the FS to aid in the evaluation of remedial technologies. Samples will be submitted to the analytical laboratory for analysis of the following parameters:

> Calcium, iron, magnesium, silica, sodium, sulfate, phosphate, nitrates, chloride, total dissolved solids, total suspended (non filterable solids), hardness (total as $CaCO_3$), alkalinity, chemical oxygen demand, biological oxygen demand, and iron bacteria (biofouling potential) [some of these parameters overlap the list of natural attenuation (NA) parameters described in Section 7.2.12 and will only be analyzed once].

This information will be used to evaluate the application of remedial technologies to these hydrogeologic units.

Groundwater sampling for general water quality analysis will follow procedures described in Section 7.2.14. Table 7-2 presents the analytical methods and holding times for these parameters. Water quality sampling locations are summarized in Table 7-4.

7.2.13 Monitoring Well Installation and Sampling

Monitoring Well Locations and Rationale

Three overburden, six alluvial, and two bedrock monitoring wells are planned for installation at the study area. Proposed locations are presented in Figure 7-4. These locations are tentative and may be adjusted based upon the results of additional fieldwork. The rationale for each well location is presented below:

354-01-24 Bedrock monitoring well placed along the drainage ditch to the southwest of Building 310 to investigate whether contaminants have migrated into the bedrock. The overburden in this area has often been dry during previous phases of this study and there have been positive detections of contaminants in soil gas.

354-01-25 Bedrock monitoring well placed to the north of the UPRR Station (Building 311). The overburden in this area has been dry and the monitoring well will provide information on the possible movement of groundwater and contaminants from the terrace into the point bar. The bedrock in this area could be fractured and/or weathered.

354-01-26 Overburden monitoring well placed adjacent to Building 430 to provide information on groundwater contamination at that location. Building 430 is a fire station and is possibly the source for carbon tetrachloride contamination detected to the south. Carbon tetrachloride has been detected in groundwater screening samples collected at this location.

354-01-27 Overburden monitoring well placed to the west of Building 367. This well will provide information on the nature of contamination just downgradient of the presumed source area located east of Building 367, near Monitoring Well 354-99-08.

354-01-28 Overburden monitoring well which will be placed to provide a background well upgradient from the area impacted by contamination at the study area. The

location for this well will be determined upon completion of all remaining groundwater screening activities.

354-01-29c — Alluvial monitoring well co-located with MW95-03 and screened within the deep zone of the alluvial aquifer. This well will provide nature and extent information for the deep zone of the aquifer and within the area impacted by contamination.

354-01-19c — Alluvial monitoring well co-located with Piezometer 354-00-PZ19. This monitoring well will provide a side-gradient monitoring well screened in the deep zone to the north of the contaminated area on the point bar.

354-01-20c — Alluvial monitoring well co-located with Piezometer 354-00-PZ20. This will provide a monitoring well screened within the deep zone within the center of the cis-1,2-DCE contaminated area and adjacent to the Kansas River.

354-01-30c — Alluvial monitoring well screened within the deep zone of the alluvial aquifer. This will provide a monitoring well side-gradient and to the south of the area of contamination.

354-01-31 — Alluvial monitoring well screened within the shallow zone of the alluvial aquifer. This will provide a monitoring well side-gradient and to the north of the area of contamination. This well will also be adjacent to the Kansas River.

354-01-31c — Alluvial monitoring well screened within the deep zone of the alluvial aquifer. This will provide a monitoring well side-gradient and to the north of the area of contamination. This well will also be adjacent to the Kansas River.

In addition, Piezometers 354-00-14c, 354-00-PZ19, and 354-00-PZ20 will be developed and sampled as monitoring wells. All monitoring wells, with the exception of Monitoring Wells 354-01-26 and 354-01-28, can be installed without additional data input.

Monitoring Well Drilling and Installation

Monitoring wells will be installed using the procedures and specifications presented in the MWIP (BMcD, 1998b) unless otherwise stated. Overburden monitoring wells will be installed using hollow-stem augers and continuously sampled using a five-ft long split-barrel sampler. Boreholes for monitoring wells in the terrace deposits, the transition zone, and the deep monitoring wells in the alluvium will be advanced to top of bedrock.

Alluvial monitoring wells will be placed where the alluvium is at least 40 ft thick or the saturated thickness of the aquifer is greater than 20 ft. Shallow alluvial monitoring wells are anticipated to be 20 to 30 ft deep. Deep alluvial monitoring wells are anticipated to be between 30 and 50 ft deep. The bottom of the screen will be placed approximately one foot below the bedrock/alluvium interface. Monitoring wells installed on the point bar in areas with limited access because of woods and lack of roads will be installed as driven points with an ATV rig. At these locations a pilot hole will be drilled with flight augers to a depth of approximately 10 to 15 ft bgs. A 1.25-inch (inside diameter) stainless steel screen and steel riser will be driven to the desired depth using a hydraulic hammer. Natural alluvial sand will be used for the filter pack. These wells will be completed as described in the MWIP (BMcD, 1998b).

Boreholes for bedrock monitoring wells will be advanced using the direct air rotary method. Surface casing will be installed in the unconsolidated materials above bedrock. Bedrock will be cored to the desired depth once surface casing is installed. Bedrock encountered in direct-push borings during the fieldwork conducted to date primarily consisted of limestone and limey shale. Boreholes for bedrock monitoring wells will be advanced to the first competent shale rock unit below a limestone unit thicker than two ft.

Monitoring wells will be installed in accordance with procedures described in Sections 3.2 and 3.3 of the MWIP (BMcD, 1998b). Monitoring well materials will consist of 2-inch diameter, schedule 40 PVC with a 5- or 10-ft 0.010-inch machine-slotted screen, an appropriate length of PVC riser, and 20-40 grade silica sand filter pack except that alluvial monitoring wells will be constructed with 0.020-inch screen and 10-20 grade filter pack. Five-ft lengths of screen may be necessary to achieve proper seal and filter pack installation for overburden monitoring wells in the locations where bedrock is less than 10 ft below ground surface. In the event that a five-ft screen is required, one to two ft of filter pack will be placed above the screen and the remainder of the borehole filled with bentonite seal. The filter pack will be placed with a tremie pipe. Bentonite seals that are placed above the water table will be granular and installed/hydrated in two or three lifts. Driven wells will be constructed as described above.

All newly installed monitoring wells will be equipped with dedicated bladder pumps. Wells installed as driven points may be too small to accommodate a dedicated bladder pump. These wells will be sampled with either dedicated or non-dedicated bailers.

Monitoring Well Development

Well development will be performed according to procedures described in Section 4.0 of the MWIP (BMcD, 1998b) with the following modifications. An inertial lift pump will initially be used for well development to remove sediment and simultaneously surge and pump the screened interval. Once the majority of sediment is removed from the well, a submersible pump will be used to finish well development. Additional surging with the submersible pump will be accomplished by raising and lowering the pump in the well. If well yield is too low to allow the use of a submersible pump, the wells will be bailed using disposable bailers or pumped using a gas displacement pump. Final development of the small-diameter driven points and piezometers will be done with a peristaltic pump.

7.2.14 Groundwater Sampling

Groundwater samples will be obtained periodically from the newly installed and existing monitoring wells and piezometers. Table 7-2 presents the analytical methods and holding times for groundwater samples. Table 7-5 presents the analytical parameters and QA/QC samples for groundwater sampling.

Dedicated bladder pumps will be used to purge and sample in accordance with procedures outlined in Section 4.3.7 of the Site-Wide SAP (BMcD, 1998a). Groundwater samples will be analyzed at an off-site laboratory for VOCs, SVOCs, eight RCRA metals, and the following NA parameters: methane, ethane, ethene, alkalinity, chloride, nitrate, total organic carbon, sulfate, and sulfide. Parameters to be measured in the field include pH, specific conductance, temperature, dissolved oxygen, oxidation-reduction potential, and ferrous iron. A duplicate sample will be taken at Monitoring Well 354-99-08 so that the analytical laboratory can attempt a low reporting limit detection of vinyl chloride at that location.

7.2.15 Aquifer Testing

As previously discussed in Section 3.3.2, there have been numerous pumping tests performed within the alluvial aquifer of the Kansas River valley. These provide reasonable values of hydraulic conductivity which are representative of the conditions across the point bar. Because of this, no additional aquifer testing is proposed in the alluvial valley (i.e. point bar). There is less information on aquifer parameters under the terrace area. In-situ permeability (rising and falling head slug) tests will probably not provide reasonable values for hydraulic conductivity because of the coarse, highly porous nature of these sediments and the relatively thin, saturated thickness. Because of this, slug testing is not planned. Information on hydraulic conductivity will be collected from laboratory testing of undisturbed samples taken during monitoring well installation. At this time, there are no plans to conduct a pump test in the terrace aquifer unless results of geotechnical testing indicate that data is not representative for the area and/or a pump test is needed to support the feasibility study.

7.2.16 Water Level Measurements

In order to begin developing a comprehensive understanding of the hydrogeology and groundwater flow regime at the study area, monthly groundwater level measurements will be taken at all monitoring wells and piezometers. Water levels will be measured according to procedures in Section 4.3.3 of the Site-Wide SAP (BMcD, 1998a). All water levels will be contoured on a base map in the field in order to identify anomalies and ensure the quality of measurements. A minimum of 12 consecutive months of manual measurements at all monitoring wells and piezometers will be performed to provide a record of seasonal water level conditions across the study area. After these measurements are completed, then

complete sets of water levels will be taken concurrently with periodic groundwater sampling events. Data control platforms (DCPs) will provide continuous water level information at selected locations (see Figure 7-4). Additional DCPs are proposed for installation at Monitoring Well MW95-03 and Piezometer 354-00-PZ19. These two locations will provide a continuous record of groundwater levels in two areas of the point bar which currently don't have that level of coverage. Data will also be collected on the Kansas River stage, using the USGS station at the Henry Drive bridge. This information will assist in interpreting interaction between the groundwater flow regime and the river.

7.2.17 Surveying

Direct-push sampling locations and the newly installed monitoring wells will be surveyed according to the MWIP (BMcD, 1998b). The direct-push locations will be surveyed after the field screening investigation and prior to placement of the proposed monitoring well locations. Horizontal and topographic elevation data will be established for each of the direct-push locations. Survey monuments will be installed in the concrete pad of each monitoring well. The monuments will be engraved with the well identification and elevations for the monument and top of casing, relative to MSL. The northing and easting coordinates will be to the nearest 0.1 ft and referenced to the Universal Transverse Mercator (UTM). Elevations of ground surface, survey monument, and top of casing will be determined to the nearest 0.01 foot using North American Datum (NAD) 83.

Because of doubt regarding the accuracy of the surveyed top of casing elevations for several older wells and piezometers installed at the study area, the following 17 monitoring wells and piezometers will be resurveyed (top of casing only): TSO292-01, TSO292-02, MW95-03, MW95-04, MW95-06, MPL94-01, MPL94-02, MPL94-03, PSF92-01, PSF92-02, PSF92-03, PSF92-04, PSF92-05, PZ-A, PZ-B, PZ-C, and PZ-D. This will provide more accurate information on piezometric surface elevation across the study area. These locations will be resurveyed at the earliest opportunity.

7.3 IDW

During the field activities, liquid and solid waste will be generated. The IDW from this RI is not anticipated to be a characteristic hazardous waste; however, proper analysis will be required to ensure this. Specific disposal methods are discussed below.

7.3.1 Solid IDW

Solid IDW will consist of soil cuttings, surface soil, sediment, and solid waste (i.e., personal protective equipment and trash). Personal protective equipment and miscellaneous trash will be managed as nonhazardous solid waste and disposed of within the Post trash collection system. Disposal of trash using the Post collection system will be coordinated through Fort Riley-DES. Soil cuttings generated during drilling activities will originate from the saturated and unsaturated portions of the overburden and bedrock aquifers. The boreholes to be installed during this investigation are located within and downgradient of the source area. Hence all soil and bedrock materials will be containerized in sealable containers (buckets or drums). Prior to the end of each day, the soil-filled containers will be deposited in a lined, covered, roll-off container that will be situated in the study area at a location specified by Fort Riley-DES. The only exception to these procedures will be for those wells installed on the point bar. Cuttings from above the saturated zone can be spread on the ground, since there should be no contamination in these materials. Cuttings from the saturated zone will be containerized and handled as contaminated material.

After completion of drilling activities, two discreet soil samples will be collected from the roll-off container and analyzed for VOCs at a State of Kansas- and USACE-approved laboratory. If targeted compounds are not detected in the VOC analysis, the soil will be used as daily cover for the construction debris landfill pending approval from Fort Riley and KDHE. If targeted compounds are detected in the VOC sample, the off-site disposal facility will be contacted to determine the additional analyses required for disposal characterization.

7.3.2 Liquid IDW

Liquid IDW will consist of decontamination fluids and development/purge water generated during borehole installation and sampling procedures. The National Pollutant Discharge Elimination System (NPDES) permit for Fort Riley provides for disposal of water from monitoring wells and decontamination fluid directly into the Fort Riley DPW sanitary sewer via a designated point. Purge water and decontamination fluids will be disposed of at a designated discharge point on a daily basis. These discharge points are manholes 173 (primary location) and 172 (secondary location).

The drill rig will be decontaminated between soil sampling locations. All decontamination water from the drill equipment used on a borehole will be collected and disposed in the Fort Riley DPW sanitary sewer on a daily basis. Decontamination of the drilling equipment will require construction of a temporary decontamination area.

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Table 2-1
Fieldwork Chronology
354 Area Solvent Detections RI/FS

Dates	Fieldwork Performed
August and September, 1997	Initial Field Investigation (IFI) performed at and near DPW Compound (BMcD, 1998c)
September 1997	Groundwater sampling of selected monitoring wells and piezometers (BMcD, 1998c). Included groundwater level measurements.
November 1998	Interim groundwater sampling of selected monitoring wells and piezometers (BMcD, 1999c). Included groundwater level measurements.
July 14 through August 17, 1999 and September 2 through November 11, 1999	Direct-push soil and groundwater sampling on the terrace area (Main Post) and the Kansas River point bar.
December 15, 1999 through February 2, 2000	BMcD installed and developed four Monitoring Wells 354-99-07, -99-08, -99-09, and -00-10.
December 20, 1999 through January 19, 2000	USACE installed and developed seven Monitoring Wells 354-99-11, -11c, -12, -12b, -12c, -13b, and –13c.
February 21 through February 24, 2000	Interim groundwater sampling of selected monitoring wells and piezometers (BMcD, 2000d). Included groundwater level measurements.
March 20 and 21, 2000	Surface water sampling of the Kansas River by the U.S. Geological Survey (USGS).
March 27 through April 25, 2000	Direct-push soil-gas and groundwater sampling on the terrace area (Main Post), the point bar (Horse Corral), and at Marshall Army Air Field.
April 12 through April 19, 2000	BMcD installed 11 Piezometers 354-00-PZ14, -PZ14c, -PZ15, -PZ16, -PZ17, -PZ18, -PZ19, -PZ20, -PZ21, -PZ22, and –PZ23.
May 30, 2000	Groundwater level measurements.
July 2000	Surface water sampling of the Kansas River. **Results not yet available.**
July 2000	Interim groundwater sampling of selected monitoring wells and piezometers.

Notes: A) This table only shows fieldwork conducted by BMcD and the USGS, which was performed subsequent to August 1997 in support of the RI for the 354 Solvent Detections site. For details of fieldwork performed by other contractors prior to that date, see the IFI Report (BMcD, 1998c).

Table 3-1
Bedrock Elevations
354 Area Solvent Detections RI/FS

Sample Points	Ground Surface Elevation (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)
B01	1095.2	39.0	1056.2
B02	1095.4	37.7	1057.7
B03	1095.6	39.4	1056.2
B04	1096.1	40.6	1055.5
B05	1096.3	39.2	1057.1
B06	1093.1	36.5	1056.6
B07	1095.2	38.8	1056.4
B08	1095.8	39.0	1056.8
B09	1095.7	39.0	1056.7
B10	1094.7	37.4	1057.3
B10A	1088.7	30.0	1058.7
B11	1093.8	36.9	1056.9
B12	1093.6	36.6	1057.0
B13	1092.0	35.0	1057.0
B14	1093.6	36.7	1056.9
B15	1092.1	35.0	1057.1
B16	1091.1	34.6	1056.5
B17	1091.6	35.0	1056.6
B18	1091.0	34.3	1056.7
B19	1090.4	33.5	1056.9
B20	1085.5	30.0	1055.5
B21	1089.5	33.0	1056.5
B22	1090.1	33.6	1056.5
B23	1088.6	32.0	1056.6
B24	1088.0	30.4	1057.6
B25	1087.5	30.8	1056.7
B26	1081.9	25.3	1056.6
B27	1077.7	21.4	1056.3
B29	1086.7	30.3	1056.4
B30	1088.1	31.5	1056.6
B31	1087.0	30.4	1056.6
B32	1082.7	29.0	1053.7
B35	1072.4	13.3	1059.1
B36	1078.8	22.0	1056.8
B36A	1083.1	26.5	1056.6
B38	1081.8	24.3	1057.5
B39	1080.4	22.4	1058.0
B40	1070.2	14.5	1055.7
B42	1069.0	13.5	1055.5
B47	1065.0	7.9	1057.1
B48	1071.9	15.2	1056.7
B50	1068.9	12.5	1056.4
B52	1070.2	13.5	1056.7
B54	1065.1	8.3	1056.8
B55	1073.7	17.5	1056.2

Sample Points	Ground Surface Elevation (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)
B57	1069.4	12.6	1056.8
B59	1067.4	18.9	1048.5
B61	1065.6	9.6	1056.0
B62	1064.8	24.8	1040.0
B64	1063.4	23.1	1040.3
B66	1063.1	22.6	1040.5
B68	1083.4	27.3	1056.1
B70	1074.0	18.0	1056.0
B71	1076.8	21.0	1055.8
B72	1076.4	19.0	1057.4
B73	1076.4	21.0	1055.4
B74	1093.0	36.2	1056.8
B75	1098.8	42.4	1056.4
B76	1083.3	25.6	1057.7
B77	1078.6	21.0	1057.6
B78	1065.6	8.6	1057.0
B79	1062.6	22.4	1040.2
B80	1062.9	40.6	1022.3
B81	1063.8	39.0	1024.8
B82	1063.8	32.6	1031.2
B83	1079.3	20.6	1058.7
B84	1092.4	37.9	1054.5
B85	1080.1	23.0	1057.1
B86	1097.5	40.7	1056.8
B88	1085.2	28.4	1056.8
B89	1101.7	43.5	1058.2
B90	1102.7	42.1	1060.6
B91	1100.1	44.5	1055.6
B93	1097.7	41.7	1056.0
B94	1105.4	47.4	1058.0
B95	1095.1	38.0	1057.1
B98	1108.8	52.7	1056.1
B99	1110.5	56.7	1053.8
B100	1112.1	55.2	1057.0
B101	1111.1	54.0	1057.1
B103	1109.7	54.4	1055.3
B104	1112.3	55.5	1056.9
B105	1109.1	54.0	1055.1
B107	1108.3	53.2	1055.2
B108	1113.1	56.4	1056.8
B109	1106.3	48.6	1057.6
B112	1113.9	57.0	1056.9
B113	1076.8	25.0	1051.8
B114	1076.2	20.3	1055.9
B115	1076.8	16.6	1060.2

Table 3-1 (continued)
Bedrock Elevations
354 Area Solvent Detections RI/FS

Sample Points	Ground Surface Elevation (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)
B116	1077.2	20.2	1057.0
B117	1078.6	20.9	1057.7
B118	1080.8	25.7	1055.1
B119	1088.2	32.4	1055.8
B120	1091.5	34.9	1056.6
B121	1097.6	41.3	1056.3
B122	1084.9	27.6	1057.3
B123	1081.4	24.5	1056.9
B124	1078.0	20.3	1057.8
B125	1076.1	18.0	1058.1
B126	1087.2	30.0	1057.3
B127	1086.0	31.0	1055.0
B128	1076.6	20.0	1056.6
B129	1075.2	17.8	1057.5
B130	1073.0	16.0	1057.0
B131	1088.4	31.4	1057.0
B132	1074.6	20.9	1053.7
B133	1071.9	15.0	1056.9
B134	1070.9	14.0	1056.9
B136	1065.3	9.8	1055.6
B137	1066.4	10.0	1056.4
B138	1066.2	11.0	1055.2
B140	1066.0	9.1	1056.9
B143	1063.1	40.5	1022.6
B145	1063.1	35.7	1027.5
B147	1063.8	30.0	1033.8
B175	1112.5	55.2	1057.3
B177	1109.6	53.4	1056.2
B181	1113.0	56.5	1056.5
B182	1111.1	53.3	1057.8
B184	1106.9	47.8	1059.1
B188	1119.9	61.7	1058.2
B190	1121.8	63.9	1057.9
B191	1121.5	62.9	1058.6
B192	1121.3	62.9	1058.4
B194	1120.2	62.7	1057.5
B196	1116.3	59.6	1056.7
B197	1114.2	58.6	1055.6
B198	1112.0	54.9	1057.1
B202	1099.4	23.0	1076.4
B203	1099.4	32.5	1066.9
B204	1097.5	32.0	1065.5
B205	1094.1	30.3	1063.8
B206	1082.2	26.5	1055.7
B207	1085.1	27.7	1057.4

Sample Points	Ground Surface Elevation (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)
B210	1118.6	60.9	1057.7
B212	1119.8	61.7	1058.1
B213	1118.8	63.7	1055.1
B214	1118.3	62.7	1055.6
B215	1117.4	54.5	1062.9
B216	1116.0	59.3	1056.7
B217	1116.3	59.2	1057.1
B218	1114.2	57.9	1056.3
B219	1110.2	53.4	1056.8
B220	1107.2	52.4	1054.8
B221	1103.8	44.0	1059.8
B222	1100.6	43.7	1056.9
B224	1115.3	58.0	1057.3
B226	1113.0	61.0	1052.0
B230	1114.7	58.0	1056.7
B232	1112.1	57.0	1055.1
B235	1116.0	58.0	1058.0
B241	1115.7	64.0	1051.7
B241A	1116.2	61.0	1055.2
B242	1114.8	60.0	1054.8
B243	1113.6	52.0	1061.6
B247	1116.0	58.0	1058.0
B248	1115.4	57.0	1058.4
B252	1115.7	58.0	1057.7
B253	1114.8	63.0	1051.8
B254	1113.4	62.0	1051.4
B258	1115.9	61.0	1054.9
B259	1115.2	57.0	1058.2
B263	1109.3	49.0	1060.3
B267	1111.3	55.0	1056.3
B393	1119.8	62.0	1057.8
B398	1118.7	62.0	1056.7
B403	1116.6	61.0	1055.6
B696	1105.1	28.7	1076.4
B697	1091.4	30.0	1061.4
B698	1085.9	30.0	1055.9
B699	1078.5	21.4	1057.1
B700	1074.0	16.0	1058.0
B701	1069.6	13.6	1056.0
B702	1076.9	20.0	1056.9
B703	1081.5	24.0	1057.5
B704	1080.5	24.0	1056.5
B709	1118.3	60.0	1058.3
B710	1119.9	61.0	1058.9
B711	1121.9	63.0	1058.9

Table 3-1 (continued)
Bedrock Elevations
354 Area Solvent Detections RI/FS

Sample Points	Ground Surface Elevation (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)
B712	1124.0	61.3	1062.7
B713	1125.5	55.0	1070.5
B714	1059.6	48.0	1011.6
B716	NS	NS	NS
B719	1063.1	51.0	1012.1
B721	1064.3	51.0	1013.3
B723	1063.6	55.0	1008.6
B725	1063.5	58.6	1004.9
A1	1064.7	24.8	1039.9
A2	1063.4	41.9	1021.5
A3	1060.6	40.2	1020.4
A4	1059.2	40.5	1018.7
A5	1058.1	42.7	1015.4
A6	1060.4	45.9	1014.5
A7	1061.7	53.2	1008.5
A8	1059.0	50.6	1008.4
A9	1057.8	46.8	1011.0
A10	1063.1	52.6	1010.5
A11	1053.7	44.4	1009.3
A12	1051.1	41.2	1009.9
A13	1049.0	40.1	1008.9
B1	1061.0	21.7	1039.3
B2	1061.7	32.1	1029.6
B3	1061.2	38.2	1023.0
B4	1061.1	44.8	1016.3
B5	1055.6	39.2	1016.4
B6	1056.8	38.5	1018.3
B7	1056.3	42.0	1014.3
B8	1055.4	44.0	1011.4
B9	1055.6	46.0	1009.6
B10	1056.1	46.0	1010.1
B11	1049.6	42.0	1007.6
B12	1052.7	43.0	1009.7
B13	1050.3	40.0	1010.3
C1	1058.2	18.4	1039.8
C2	1057.9	24.9	1033.0
C3	1058.6	33.2	1025.4
C4	1059.8	38.9	1020.9
C5	1060.5	44.0	1016.5
C6	1062.0	46.0	1016.0
C7	1051.5	38.0	1013.5
C8	1048.5	35.2	1013.3
D1	1062.2	21.9	1040.3
D2	1061.6	35.2	1026.4
D3	1063.7	43.9	1019.8

Sample Points	Ground Surface Elevation (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)
D4	1056.4	40.4	1016.0
D5	1056.2	39.7	1016.5
D6	1056.9	41.0	1015.9
D7	1056.8	45.0	1011.8
D8	1055.6	43.0	1012.6
D9	1065.6	54.0	1011.6
D10	1063.7	52.0	1011.7
D11	1059.0	50.0	1009.0
D12	1048.8	39.0	1009.8
D13	1052.3	42.0	1010.3
E1	1063.0	24.0	1039.0
E2	1061.2	35.0	1026.2
E3	1060.2	42.0	1018.2
E4	1061.3	43.5	1017.8
E5	1060.5	40.0	1020.5
E6	1057.4	44.0	1013.4
E7	1054.6	40.0	1014.6
E8	1054.9	45.0	1009.9
E9	1052.8	42.0	1010.8
E10	1055.2	44.0	1011.2
F1	1056.6	40.5	1016.1
F2	1060.2	43.5	1016.7
F3	1057.5	44.5	1013.0
F4	1060.5	39.0	1021.5
F5	1060.8	40.0	1020.8
F6	1061.8	42.0	1019.8
F7	1063.7	50.0	1013.7
G1	1060.0	43.0	1017.0
G2	1061.6	44.0	1017.6
G3	1062.0	42.8	1019.2
G4	1062.4	44.4	1018.0
G5	1063.1	55.0	1008.1
HC1	1057.2	40.9	1016.3
HC2	1058.9	41.1	1017.8
HC3	1059.8	42.7	1017.1
HC4	1062.4	44.9	1017.5
HC5	1063.2	51.3	1011.9
HC6	1064.4	55.7	1008.7
HC7	1060.7	50.7	1010.0
HC8	1059.7	53.2	1006.5
HC9	1056.6	50.6	1006.0
B354-99-07	1099.5	43.0	1056.5
B354-99-08	1114.3	57.5	1056.8
B354-99-09	1088.7	32.2	1056.5
B354-00-10	1120.9	62.3	1058.6

Table 3-1 (continued)
Bedrock Elevations
354 Area Solvent Detections RI/FS

Sample Points	Ground Surface Elevation (feet)	Depth to Bedrock (feet)	Bedrock Elevation (feet)
P-1	1089.4	33.0	1056.4
P-2	1086.7	30.0	1056.7
P-3	1089.7	34.0	1055.7
P-4	1065.7	10.0	1055.7
P-5	1073.0	16.8	1056.2
P-6	1069.9	13.5	1056.4
T-1	1100.0	43.6	1056.4
T-2	1099.0	42.5	1056.5
T-3	1094.2	35.0	1059.2
T-4	1093.2	36.0	1057.2
T-5	1087.4	31.0	1056.4
T-7	1063.1	24.0	1039.1
T-8	1062.7	23.0	1039.7
T-9	1075.7	19.5	1056.2
T-10	1072.6	16.3	1056.3
T-11	1091.9	36.0	1055.9
T-12	1089.6	31.5	1058.1
T-14	1086.5	28.0	1058.5
T-15	1074.9	19.0	1055.9
T-21	1072.4	16.0	1056.4
MPL94-01	1061.1	NA	NA
MPL94-02	1060.2	NA	NA
MPL94-03	1060.0	NA	NA
PSF92-02	1077.8	NA	NA
PSF92-03	1077.5	NA	NA
PSF92-04	1078.6	NA	NA
PSF92-05	1062.0	NA	NA
TSO292-01	1083.1	26.0	1057.1
TSO292-02	1065.3	9.2	1056.1
MW95-03	1065.2	NA	NA
MW95-04	1082.5	NA	NA
MW95-06	1090.0	33.7	1056.3
PZ A	1067.8	NA	NA
PZ B	1065.6	NA	NA
PZ C	1063.6	NA	NA
PZ D	1062.0	NA	NA
B388MW94-2	1104.5	41.9	1062.6
B388MW94-3	1102.0	39.0	1063.0
B388MW94-5	1094.3	33.0	1061.3
B388MW95-6	1077.0	17.4	1059.6
B263SB-5	1125.7	20.7	1105.5

Notes:
NA = Not Available
NS = Not Surveyed
All elevations recorded in feet above mean sea level.
Data for Buildings 388 and 263 taken from Dames & Moore, 1997 and LBA, 1995.

Table 3-2
Groundwater Elevations through July 2000
354 Area Solvent Detections RI/FS

Well ID	Well Location		Top of Casing	Screened	Total Depth	Water Level Elevation	Water Level Elevation	Water Level Elevation	Water Level Elevation	Water Level Elevation	Water Level Elevation	Water Level Elevation	Water Level Elevation	Water Level Elevation
	Northing	Easting	Elevation (ft)	Interval (ft bgs)	(Note 7)	September 12, 1997	September 15, 1997	September 19, 1997	September 23, 1997	September 24, 1997	November 17/18, 1998	February 21/22, 2000	May 30, 2000	July 17, 2000
TS0292-01	267708.55	2347286.61	1082.82	19.75-29.75	29.91	1058.42	1058.40	1058.36	1058.33	NM	1059.42	1058.46	1058.35	1058.36
TS0292-02	267584.94	2347356.79	1065.22	7.0-17.0	17.37	1050.81	1050.65	1050.54	1050.39	NM	1052.70	1051.20	1051.28	1051.23
MW95-03	267150.92	2347512.77	1065.03	19.5-34.5	35.50	NM	1039.77	1039.63	1039.50	NM	1044.17	1039.22	1039.31	1038.87
MW95-04	267545.39	2347697.39	1062.20	18.5-33.5	33.60	NM	1039.91	1039.80	1039.67	NM	1044.17	1039.37	1039.48	1039.10
MW95-06	267832.89	2347256.20	1089.81	18.45-33.61	34.63	1059.13	1059.12	1059.09	1059.08	NM	1059.93	1059.31	1059.10	1059.03
354-99-07	268300.75	1659339.15	1101.92	27.9-42.8	45.78							1062.56	1062.14	1061.96
354-99-08	269055.86	1659493.29	1117.12	42.1-57.1	58.14							1067.90	1067.02	1066.88
354-99-09	267920.42	1659316.70	1091.12	22.1-33.1	34.63							DRY to Top of Pump	1059.75	1059.62
354-00-10	269203.64	1659250.18	1123.66	68.1-78.0	81.05							1069.76	1069.04	1068.74
354-99-11	266891.89	1658907.65	1059.39	10.0-25.0	27.80							1039.37	1039.55	1038.91
354-99-11C	266902.19	1658904.47	1059.07	35.0-40.0	43.00							1039.39	1039.57	1038.93
354-99-12	266606.53	1659888.89	1061.27	9.1-24.1	27.10							1039.00	1039.16	1038.54
354-99-12B	266601.17	1659895.30	1061.26	25.8-35.8	38.80							1039.09	1039.17	1038.50
354-99-12C	266596.01	1659901.93	1061.58	36.3-41.3	44.30							1038.94	1039.16	1038.44
354-99-13B	265825.88	1660284.91	1062.34	29.0-39.0	42.00							1038.69	1039.15	1038.11
354-99-13C	265832.97	1660278.89	1062.03	43.0-48.0	51.00			MONITORING WELLS / PIEZOMETERS NOT INSTALLED				1038.68	1039.13	1038.08
354-00-PZ14	265312.87	1659533.32	1058.16	7.6-23.0	23.2 (bgs)								1039.74	1038.31
354-00-PZ14C	265309.90	1659528.48	1058.13	35.1-45.3	45.6 (bgs)								1039.78	1038.34
354-00-PZ15	268314.60	1661653.72	1064.12	13.8-29.2	29.4 (bgs)								1038.60	1037.86
354-00-PZ16	268049.37	1662165.30	1051.88	7.0-22.4	22.6 (bgs)								1036.42	1037.13
354-00-PZ17	265975.19	1659148.49	1066.13	14.9-30.4	30.6 (bgs)								1039.58	1038.63
354-00-PZ18	267486.92	1659153.86	1076.04	10.3-20.6	20.8 (bgs)								1055.87	1055.75
354-00-PZ19	267118.44	1661002.91	1060.16	10.4-25.8	26.0 (bgs)								1038.63	1037.90
354-00-PZ20	266119.45	1661641.65	1053.98	7.0-22.4	22.6 (bgs)								1038.78	1037.43
354-00-PZ21	265782.20	1658283.68	1059.83	9.2-24.7	24.9 (bgs)								1040.34	1038.54
354-00-PZ22	266680.98	1658325.97	1060.82	9.7-25.2	25.4 (bgs)								1039.90	1039.05
354-00-PZ23	266674.07	1657323.83	1067.70	16.8-32.3	32.5 (bgs)								1040.75	1038.91
MPL94-01	NA	NA	1063.14	NA	NM	NM	1039.01	1038.88	NM	NM	NM	1038.74	1038.98	1038.21
MPL94-02	NA	NA	1062.57	NA	NM	NM	1039.22	1039.08	NM	NM	NM	1038.71	1038.93	1038.18
MPL94-03	NA	NA	1062.34	NA	NM	NM	1038.75	1038.61	NM	NM	NM	1038.44	1038.81	1037.36
PZ-A	NA	NA	1067.82	NA	11.90	NM	NM	NM	1057.22	NM	1058.38	1057.17	1057.10	1057.16
PZ-B	NA	NA	1065.59	NA	8.57	NM	NM	NM	DRY	1057.48	1057.35	DRY	DRY	DRY
PZ-C	NA	NA	1063.58	NA	29.99	NM	NM	NM	1038.85	NM	1043.81	1038.36	1038.47	1038.16
PZ-D	NA	NA	1062.00	NA	29.86	NM	NM	NM	1039.44	NM	1043.92	1039.07	1039.16	1038.85
PSF92-01	NA	NA	1090.01	NA	NM	NM	NM	NM	NM	NM	NM	1065.40	1064.97	1064.82
PSF92-02	NA	NA	1079.64	NA	28.00	NM	1055.38	NM	NM	NM	NM	DRY to Top of Pump	1056.02	1055.73
PSF92-03	NA	NA	1079.35	NA	28.00	NM	1055.00	1054.90	NM	NM	NM	1054.96	1055.30	1055.29
PSF92-04	NA	NA	1079.82	NA	29.50	NM	1055.54	1056.05	NM	NM	NM	DRY to Top of Pump	1055.33	1055.64
PSF92-05	NA	NA	1063.76	NA	28.00	NM	1042.38	1042.32	NM	NM	NM	1042.39	1042.49	1042.36
DCF99-37b	266498.89	1657943.36	1065.46	22.5-32.5	33.1 (bgs)							NM	1039.76	1038.65
DCF99-37c	266492.70	1657950.20	1065.16	37.5-47.5	48.1 (bgs)			MONITORING WELLS NOT INSTALLED				NM	1039.89	1038.69
DCF99-38b	266181.64	1658170.69	1064.39	20.0-30.0	30.6 (bgs)							NM	1039.90	1038.52
DCF99-38c	266173.23	1658174.20	1064.17	35.0-45.0	45.6 (bgs)							NM	1039.94	1038.42
Kansas River Elevation	NAp	NAp	NAp	NAp	NM	NM	NM	NM	NM	NM	NM	1038.62	1039.66	1037.88

Notes:
1. bgs = Below Ground Surface
2. NA = Not Available
3. NAp = Not Applicable
4. NM = Not Measured
5. TOC = Top of Casing
6. All elevations recorded in feet above mean sea level unless otherwise indicated.
7. All depths measured in feet below TOC unless otherwise indicated.
8. Kansas River Elevation at USGS Gauging Station, Henry Drive Bridge, Fort Riley, Kansas.

Table 4-1
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B113 SB SO1	B113 SB SO2	B113 SB SO3	B113 SB03	B114 SB SO1	B114 SB SO2
			Sample Depth:	4'	8'	12'	10' to 12'	4'	8'
			Date Sampled:	07/28/99	07/28/99	07/28/99	07/28/99	07/28/99	07/28/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:				99071782		
			SDG:				57259		
			Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	ND	NA	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	ND	NA	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	ND	NA	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	ND	NA	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	ND	NA	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	NA	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	NA	ND (<5.8)	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	NA	ND (<5.8)	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	NA	ND (<5.8)	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	NA	ND (<5.8)	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	NA	ND (<5.8)	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	NA	ND (<5.8)	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	NA	ND (<5.8)	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	ND (<5.8)	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	ND (<12.0)	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	NA	ND (<5.8)	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	NA	1.2	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	NA	44.0	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	NA	ND	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	NA	5	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	NA	5.1	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	NA	ND	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	NA	ND	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	NA	ND	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B114 SB SO3	B117 SB SO1	B117 SB01	B117 SB11	B117 SB SO2	B117 SB SO3
			Sample Depth:	12'	4'	3' to 4'	3' to 4'	8'	12'
			Date Sampled:	07/28/99	7/29/99	7/29/99	7/29/99	7/29/99	7/29/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:			99072004	99072005		
			SDG:			57295	57295		
			Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	NA	NA	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	NA	NA	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	NA	NA	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	NA	NA	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	NA	NA	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	NA	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	NA	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	NA	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<11)	ND (<11)	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	ND (<5.6)	ND (<5.6)	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	4.7	4.1	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	104	111	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	0.4	ND	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	10.4	11.8	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	47	51.0	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	ND	ND	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	ND	ND	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	ND	ND	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B117 SB SO3 (D)	B118 SB SO1'	B118 SB01	B118 SB11	B118 SB SO2	SB118 SB SO3
			Sample Depth:	12'	4'	2.5' to 4.0'	2.5' to 4.0'	8'	12'
			Date Sampled:	7/29/99	08/06/99	08/06/99	08/06/99	08/06/99	08/06/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:			99080603	99080604		
			SDG:			57486	57482		
			Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	NA	NA	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	NA	NA	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	NA	NA	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	NA	NA	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	NA	NA	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	NA	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	NA	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	NA	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<11)	ND (<11)	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	ND (<5.7)	ND (<5.6)	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	2.0	4	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	107	108	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	ND	0.6	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	8.95	10.7	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	30.0	35.0	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	ND	ND	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	ND	ND	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	ND	ND	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B119 SB SO1	B119 SB01	B119 SB11	B119 SB SO2	B119 SB SO3	B120 SB SO1
			Sample Depth:	4'	3' to 4'	3' to 4'	8'	12'	4'
			Date Sampled:	08/16/99	08/16/99	08/16/99	08/16/99	08/16/99	08/17/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:		99081111	99081112			
			SDG:		57629	57629			
			Associated QA:		B118SB01QA				
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	NA	NA	ND	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	NA	NA	ND	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	NA	NA	ND	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	NA	NA	ND	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	NA	NA	ND	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	NA	NA	ND	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	NA	NA	ND	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	NA	NA	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	ND (<12)	ND (<12)	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	ND (<5.8)	ND (<5.8)	NA	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	2.9	2.9	NA	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	115	124	NA	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	ND	ND	NA	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	14.4	15.3	NA	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	13.0	12.0	NA	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	ND	ND	NA	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	ND	ND	NA	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	ND	ND	NA	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B120 SBO1	B120 SB SO2	B120 SB SO3	B121 SB SO1	B121 SB01	B121 SB11
			Sample Depth:	3' to 4'	8'	12'	4'	3' to 4'	3' to 4'
			Date Sampled:	08/17/99	08/17/99	08/17/99	08/13/99	08/13/99	08/13/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:	99081294				99080999	99081000
			SDG:	57671				57605	57605
			Associated QA:					B121SB01QA	
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	NA	ND	ND	ND	NA	NA
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	NA	ND	ND	ND	NA	NA
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	NA	ND	ND	ND	NA	NA
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	NA	ND	ND	ND	NA	NA
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	NA	ND	ND	ND	NA	NA
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	NA	ND	ND	ND	NA	NA
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	NA	ND	ND	ND	NA	NA
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	NA	ND	ND	ND	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
Trichloroethene	µg/kg	see sample	200 µg/kg	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
Trichloromethane	µg/kg	see sample	NA	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
Toluene	µg/kg	see sample	40,000 µg/kg	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
Tetrachloroethene	µg/kg	see sample	180 µg/kg	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	ND (<11)	NA	NA	NA	ND (<11)	ND (<11)
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	ND (<5.5)	NA	NA	NA	ND (<5.7)	ND (<5.6)
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	1.3	NA	NA	NA	1.2	1.4
Barium	mg/kg	NA	See Table 4-2	76.6	NA	NA	NA	97.7	86.6
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	ND	NA	NA	NA	ND	ND
Chromium	mg/kg	NA	See Table 4-2	8.7	NA	NA	NA	11.6	9.9
Lead	mg/kg	NA	See Table 4-2	5.7	NA	NA	NA	9.3	8.1
Mercury	mg/kg	0.1 mg/kg	NA	ND	NA	NA	NA	ND	ND
Selenium	mg/kg	0.6 mg/kg	NA	ND	NA	NA	NA	ND	ND
Silver	mg/kg	1.2 mg/kg	NA	ND	NA	NA	NA	ND	ND

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B121 SB SO2	B121 SB SO3	B131 SB SO1	B131 SB SO2	B131 SB SO3	B131 SB SO4
			Sample Depth:	8'	12'	1'	4'	7'	10'
			Date Sampled:	08/13/99	08/13/99	09/02/99	09/02/99	09/02/99	09/02/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:						
			SDG:						
			Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	ND	ND	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	ND	ND	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	ND	ND	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	NA	NA	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	NA	NA	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	NA	NA	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	NA	NA	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B132 SB SO1	B132 SB SO2	B132 SB03	B132 SB SO3	B132 SB SO4	B132 SB SO7
			Sample Depth:	1'	4'	6' to 8'	7'	10'	20'
			Date Sampled:	7/29/99	7/29/99	7/29/99	7/29/99	7/29/99	7/29/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:			99071998			
			SDG:			57295			
			Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	NA	ND	ND	<5J
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	NA	ND	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	NA	ND	ND	53
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	NA	ND	3.2	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	NA	ND	ND	85
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	ND	ND	95
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	ND	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	NA	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	ND (<5.8)	NA	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.8)	NA	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	ND (<5.8)	NA	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	ND (<5.8)	NA	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	ND (<5.8)	NA	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.8)	NA	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	ND (<5.8)	NA	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<5.8)	NA	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<12)	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	ND (<5.8)	NA	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	1.3	NA	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	102	NA	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	ND	NA	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	10.2	NA	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	8.5	NA	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	ND	NA	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	ND	NA	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	ND	NA	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

				Sample Point:	B132 SB07	B133 SB SO1	B133 SB SO2	B133 SB02	B133 SB SO3	B133 SB SO4
				Sample Depth:	19' to 20'	1'	4'	3' to 4'	7'	10'
				Date Sampled:	7/29/99	09/02/99	09/02/99	09/02/99	09/02/99	09/02/99
				Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Laboratory Number:	99071999			99090274		
				SDG:	57295			57976		
				Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**							
Benzene	µg/kg	5 µg/kg	80 µg/kg	NA	ND	ND	NA	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	NA	ND	ND	NA	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	NA	ND	ND	NA	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	NA	ND	ND	NA	ND	<2J
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	NA	ND	ND	NA	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	NA	ND	ND	NA	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	NA	ND	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	NA	ND	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**							
Benzene	µg/kg	see sample	80 µg/kg	ND (<29)	NA	NA	ND (<5.9)	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	ND (<29)	NA	NA	ND (<5.9)	NA	NA
Trichloromethane	µg/kg	see sample	NA	ND (<29)	NA	NA	ND (<5.9)	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	ND (<29)	NA	NA	ND (<5.9)	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	ND (<29)	NA	NA	ND (<5.9)	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	ND (<29)	NA	NA	ND (<5.9)	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	190	NA	NA	ND (<5.9)	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	170	NA	NA	ND (<5.9)	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	ND (<58)	NA	NA	ND (<12)	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	ND (<29)	NA	NA	ND (<5.9)	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**							
Arsenic	mg/kg	1 mg/kg	See Table 4-2	ND	NA	NA	2.0	NA	NA
Barium	mg/kg	NA	See Table 4-2	15.0	NA	NA	110	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	ND	NA	NA	ND	NA	NA
Chromium	mg/kg	NA	See Table 4-2	3.0	NA	NA	12.1	NA	NA
Lead	mg/kg	NA	See Table 4-2	2.8	NA	NA	7.6	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	ND	NA	NA	ND	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	ND	NA	NA	ND	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	ND	NA	NA	ND	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B133 SB SO4 (D)	B134 SB SO1	B134 SB01	B134 SB11	B134 SB SO2	B134 SB SO3
			Sample Depth:	10'	1'	0.5' to 1.5'	0.5' to 1.5'	4'	7'
			Date Sampled:	09/02/99	09/03/99	09/03/99	09/03/99	09/03/99	09/03/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:			99090338	99090339		
			SDG:			58000	58000		
			Associated QA:			B134SB01QA			
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	NA	NA	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	NA	NA	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	NA	NA	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	<2J	ND	NA	NA	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	NA	NA	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	NA	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	NA	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	NA	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<11)	ND (<11)	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	ND (<5.4)	ND (<5.4)	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	1.9	1.7	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	110	110	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	ND	ND	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	12.4	11.5	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	8.6	8.4	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	ND	ND	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	ND	ND	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	ND	ND	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B134 SB SO4	B134 SB SO5	B136 SB SO1	B136 SB SO2	B136 SB SO3	B136 SB SO4
			Sample Depth:	8.5'	12.5'	1'	4'	7'	9.75'
			Date Sampled:	09/03/99	09/03/99	09/03/99	09/03/99	09/03/99	09/03/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:						
			SDG:						
			Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	ND	ND	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	ND	ND	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	ND	ND	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	NA	NA	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	NA	NA	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	NA	NA	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	NA	NA	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B136 SB SO4 (D)	B137 SB SO1	B137 SB SO2	B137 SB02	B137 SB SO3	B137 SB SO4
			Sample Depth:	9.75'	1'	4'	3' to 4'	7'	10'
			Date Sampled:	09/03/99	09/07/99	09/07/99	09/07/99	09/07/99	09/07/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:				99090450		
			SDG:				58036		
			Associated QA:				B137SB02QA		
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	ND	NA	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	ND	NA	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	ND	NA	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	ND	NA	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	ND	NA	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	NA	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	NA	ND (<5.9)	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	NA	ND (<5.9)	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	NA	ND (<5.9)	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	NA	ND (<5.9)	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	NA	ND (<5.9)	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	NA	ND (<5.9)	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	NA	ND (<5.9)	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	ND (<5.9)	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	ND (<12)	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	NA	ND (<5.9)	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	NA	1.9	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	NA	170	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	NA	ND	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	NA	11.6	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	NA	7.5	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	NA	ND	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	NA	ND	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	NA	ND	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B138 SB SO1	B138 SB SO2	B138 SB02	B138 SB SO3	B138 SB SO4	B140 SB SO1
			Sample Depth:	1'	4'	3' to 4'	7'	10'	1'
			Date Sampled:	09/08/99	09/08/99	09/08/99	09/08/99	09/08/99	09/08/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:			99090562			
			SDG:			58083			
			Associated QA:			B132SB02QA			
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	NA	ND	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	NA	ND	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	NA	ND	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	NA	ND	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	NA	ND	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	ND	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	NA	ND	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	NA	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	ND (<5.5)	NA	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.5)	NA	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	ND (<5.5)	NA	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	ND (<5.5)	NA	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	ND (<5.5)	NA	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	ND (<5.5)	NA	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	ND (<5.5)	NA	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<5.5)	NA	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	ND (<11)	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	ND (<5.5)	NA	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	ND	NA	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	64	NA	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	ND	NA	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	6.5	NA	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	4.2	NA	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	ND	NA	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	ND	NA	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	ND	NA	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B140 SB SO1 (D)	B140 SB SO2	B140 SB SO3	B140 SB SO4	B143 SB S01	B143 SB S02
			Sample Depth:	1'	4'	7'	9.1	1'	4'
			Date Sampled:	09/08/99	09/08/99	09/08/99	09/08/99	09/10/99	09/10/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:						
			SDG:						
			Associated QA:						
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	ND	ND	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	ND	ND	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	ND	ND	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	NA	NA	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	NA	NA	NA	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	NA	NA	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	NA	NA	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B143 SB02	B143 SB S03	B143 SB S04	B143 SB S04 (D)	B145 SB S01	B145 SB S02
			Sample Depth:	3' to 4'	7'	10'	10'	1'	4'
			Date Sampled:	09/10/99	09/10/99	09/10/99	09/10/99	09/09/99	09/09/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:	58150					
			SDG:	99090818					
			Associated QA:	B143SB02QA					
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	NA	ND	ND	ND	ND	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	NA	ND	ND	ND	ND	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	NA	ND	ND	ND	ND	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	NA	ND	ND	ND	ND	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	NA	ND	ND	ND	ND	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	NA	ND	ND	ND	ND	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	NA	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	NA	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	ND (<5.8)	NA	NA	NA	NA	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	ND (<5.8)	NA	NA	NA	NA	NA
Trichloromethane	µg/kg	see sample	NA	ND (<5.8)	NA	NA	NA	NA	NA
Toluene	µg/kg	see sample	40,000 µg/kg	ND (<5.8)	NA	NA	NA	NA	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	ND (<5.8)	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	ND (<5.8)	NA	NA	NA	NA	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	ND (<5.8)	NA	NA	NA	NA	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	ND (<5.8)	NA	NA	NA	NA	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	ND (<12)	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	ND (<5.8)	NA	NA	NA	NA	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	2.6	NA	NA	NA	NA	NA
Barium	mg/kg	NA	See Table 4-2	140	NA	NA	NA	NA	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	ND	NA	NA	NA	NA	NA
Chromium	mg/kg	NA	See Table 4-2	12.8	NA	NA	NA	NA	NA
Lead	mg/kg	NA	See Table 4-2	10.0	NA	NA	NA	NA	NA
Mercury	mg/kg	0.1 mg/kg	NA	ND	NA	NA	NA	NA	NA
Selenium	mg/kg	0.6 mg/kg	NA	ND	NA	NA	NA	NA	NA
Silver	mg/kg	1.2 mg/kg	NA	ND	NA	NA	NA	NA	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg
ND - nondetect
SDG - sample delivery group
NA - not applicable
QA - quality assurance sample
J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B145 SB S03	B145 SB S04	B147 SB S01	B147 SB S02	B147 SB02	B147 SB S03
			Sample Depth:	7'	10'	1'	4'	4'	7'
			Date Sampled:	09/09/99	09/09/99	09/09/99	09/09/99	09/09/99	09/09/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:					58119	
			SDG:					99090699	
			Associated QA:					B147SB02QA	
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	ND	ND	NA	ND
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	ND	ND	NA	ND
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	ND	ND	NA	ND
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	ND	ND	ND	NA	ND
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	ND	ND	NA	ND
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	NA	ND
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	ND	NA	ND
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	ND	ND	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	NA	NA	ND (<5.2)	NA
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	ND (<5.2)	NA
Trichloromethane	µg/kg	see sample	NA	NA	NA	NA	NA	ND (<5.2)	NA
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	NA	NA	ND (<5.2)	NA
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	NA	NA	ND (<5.2)	NA
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	NA	NA	ND (<5.2)	NA
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	NA	NA	ND (<5.2)	NA
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	ND (<5.2)	NA
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	NA	ND (<10)	NA
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	NA	NA	ND (<5.2)	NA
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	NA	NA	ND	NA
Barium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	72.0	NA
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	NA	NA	ND	NA
Chromium	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	5.7	NA
Lead	mg/kg	NA	See Table 4-2	NA	NA	NA	NA	4.2	NA
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	NA	NA	ND	NA
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	NA	NA	ND	NA
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	NA	NA	ND	NA

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-1 (continued)
Soil Sampling Results
354 Area Solvent Detections RI/FS

			Sample Point:	B147 SB S04	B217 SB SO1	B217 SB SO2	B217 SB02	B218A SB SO1	B218A SB01
			Sample Depth:	10'	14'	28.5'	28' to 30'	16'	15' to 17'
			Date Sampled:	09/09/99	10/06/99	10/06/99	10/06/99	10/06/99	10/06/99
			Sample Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Laboratory Number:				99100453		99100452
			SDG:				58698		58698
			Associated QA:						B218ASB01QA
Field VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	5 µg/kg	80 µg/kg	ND	ND	ND	NA	ND	NA
Trichloroethene	µg/kg	2 µg/kg	200 µg/kg	ND	ND	ND	NA	2	NA
Toluene	µg/kg	5 µg/kg	40,000 µg/kg	ND	ND	ND	NA	ND	NA
Tetrachloroethene	µg/kg	2 µg/kg	180 µg/kg	ND	2	2	NA	11	NA
Ethlybenzene	µg/kg	5 µg/kg	55,000 µg/kg	ND	ND	ND	NA	ND	NA
m,p-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	NA	ND	NA
o-Xylenes	µg/kg	5 µg/kg	700,000 µg/kg (Note 1)	ND	ND	ND	NA	ND	NA
cis-1,2-Dichloroethene	µg/kg	5 µg/kg	800 µg/kg	ND	ND	ND	NA	26	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Benzene	µg/kg	see sample	80 µg/kg	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
Trichloroethene	µg/kg	see sample	200 µg/kg	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
Trichloromethane	µg/kg	see sample	NA	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
Toluene	µg/kg	see sample	40,000 µg/kg	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
Tetrachloroethene	µg/kg	see sample	180 µg/kg	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
Carbon Tetrachloride	µg/kg	see sample	200 µg/kg	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
Ethlybenzene	µg/kg	see sample	55,000 µg/kg	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
m,p-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
o-Xylenes	µg/kg	see sample	700,000 µg/kg (Note 1)	NA	NA	NA	ND (<12)	NA	ND (<11)
cis-1,2-Dichloroethene	µg/kg	see sample	800 µg/kg	NA	NA	NA	ND (<5.8)	NA	ND (<5.4)
Laboratory Metals Analyses	**Units**	**Reporting Limit**	**RSK Standard**						
Arsenic	mg/kg	1 mg/kg	See Table 4-2	NA	NA	NA	1.8	NA	ND
Barium	mg/kg	NA	See Table 4-2	NA	NA	NA	74.0	NA	32.0
Cadmium	mg/kg	0.4 mg/kg	See Table 4-2	NA	NA	NA	ND	NA	ND
Chromium	mg/kg	NA	See Table 4-2	NA	NA	NA	12.0	NA	4.6
Lead	mg/kg	NA	See Table 4-2	NA	NA	NA	8.8	NA	4.5
Mercury	mg/kg	0.1 mg/kg	NA	NA	NA	NA	ND	NA	ND
Selenium	mg/kg	0.6 mg/kg	NA	NA	NA	NA	ND	NA	ND
Silver	mg/kg	1.2 mg/kg	NA	NA	NA	NA	ND	NA	ND

Notes

RSK Standard - Kansas Tier 2 risk-based standards for both residential and non-residential scenarios - soil to groundwater protection pathway

1. Total xylenes = 700,000 µg/kg

ND - nondetect

SDG - sample delivery group

NA - not applicable

QA - quality assurance sample

J - Detection below reporting limits

Table 4-2
RCRA Metals Detections
354 Area Solvent Detections RI/FS

Sample Location	Sample Depth (ft)	Metal Concentration (mg/kg)				
		Arsenic	Barium	Cadmium	Chromium	Lead
B113	10-12	1.2	44.0	ND	5	5.1
B117	3-4	4.7	111	0.4	11.8	**51.0**
B118	2.5-4	4	108	0.6	10.7	**35.0**
B119	3-4	2.9	124	ND	15.3	13.0
B120	3-4	1.3	76.6	ND	8.7	5.7
B121	3-4	1.4	97.7	ND	11.6	9.3
B132	6-8	1.3	102	ND	10.2	8.5
	19-20	ND	15.0	ND	3.0	2.8
B133	3-4	2.0	110	ND	12.1	7.6
B134	0.5-1.5	1.9	110	ND	12.4	8.6
B137	3-4	1.9	170	ND	11.6	7.5
B138	3-4	ND	64	ND	6.5	4.2
B143	3-4	2.6	140	ND	12.8	10.0
B147	4	ND	72.0	ND	5.7	4.2
B217	28-30	1.8	74.0	ND	12.0	8.8
B218A	15-17	ND	32.0	ND	4.6	4.5

Average	2.3	90.6	0.5	9.6	11.6
Median	1.9	100	0.5	11.2	8.5
Range	1.2 - 4.7	15 - 170	0.4 - 0.6	3.0 - 15.3	2.8 - 51
MAAF Background (Note 6)	5.0	N/A	1	24.1	32.3
USGS Regional Concentration (Note 7)	4.1	400 - 850	1.5 - 2.0	50	15

KDHE Tier 2 Risk-Based Standards (Note 8)					
Soil Pathway Residential Scenario	11	5500	39	390	400
Soil to Groundwater Protection Pathway Residential Scenario	29	N/A	N/A	N/A	N/A
Soil Pathway Non-Residential Scenario	38	140000	1000	4000	1000
Soil to Groundwater Protection Pathway Non-Residential Scenario	29	N/A	N/A	N/A	N/A

Notes:

1. Mercury, Selenium, and Silver were not detected in any soil sample.
2. Reporting Limits (mg/kg): Arsenic - 1; Barium - NA; Cadmium - 0.4; Chromium - NA; Lead - NA; Mercury - 0.1; Selenium - 0.6; Silver - 1.2.
3. ND - not detected
4. N/A - Not applicable
5. mg/kg - milligrams per kilogram
6. From MAAF-FFTA RI/FS Workplan, Fort Riley, Kansas, BMcD (April 11, 1997)
7. From Element Concentrations in Soil and Other Surficial Materials of the Conterminous United States, USGS Prof Paper 1270 (1984)
8. From Risk-Based Standards for Kansas (RSK Manual), Kansas Department of Health and Environment (March 24, 1999)

Table 4-3
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B230	B230	B230D	B230D-DUPE	B232	B232
	Sample Depth:		9'	15'	15'	15'	9'	15'
	Date Sampled:		03/30/00	03/30/00	03/30/00	03/30/00	03/30/00	03/30/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	0.3J	240	270	330	0.2J	0.3J
Trichloroethene	µg/L	1	ND	17	16	17	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	22	24	23	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B241	B241	B241D	B243	B243	B245
	Sample Depth:		9'	15'	15'	9'	15'	9'
	Date Sampled:		03/29/00	03/29/00	03/29/00	03/30/00	03/30/00	03/30/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	**µg/L**	**1**	**15**	**310**	**450**	**250**	**290**	**150**
Trichloroethene	**µg/L**	**1**	**1.4**	**46**	**42**	**40**	**42**	**3.7**
cis-1,2-Dichloroethene	**µg/L**	**5**	**2.5**	**64**	**63**	**98**	**87**	**1.6**
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total Xylenes	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B245	B252A	B252A	B253	B253	B253D
	Sample Depth:		15'	9'	15'	9'	15'	15'
	Date Sampled:		03/30/00	03/29/00	03/29/00	03/29/00	03/29/00	03/29/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	82	ND	220	1.2	19	22
Trichloroethene	µg/L	1	2.7	ND	8.9	ND	2.2	2.1
cis-1,2-Dichloroethene	µg/L	5	1.5	ND	4.5	ND	9	6.5
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B255	B255	B257	B257	B265	B265
	Sample Depth:		9'	15'	9'	15'	9'	15'
	Date Sampled:		03/31/00	03/31/00	04/03/00	04/03/00	03/31/00	03/31/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	**µg/L**	**1**	**0.1J**	**7.6**	**97**	**30**	**0.3J**	**97**
Trichloroethene	**µg/L**	**1**	**ND**	**0.5J**	**3.3**	**0.3J**	**ND**	**3.1**
cis-1,2-Dichloroethene	**µg/L**	**5**	**ND**	**ND**	**2.4**	**ND**	**ND**	**ND**
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total Xylenes	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B268	B268	B275	B275	B305	B305
	Sample Depth:		9'	15'	9'	15'	9'	15'
	Date Sampled:		04/03/00	04/03/00	04/07/00	04/07/00	04/07/00	04/07/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	4.7	0.7J	2.8	2.7	7.6	6.3
Trichloroethene	µg/L	1	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

			Sample Point:	B349	B349-DUPE	B354	B354	B354-DUPE	B358
			Sample Depth:	15'	15'	9'	15'	15'	9'
			Date Sampled:	04/06/00	04/06/00	04/07/00	04/07/00	04/07/00	04/05/00
			Sample Matrix:	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**							
Tetrachloroethene	**µg/L**	**1**		**2.5**	**2.7**	**4.8**	**8.5**	**7.9**	**37**
Trichloroethene	**µg/L**	**1**		**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5**		**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Carbon Tetrachloride	µg/L	1		ND	ND	ND	ND	ND	ND
Benzene	µg/L	1		ND	ND	ND	ND	ND	ND
Toluene	µg/L	1		ND	ND	ND	ND	ND	ND
Ethylbenzene	**µg/L**	**1**		**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total Xylenes	**µg/L**	**1**		**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B358	B363	B363	B363-DUPE	B365	B365
	Sample Depth:		15'	9'	15'	15'	9'	15'
	Date Sampled:		04/05/00	03/30/00	03/30/00	03/30/00	03/30/00	03/30/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	**µg/L**	**1**	**44**	**0.2J**	**1.6**	**2.2**	**ND**	**0.5J**
Trichloroethene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total Xylenes	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B401	B401	B403	B403	B405	B405
	Sample Depth:		9'	15'	9'	15'	9'	15'
	Date Sampled:		04/05/00	04/05/00	04/04/00	04/04/00	03/31/00	03/31/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	**µg/L**	**1**	**58**	**93**	**150**	**190**	**0.3J**	**12**
Trichloroethene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total Xylenes	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B405-DUPE	B406	B406	B424	B424	B431
	Sample Depth:		15'	9'	15'	9'	15'	15'
	Date Sampled:		03/31/00	03/30/00	03/30/00	03/30/00	03/30/00	04/06/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	14	9.1	34	1	180	ND
Trichloroethene	µg/L	1	ND	0.3J	0.5J	ND	3.7	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	2.1	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B434	B434	B437	B437	B439	B439
	Sample Depth:		9'	15'	9'	15'	9'	15'
	Date Sampled:		04/07/00	04/07/00	04/05/00	04/05/00	04/04/00	04/04/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	0.3J	ND	29	34	180	190
Trichloroethene	µg/L	1	ND	ND	ND	ND	0.2J	0.2J
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B439-DUPE	B441	B441	B443	B443	B443-DUPE
	Sample Depth:		15'	9'	15'	9'	15'	15'
	Date Sampled:		04/04/00	04/04/00	04/04/00	03/31/00	03/31/00	03/31/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	180	200	230	12	94	95
Trichloroethene	µg/L	1	0.2J	0.3J	0.3J	ND	0.1J	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	2.4	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B444	B444	B461	B461	B461D	B474
	Sample Depth:		9'	15'	9'	15'	15'	9'
	Date Sampled:		04/03/00	04/03/00	03/29/00	03/29/00	03/29/00	04/05/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	**µg/L**	**1**	**ND**	**0.1J**	**ND**	**12**	**3.4**	**0.9J**
Trichloroethene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total Xylenes	**µg/L**	**1**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B474	B476	B476	B478	B478	B480
	Sample Depth:		15'	9'	15'	9'	15'	9'
	Date Sampled:		04/05/00	04/04/00	04/04/00	04/03/00	04/03/00	03/31/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	120	210	230	0.4J	240	0.4J
Trichloroethene	µg/L	1	1.6	2.6	2.9	ND	0.3J	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B480	B482	B482	B505	B509	B509D
	Sample Depth:		15'	9'	15'	15'	9'	9'
	Date Sampled:		03/31/00	04/04/00	04/04/00	04/06/00	04/07/00	04/07/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	0.4J	3.1	0.6J	ND	12	9.2
Trichloroethene	µg/L	1	ND	1.4	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B509	B509D	B512	B512	B512-DUPE	B515
	Sample Depth:		15'	15'	9'	15'	15'	9'
	Date Sampled:		04/07/00	04/07/00	04/05/00	04/05/00	04/05/00	04/03/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	17	13	4.2	20	18	ND
Trichloroethene	µg/L	1	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B515	B517	B517	B518	B518	B519
	Sample Depth:		15'	9'	15'	9'	15'	9'
	Date Sampled:		04/03/00	03/31/00	03/31/00	03/31/00	03/31/00	04/04/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	13	0.2J	2.4	2.9	10	4.1
Trichloroethene	µg/L	1	ND	ND	ND	0.2J	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B519	B556	B556	B556-DUPE	B558	B558
	Sample Depth:		15'	9'	15'	15'	9'	15'
	Date Sampled:		04/04/00	04/05/00	04/05/00	04/05/00	04/04/00	04/04/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	0.3J	0.4J	3.7	4.4	1.7	49
Trichloroethene	µg/L	1	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B560	B560	B563	B563	B565	B565
	Sample Depth:		9'	15'	9'	15'	9'	15'
	Date Sampled:		04/03/00	04/03/00	04/03/00	04/03/00	04/03/00	04/03/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	1.1	47	9.8	21	5.9	0.7J
Trichloroethene	µg/L	1	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

			Sample Point:	B565-DUPE	B599	B604	B604	B610	B610
			Sample Depth:	15'	15'	9'	15'	9'	15'
			Date Sampled:	04/03/00	04/06/00	04/06/00	04/06/00	04/04/00	04/04/00
			Sample Matrix:	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	Units	Reporting Limit							
Tetrachloroethene	µg/L	1		0.9J	ND	ND	ND	0.4J	62
Trichloroethene	µg/L	1		ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5		ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1		ND	ND	ND	ND	ND	ND
Benzene	µg/L	1		ND	ND	ND	ND	ND	ND
Toluene	µg/L	1		ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1		ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1		ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B610-DUPE	B615	B615	B663	B663	B705
	Sample Depth:		15'	9'	15'	9'	15'	9'
	Date Sampled:		04/04/00	04/04/00	04/04/00	04/07/00	04/07/00	04/06/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	59	6	9	1.2	0.1J	ND
Trichloroethene	µg/L	1	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

	Sample Point:		B705	B706	B706	B707	B707	B708
	Sample Depth:		15'	9'	15'	9'	15'	9'
	Date Sampled:		04/06/00	04/06/00	04/06/00	04/05/00	04/05/00	04/06/00
	Sample Matrix:		SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**						
Tetrachloroethene	µg/L	1	ND	ND	ND	0.6J	1.9	ND
Trichloroethene	µg/L	1	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	1	ND	ND	ND	ND	ND	ND
Benzene	µg/L	1	ND	ND	ND	ND	ND	ND
Toluene	µg/L	1	ND	ND	ND	ND	ND	ND
Ethylbenzene	µg/L	1	ND	ND	ND	ND	ND	ND
Total Xylenes	µg/L	1	ND	ND	ND	ND	ND	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-3 (continued)
Soil-Gas Results
354 Solvent Detection Site RI/FS

		Sample Point:	B708
		Sample Depth:	15'
		Date Sampled:	04/06/00
		Sample Matrix:	SOIL GAS
Field VOC Analyses	**Units**	**Reporting Limit**	
Tetrachloroethene	µg/L	1	0.2J
Trichloroethene	µg/L	1	ND
cis-1,2-Dichloroethene	µg/L	5	ND
Carbon Tetrachloride	µg/L	1	ND
Benzene	µg/L	1	ND
Toluene	µg/L	1	ND
Ethylbenzene	µg/L	1	ND
Total Xylenes	µg/L	1	ND

Notes
D - dilution
DUPE - duplicate
ND - not detected
J - estimated value below reporting limit
µg/L - micrograms per liter

Table 4-4
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B89 GW SO1	B90 GWS01	B90 GW01	B90 GW11	B91 GW SO1	B91 GW01	B91 GW11	B93 GW SO1
			Sample Depth:	43.5'	39.0	39.0	39.0	37.3'	37.3'	37.3'	36.7'
			Date Sampled:	07/15/99	07/20/99	07/20/99	07/20/99	07/15/99	07/15/99	07/15/99	07/27/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B90 GWS01	WATER DUPLICATE SAMPLE OF B90 GWS01	WATER	WATER CONFIRMATION SAMPLE OF B91 GW SO1	WATER DUPLICATE SAMPLE OF B91 GW SO1	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**NA**	**NA**	**ND**	**NA**	**NA**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**NA**	**NA**	**ND**	**NA**	**NA**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**<5J**	**<5J**	**NA**	**NA**	**ND**	**NA**	**NA**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	<2J	5	NA	NA	4.7	NA	NA	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	NA	ND	NA	NA	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**<5J**	**NA**	**NA**	**ND**	**NA**	**NA**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**NA**	**ND**	**NA**	**NA**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**NA**	**NA**	**ND**	**NA**	**NA**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	NA	ND	NA	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	ND	ND	NA	ND	ND	NA
Trichloroethene	µg/L	0.6	5	NA	NA	ND	ND	NA	ND	ND	NA
Trichloromethane	µg/L	0.5	None	NA	NA	ND	ND	NA	ND	ND	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**ND**	**ND**	**NA**	**ND**	**ND**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**2.5**	**3.6**	**NA**	**3.9**	**4.6**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**ND**	**ND**	**NA**	**0.9**	**1.0**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	ND	NA	ND	ND	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	ND	NA	ND	ND	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	ND	NA	ND	ND	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**ND**	**ND**	**NA**	**ND**	**ND**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B93 GW01	B93 GW11	B94 GW SO1	B94 GW01	B94 GW SO1 (D)	B94 GW11	B95 GW SO1	B98 GW SO1
				Sample Depth:	36.7'	36.7'	39.2'	39.2'	39.2'	39.2'	33.5'	47.8'
				Date Sampled:	07/27/99	07/27/99	07/21/99	07/21/99	07/21/99	07/21/99	07/22/99	07/22/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF B93 GW SO1	WATER DUPLICATE SAMPLE OF B93 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B94 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B94 GW SO1	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	5 / 1	5		NA	NA	ND	NA	ND	NA	ND	ND
Trichloroethene	µg/L	2 / 1	5		NA	NA	ND	NA	ND	NA	ND	ND
Toluene	µg/L	5 / 1	1000		NA	NA	<5J	NA	<5J	NA	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		NA	NA	18	NA	17	NA	<2J	4.5
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	NA	ND	NA	ND	NA	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	NA	<5J	NA	<5J	NA	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	NA	ND	NA	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70		NA	NA	ND	NA	ND	NA	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	ND	NA	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	ND	NA	ND	NA	0.5	NA	NA
Trichloroethene	µg/L	0.6	5		ND	ND	NA	ND	NA	ND	NA	NA
Trichloromethane	µg/L	0.5	None		0.9	1.0	NA	2.5	NA	1.5	NA	NA
Toluene	µg/L	0.4	100		ND	ND	NA	ND	NA	0.5	NA	NA
Tetrachloroethene	µg/L	1.1	5		8.8	7.7	NA	2.1	NA	1.2	NA	NA
Carbon Tetrachloride	µg/L	0.7	5		0.8	ND	NA	ND	NA	ND	NA	NA
Ethlybenzene	µg/L	0.7	700		ND	ND	NA	ND	NA	ND	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	ND	NA	ND	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	ND	NA	ND	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70		ND	ND	NA	ND	NA	ND	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B98 GW01	B98 GW11	B99 GW SO1	B99 GW01	B99 GW SO1(D)	B99 GW11	B100 GW SO1	B100 GW01
				Sample Depth:	47.8'	47.8'	43.15'	43.15'	43.15'	43.15'	45.3'	45.3'
				Date Sampled:	07/22/99	07/22/99	08/13/99	08/13/99	08/13/99	08/13/99	07/23/99	07/23/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF B98 GW SO1	WATER DUPLICATE SAMPLE OF B98 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B99 GW SO1	WATER	WATER DUPLICATE SAMPLE OF B99 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B100 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	**µg/L**	**5 / 1**	**5**		**NA**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**		**NA**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**		**NA**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**	**NA**
Tetrachloroethene	µg/L	2 / 1	5		NA	NA	ND	NA	ND	NA	ND	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	NA	ND	NA	ND	NA	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**NA**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	ND	NA	ND	NA	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	ND	NA	ND	NA	ND	NA	ND
Trichloroethene	µg/L	0.6	5		0.8	0.6	NA	0.8	NA	0.8	NA	1.1
Trichloromethane	µg/L	0.5	None		2.6	2.4	NA	1.7	NA	2.4	NA	3.1
Toluene	**µg/L**	**0.4**	**100**		**ND**	**ND**	**NA**	**0.5**	**NA**	**0.4**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**1.5**	**1.3**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**8.4**	**7.7**	**NA**	**6.4**	**NA**	**7.3**	**NA**	**6.5**
Ethlybenzene	µg/L	0.7	700		ND	ND	NA	ND	NA	ND	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	ND	NA	ND	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	ND	NA	ND	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**ND**	**ND**	**NA**	**ND**	**NA**	**ND**	**NA**	**ND**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B100 GW11	B101 GW SO1	B101 GW01	B101 GW11	B103 GW SO1	B103 GW01	B103 GW SO1 (D)	B104 GW SO1
				Sample Depth:	45.3'	45.3'	45.3'	45.3'	49.6'	49.6'	49.6'	45.4'
				Date Sampled:	07/23/99	07/26/99	07/26/99	07/26/99	07/26/99	07/26/99	07/26/99	07/21/99
				Sample Matrix:	WATER DUPLICATE SAMPLE OF B100 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B101 GW SO1	WATER DUPLICATE SAMPLE OF B101 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B103 GW SO1	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	5 / 1	5		NA	ND	NA	NA	ND	NA	ND	ND
Trichloroethene	µg/L	2 / 1	5		NA	<2J	NA	NA	ND	NA	ND	ND
Toluene	µg/L	5 / 1	1000		NA	ND	NA	NA	ND	NA	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		NA	ND	NA	NA	6.2	NA	6.6	2.3
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	ND	NA	NA	ND	NA	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	ND	NA	NA	ND	NA	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	ND	NA	NA	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70		NA	ND	NA	NA	ND	NA	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	ND	NA	NA	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	ND	ND	ND	NA	ND	NA	NA
Trichloroethene	µg/L	0.6	5		0.8	ND	ND	ND	NA	2.0	NA	NA
Trichloromethane	µg/L	0.5	None		3	ND	ND	ND	NA	ND	NA	NA
Toluene	µg/L	0.4	100		ND	ND	ND	ND	NA	ND	NA	NA
Tetrachloroethene	µg/L	1.1	5		ND	ND	ND	ND	NA	ND	NA	NA
Carbon Tetrachloride	µg/L	0.7	5		7.9	ND	ND	ND	NA	ND	NA	NA
Ethlybenzene	µg/L	0.7	700		ND	ND	ND	ND	NA	ND	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	ND	ND	NA	ND	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	ND	ND	NA	ND	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70		ND	ND	ND	ND	NA	ND	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B104 GW01	B105 GW SO1	B105 GW01	B107 GW SO1	B107 GW01	B107 GW11	B108 GW SO1	B108 GW01
				Sample Depth:	45.4'	47.6'	47.6'	42.5'	42.5'	42.5'	47.6'	47.6'
				Date Sampled:	07/21/99	08/03/99	08/03/99	07/28/99	07/28/99	07/28/99	07/22/99	07/22/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF B104 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B105 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B107 GW SO1	WATER DUPLICATE SAMPLE OF B107 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B108 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	**µg/L**	**5 / 1**	**5**		**NA**	**ND**	**NA**	**ND**	**NA**	**NA**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**		**NA**	**ND**	**NA**	**ND**	**NA**	**NA**	**<2J**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**		**NA**	**ND**	**NA**	**ND**	**NA**	**NA**	**<5J**	**NA**
Tetrachloroethene	µg/L	2 / 1	5		NA	ND	NA	ND	NA	NA	18	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	ND	NA	ND	NA	NA	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**ND**	**NA**	**ND**	**NA**	**NA**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**ND**	**NA**	**ND**	**NA**	**NA**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**NA**	**ND**	**NA**	**ND**	**NA**	**NA**	**ND**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	ND	NA	ND	NA	ND	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	NA	ND	NA	ND	ND	NA	ND
Trichloroethene	µg/L	0.6	5		ND	NA	ND	NA	1.4	1.3	NA	ND
Trichloromethane	µg/L	0.5	None		2.0	NA	0.8	NA	0.6	0.6	NA	ND
Toluene	**µg/L**	**0.4**	**100**		**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**2.2**	**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**1.7**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**6.5**	**NA**	**0.9**	**NA**	**ND**	**ND**	**NA**	**2.7**
Ethlybenzene	µg/L	0.7	700		ND	NA	ND	NA	ND	ND	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	ND	NA	ND	ND	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	ND	NA	ND	ND	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B109 GW SO1	B112 GW SO1	B112 GW01	B113 GW SO1	B114 GW SO1	B114 GW SO1(D)	B115 GW SO1	B116 GW SO1
				Sample Depth:	42.4'	46.3'	46.3'	19.55'	16.25'	16.25'	16.6'	20.2'
				Date Sampled:	07/27/99	07/23/99	07/23/99	07/28/99	07/28/99	07/28/99	07/29/99	07/29/99
				Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B112 GW SO1	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	**µg/L**	**5 / 1**	**5**		ND	ND	NA	ND	ND	ND	ND	ND
Trichloroethene	**µg/L**	**2 / 1**	**5**		ND	ND	NA	ND	<2J	<2J	ND	ND
Toluene	**µg/L**	**5 / 1**	**1000**		ND	ND	NA	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		ND	**8.7**	NA	**7.6**	**19**	**20**	**26**	2.5
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		ND	ND	NA	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		ND	ND	NA	ND	ND	ND	ND	ND
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		ND	ND	NA	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		ND	ND	NA	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		ND	ND	NA	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		NA	NA	ND	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0 6	5		NA	NA	ND	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None		NA	NA	1.7	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**		NA	NA	ND	NA	NA	NA	NA	NA
Tetrachloroethene	**µg/L**	**1.1**	**5**		NA	NA	**4.7**	NA	NA	NA	NA	NA
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		NA	NA	**3.1**	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700		NA	NA	ND	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	ND	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	ND	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		NA	NA	ND	NA	NA	NA	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B117 GW SO1	B118 GW SO1	B118 GW01	B118 GW11	B119 GW SO1	B119 GW01	B119 GW11	B120 GW SO1
			Sample Depth:	17.85'	20.1'	20.1'	20.1'	26.85'	26.85'	26.85'	29.25'
			Date Sampled:	07/29/99	08/06/99	08/06/99	08/06/99	08/16/99	08/16/99	08/16/99	08/17/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B118 GW SO1	WATER DUPLICATE SAMPLE OF	WATER	WATER CONFIRMATION SAMPLE OF B119 GW SO1	WATER DUPLICATE SAMPLE OF B119 GW SO1	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	ND	ND	NA	NA	ND	NA	NA	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	NA	NA	ND	NA	NA	<2J
Toluene	µg/L	5 / 1	1000	ND	ND	NA	NA	ND	NA	NA	ND
Tetrachloroethene	µg/L	2 / 1	5	<2J	ND	NA	NA	2	NA	NA	50
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	NA	ND	NA	NA	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	NA	ND	NA	NA	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	NA	ND	NA	NA	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	NA	NA	ND	NA	NA	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	NA	ND	NA	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	ND	ND	NA	ND	ND	NA
Trichloroethene	µg/L	0 6	5	NA	NA	3.6	3.6	NA	2.0	2.1	NA
Trichloromethane	µg/L	0 5	None	NA	NA	ND	NA	NA	2.2	2.7	NA
Toluene	µg/L	0.4	100	NA	NA	ND	ND	NA	ND	ND	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	2.7	2.4	NA	41.9	47.9	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	ND	ND	NA	5.0	5.3	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	ND	NA	ND	ND	NA
m,p-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	ND	ND	NA	ND	ND	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	ND	NA	0.5	0.7	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	ND	ND	NA	ND	ND	NA

Notes

1. Total xylenes = 10000 µg/L
2 Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B120 GW01	B120 GW11	B121 GW SO1	B122 GW SO1	B123 GW SO1	B124 GW SO1	B125 GW SO1	B125 GW O1
				Sample Depth:	29.25'	29.25'	34.45'	27.55'	24.48'	20.25'	19.97'	17.97'
				Date Sampled:	08/17/99	08/17/99	08/13/99	07/16/99	07/16/99	07/16/99	07/16/99	07/16/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF B120 GW SO1	WATER DUPLICATE SAMPLE OF B120 GW SO1	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B125 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	**µg/L**	**5 / 1**	**5**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**		**NA**	**NA**	**ND**	**<5J**	**<5J**	**ND**	**ND**	**NA**
Tetrachloroethene	µg/L	2 / 1	5		NA	NA	**13**	2.2	<2J	**8.8**	**8.6**	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	NA	ND	ND	<5J	ND	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**NA**	**ND**	**<5J**	**<5J**	**ND**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**NA**	**ND**	**<5J**	**<5J**	**ND**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	ND	ND	ND	ND	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	ND	NA	NA	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5		3.0	2.4	NA	NA	NA	NA	NA	ND
Trichloromethane	µg/L	0.5	None		1.9	1.7	NA	NA	NA	NA	NA	0.7
Toluene	**µg/L**	**0.4**	**100**		**ND**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**98.4**	**87.8**	**NA**	**NA**	**NA**	**NA**	**NA**	**3.0**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**5.0**	**6**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Ethlybenzene	µg/L	0.7	700		ND	ND	NA	NA	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	NA	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		1.0	0.8	NA	NA	NA	NA	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**ND**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B125 GW 11 (D)	B126 GW SO1	B127 GW SO1	B127 GWO1	B127 GW SO1(D)	B127 GW SO1(T)	B128 GW SO1	B128 GW01
				Sample Depth:	17.97'	29.97'	30.95'	30.95'	30.95'	30.95'	20'	19.5
				Date Sampled:	07/16/99	07/19/99	07/20/99	07/20/99	07/20/99	07/20/99	07/19/99	07/19/99
				Sample Matrix:	WATER DUPLICATE SAMPLE OF B125 GW SO1	WATER	WATER	WATER CONFIRMATION SAMPLE OF B127 GW SO1	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B128 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	5 / 1	5		NA	ND	ND	NA	ND	ND	ND	NA
Trichloroethene	µg/L	2 / 1	5		NA	ND	ND	NA	ND	ND	ND	NA
Toluene	µg/L	5 / 1	1000		NA	<5J	<5J	NA	<5J	<5J	<5J	NA
Tetrachloroethene	µg/L	2 / 1	5		NA	<2J	<2J	NA	2.3	<2J	ND	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	<5J	<5J	NA	<5J	<5J	<5J	NA
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	<5J	<5J	NA	<5J	<5J	<5J	NA
o-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	<5J	<5J	NA	<5J	<5J	<5J	NA
cis-1,2-Dichloroethene	µg/L	5 / 5	70		NA	ND	ND	NA	ND	ND	ND	NA
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	ND	ND	NA	ND	ND	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	NA	NA	ND	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5		ND	NA	NA	ND	NA	NA	NA	ND
Trichloromethane	µg/L	0.5	None		ND	NA	NA	ND	NA	NA	NA	ND
Toluene	µg/L	0.4	100		ND	NA	NA	0.4	NA	NA	NA	0.5
Tetrachloroethene	µg/L	1.1	5		2.6	NA	NA	ND	NA	NA	NA	ND
Carbon Tetrachloride	µg/L	0.7	5		ND	NA	NA	ND	NA	NA	NA	ND
Ethlybenzene	µg/L	0.7	700		ND	NA	NA	ND	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	NA	ND	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	NA	ND	NA	NA	NA	ND
cis-1,2-Dichloroethene	µg/L	0.5	70		ND	NA	NA	ND	NA	NA	NA	ND

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B129 GW SO1	B129 GW01	B130 GW SO1	B131 GW SO1	B131 GW01	B132 GW SO1	B132 GW01	B132 GW11
			Sample Depth:	17.75'	17.75'	DRY	6.1'	6.1'	18.55'	18.55'	18.55'
			Date Sampled:	07/19/99	07/19/99		9/02/99	9/02/99	07/29/99	07/29/99	07/29/99
			Sample Matrix:	WATER	WATER CONFIRMATION SAMPLE OF B129 GW SO1	WATER	WATER	WATER CONFIRMATION SAMPLE OF B131 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B132 GW SO1	WATER DUPLICATE SAMPLE OF B132 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	ND	NA	DRY	ND	NA	16	NA	NA
Trichloroethene	µg/L	2 / 1	5	ND	NA	DRY	ND	NA	ND	NA	NA
Toluene	µg/L	5 / 1	1000	<5J	NA	DRY	ND	NA	170	NA	NA
Tetrachloroethene	µg/L	2 / 1	5	<2J	NA	DRY	ND	NA	<2J	NA	NA
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	DRY	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	<5J	NA	DRY	ND	NA	54	NA	NA
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	<5J	NA	DRY	ND	NA	75	NA	NA
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	<5J	NA	DRY	ND	NA	ND	NA	NA
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	NA	DRY	ND	NA	ND	NA	NA
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	NA	NA	ND	NA	ND	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	ND	NA	NA	ND	NA	2.0	2.9
Trichloroethene	µg/L	0.6	5	NA	ND	NA	NA	ND	NA	6.6	9.9
Trichloromethane	µg/L	0.5	None	NA	0.9	NA	NA	ND	NA	ND	ND
Toluene	µg/L	0.4	100	NA	ND	NA	NA	ND	NA	1.2	1.7
Tetrachloroethene	µg/L	1.1	5	NA	5.9	NA	NA	ND	NA	10.0	11.1
Carbon Tetrachloride	µg/L	0.7	5	NA	ND	NA	NA	ND	NA	ND	ND
Ethlybenzene	µg/L	0.7	700	NA	ND	NA	NA	ND	NA	4.9	10.6
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	ND	NA	2.8	7.8
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	ND	NA	NA	ND	NA	ND	0.5

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B133 GW SO1	B134 GW SO1	B136 GW SO1	B137 GW SO1	B138 GW SO1	B140 GW SO1	B143 GW SO1	B143 GW01
			Sample Depth:	DRY	DRY	DRY	DRY	DRY	DRY	21.15'	21.15'
			Date Sampled:	07/29/99	07/29/99	07/29/99	07/29/99	07/29/99	07/29/99	09/10/99	09/10/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B143 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**ND**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**ND**	**NA**
Tetrachloroethene	µg/L	2 / 1	5	DRY	DRY	DRY	DRY	DRY	DRY	2	NA
Carbon Tetrachloride	µg/L	NA / 1	5	DRY	DRY	DRY	DRY	DRY	DRY	NA	NA
Ethlybenzene	µg/L	5 / 1	700	DRY	DRY	DRY	DRY	DRY	DRY	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**ND**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	NA	NA	NA	NA	NA	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA	1.4
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA	ND
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**4.6**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B145 GW SO1	B147 GW SO1	B147 GW01	B175 GW SO1	B177 GW SO1	B177 GW01	B177 GW11	B181 GW SO1
			Sample Depth:	22.5'	23.7'	23.7'	38.8'	43.2'	43.2'	43.2'	46.1'
			Date Sampled:	09/09/99	09/09/99	09/09/99	08/05/99	08/12/99	08/12/99	08/12/99	08/03/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B147 GW SO1	WATER	WATER	WATER CONFIRMATION SAMPLE OF B177 GW SO1	WATER DUPLICATE SAMPLE OF B177 GW SO1	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	ND	ND	NA	ND	ND	NA	NA	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	NA	ND	ND	NA	NA	ND
Toluene	µg/L	5 / 1	1000	ND	ND	NA	ND	ND	NA	NA	ND
Tetrachloroethene	µg/L	2 / 1	5	7	5	NA	ND	ND	NA	NA	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	ND	ND	NA	NA	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	ND	ND	NA	NA	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	ND	ND	NA	NA	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	NA	ND	ND	NA	NA	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	ND	ND	NA	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	ND	NA	NA	ND	ND	NA
Trichloroethene	µg/L	0.6	5	NA	NA	ND	NA	NA	ND	ND	NA
Trichloromethane	µg/L	0.5	None	NA	NA	ND	NA	NA	ND	ND	NA
Toluene	µg/L	0.4	100	NA	NA	ND	NA	NA	ND	ND	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	4.6	NA	NA	ND	ND	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	ND	NA	NA	ND	ND	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	NA	NA	ND	ND	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	ND	ND	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	ND	ND	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	ND	NA	NA	ND	ND	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B181 GW01	B181 GW11	B182 GW SO1	B182 GW01	B182 GW11	B184 GW SO1	B184 GW01	B188 GW SO1
				Sample Depth:	46.1'	46.1'	41.7'	41.7'	41.7'	38.45'	38.45'	53.25'
				Date Sampled:	08/03/99	08/03/99	08/02/99	08/02/99	08/02/99	08/02/99	08/02/99	08/12/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF B181 GW SO1	WATER DUPLICATE SAMPLE OF B181 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B182 GW SO1	WATER DUPLICATE SAMPLE OF B182 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B184 GW SO1	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	5 / 1	5		NA	NA	ND	NA	NA	ND	NA	ND
Trichloroethene	µg/L	2 / 1	5		NA	NA	ND	NA	NA	ND	NA	ND
Toluene	µg/L	5 / 1	1000		NA	NA	ND	NA	NA	ND	NA	ND
Tetrachloroethene	µg/L	2 / 1	5		NA	NA	<2J	NA	NA	ND	NA	ND
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	NA	ND	NA	NA	ND	NA	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	NA	ND	NA	NA	ND	NA	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	NA	ND	NA	NA	ND	NA	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70		NA	NA	ND	NA	NA	ND	NA	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	ND	NA	NA	ND	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	ND	NA	ND	ND	NA	ND	NA
Trichloroethene	µg/L	0.6	5		ND	ND	NA	ND	ND	NA	ND	NA
Trichloromethane	µg/L	0.5	None		1.7	1.7	NA	1.7	1.7	NA	0.7	NA
Toluene	µg/L	0.4	100		ND	ND	NA	ND	ND	NA	ND	NA
Tetrachloroethene	µg/L	1.1	5		ND	ND	NA	ND	ND	NA	ND	NA
Carbon Tetrachloride	µg/L	0.7	5		5.0	4.7	NA	4.5	3.9	NA	ND	NA
Ethlybenzene	µg/L	0.7	700		ND	ND	NA	ND	ND	NA	ND	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	ND	ND	NA	ND	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	ND	ND	NA	ND	NA
cis-1,2-Dichloroethene	µg/L	0.5	70		ND	ND	NA	ND	ND	NA	ND	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B190 GW SO1	B191 GW SO1	B191 GW01	B192 GW SO1	B192 GW01	B192 GW11	B194 GW SO1	B196 GW SO1
			Sample Depth:	55.55'	53.2'	53.2'	52'	52'	52'	56.7'	53.1'
			Date Sampled:	08/11/99	09/07/99	09/07/99	08/05/99	08/05/99	08/05/99	08/04/99	08/04/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B191 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B192 GW SO1	WATER DUPLICATE SAMPLE OF B192 GW SO1	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	ND	ND	NA	ND	NA	NA	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	NA	ND	NA	NA	ND	ND
Toluene	µg/L	5 / 1	1000	ND	ND	NA	ND	NA	NA	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	NA	ND	NA	NA	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	ND	NA	NA	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	ND	NA	NA	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	ND	NA	NA	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	NA	ND	NA	NA	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	ND	NA	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	ND	NA	ND	ND	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	ND	NA	ND	ND	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	ND	NA	ND	ND	NA	NA
Toluene	µg/L	0.4	100	NA	NA	ND	NA	ND	ND	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	ND	NA	ND	ND	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	ND	NA	ND	ND	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	NA	ND	ND	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	ND	ND	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	ND	ND	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	ND	NA	ND	ND	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B196 GW01	B196 GW S01(D)	B196 GW11	B197 GW SO1	B197 GW01	B198 GW SO1	B198 GW01	B198 GW11
				Sample Depth:	53.1'	53.1'	53.1'	44.2'	44.2'	42.1'	42.1'	42.1'
				Date Sampled:	08/04/99	08/04/99	08/04/99	09/08/99	09/08/99	08/11/99	08/11/99	08/11/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF B196 GW SO1	WATER	WATER DUPLICATE SAMPLE OF B196 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B197 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B198 GW SO1	WATER DUPLICATE SAMPLE OF B198 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	**µg/L**	**5 / 1**	**5**		NA	ND	NA	ND	NA	ND	NA	NA
Trichloroethene	**µg/L**	**2 / 1**	**5**		NA	ND	NA	ND	NA	ND	NA	NA
Toluene	**µg/L**	**5 / 1**	**1000**		NA	ND	NA	ND	NA	ND	NA	NA
Tetrachloroethene	µg/L	2 / 1	5		NA	ND	NA	ND	NA	ND	NA	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	ND	NA	ND	NA	ND	NA	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		NA	ND	NA	ND	NA	ND	NA	NA
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		NA	ND	NA	ND	NA	ND	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		NA	ND	NA	ND	NA	ND	NA	NA
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	ND	NA	ND	NA	ND	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	NA	ND	NA	ND	NA	ND	ND
Trichloroethene	µg/L	0.6	5		0.7	NA	0.8	NA	ND	NA	ND	ND
Trichloromethane	µg/L	0.5	None		2.4	NA	2.1	NA	1.9	NA	1.3	1.3
Toluene	**µg/L**	**0.4**	**100**		ND	NA	ND	NA	ND	NA	ND	ND
Tetrachloroethene	**µg/L**	**1.1**	**5**		ND	NA	ND	NA	ND	NA	ND	ND
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**5.3**	NA	**5.6**	NA	**5.2**	NA	**2.2**	**1.8**
Ethlybenzene	µg/L	0.7	700		ND	NA	ND	NA	ND	NA	ND	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	ND	NA	ND	NA	ND	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	ND	NA	ND	NA	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		ND	NA	ND	NA	ND	NA	ND	ND

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B202 GW SO1	B202 GW SO1 (D)	B202 GW01	B203 GW SO1	B204 GW SO1	B205 GW SO1	B206 GW SO1	B206 GW01
			Sample Depth:	21'	21'	21'	21.7'	30'	20.9'	24.4'	24.4'
			Date Sampled:	08/16/99	08/16/99	08/16/99	09/09/99	08/16/99	08/17/99	09/14/99	09/14/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B202 GW SO1	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B206 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**NA**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	NA	ND	ND	ND	ND	NA
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	ND	ND	ND	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	ND	ND	ND	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	ND	NA	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5	NA	NA	ND	NA	NA	NA	NA	ND
Trichloromethane	µg/L	0.5	None	NA	NA	ND	NA	NA	NA	NA	1.1
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**ND**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**ND**
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	NA	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**ND**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B207 GW SO1	B209 GW SO1	B210 GW SO1	B211 GW SO1	B211 GW01	B212 GW SO1	B212 GW SO1D	B213 GW SO1
			Sample Depth:	24.8'	50'	60.9'	61'	57' to 61'	61.7'	61.7'	63.7'
			Date Sampled:	09/14/99	11/10/99	10/08/99	11/10/99	11/10/99	10/07/99	10/07/99	10/08/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B211 GW SO1	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	ND	ND	ND	ND	NA	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	NA	ND	ND	ND
Toluene	µg/L	5 / 1	1000	ND	ND	ND	ND	NA	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	NA	<2J	<2J	<2J
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	NA	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	NA	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	NA	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	ND	NA	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	NA	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	NA	NA	ND	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	ND	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	0.9	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	NA	ND	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	NA	ND	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	NA	ND	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	ND	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	ND	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	ND	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	NA	ND	NA	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B213 GW01	B214 GW SO1	B214 GW01	B215 GWS01	B216 GW SO1	B216 GW01	B217 GW SO1	B217 GW01
				Sample Depth:	51.8'	62.7'	62.7'	59.5'	59.3'	59.3'	59.2'	48.4
				Date Sampled:	10/08/99	10/04/99	10/04/99	11/03/99	10/01/99	10/01/99	10/06/99	10/06/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF B213 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B214 GW SO1	WATER	WATER	WATER CONFIRMATION SAMPLE OF B216 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B217 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	**µg/L**	**5 / 1**	**5**		**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**		**NA**	**ND**	**NA**	**ND**	**2**	**NA**	**2**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**		**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**NA**
Tetrachloroethene	µg/L	2 / 1	5		NA	3	NA	**5**	**54**	NA	**35**	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	ND	NA	ND	ND	NA	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**NA**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	ND	NA	ND	ND	NA	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		ND	NA	ND	NA	NA	ND	NA	ND
Trichloroethene	µg/L	0.6	5		ND	NA	ND	NA	NA	1.2	NA	0.9
Trichloromethane	µg/L	0.5	None		ND	NA	ND	NA	NA	1.8	NA	1.2
Toluene	**µg/L**	**0.4**	**100**		**ND**	**NA**	**ND**	**NA**	**NA**	**ND**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**ND**	**NA**	**5.1**	**NA**	**NA**	**41.0**	**NA**	**25.0**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**ND**	**NA**	**ND**	**NA**	**NA**	**3.5**	**NA**	**1.7**
Ethlybenzene	µg/L	0.7	700		ND	NA	ND	NA	NA	ND	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	ND	NA	NA	ND	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	ND	NA	NA	ND	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**ND**	**NA**	**ND**	**NA**	**NA**	**ND**	**NA**	**ND**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B218 GW SO1	B218 GW SO1	B218 GW01	B218 GW SO1(D)	B219 GW SO1	B219 GW01	B220 GW SO1	B220 GW01
			Sample Depth:	57.9'	54'	52' to 54	54'	53.4'	42.2'	52.4'	40.8'
			Date Sampled:	10/04/99	11/04/99	11/04/99	11/04/99	10/07/99	10/07/99	10/05/99	10/05/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B218 GW SO1	WATER	WATER	WATER CONFIRMATION SAMPLE OF B219 GW SO1	WATER	WATER CONFIRMATION SAMPLE OF B220 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	ND	ND	NA	ND	ND	NA	ND	NA
Trichloroethene	µg/L	2 / 1	5	**41**	**6**	NA	**6**	<2J	NA	<2J	NA
Toluene	µg/L	5 / 1	1000	ND	ND	NA	ND	ND	NA	ND	NA
Tetrachloroethene	µg/L	2 / 1	5	**570**	**38**	NA	**43**	4	NA	<2J	NA
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	ND	ND	NA	ND	NA
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	ND	ND	NA	ND	NA
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	ND	ND	NA	ND	NA
cis-1,2-Dichloroethene	µg/L	5 / 5	70	**670**	**31**	NA	**35**	ND	NA	ND	NA
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	ND	ND	NA	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	ND	NA	NA	ND	NA	ND
Trichloroethene	µg/L	0.6	5	NA	NA	**9.0**	NA	NA	ND	NA	ND
Trichloromethane	µg/L	0.5	None	NA	NA	1.5	NA	NA	1.2	NA	1.8
Toluene	µg/L	0.4	100	NA	NA	ND	NA	NA	ND	NA	ND
Tetrachloroethene	µg/L	1.1	5	NA	NA	**55.8**	NA	NA	**4.8**	NA	**4.2**
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	**2.2**	NA	NA	**2.9**	NA	ND
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	NA	NA	ND	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	ND	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	ND	NA	ND
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	**21.0**	NA	NA	ND	NA	ND

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B221 GWS01	B221 GW01	B222 GW SO1	B224 GWS01	B224 GW01	B226 GWS01	B230 GWS01	B232 GWS01
			Sample Depth:	47'	45' to 47'	43.7'	58'	54' to 58'	61'	58'	57'
			Date Sampled:	11/03/99	11/03/99	10/05/99	11/09/99	11/09/99	11/09/99	11/08/99	11/08/99
			Sample Matrix:	WATER	WATER CONFIRMATION SAMPLE OF B221 GWS01	WATER	WATER	WATER CONFIRMATION SAMPLE OF B224 GWS01	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**NA**	**ND**	**ND**	**NA**	**<2J**	**2**	**2**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	NA	ND	6	NA	29	17	13
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	NA	ND	ND	NA	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**NA**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	NA	ND	ND	NA	ND	19	<5J
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	ND	NA	NA	ND	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	ND	NA	NA	ND	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	1.8	NA	NA	1.7	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**ND**	**NA**	**NA**	**0.4**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**ND**	**NA**	**NA**	**9.2**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**3.5**	**NA**	**NA**	**1.4**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	ND	NA	NA	ND	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	ND	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	ND	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**ND**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B235 GWS01	B241 GWS01	B241 GWS01(D)	B241A GWS01	B241A GWS01(D)	B242 GWS01	B243 GWS01	B247 GWS01
			Sample Depth:	58'	64'	64'	61'	61'	60'	52'	58'
			Date Sampled:	11/09/99	11/08/99	11/08/99	11/09/99	11/09/99	11/04/99	11/04/99	11/05/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**<2J**	**22**	**20**	**2**	**3**	**11**	**3**	**4**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	**34**	**530**	**480**	**59**	**80**	**75**	**27**	**49**
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**140**	**130**	**<5J**	**<5J**	**410**	**44**	**31**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	12	<5J	<5J	ND	<5J	<5J	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B248 GWS01	B248 GW01	B248 GWS01(D)	B252 GWS01	B252 GWS01(D)	B252A GWS01	B253 GWS01	B254 GWS01
			Sample Depth:	57'	53' to 57'	57'	58'	58'	DRY	63'	62'
			Date Sampled:	11/05/99	11/05/99	11/05/99	11/04/99	11/04/99	11/04/99	11/04/99	11/04/99
			Sample Matrix:	WATER	WATER CONFIRMATION SAMPLE OF B248 GWS01	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	ND	NA	ND	ND	ND	DRY	ND	ND
Trichloroethene	µg/L	2 / 1	5	<2J	NA	<2J	**29**	**24**	DRY	**7**	**5**
Toluene	µg/L	5 / 1	1000	ND	NA	ND	ND	ND	DRY	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	4	NA	3	**370**	**300**	DRY	**130**	**69**
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	DRY	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	NA	ND	ND	ND	DRY	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	NA	ND	ND	ND	DRY	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	NA	ND	ND	ND	DRY	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	NA	ND	**180**	**160**	DRY	**31**	**49**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	NA	ND	<5J	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	ND	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	1.5	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	2.7	NA	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100	NA	0.5	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	**8.1**	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	**8.2**	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	ND	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	**2.3**	NA	NA	NA	NA	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B258 GWS01	B259 GWS01	B259 GW01	B263 GWS01	B267 GWS01	B393	B398	B403
				Sample Depth:	61'	57'	53' to 57'	49'	55'	62'	62'	61'
				Date Sampled:	11/05/99	11/08/99	11/08/99	11/09/99	11/09/99	04/20/00	04/20/00	04/20/00
				Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B259 GWS01	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	5 / 1	5		ND	ND	NA	ND	ND	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5		4	<2J	NA	ND	<2J	ND	ND	0.7J
Toluene	µg/L	5 / 1	1000		ND	ND	NA	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		110	5	NA	9	21	ND	0.4J	0.6J
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	ND	ND	3.1
Ethlybenzene	µg/L	5 / 1	700		ND	ND	NA	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)		ND	ND	NA	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)		ND	ND	NA	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70		9	ND	NA	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		ND	ND	NA	ND	ND	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		NA	NA	ND	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5		NA	NA	1.3	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None		NA	NA	3.0	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100		NA	NA	ND	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5		NA	NA	13.7	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5		NA	NA	7.9	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700		NA	NA	ND	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	ND	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	ND	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70		NA	NA	0.5	NA	NA	NA	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B403 - DUPE	B403 GW01	B696	B697	B698	B699	B700	B701
				Sample Depth:	61'		DRY	DRY	DRY	DRY	DRY	DRY
				Date Sampled:	04/20/00	04/20/00	04/17/00	04/17/00	04/17/00	04/17/00	04/17/00	04/17/00
				Sample Matrix:	WATER	WATER CONFIRMATION SAMPLE OF B403	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	5 / 1	5	ND	NA	DRY	DRY	DRY	DRY	DRY	DRY
Trichloroethene	µg/L	2 / 1	5	0.5J	NA	DRY	DRY	DRY	DRY	DRY	DRY
Toluene	µg/L	5 / 1	1000	ND	NA	DRY	DRY	DRY	DRY	DRY	DRY
Tetrachloroethene	µg/L	2 / 1	5	0.4J	NA	DRY	DRY	DRY	DRY	DRY	DRY
Carbon Tetrachloride	µg/L	NA / 1	5	2.5	NA	DRY	DRY	DRY	DRY	DRY	DRY
Ethlybenzene	µg/L	5 / 1	700	ND	NA	DRY	DRY	DRY	DRY	DRY	DRY
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	NA	DRY	DRY	DRY	DRY	DRY	DRY
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	NA	DRY	DRY	DRY	DRY	DRY	DRY
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	NA	DRY	DRY	DRY	DRY	DRY	DRY
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5	NA	ND	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	ND	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	2	NA	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100	NA	0.6	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	ND	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	4.4	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	ND	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	ND	NA	NA	NA	NA	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	B702	B703	B704	B709	B710	B711	B712	B713
				Sample Depth:	20'	DRY	DRY	60'	61'	63'	61.3'	55'
				Date Sampled:	04/17/00	04/17/00	04/17/00	04/14/00	04/14/00	04/14/00	04/14/00	04/14/00
				Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	**µg/L**	**5 / 1**	**5**		**110**	**DRY**	**DRY**	ND	ND	ND	ND	ND
Trichloroethene	**µg/L**	**2 / 1**	**5**		**5.2**	**DRY**	**DRY**	ND	ND	ND	0.2J	0.4J
Toluene	**µg/L**	**5 / 1**	**1000**		**470**	**DRY**	**DRY**	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		5.2	DRY	DRY	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5		ND	DRY	DRY	ND	ND	ND	0.2J	3.8
Ethlybenzene	µg/L	5 / 1	700		510	DRY	DRY	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**960/570**	**DRY**	**DRY**	ND	ND	ND	ND	ND
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**960/570**	**DRY**	**DRY**	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**59**	**DRY**	**DRY**	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	NA	NA	NA	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**									
Benzene	µg/L	0.4	5		NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5		NA	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None		NA	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700		NA	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B713 GW01	B714 (shallow)	714 (shallow)-DU	B714 (intermed)	B714 (deep)	B714 (deep)GW01	B716 (shallow)	B716 (intermed)
			Sample Depth:		22-24'	22-24'	34-36'	46-48'		20-22'	34-36'
			Date Sampled:	04/14/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00
			Sample Matrix:	WATER CONFIRMATION SAMPLE OF B713	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B714 (deep)	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5	NA	ND	ND	ND	ND	NA	ND	ND
Trichloroethene	µg/L	2 / 1	5	NA	ND	ND	ND	ND	NA	ND	ND
Toluene	µg/L	5 / 1	1000	NA	ND	ND	ND	ND	NA	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	NA	ND	ND	ND	ND	NA	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	ND	ND	ND	ND	NA	ND	ND
Ethlybenzene	µg/L	5 / 1	700	NA	ND	ND	ND	ND	NA	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	NA	ND	ND	ND	ND	NA	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	NA	ND	ND	ND	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	NA	ND	ND	ND	ND	NA	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	ND	NA	NA	NA	NA	ND	NA	NA
Trichloroethene	µg/L	0.6	5	0.7	NA	NA	NA	NA	ND	NA	NA
Trichloromethane	µg/L	0.5	None	2	NA	NA	NA	NA	ND	NA	NA
Toluene	µg/L	0.4	100	ND	NA	NA	NA	NA	1.1	NA	NA
Tetrachloroethene	µg/L	1.1	5	ND	NA	NA	NA	NA	ND	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	6.9	NA	NA	NA	NA	ND	NA	NA
Ethlybenzene	µg/L	0.7	700	ND	NA	NA	NA	NA	1	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	ND	NA	NA	NA	NA	ND	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	ND	NA	NA	NA	NA	ND	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	ND	NA	NA	NA	NA	ND	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B716 GW01	B716 (deep)	B716 (deep)-DUP	B719 (shallow)	B719 (intermed)	19 (intermed)-DU	B719 (deep)	B721 (shallow)
			Sample Depth:		46-48'	46-48'	24-26'	34-36'	34-36'	49-51	25-27'
			Date Sampled:	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00
			Sample Matrix:	WATER CONFIRMATION SAMPLE OF B716 (intermed)	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	NA	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	ND	ND	ND	ND	ND	ND	ND
Ethlybenzene	µg/L	5 / 1	700	NA	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	ND	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	ND	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	ND	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**0.6**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	ND	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	ND	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	ND	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
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D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B721 (intermed)	B721 (deep)	B723 (shallow)	B723 (intermed)	B723 (deep)	B725 (shallow)	B725 (intermed)	B725 (deep)
			Sample Depth:	34-36'	49-51'	26-28'	38-40'	53-55'	25-27'	40.6-42.6'	56.6-58.6'
			Date Sampled:	04/19/00	04/19/00	04/19/00	04/19/00	04/19/00	04/20/00	04/20/00	04/20/00
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	0.5J	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	ND	ND	ND	ND	ND	ND	ND	ND
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	A1 GW SO1	A2 GW SO1	A2 GW01	A2 GW SO2	A2 GW SO3	A3 GW SO1	A3 GW SO2	A3 GW SO3
			Sample Depth:	24.8'	41.9'	41.9'	33.0'	25.0'	40.2'	31.0'	23'
			Date Sampled:	09/15/99	09/15/99	09/15/99	09/15/99	09/15/99	09/15/99	09/15/99	09/15/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF A2 GW SO1	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**	**5**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**NA**	**2**	**2**	**4**	**5**	**<2J**
Toluene	**µg/L**	**5 / 1**	**1000**	**95**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	21	NA	7	27	<2J	2	4
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	68	ND	NA	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**23**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**30**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5	NA	NA	ND	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	1.3	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	ND	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**6.7**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**0.6**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
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Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	A4 GW SO1	A4 GW SO2	A4 GW SO3	A5 GW SO1	A5 GW SO2	A5 GW SO3	A6 GW SO1
			Sample Depth:	40.5'	30'	22'	42.7'	32.5'	23.0'	45.9'
			Date Sampled:	09/16/99	09/16/99	09/16/99	09/16/99	09/16/99	09/16/99	09/16/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**2**	**3**	**4**	**2**	**2**	**<2J**	**2**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	<2J	<2J	<2J	<2J	ND	ND	<2J
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**ND**	**19**	**25**	**12**	**37**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
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T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	A6 GW01	A6 GW SO2	A6 GW SO3	A7 GW SO1	A7 GW SO2	A7 GW SO3	A8 GW SO1
			Sample Depth:	45.9'	35.0'	25'	53.2'	39'	26'	50.6'
			Date Sampled:	09/16/99	09/16/99	09/16/99	09/16/99	09/16/99	09/16/99	09/17/99
			Sample Matrix:	WATER CONFIRMATION SAMPLE OF A6 GW SO1	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**NA**	**<2J**	**<2J**	**2**	**<2J**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	NA	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	NA	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**NA**	**16**	**5**	**28**	**21**	**13**	**22**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**0.4**	**5**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Trichloroethene	µg/L	0.6	5	0.8	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	ND	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**0.4**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	ND	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	ND	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	ND	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**6.6**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

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J - Estimated value below reporting limit
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For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	A8 GW SO2	A8 GW01	A8 GW11	A8 GW SO3	A9 GW SO1	A9 GW SO2	A9 GW SO3
			Sample Depth:	37'	37'	37'	24'	46.8'	34'	22.5'
			Date Sampled:	09/17/99	09/17/99	09/17/99	09/17/99	09/17/99	09/17/99	09/17/99
			Sample Matrix:	WATER	WATER CONFIRMATION SAMPLE OF A8 GW SO2	WATER DUPLICATE SAMPLE OF A8 GW SO2	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	NA	NA	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	NA	NA	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**10**	**NA**	**NA**	**8**	**17**	**9**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	NA	NA	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	ND	ND	NA	NA	NA	NA
Trichloroethene	µg/L	0 6	5	NA	ND	ND	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	ND	ND	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	ND	ND	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	ND	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	ND	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**2.4**	**2.3**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

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For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	A10 GW SO1	A10 GW SO2	A10 GW SO3	A11 GW SO1	A11 GW SO2	A11 GW01	A11 GW SO3
			Sample Depth:	52.6'	39	28'	44.4'	32'	32'	21'
			Date Sampled:	09/17/99	09/17/99	09/17/99	09/17/99	09/17/99	09/17/99	09/17/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF A11 GW SO2	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	NA	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	NA	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**11**	**5**	**ND**	**6**	**6**	**NA**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	ND	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	ND	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	ND	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	ND	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	ND	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	ND	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**1.4**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	A12 GW SO1	A12 GW SO2	A12 GW SO3	A13 GW SO1	A13 GW SO2	A13 GW SO3	B1 GW SO1
			Sample Depth:	41.2'	29'	18.0'	40.1'	27'	15'	21.7'
			Date Sampled:	09/17/99	09/17/99	09/17/99	09/21/99	09/21/99	09/21/99	09/21/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**µg/L**	**2 / 1**	**5**	ND	ND	ND	ND	ND	ND	ND
Toluene	**µg/L**	**5 / 1**	**1000**	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	**µg/L**	**1.1**	**5**	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B2 GW SO1	B2 GW SO2	B2 GW01	B2 GW11	B2 GW SO2	B3 GW SO1	B3 GW SO2
			Sample Depth:	32.1'	25.5	25.5	25.5	29.5'	38.2'	31'
			Date Sampled:	09/21/99	09/21/99	09/21/99	09/21/99	09/21/99	09/21/99	09/21/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF B2 GW SO2	WATER DUPLICATE SAMPLE OF B2 GW SO2	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	NA	NA	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	NA	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	NA	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	ND	ND	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	ND	ND	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	0.6	0.7	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	ND	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	ND	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	ND	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B3 GW SO3	B4 GW SO1	B4 GW SO2	B4 GW01	B4 GW SO3	B5 GW SO1	B5 GW SO2
			Sample Depth:	23.5'	44.8'	34.5'	34.5'	26'	39.2'	29'
			Date Sampled:	09/21/99	09/28/99	09/28/99	09/28/99	09/28/99	09/28/99	09/28/99
			Sample Matrix:	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B4 GW SO2	WATER	WATER	WATER
Field VOC Analyses	Units	Reporting Limit	MCL							
Benzene	µg/L	5 / 1	5	ND	ND	ND	NA	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	ND	NA	ND	ND	ND
Toluene	µg/L	5 / 1	1000	ND	ND	ND	NA	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	NA	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	NA	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	NA	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	NA	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	NA	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	NA	ND	ND	ND
Laboratory VOC Analyses	Units	Reporting Limit	MCL							
Benzene	µg/L	0 4	5	NA	NA	NA	ND	NA	NA	NA
Trichloroethene	µg/L	0 6	5	NA	NA	NA	ND	NA	NA	NA
Trichloromethane	µg/L	0 5	None	NA	NA	NA	0.9	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	ND	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	ND	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	1.0	NA	NA	NA
Ethlybenzene	µg/L	0 7	700	NA	NA	NA	ND	NA	NA	NA
m,p-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	NA	ND	NA	NA	NA
o-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	NA	ND	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	ND	NA	NA	NA

Notes

1 Total xylenes = 10000 µg/L

2. Detections over MCLs in bold

SDG - sample delivery group

QA - quality assurance sample

J - Estimated value below reporting limit

MCL - EPA Maximum Contaminant Level

For reporting limits on field screening:

IPS Reporting Limit / EPS Reporting Limit

ND - nondetect

NA - not applicable

D - duplicate

T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B5 GW SO3	B6 GW SO1	B6 GW SO2	B6 GW SO3	B6 GW01	B7 GW SO1	B7 GW SO2
			Sample Depth:	20'	21'	28'	38.5'	38.5'	21'	32'
			Date Sampled:	09/28/99	10/18/99	10/18/99	10/18/99	10/18/99	10/18/99	10/18/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B6 GW SO3	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	ND	ND	ND	ND	NA	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	NA	ND	ND
Toluene	µg/L	5 / 1	1000	ND	ND	ND	ND	NA	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	NA	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	NA	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	NA	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	NA	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	ND	NA	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	ND	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	ND	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	ND	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	NA	ND	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	NA	ND	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	NA	ND	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	ND	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	ND	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	ND	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	NA	ND	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group.
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B7 GW SO3	B8 GW SO1	B8 GW SO2	B8 GW SO3	B8 GW SO3 (D)	B9 GW SO1	B9 GW SO2
			Sample Depth:	42'	20.5'	31.5'	44'	44'	21'	32'
			Date Sampled:	10/18/99	10/18/99	10/18/99	10/18/99	10/18/99	10/20/99	10/20/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	2	2	2	ND	<2J
Toluene	µg/L	5 / 1	1000	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B9 GW SO3	B9 GW SO3 (D)	B10 GW SO1	B10 GW SO2	B10 GW SO3	B11 GW SO1	B11 GW SO2
			Sample Depth:	46'	46'	21'	32'	46'	18'	28'
			Date Sampled:	10/20/99	10/20/99	10/20/99	10/20/99	10/20/99	10/19/99	10/19/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**<2J**	**<2J**	**ND**	**<2J**	**2**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**ND**	**13**	**13**	**ND**	**17**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0 4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0 6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0 5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0 7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening.
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B11 GW SO3	B11 GW SO3 (D)	B12 GW SO1	B12 GW SO2	B12 GW SO3	B12 GW01	B13 GW SO1
			Sample Depth:	42'	42'	21'	29'	43'	41' to 43'	18'
			Date Sampled:	10/19/99	10/19/99	10/19/99	10/19/99	10/19/99	10/19/99	10/19/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF B12 GW SO3	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	NA	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	NA	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**17**	**19**	**ND**	**14**	**18**	**NA**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	ND	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	ND	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	ND	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	ND	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	ND	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	ND	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**6.6**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	B13 GW SO2	B13 GW SO3	C1 GW SO1	C2 GW SO1	C2 GW SO2	C3 GW SO1	C3 GW01
			Sample Depth:	27'	40'	18.4'	24.9'	18.5'	33.2'	33.2'
			Date Sampled:	10/19/99	10/19/99	09/30/99	09/30/99	09/30/99	09/30/99	09/30/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF C3 GW SO1
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	NA
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**7**	**11**	**ND**	**ND**	**ND**	**ND**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	ND
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	0.6
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	C3 GW SO2	C4 GW SO1	C4 GW SO2	C4 GW SO3	C5 GWS01	C5 GWS02	C5 GWS03
			Sample Depth:	20.1'	38.9'	30.0'	22.5'	22'	32'	44'
			Date Sampled:	09/30/99	09/30/99	09/30/99	09/30/99	10/27/99	10/27/99	10/27/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/L	5 / 1	1000	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	C5 GW01	C5 GW11	C6 GWS01	C6 GWS02	C6 GWS03	C7 GWS01	C7 GWS02
				Sample Depth:	42' to 44'	42' to 44'	27'	37'	46'	20'	29'
				Date Sampled:	10/27/99	10/27/99	10/27/99	10/27/99	10/27/99	11/02/99	11/02/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF C5 GWS03	WATER DUPLICATE SAMPLE OF C5 GWS03	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5		NA	NA	ND	ND	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5		NA	NA	ND	ND	ND	ND	ND
Toluene	µg/L	5 / 1	1000		NA	NA	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		NA	NA	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	NA	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	NA	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)		NA	NA	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70		NA	NA	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5		ND	ND	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5		ND	ND	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0 5	None		0 6	0.6	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100		ND	ND	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5		ND	ND	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5		ND	ND	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700		ND	ND	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70		ND	ND	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
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ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	C7 GWS03	C7 GWS03 (D)	C7 GW01	C8 GWS01	C8 GWS02	C8 GWS03	C8 GW01
			Sample Depth:	38'	38'	36' to 38'	15'	24'	34'	33' to 35'
			Date Sampled:	11/02/99	11/02/99	11/02/99	11/02/99	11/02/99	11/02/99	11/04/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF C7 GWS03	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF C8 GWS03
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	ND	ND	NA	ND	ND	ND	NA
Trichloroethene	µg/L	2 / 1	5	ND	ND	NA	ND	ND	ND	NA
Toluene	µg/L	5 / 1	1000	ND	ND	NA	7	<5J	5	NA
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	NA	3	4	**6**	NA
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	ND	ND	ND	NA
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	ND	ND	ND	NA
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	NA	<5J	<5J	<5J	NA
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	NA	ND	ND	ND	NA
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	ND	ND	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	ND	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5	NA	NA	ND	NA	NA	NA	ND
Trichloromethane	µg/L	0.5	None	NA	NA	ND	NA	NA	NA	ND
Toluene	µg/L	0.4	100	NA	NA	0.4	NA	NA	NA	ND
Tetrachloroethene	µg/L	1.1	5	NA	NA	ND	NA	NA	NA	ND
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	ND	NA	NA	NA	ND
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	ND
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	ND	NA	NA	NA	ND

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	C8A GWS01	C8A GWS01(D)	D1 GW SO1	D2 GW SO1	D2 GW SO2	D3 GW SO1	D3 GW SO2
			Sample Depth:	35.2'	35.2'	21.9'	35.2'	25'	43.9'	34'
			Date Sampled:	11/04/99	11/04/99	09/28/99	09/28/99	09/28/99	09/29/99	09/29/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	D3 GW SO3	D4 GW SO1	D4 GW01	D4 GW11	D4 GW SO2	D4 GW SO3	D5 GW SO1
			Sample Depth:	26'	40.4'	40.4'	40.4'	29.5'	19'	39.7'
			Date Sampled:	09/29/99	09/29/99	09/29/99	09/29/99	09/29/99	09/29/99	09/29/99
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF D4 GW SO1	WATER DUPLICATE SAMPLE OF D4 GW SO1	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**2**	**NA**	**NA**	**<2J**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**<5J**
Tetrachloroethene	µg/L	2 / 1	5	ND	2	NA	NA	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	NA	ND	ND	<5J
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**NA**	**NA**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	NA	NA	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	ND	ND	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	0.9	0.8	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	ND	ND	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	ND	ND	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	ND	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	ND	ND	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**ND**	**ND**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

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D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	D5 GW SO2	D5 GW SO3	D6 GWS01	D6 GWS02	D6 GWS03	D6 GW01	D6 GW11
				Sample Depth:	29'	19.5'	21'	30.5'	41'	39' to 41'	39' to 41'
				Date Sampled:	09/29/99	09/29/99	10/22/99	10/22/99	10/22/99	10/22/99	10/22/99
				Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF D6 GWS03	WATER DUPLICATE SAMPLE OF D6 GWS03
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**		**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**		**ND**	**ND**	**ND**	**<2J**	**<2J**	**NA**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**		**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
Tetrachloroethene	µg/L	2 / 1	5		ND	ND	ND	<2J	2	NA	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		<5J	ND	ND	ND	ND	NA	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100		ND	ND	ND	ND	ND	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5		NA	NA	NA	NA	NA	ND	ND
Trichloroethene	µg/L	0.6	5		NA	NA	NA	NA	NA	1.2	1.1
Trichloromethane	µg/L	0.5	None		NA	NA	NA	NA	NA	ND	ND
Toluene	**µg/L**	**0.4**	**100**		**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**NA**	**NA**	**NA**	**NA**	**NA**	**1.4**	**1.4**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**ND**
Ethlybenzene	µg/L	0.7	700		NA	NA	NA	NA	NA	ND	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	ND	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**ND**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	D7 GW S01	D7 GW S02	D7 GW S03	D8 GW S01	D8 GW S02	D8 GW S03	D8 GW S03 (D)
			Sample Depth:	21'	31'	45'	20'	31'	43'	43'
			Date Sampled:	10/21/99	10/21/99	10/21/99	10/21/99	10/21/99	10/21/99	10/21/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	**ND**	**ND**	**ND**	**ND**	**ND**	**<5J**	**<5J**
Trichloroethene	µg/L	2 / 1	5	**ND**	**ND**	**2**	**ND**	**<2J**	**<2J**	**<2J**
Toluene	µg/L	5 / 1	1000	**ND**	**ND**	**ND**	**ND**	**ND**	**<5J**	**<5J**
Tetrachloroethene	µg/L	2 / 1	5	ND	<2J	<2J	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	µg/L	5 / 5	70	**ND**	**6**	**5**	**ND**	**9**	**22**	**24**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	NA	NA	NA	NA

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening.
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	D9 GW S01	D9 GW S02	D9 GW S03	D10 GW S01	D10 GW S02	D10 GW S03	D10 GW01
			Sample Depth:	30'	40'	54'	29'	39'	52'	50' to 52'
			Date Sampled:	10/21/99	10/21/99	10/21/99	10/20/99	10/20/99	10/20/99	10/20/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF D10 GW SO3
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**<2J**	**NA**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	NA
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	NA
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**22**	**21**	**ND**	**9**	**25**	**NA**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	ND
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	ND
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	ND
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**6.9**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
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T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	D10 GW11	D11 GW S01	D11 GW S02	D11 GW S03	D11 GW01	D12 GWS01	D12 GWS02
				Sample Depth:	50' to 52'	24'	35'	50'	48' to 50'	15'	24'
				Date Sampled:	10/20/99	10/21/99	10/21/99	10/21/99	10/21/99	10/22/99	10/22/99
				Sample Matrix:	WATER DUPLICATE SAMPLE OF D10 GW SO3	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF D11 GW S03	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	5		NA	ND	ND	ND	NA	ND	ND
Trichloroethene	**µg/L**	**2 / 1**	5		NA	ND	ND	ND	NA	ND	ND
Toluene	**µg/L**	**5 / 1**	1000		NA	ND	ND	ND	NA	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		NA	ND	ND	ND	NA	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	ND	ND	ND	NA	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	10000 (Note 1)		NA	ND	ND	ND	NA	ND	ND
o-Xylenes	**µg/L**	**5 / 1**	10000 (Note 1)		NA	ND	ND	ND	NA	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	70		NA	ND	9	18	NA	ND	5
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	ND	ND	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5		ND	NA	NA	NA	ND	NA	NA
Trichloroethene	µg/L	0.6	5		ND	NA	NA	NA	ND	NA	NA
Trichloromethane	µg/L	0.5	None		ND	NA	NA	NA	ND	NA	NA
Toluene	**µg/L**	0.4	100		ND	NA	NA	NA	ND	NA	NA
Tetrachloroethene	**µg/L**	1.1	5		ND	NA	NA	NA	ND	NA	NA
Carbon Tetrachloride	**µg/L**	0.7	5		ND	NA	NA	NA	ND	NA	NA
Ethlybenzene	µg/L	0.7	700		ND	NA	NA	NA	ND	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	NA	NA	ND	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	NA	NA	ND	NA	NA
cis-1,2-Dichloroethene	**µg/L**	0.5	70		7.8	NA	NA	NA	5	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	D12 GWS03	D13 GWS01	D13 GWS02	D13 GWS03	D13 GW01	E1 GWS01	E2 GWS01
			Sample Depth:	39'	18'	32'	42'	40' to 42'	24'	35'
			Date Sampled:	10/22/99	10/25/99	10/25/99	10/25/99	10/25/99	11/02/00	11/01/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF D13 GWS03	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	5	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	5	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	1000	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	NA	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	NA	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	10000 (Note 1)	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	10000 (Note 1)	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	70	**3**	**ND**	**ND**	**7**	**NA**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	NA	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	ND	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	ND	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	ND	NA	NA
Toluene	**µg/L**	**0.4**	100	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	5	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	5	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	ND	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	ND	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	ND	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	70	**NA**	**NA**	**NA**	**NA**	**2.4**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

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IPS Reporting Limit / EPS Reporting Limit

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Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	E3 GWS01	E3 GWS02	E3 GWS03	E4 GWS01	E4 GWS02	E4 GWS03	E4 GWS03 (D)
			Sample Depth:	26'	34'	42'	25.5	32	43.5	43.5
			Date Sampled:	11/01/99	11/01/99	11/01/99	11/01/99	11/01/99	11/01/99	11/01/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	E4 GW01	E5 GWS01	E5 GWS02	E5 GWS03	E6 GWS01	E6 GWS02	E6 GWS03
				Sample Depth:	41.5' to 43.5	24'	31'	40'	26'	35'	44'
				Date Sampled:	11/01/99	10/29/99	10/29/99	10/29/99	10/28/99	10/28/99	10/28/99
				Sample Matrix:	WATER CONFIRMATION SAMPLE OF E4 GWS03	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	**5**		**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**		**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**		**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5		NA	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5		ND	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0 6	5		ND	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0 5	None		ND	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**		**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700		ND	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	E6 GWS03 (D)	E7 GWS01	E7 GWS02	E7 GWS03	E7 GW01	E7 GW11	E8 GWS01
			Sample Depth:	44'	22'	31'	40.5'	38' to 40'	38' to 40'	20'
			Date Sampled:	10/28/99	10/29/99	10/29/99	10/29/99	10/29/99	10/29/99	10/26/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF E7 GWS03	WATER DUPLICATE SAMPLE OF E7 GWS03	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**<2J**	**ND**	**ND**	**ND**	**NA**	**NA**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	<2J	ND	ND	ND	NA	NA	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	NA	NA	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	NA	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0 4	5	NA	NA	NA	NA	ND	ND	NA
Trichloroethene	µg/L	0 6	5	NA	NA	NA	NA	ND	ND	NA
Trichloromethane	µg/L	0 5	None	NA	NA	NA	NA	ND	ND	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**ND**	**ND**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**ND**	**ND**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**ND**	**ND**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	ND	ND	NA
m,p-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	NA	NA	ND	ND	NA
o-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	NA	NA	ND	ND	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**ND**	**ND**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	E8 GWS01 (D)	E8 GWS02	E8 GWS03	E8 GW01	E9 GWS01	E9 GWS02	E9 GWS03
			Sample Depth:	20'	32'	45'	43' to 45'	18'	31'	42'
			Date Sampled:	10/26/99	10/26/99	10/26/99	10/26/99	10/26/99	10/26/99	10/26/99
			Sample Matrix:	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF E8 GWS03	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	ND	ND	ND	NA	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	ND	NA	ND	ND	ND
Toluene	µg/L	5 / 1	1000	ND	ND	ND	NA	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	NA	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	NA	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	NA	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	NA	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	NA	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	NA	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	ND	NA	NA	NA
Trichloroethene	µg/L	0 6	5	NA	NA	NA	ND	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	ND	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	ND	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	ND	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	ND	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	ND	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	ND	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	ND	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	ND	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	E9 GWS03 (D)	E10 GWS01	E10 GWS02	E10 GWS03	F1 GWS01	F1 GWS02	F1 GWS02 (D)
			Sample Depth:	42'	21'	32'	44'	26'	40.5'	40.5'
			Date Sampled:	10/26/99	10/26/99	10/26/99	10/26/99	10/28/99	10/28/99	10/28/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	<2J	<2J
Toluene	µg/L	5 / 1	1000	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	3	3
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	ND	<5J	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
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T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	F2 GWS01	F2 GWS02	F3 GWS01	F3 GWS02	F4 GWS01	F4 GWS02	F5 GWS01
			Sample Depth:	26'	43.5'	27'	44.5'	24'	39'	24'
			Date Sampled:	10/28/99	10/28/99	10/28/99	10/28/99	10/27/99	10/27/99	10/27/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**µg/L**	**2 / 1**	**5**	ND	**2**	ND	**<2J**	ND	**<2J**	ND
Toluene	**µg/L**	**5 / 1**	**1000**	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	2	ND	<2J	ND	3	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	**µg/L**	**1.1**	**5**	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	F5 GWS02	F5 GWS02 (D)	F6 GWS01	F6 GWS02	F7 GWS01	F7 GWS02	F7 GW01
				Sample Depth:	40'	40'	25'	42'	28'	50'	40' to 44'
				Date Sampled:	10/27/99	10/27/99	10/28/99	10/28/99	10/28/99	10/28/99	10/28/99
				Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF F7 GWS02
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	5 / 1	5		ND	ND	ND	ND	ND	ND	NA
Trichloroethene	µg/L	2 / 1	5		2	2	ND	12	ND	<2J	NA
Toluene	µg/L	5 / 1	1000		ND	ND	ND	ND	ND	ND	NA
Tetrachloroethene	µg/L	2 / 1	5		3	4	ND	ND	ND	8	NA
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		ND	ND	ND	ND	ND	ND	NA
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)		ND	ND	ND	ND	ND	ND	NA
o-Xylenes	µg/L	5 / 1	10000 (Note 1)		ND	ND	ND	ND	ND	ND	NA
cis-1,2-Dichloroethene	µg/L	5 / 5	70		18	40	ND	25	ND	ND	NA
trans-1,2-Dichlororethene	µg/L	5 / NA	100		ND	ND	ND	<5J	ND	ND	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5		NA	NA	NA	NA	NA	NA	ND
Trichloroethene	µg/L	0.6	5		NA	NA	NA	NA	NA	NA	ND
Trichloromethane	µg/L	0.5	None		NA	NA	NA	NA	NA	NA	ND
Toluene	µg/L	0.4	100		NA	NA	NA	NA	NA	NA	0.6
Tetrachloroethene	µg/L	1.1	5		NA	NA	NA	NA	NA	NA	8.4
Carbon Tetrachloride	µg/L	0.7	5		NA	NA	NA	NA	NA	NA	ND
Ethlybenzene	µg/L	0.7	700		NA	NA	NA	NA	NA	NA	ND
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	NA	ND
o-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	NA	ND
cis-1,2-Dichloroethene	µg/L	0.5	70		NA	NA	NA	NA	NA	NA	ND

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

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MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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NA - not applicable
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T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	G1 (Shallow)	G1 (Interm)	G1 (Deep)	G2 (Shallow)	G2 (Interm)	G2 (Deep)	G3 (Shallow)
				Sample Depth:	19-21'	28-30'	40-42'	22-24'	31-33'	41-43'	22-24'
				Date Sampled:	04/18/00	04/18/00	04/18/00	04/18/00	04/18/00	04/18/00	04/18/00
				Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	**µg/L**	**5 / 1**	5		ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**µg/L**	**2 / 1**	5		ND	1	2.5	ND	0.8J	0.5J	ND
Toluene	**µg/L**	**5 / 1**	1000		ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5		0.2J	3	0.2J	ND	1.5	0.3J	ND
Carbon Tetrachloride	µg/L	NA / 1	5		ND	ND	ND	ND	ND	ND	ND
Ethlybenzene	µg/L	5 / 1	700		ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	10000 (Note 1)		ND	ND	ND	ND	ND	ND	ND
o-Xylenes	**µg/L**	**5 / 1**	10000 (Note 1)		ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	70		ND	ND	3J	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	NA	NA	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**								
Benzene	µg/L	0.4	5		NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5		NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None		NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	100		NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	**µg/L**	**1.1**	5		NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	**µg/L**	**0.7**	5		NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700		NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	70		NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

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For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

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NA - not applicable
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T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	G3 (Interm)	G3 (Deep)	G3 GW01	G4 (Shallow)	G4 (Shallow)-DUP	G4 (Interm)	G4 (Deep)
			Sample Depth:	30-32'	40-42'		23-25'	23-25'	31-33'	41.4-43 4'
			Date Sampled:	04/18/00	04/18/00	04/18/00	04/18/00	04/18/00	04/18/00	04/18/00
			Sample Matrix:	WATER	WATER	WATER CONFIRMATION SAMPLE OF G3 (Deep)	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	NA	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	ND	ND	NA	ND	ND	ND	ND
Ethlybenzene	µg/L	5 / 1	700	ND	ND	NA	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**1J**	**NA**	**ND**	**ND**	**2J**	**1J**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	NA	NA	NA	NA	NA	NA
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0 4	5	NA	NA	ND	NA	NA	NA	NA
Trichloroethene	µg/L	0 6	5	NA	NA	ND	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	ND	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0 7	700	NA	NA	ND	NA	NA	NA	NA
m,p-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	NA
o-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	ND	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**2.1**	**NA**	**NA**	**NA**	**NA**

Notes

1 Total xylenes = 10000 µg/L

2. Detections over MCLs in bold

SDG - sample delivery group

QA - quality assurance sample

J - Estimated value below reporting limit

MCL - EPA Maximum Contaminant Level

For reporting limits on field screening
IPS Reporting Limit / EPS Reporting Limit

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NA - not applicable

D - duplicate

T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	G5 (Shallow)	G5 (Interm)	G5 (Deep)	HC1 GW SO1	HC1 GW SO2	HC1 GW SO3	HC2 GW SO1
			Sample Depth:	23-25'	37-39'	52-54'	40.9'	29'	18.5'	41.1'
			Date Sampled:	04/18/00	04/18/00	04/18/00	09/22/99	09/22/99	09/22/99	09/22/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	**µg/L**	**2 / 1**	**5**	ND	ND	ND	<2J	ND	ND	2
Toluene	**µg/L**	**5 / 1**	**1000**	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	7	5	4	5
Carbon Tetrachloride	µg/L	NA / 1	5	ND	ND	ND	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	NA	NA	NA	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	**µg/L**	**1.1**	**5**	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

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Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	HC2 GW SO2	HC2 GW01	HC2 GW SO3	HC3 GW SO1	HC3 GW SO2	HC3 GW SO3	HC4 GW SO1
			Sample Depth:	30'	30'	20'	42.7'	32'	22.5'	44.9'
			Date Sampled:	09/22/99	09/22/99	09/22/99	09/22/99	09/22/99	09/22/99	09/23/99
			Sample Matrix:	WATER	WATER CONFIRMATION SAMPLE OF HC2 GW SO2	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**2**	**NA**	**<2J**	**<2J**	**<2J**	**ND**	**<2J**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	13	NA	5	<2J	<2J	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	NA	ND	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**ND**	**NA**	**ND**	**40**	**4**	**4**	**18**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	NA	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	ND	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	1.1	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	ND	NA	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**7.3**	**NA**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	ND	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	ND	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	HC4 GW SO2	HC4 GW SO3	HC5 GW SO1	HC5 GW SO2	HC5 GW SO3	HC5 GW01	HC6 GW SO1
			Sample Depth:	35'	26'	51.3'	38.5'	27.5'	27.5'	55.7'
			Date Sampled:	09/23/99	09/23/99	09/23/99	09/23/99	09/23/99	09/23/99	09/23/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER CONFIRMATION SAMPLE OF HC5 GW SO3	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**	**<2J**	**ND**	**<2J**	**2**	**ND**	**NA**	**<2J**
Toluene	**µg/L**	**5 / 1**	**1000**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	NA	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	NA	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**	**11**	**<5J**	**17**	**11**	**ND**	**NA**	**15**
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	NA	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0 4	5	NA	NA	NA	NA	NA	ND	NA
Trichloroethene	µg/L	0 6	5	NA	NA	NA	NA	NA	ND	NA
Trichloromethane	µg/L	0 5	None	NA	NA	NA	NA	NA	ND	NA
Toluene	**µg/L**	**0.4**	**100**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**	**NA**	**NA**	**NA**	**NA**	**NA**	**ND**	**NA**
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	ND	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	ND	NA
o-Xylenes	µg/L	0 6	10000 (Note 1)	NA	NA	NA	NA	NA	ND	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**	**NA**	**NA**	**NA**	**NA**	**NA**	**1.2**	**NA**

Notes
1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold
SDG - sample delivery group
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For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

			Sample Point:	HC6 GW SO2	HC6 GW SO3	HC7 GW SO1	HC7 GW SO2	HC7 GW SO3	HC8 GW SO1	HC8 GW SO2
			Sample Depth:	41.5'	28'	50.7'	38'	26'	53.2'	37'
			Date Sampled:	09/23/99	09/23/99	09/23/99	09/23/99	09/23/99	09/24/99	09/24/99
			Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	5 / 1	5	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Toluene	µg/L	5 / 1	1000	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	µg/L	2 / 1	5	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
o-Xylenes	µg/L	5 / 1	10000 (Note 1)	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	µg/L	5 / 5	70	7	<5J	8	6	ND	ND	ND
trans-1,2-Dichlororethene	µg/L	5 / NA	100	ND	ND	ND	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5	NA	NA	NA	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None	NA	NA	NA	NA	NA	NA	NA
Toluene	µg/L	0.4	100	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	1.1	5	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	µg/L	0.7	5	NA	NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	0.7	700	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	0.5	70	NA	NA	NA	NA	NA	NA	NA

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
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J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-4 (continued)
Groundwater Screening and Off-Site Lab Results
354 Area Solvent Detections RI/FS

				Sample Point:	HC8 GW01	HC8 GW11	HC8 GW SO3	HC9 GW SO1	HC9 GW SO2	HC9 GW SO3
				Sample Depth:	37'	37'	21'	50.6'	36'	22'
				Date Sampled:	09/24/99	09/24/99	09/24/99	09/24/99	09/24/99	09/24/99
				Sample Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
					CONFIRMATION SAMPLE OF HC8 GW SO2	DUPLICATE SAMPLE OF HC8 GW SO2				
Field VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	**µg/L**	**5 / 1**	**5**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
Trichloroethene	**µg/L**	**2 / 1**	**5**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
Toluene	**µg/L**	**5 / 1**	**1000**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
Tetrachloroethene	µg/L	2 / 1	5		NA	NA	ND	ND	ND	ND
Carbon Tetrachloride	µg/L	NA / 1	5		NA	NA	NA	NA	NA	NA
Ethlybenzene	µg/L	5 / 1	700		NA	NA	ND	ND	ND	ND
m,p-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
o-Xylenes	**µg/L**	**5 / 1**	**10000 (Note 1)**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
cis-1,2-Dichloroethene	**µg/L**	**5 / 5**	**70**		**NA**	**NA**	**ND**	**ND**	**ND**	**ND**
trans-1,2-Dichlororethene	µg/L	5 / NA	100		NA	NA	ND	ND	ND	ND
Laboratory VOC Analyses	**Units**	**Reporting Limit**	**MCL**							
Benzene	µg/L	0.4	5		ND	ND	NA	NA	NA	NA
Trichloroethene	µg/L	0.6	5		ND	ND	NA	NA	NA	NA
Trichloromethane	µg/L	0.5	None		ND	ND	NA	NA	NA	NA
Toluene	**µg/L**	**0.4**	**100**		**ND**	**ND**	**NA**	**NA**	**NA**	**NA**
Tetrachloroethene	**µg/L**	**1.1**	**5**		**ND**	**ND**	**NA**	**NA**	**NA**	**NA**
Carbon Tetrachloride	**µg/L**	**0.7**	**5**		**ND**	**ND**	**NA**	**NA**	**NA**	**NA**
Ethlybenzene	µg/L	0.7	700		ND	ND	NA	NA	NA	NA
m,p-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	NA	NA	NA
o-Xylenes	µg/L	0.6	10000 (Note 1)		ND	ND	NA	NA	NA	NA
cis-1,2-Dichloroethene	**µg/L**	**0.5**	**70**		**ND**	**ND**	**NA**	**NA**	**NA**	**NA**

Notes

1. Total xylenes = 10000 µg/L
2. Detections over MCLs in bold

SDG - sample delivery group
QA - quality assurance sample
J - Estimated value below reporting limit
MCL - EPA Maximum Contaminant Level
For reporting limits on field screening:
IPS Reporting Limit / EPS Reporting Limit

ND - nondetect
NA - not applicable
D - duplicate
T - triplicate

Table 4-5
February and July 2000 Groundwater Sampling
Positive Detections Only
354 Area Solvent Detections RI/FS

			Sample Point:	TS0292-01		TS0292-02		MW95-03		MW95-04		MW95-06	
			Sample Designator:	GW-01	GW-02	GW-01	GW-02	GW-01	GW-02	GW-01	GW-02	GW-01	GW-02
			Date Sampled:	02/24/00	07/19/00	02/23/00	07/20/00	02/23/00	07/20/00	02/23/00	07/20/00	02/24/00	07/20/00
Volatiles	**Units**	**MCL**											
Benzene	**µg/L**	5		**3.5**	**3.2**	**14.6**	**17.5**	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Carbon Disulfide	**µg/L**	NA		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	**µg/L**	5		**2**	**1.2**	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.5 U	**2.1**	**3**
cis-1,2-Dichloroethen	µg/L	70		**0.5**	**0.6**	**10**	**10.8**	0.5 U	0.5 U	0.5 U	0.5 U	**0.7**	**1**
Ethylbenzene	µg/L	700		**5.1**	**2.4**	0.7 U	**1.4**	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
m,p-Xylene	µg/L	10,000		**12.3**	**8**	**1.5**	**2.2**	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
o-Xylene	**µg/L**	10,000		**1.3**	**1.2**	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Tetrachloroethene	**µg/L**	5		**69.3**	**75.9**	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	**3.9**	**76.3**	**97.8**
Toluene	**µg/L**	1,000		**2.4**	**1**	**1**	**0.9**	0.4 U	0.4 U	0.4 U	0.7 U	0.4 U	0.4 U
trans-1,2-Dichloroethe	µg/L	100		0.5 U	0.5 U	**0.6**	**0.7**	0.5 U	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U
Trichloroethene	µg/L	5		**3.2**	**3.3**	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.5 U	**2.2**	**2.3**
Trichloromethane	µg/L	100		**1.4**	**1.1**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6 U	**1.1**	**1.6**
Vinyl Chloride	**µg/L**	2		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Semivolatiles	**Units**	**MCL**											
		NA		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes
1. Detections in bold
2. Total xylenes = 10,000 ug/L

U - Qualified as undetected by the laboratory
MCL - EPA Maximum Contaminant Level

Table 4-5 (continued)
February and July 2000 Groundwater Sampling
Positive Detections Only
354 Area Solvent Detections RI/FS

Sample Point:			MW95-06		354-99-07		354-99-07	354-99-08		354-99-08	354-99-09	
Sample Designator:			GW-11	GW-22	GW-01	GW-02	GW-11	GW-01	GW-02	GW-22	GW-01	GW-02
Date Sampled:			02/24/00 Duplicate	07/20/00 Duplicate	02/24/00	07/19/00	02/24/00 Duplicate	02/24/00	07/19/00	07/19/00 Duplicate	02/24/00	07/20/00
Volatiles	**Units**	**MCL**										
Benzene	µg/L	5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	8 U	8 U	0.4 U	0.4 U
Carbon Disulfide	µg/L	NA	5 U	5 U	5 U	5 U	5 U	500 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	µg/L	5	**2.3**	**2.8**	0.7 U	**2**	0.7 U	70 U	10 U	10 U	0.7 U	**1.1**
cis-1,2-Dichloroethen	µg/L	70	**0.7**	**1**	0.5 U	0.5 U	0.5 U	**260**	**94**	**86**	0.5 U	0.5 U
Ethylbenzene	µg/L	700	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	70 U	10 U	10 U	0.7 U	0.7 U
m,p-Xylene	µg/L	10,000	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	60 U	10 U	10 U	0.6 U	0.6 U
o-Xylene	µg/L	10,000	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	60 U	10 U	10 U	0.6 U	0.6 U
Tetrachloroethene	µg/L	5	**82**	**99.6**	**44.4**	**58.1**	**43.3**	**4630**	**1480**	**1390**	**25.1**	**96.8**
Toluene	µg/L	1,000	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	8 U	8 U	0.4 U	0.4 U
trans-1,2-Dichloroethe	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	10 U	10 U	0.5 U	0.5 U
Trichloroethene	µg/L	5	**2.1**	**2.4**	0.6 U	**0.8**	0.6 U	**160**	**46**	**46**	0.6 U	**1.4**
Trichloromethane	µg/L	100	**1.1**	**1.5**	0.5 U	**0.9**	0.5 U	50 U	10 U	10 U	0.5 U	**0.7**
Vinyl Chloride	µg/L	2	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	80 U	20 U	20 U	0.8 U	0.8 U
Semivolatiles	**Units**	**MCL**										
		NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes
1. Detections in bold
2. Total xylenes = 10,000 ug/L
U - Qualified as undetected by the laborat
MCL - EPA Maximum Contaminant Level

Table 4-5 (continued)
February and July 2000 Groundwater Sampling
Positive Detections Only
354 Area Solvent Detections RI/FS

	Sample Point:		354-00-10		354-99-11c		354-99-11		354-99-12		354-99-12b	
	Sample Designator:		GW-01	GW-02	GW-01	GW-02	GW-01	GW-02	GW-01	GW-02	GW-01	GW-02
	Date Sampled:		02/24/00	07/19/00	02/22/00	07/20/00	02/22/00	07/20/00	02/23/00	07/21/00	02/23/00	07/21/00
Volatiles	**Units**	**MCL**										
Benzene	**µg/L**	**5**	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Carbon Disulfide	**µg/L**	**NA**	**7.2**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	**µg/L**	**5**	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
cis-1,2-Dichloroethen	µg/L	70	0.5 U	0.5 U	0.5 U	0.5 U	**0.5**	0.5 U	**2.2**	**2**	**7.6**	**8.4**
Ethylbenzene	µg/L	700	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
m,p-Xylene	µg/L	10,000	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
o-Xylene	**µg/L**	**10,000**	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Tetrachloroethene	**µg/L**	**5**	**1.1** U	**1.1** U	**9.8**	**11**	**6.9**	**6**	**1.1** U	**1.1** U	**1.1** U	**1.1** U
Toluene	**µg/L**	**1,000**	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U
trans-1,2-Dichloroethe	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U	0.5 U	**0.5**
Trichloroethene	µg/L	5	0.6 U	0.6 U	**0.9**	**1.1**	**0.8**	0.6 U	**1.3**	0.5 U	**0.8**	**0.8**
Trichloromethane	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.4**	0.5 U	0.5 U
Vinyl Chloride	**µg/L**	**2**	**0.8**	**2.5**	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Semivolatiles	**Units**	**MCL**										
		NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes
1. Detections in bold
2. Total xylenes = 10,000 ug/L

U - Qualified as undetected by the laborat
MCL - EPA Maximum Contaminant Level

Table 4-5 (continued)
February and July 2000 Groundwater Sampling
Positive Detections Only
354 Area Solvent Detections RI/FS

	Sample Point:		354-99-12b	354-99-12c		354-99-13b		354-99-13c		MPL94-01	
	Sample Designator:		GW-11	GW-01	GW-02	GW-01	GW-02	GW-01	GW-02	GW-01	GW-02
	Date Sampled:		02/23/00 Duplicate	02/23/00	07/21/00	02/22/00	07/21/00	02/22/00	07/21/00	02/24/00	07/18/00
Volatiles	**Units**	**MCL**									
Benzene	**µg/L**	**5**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**
Carbon Disulfide	**µg/L**	**NA**	**5 U**	**5 U**	**5 U**	**5 U**	**5 U**	**5 U**	**5 U**	**5 U**	**5 U**
Carbon Tetrachloride	**µg/L**	**5**	**0.7 U**	**0.7 U**	**0.7 U**	**0.7 U**	**0.7 U**	**0.7 U**	**0.7 U**	**0.7 U**	**0.7 U**
cis-1,2-Dichloroethen	µg/L	70	**7.7**	**7**	**7.7**	0.5 U	**0.9**	**4.3**	**4.8**	**1.5**	**1.9**
Ethylbenzene	µg/L	700	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
m,p-Xylene	µg/L	10,000	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
o-Xylene	**µg/L**	**10,000**	**0.6 U**	**0.6 U**	**0.6 U**	**0.6 U**	**0.6 U**	**0.6 U**	**0.6 U**	**0.6 U**	**0.6 U**
Tetrachloroethene	**µg/L**	**5**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**
Toluene	**µg/L**	**1,000**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**
trans-1,2-Dichloroethe	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	µg/L	5	**0.8**	**0.8**	**0.8**	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Trichloromethane	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	**µg/L**	**2**	**0.8 U**	**0.8 U**	**0.8 U**	**0.8 U**	**0.8 U**	**0.8 U**	**0.8 U**	**0.8 U**	**0.8 U**
Semivolatiles	**Units**	**MCL**									
		NA	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes
1. Detections in bold
2. Total xylenes = 10,000 ug/L
U - Qualified as undetected by the laborat
MCL - EPA Maximum Contaminant Level

Table 4-5 (continued)
February and July 2000 Groundwater Sampling
Positive Detections Only
354 Area Solvent Detections RI/FS

Sample Point:			MPL94-02		MPL94-03		PZ-A	PZ-C		PZ-D		PZ-D
Sample Designator:			GW-01	GW-02	GW-01	GW-02	GW-02	GW-01	GW-02	GW-01	GW-02	GW-22
Date Sampled:			02/23/00	07/18/00	02/22/00	07/18/00	07/21/00	02/22/00	07/19/00	02/22/00	07/19/00	07/19/00 Duplicate
Volatiles	**Units**	**MCL**										
Benzene	µg/L	5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Carbon Disulfide	µg/L	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	µg/L	5	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	**0.9**	**1.3**	**1.3**
cis-1,2-Dichloroethen	µg/L	70	**1.7**	**2**	0.5 U	0.5 U	**1.8**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	µg/L	700	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
m,p-Xylene	µg/L	10,000	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
o-Xylene	µg/L	10,000	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Tetrachloroethene	µg/L	5	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**	**4.9**	**5.4**	**2.7**	**7.1**	**8.6**
Toluene	µg/L	1,000	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
trans-1,2-Dichloroethe	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U	**1.9**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	µg/L	5	0.6 U	**0.7**	0.6 U	0.6 U	**1.6**	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Trichloromethane	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.7**	**1.1**	**1.2**
Vinyl Chloride	µg/L	2	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Semivolatiles	**Units**	**MCL**										
		NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes
1. Detections in bold
2. Total xylenes = 10,000 ug/L

U - Qualified as undetected by the laborat
MCL - EPA Maximum Contaminant Level

Table 4-5 (continued)
February and July 2000 Groundwater Sampling
Positive Detections Only
354 Area Solvent Detections RI/FS

Sample Point:			PSF92-01		PSF92-05	
Sample Designator:			GW-01	GW-02	GW-01	GW-02
Date Sampled:			02/24/00	07/18/00	02/24/00	07/18/00
Volatiles	**Units**	**MCL**				
Benzene	**µg/L**	**5**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**
Carbon Disulfide	**µg/L**	**NA**	**5 U**	**5 U**	**5 U**	**5 U**
Carbon Tetrachloride	**µg/L**	**5**	**0.7 U**	**0.7 U**	**0.7 U**	**0.7 U**
cis-1,2-Dichloroethen	µg/L	70	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	µg/L	700	0.7 U	0.7 U	0.7 U	0.7 U
m,p-Xylene	µg/L	10,000	0.6 U	0.6 U	0.6 U	0.6 U
o-Xylene	**µg/L**	**10,000**	**0.6 U**	**0.6 U**	**0.6 U**	**0.6 U**
Tetrachloroethene	**µg/L**	**5**	**1.1 U**	**1.1 U**	**1.1 U**	**1.1 U**
Toluene	**µg/L**	**1,000**	**0.4 U**	**0.4 U**	**0.4 U**	**0.4 U**
trans-1,2-Dichloroethe	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	µg/L	5	0.6 U	0.6 U	0.6 U	0.6 U
Trichloromethane	µg/L	100	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	**µg/L**	**2**	**0.8 U**	**0.8 U**	**0.8 U**	**0.8 U**
Semivolatiles	**Units**	**MCL**				
		NA	ND	ND	ND	ND

Notes
1. Detections in bold
2. Total xylenes = 10,000 ug/L
U - Qualified as undetected by the laborat
MCL - EPA Maximum Contaminant Level

Table 6-1
Chemical Properties for the
Preliminary Chemicals of Potential Concern
354 Area Solvent Detections RI/FS

Chemical	Molecular Weight	Water Solubility (mg/L)	Vapor Pressure (mm Hg)	Henry's Law Constant (atm-m^3/mol)	K_{ow}	K_{oc}	Diffusion Coefficient in Air (cm^2/s)	Aqueous Degradation Half-Lives Unacclimated (hours)			
								Aerobic		Anaerobic	
								High	Low	High	Low
PCE and Related Compounds											
PCE	1.66E+02	2.00E+02	1.86E+01	1.84E-02	2.51E+03	2.38E+02	7.62E-02	8640	4320	39672	2352
TCE	1.31E+02	1.10E+03	5.80E+01	1.03E-02	2.63E+02	1.04E+02	8.35E-02	8640	4320	39672	2352
cis-1,2-DCE	9.70E+01	8.00E+02	2.00E+02	3.37E-03	7.24E+01	3.55E+01	7.36E-02	4320	672	17280	2688
trans-1,2-DCE	9.70E+01	6.30E+03	2.65E+02	6.74E-03	1.23E+02	5.89E+01	7.07E-02	4320	672	17280	2688
1,1-DCE	9.70E+01	2.25E+03	6.00E+02	2.61E-02	1.35E+02	3.43E+02	9.00E-02	4320	672	4152	1944
Vinyl chloride	6.25E+01	8.80E+03	2.98E+03	2.70E-02	2.29E+01	1.35E+02	1.06E-01	4320	672	17280	2688
1,2-Dichloroethane											
1,2-DCA	9.90E+01	8.61E+03	7.89E+01	9.80E-04	3.02E+01	3.20E+01	1.04E-01	4320	2400	17280	9600
Carbon Tetrachloride and Related Compounds											
Carbon tetrachloride	1.54E+02	8.05E+02	1.15E+02	1.60E-02	6.76E+02	1.10E+02	7.80E-02	8640	4032	672	168
Trichloromethane	119.4	7950	197	3.67E-03	93.33	45	0.104	4320	672	672	168
Dichloromethane	84.94	13030	435	2.19E-03	17.78	28	0.101	672	168	2688	672
Chloromethane	50.49	5325	4300	8.82E-03	8.128	74	0.126	672	168	2688	672
BTEX											
Benzene	7.81E+01	1.79E+03	9.52E+01	5.50E-03	1.35E+02	3.10E+01	8.96E-02	384	120	17280	2688
Toluene	9.20E+01	5.26E+02	2.84E+01	6.64E-03	5.37E+02	9.50E+01	8.70E-02	528	96	5040	1344
Ethylbenzene	1.06E+02	2.06E+02	9.60E+00	7.75E-03	1.41E+03	2.50E+02	7.50E-02	240	72	5472	4224
Xylene (total)	1.06E+02	1.62E+02	8.84E+00	7.60E-03	1.41E+03	2.60E+02	ND	672	168	2688	672

Notes:

mg/L = milligrams per liter

mm Hg = millimeters mercury

atm-m^3/mol = atmospheres-cubic meters per mole

K_{ow} = Octanol-Water Partitioning Coefficient

K_{oc} = Organic Carbon-Water Partitioning Coefficient

cm^2/s = squared centimeters per second

ND = No Data

Sources:

Risk*Assistant Database (HRI, 1995); Soil Screening Guidance: Technical Background Document (USEPA, 1996)

Degradation rates from *Handbook of Environmental Degradation Rates* (Howard, 1991)

Degradation rates for cis- and trans-1,2-DCE represent values for total 1,2-DCE.

Table 7-1
Proposed Soil Sampling (Off-Site Analysis)
354 Area Solvent Detections RI/FS

			Parameters		QA/QC Requirements		
Sampling Point	Sampling Interval	Sample Designator	VOCs	PAHs	Field Duplicate (10%)	QA Sample (10%)	MS/MSD (5%)
354-00-B150	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B151	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B152	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B153	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B154	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B155	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B156	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B157	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B158	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B159	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B160	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0

Table 7-1 (continued)
Proposed Soil Sampling (Off-Site Analysis)
354 Area Solvent Detections RI/FS

			Parameters		QA/QC Requirements		
Sampling Point	Sampling Interval	Sample Designator	VOCs	PAHs	Field Duplicate (10%)	QA Sample (10%)	MS/MSD (5%)
354-00-B161	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B162	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B163	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B164	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B165	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B166	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B167	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B168	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B169	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B170	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B171	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0

Table 7-1 (continued)
Proposed Soil Sampling (Off-Site Analysis)
354 Area Solvent Detections RI/FS

			Parameters		QA/QC Requirements		
Sampling Point	Sampling Interval	Sample Designator	VOCs	PAHs	Field Duplicate (10%)	QA Sample (10%)	MS/MSD (5%)
354-00-B172	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B173	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B725	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B726	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B727	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B728	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B729	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B730	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B731	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B732	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B733	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0

Table 7-1 (continued)
Proposed Soil Sampling (Off-Site Analysis)
354 Area Solvent Detections RI/FS

			Parameters		QA/QC Requirements		
Sampling Point	Sampling Interval	Sample Designator	VOCs	PAHs	Field Duplicate (10%)	QA Sample (10%)	MS/MSD (5%)
354-00-B734	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B735	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B736	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B737	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B738	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B739	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B740	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B741	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B742	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B743	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B744	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0

Table 7-1 (continued)
Proposed Soil Sampling (Off-Site Analysis)
354 Area Solvent Detections RI/FS

			Parameters		QA/QC Requirements		
Sampling Point	Sampling Interval	Sample Designator	VOCs	PAHs	Field Duplicate (10%)	QA Sample (10%)	MS/MSD (5%)
354-00-B745	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B746	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B747	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B748	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	SB11	SB04QA	0
354-00-B749	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B750	0 - 1'	SB01	1	1	0	0	0
	1' - 4'	SB02	1	1	0	0	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0
354-00-B751	0 - 1'	SB01	1	1	0	0	SB01MS/MSD
	1' - 4'	SB02	1	1	SB11	SB02QA	0
	4' - 7'	SB03	1	1	0	0	0
	7' - 10'	SB04	1	1	0	0	0

Notes:
bgs = Below Ground Surface
MS/MSD = Matrix Spike/Matrix Spike Duplicate Sample
PAHs = Polynuclear Aromatic Hydrocarbons
QA = Quality Assurance
QC = Quality Control
VOCs = Volatile Organic Compounds
Additional soil samples may be collected below 10' bgs if soil exhibits readings above background on PID.

Table 7-2
Analytical Methods, Preservatives, Holding Times, and Sample Containers
354 Area Solvent Detections RI/FS

Matrix	Parameter	Analytical Method[1]	Sample Containers	Sample Preservation	Holding Times
Water[2]	VOCs	SW-846 8260B	2 X 40 mL glass vials Teflon-lined septa caps	HCl to pH<2 Cool to 4°C	Analyzed--14 days
	Methane, Ethane, Ethylene	SW-846 3810	2 X 40 mL glass vials Teflon-lined septa caps	HCl to pH<2 Cool to 4°C	Analyzed--14 days
	SVOCs	SW-846 8270C	2-1 L Amber glass	Cool to 4°C	Extracted--7 days Analyzed--40 days following extraction
	RCRA Metals				
	Barium, Cadmium, Chromium, and Silver	SW-846 3010A/6010B	1 L HDPE	Nitric acid to pH<2	Analyzed--6 months
	Arsenic	SW-846 inc/7060A	1 L HDPE	Nitric acid to pH<2	Analyzed--6 months
	Lead	SW-846 3020A/7421	1 L HDPE	Nitric acid to pH<2	Analyzed--6 months
	Mercury	SW-846 7470A	250 mL HDPE	Nitric acid to pH<2	Analyzed--28 days
	Selenium	SW-846 inc/7740	1 L HDPE	Nitric acid to pH<2	Analyzed--6 months
	Other Metals				
	Calcium, Iron, Magnesium, Manganese, Potassium, Sodium, and Silicon (calculated as Silca)	SW-846 3010A/6010B	1 L HDPE	Nitric acid to pH<2	Analyzed--6 months
	Water Quality Parameters				
	Alkalinity	EPA 310.1	250 mL HDPE	Cool to 4°C	Analyzed--14 days
	Biochemical Oxygen Demand	EPA 405.1	2 L HDPE	Cool to 4°C	Analyzed--48 hours
	Chemical Oxygen Demand	EPA 410.4	125 mL HDPE	Cool to 4°C, sulfuric acid to pH<2	Analyzed--28 days
	Chloride	SW-846 9056 or EPA 300.0	125 mL HDPE	None	Analyzed--28 days
	Nitrate	EPA 300.0	250 mL HDPE	Cool to 4°C	Analyzed--48 hours
	Sulfate	SW-846 9038 or EPA 300.0	125 mL HDPE	Cool to 4°C	Analyzed--28 days
	Sulfide	EPA 376.2	500 mL HDPE	Cool to 4°C, 4 ml zinc acetate NaOH to pH > 9	Analyzed--7days
	Phosphate (ortho as PO4)	EPA 300.0	1 L HDPE	Cool to 4°C	Analyzed--48 hours
	Hardness (as CaCO3)	EPA 130.2	250 mL HDPE	Nitric or sulfuric acid to pH <2	Analyzed--6 months
	Iron Bacteria	BART IRB	To Be Determined	To Be Determined	To Be Determined

Table 7-2 (continued)
Analytical Methods, Preservatives, Holding Times, and Sample Containers
354 Area Solvent Detections RI/FS

Matrix	Parameter	Analytical Method[1]	Sample Containers	Sample Preservation	Holding Times
Water (continued)	Total Suspended Solids	EPA 160.2	250 mL HDPE	Cool to 4°C	Analyzed--7 days
	Total Dissolved Solids	EPA 160.1	250 mL HDPE	Cool to 4°C	Analyzed--7 days
	Total Organic Carbon	SW-846 9060	500 mL glass with Teflo caps	Cool to 4°C, nitric or sulfuric acid to pH<2	Analyzed--28 days
	Ferrous Iron	Hach Colorimetric Method	Not Applicable	None	Field Analysis
	Conductivity	Field Probe w/ Direct Readin	Not Applicable	None	Field Analysis
	Dissolved Oxygen	Dissolved Oxygen Meter	Not Applicable	None	Field Analysis
	Oxidation/Reduction Potential	Standard Methods A2580B	Not Applicable	None	Field Analysis
	pH	Field Probe w/ Direct Readin	Not Applicable	None	Field Analysis
	Temperature	Field Probe w/ Direct Readin	Not Applicable	None	Field Analysis
	Turbidity	Direct Reading	Not Applicable	None	Field Analysis
Soil	VOCs	SW-846 8260B	2 X 2 oz or 2 X 4 oz C with Teflon-lined caps	Cool to 4°C	Analyzed--14 days
	PAHs	SW-846 8310	8 oz. CWM	Cool to 4°C	Extracted--14 days Analyzed--40 days following extraction
	Other Parameters				
	pH	SW-846 9040B	8 oz. CWM	Cool to 4°C	24 hours
	Total Organic Carbon	SW-846 9060	4 oz. CWM	Cool to 4°C	Analyzed--28 days
	Total Organic Halides	SW-846 9020B	4 oz. CWM	Cool to 4°C	Analyzed--28 days
	Cation Exchange Capacity	SW-846 9081	4 oz. CWM	Cool to 4°C	Analyzed--7 days

Table 7-2 (continued)
Analytical Methods, Preservatives, Holding Times, and Sample Containers
354 Area Solvent Detections RI/FS

Notes:

[1]Analytical method references are given in Section 6.1 of the Quality Assurance Project Plan.
Where two numbers are cited, the first is the preparation method and the second is the analytical method.

[2]The water matrix includes groundwater environmental samples as well as quality control samples prepared during both water and soil sampling activities.

BART IRB = Biological Activity Reaction Test for Iron Related Bacteria
CWM = Clear Wide Mouth Glass Jars
°C = Degrees Celsius
HDPE = High-Density Polyethylene Bottles
inc = Sample preparation included in analytical method
L = Liter
mL = Milliliter
PAHs = Polynuclear Aromatic Hydrocarbons
RCRA = Resource Conservaton and Recovery Act
SVOCs = Semivolatile Organic Compounds
VOCs = Volatile Organic Compounds

Table 7-3
Physical/Geochemical Properties for Soil Analyses
354 Area Solvent Detections RI/FS

Physical Properties	Property Test Require Undisturbed Sample*
Vadose-Zone Soils	
Bulk Density	X
Moisture Content (ASTM D2216)	
Specific Gravity (ASTM D854)	
Porosity	
Permeability (ASTM 5084 or ASTM D2434)	X
Atterberg Limits (ASTM D4318)	
Grain-Size Distribution: Sieve Analysis and/or Hydrometer (ASTM D422)	
USCS Classification of Soils (ASTM D2487)	
Saturated-Zone Soils	
Bulk Density	X
Moisture Content (ASTM D2216)	
Specific Gravity (ASTM D854)	
Porosity	
Grain-Size Distribution: Sieve Analysis and/or Hydrometer (ASTM D422)	
USCS Classification of Soils (ASTM D2487)	
Geochemical Properties - Vadose- and Saturated-Zone Soils	
Total Organic Carbon (SW-846 9060)	

* - Undisturbed samples will be collected using Shelby Tubes, piston sampler, or other method, where feasible. All other samples will be collected using split-spoon samplers. Sampling procedures are described in the Site-Wide SAP.

Table 7-4
Proposed Soil Sampling (Off-Site Analysis)
354 Area Solvent Detections RI/FS

		Parameters	
Sampling Point	Sampling Interval	Physical Properties	TOC
354-00-26	0 - 1'	0	1
	1' - 10'	1	1
	10' - WT	1	1
	SI	1	1
354-00-27	0 - 1'	0	1
	1' - 10'	1	1
	10' - WT	1	1
	SI	1	1
354-00-28	0 - 1'	0	1
	1' - 10'	1	1
	10' - WT	1	1
	SI	1	1
354-00-29c	0 - 1'	0	0
	1' - 10'	0	0
	10' - WT	0	0
	SI	1	1
354-00-30c	0 - 1'	0	0
	1' - 10'	0	0
	10' - WT	0	0
	SI	1	1

Notes:
WT = Water Table
SI = Screened Interval
TOC = Total Organic Carbon
Physical Properties = Bulk Density, Specific Gravity, Porosity, Moisture Content, Atterburg Limits, Permeability, Grain-Size Distribution, and Classification. All of these tests will not be run on every sample. The list of tests for each sample will be determined based on the type of material. Samples for Bulk Density and Permeability will be undisturbed (collected using a Shelby Tube, piston sampler, or other appropriate method). All other samples will be collected using split-spoon or continuous samplers.
TOC samples will be taken outside contaminated zone.

Table 7-5
Proposed Groundwater Sampling from Permanent Monitoring Wells (Offsite Analysis)
354 Area Solvent Detections RI/FS

		Parameters					QA/QC Requirements		
Sampling Point	Sample No.	VOCs	SVOCs	RCRA Metals	NA	Water Quality	Field Duplicate	QA Sample	MS/MSD
354-99-07	GW01	1	1	1	1	1	0	0	0
354-99-08	GW01	1	1	1	1	0	GW11	GW01QA	0
354-99-09	GW01	1	1	1	1	1	0	0	0
354-00-10	GW01	1	1	1	1	1	0	0	0
354-99-11	GW01	1	1	1	1	0	0	0	0
354-99-11c	GW01	1	1	1	1	0	0	0	GW01MS/MSD
354-99-12	GW01	1	1	1	1	1	0	0	0
354-99-12b	GW01	1	1	1	1	0	0	0	0
354-99-12c	GW01	1	1	1	1	0	0	0	0
354-99-13b	GW01	1	1	1	1	0	0	0	0
354-99-13c	GW01	1	1	1	1	0	0	0	0
354-00-14c	GW01	1	1	1	1	0	0	0	0
354-00-PZ19	GW01	1	1	1	1	0	GW11	GW01QA	0
354-00-19c	GW01	1	1	1	1	0	0	0	0
354-00-PZ20	GW01	1	1	1	1	0	0	0	0
354-00-20c	GW01	1	1	1	1	0	0	0	0
354-01-24	GW01	1	1	1	1	0	0	0	0
354-01-25	GW01	1	1	1	1	0	0	0	0
354-01-26	GW01	1	1	1	1	0	0	0	0
354-01-27	GW01	1	1	1	1	0	0	0	0
354-01-28	GW01	1	1	1	1	0	0	0	0
354-01-29c	GW01	1	1	1	1	0	0	0	0
354-01-30c	GW01	1	1	1	1	0	GW11	GW01QA	0
354-01-31	GW01	1	1	1	1	0	0	0	0
354-01-31c	GW01	1	1	1	1	0	0	0	0
PZ-A	GW01	1	1	1	1	0	0	0	0
PZ-B	GW01	1	1	1	1	0	0	0	GW01MS/MSD
PZ-C	GW01	1	1	1	1	0	0	0	0
PZ-D	GW01	1	1	1	1	0	0	0	0
PSF92-01	GW01	1	1	1	1	0	0	0	0
PSF92-05	GW01	1	1	1	1	0	0	0	0
MPL97-01	GW01	1	1	1	1	1	0	0	0
MPL94-02	GW01	1	1	1	1	0	GW11	GW01QA	0
MPL94-03	GW01	1	1	1	1	0	0	0	0
MW95-03	GW01	1	1	1	1	0	0	0	0
MW95-04	GW01	1	1	1	1	0	0	0	0
MW95-06	GW01	1	1	1	1	0	0	0	0
TSO292-01	GW01	1	1	1	1	0	0	0	0
TSO292-02	GW01	1	1	1	1	0	0	0	0

Notes:
A trip blank will accompany each cooler containing aqueous samples submitted for volatile analysis.
VOCs - Volatile Organic Compounds
SVOCs - Semi-Volatile Organic Comopounds
RCRA Metals - Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver
NA - Natural Attenuation Parameters (include Dissolved Oxygen, Oxidation-Reduction Potential, Ferrous Iron, Methane, Ethane, Ethene, Alkalinity, Total Organic Carbon, Nitrate, Sulfate, Sulfide, and Chloride)
QA = Quality Assurance
MS/MSD = Matrix spike/matrix spike duplicate sample
Water Quality = Calcium, Iron, Magnesium, Manganese, Silica, Sodium, Phosphate, TDS, TSS, Hardness (Total as CaCO3), pH, Chemical Oxygen Demand, Biological Oxygen Demand, and Iron Bacteria. (Other general water quality parameters are included on the NA list.)

Figure 2-1
Project Location
354 Area Solvent Detections
RI/FS

LEGEND

- DIRECT-PUSH SAMPLE LOCATION, GROUNDWATER AND SOIL-GAS
- DIRECT-PUSH SAMPLE LOCATION, SOIL-GAS
- DIRECT-PUSH SAMPLE LOCATION, GROUNDWATER
- DIRECT-PUSH SAMPLE LOCATION, GROUNDWATER AND SOIL SCREENING
- PROPOSED DIRECT-PUSH LOCATION, NOT SAMPLED
- SURFACE WATER SAMPLING TRANSECT
- ROADS WITH PARKING LOTS
- FENCE
- DRAINAGE DITCH
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

N

TECH MEMO/WP, FIG. 2-2, REVISED 01/26/01

NOTES:
1. LOCATION OF B252A AND B716 NOT SURVEYED. LOCATION APPROXIMATE.
2. SOIL SAMPLES WERE COLLECTED FOR ON-SITE GAS CHROMATOGRAPH ANALYSIS FROM B113, B114, B117, B118, B119, B120, B121, B131, B132, B133, B134, B136, B137, B138, B140, B143, B145, B147, B217 AND B218A.
3. PROBE-HOLES WHICH DID NOT YIELD ANY GROUNDWATER ARE MARKED "DRY".
4. PROPOSED DIRECT-PUSH LOCATIONS, WHICH WERE NOT SAMPLED, ARE INDICATED IN GREY TONE.
5. NOT ALL PROPOSED DIRECT-PUSH GROUNDWATER AND SOIL-GAS SAMPLING LOCATIONS, WHICH WERE LOCATED IN THE BLOCK BETWEEN CARR AND CARTER AVENUES, ARE SHOWN ON THIS FIGURE (VIEW C) TO REDUCE CLUTTER. DIAGRAMS OF THESE LOCATIONS ARE AVAILABLE IN APPENDIX A , PART 8 AND PART 10.

U:/fortriley/arc/aview/usfr354/354techmemo.apr/Fig 2-1 Sample Loc MultiView

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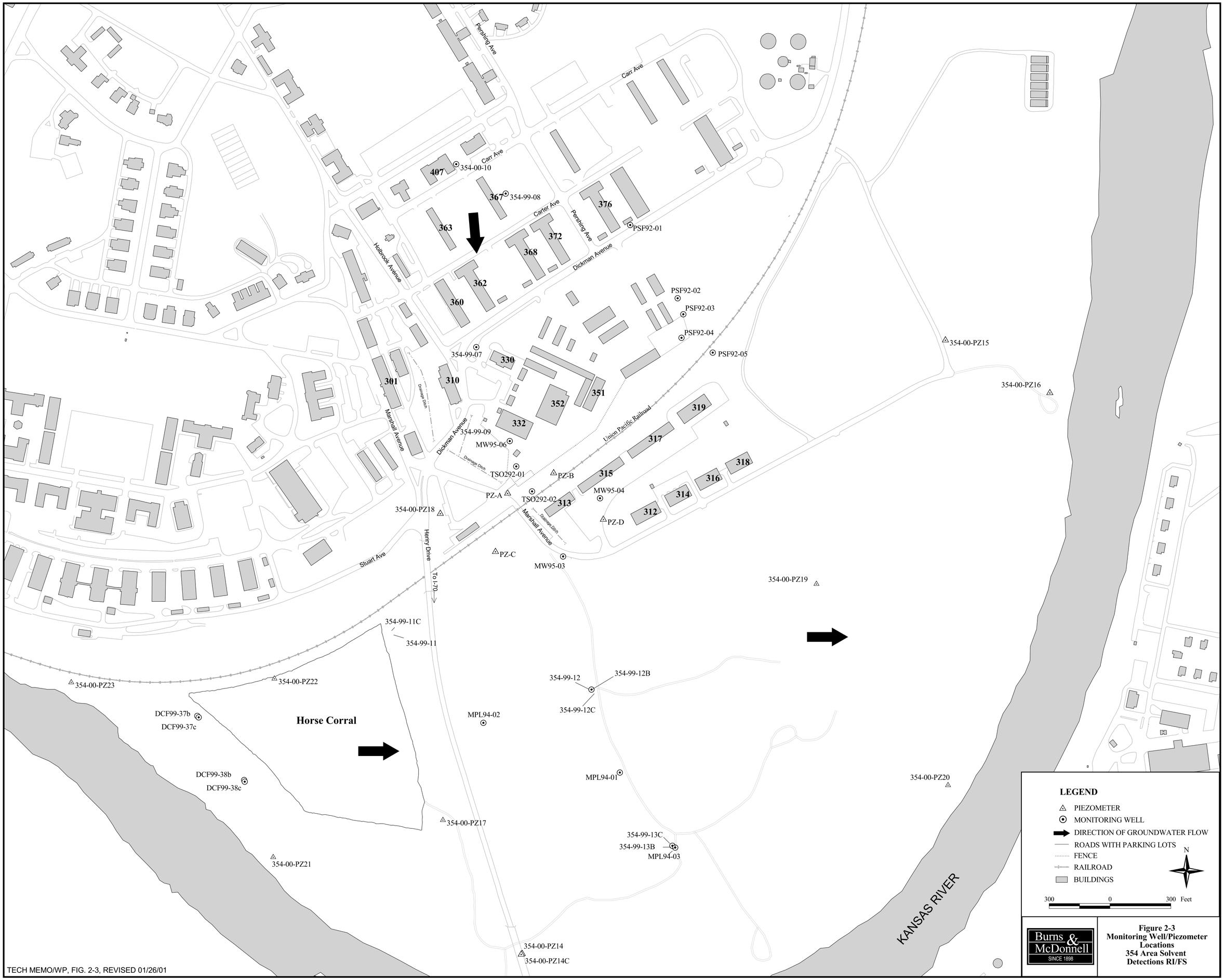
FIGURE 2-2
Direct-Push Sampling Locations
354 Area Solvent Detections RI/FS


Pershing Ave
Carr Ave
Carter Ave
Dickman Avenue
Holbrook Avenue
Marshall Avenue
Dickman Avenue
Drainage Ditch
Drainage Ditch
Drainage Ditch
Union Pacific Railroad
Stuart Ave
Henry Drive
To I-70
407
367
363
376
372
368
362
360
330
310
301
352
351
332
319
317
315
318
316
314
313
312
354-00-10
354-99-08
PSF92-01
PSF92-02
PSF92-03
PSF92-04
PSF92-05
354-99-07
354-00-PZ15
354-00-PZ16
354-99-09
MW95-06
TSO292-01
PZ-B
PZ-A
TSO292-02
MW95-04
PZ-D
354-00-PZ18
PZ-C
MW95-03
354-00-PZ19
354-99-11C
354-99-11
354-00-PZ23
354-00-PZ22
354-99-12
354-99-12B
354-99-12C
DCF99-37b
DCF99-37c
MPL94-02
Horse Corral
DCF99-38b
DCF99-38c
MPL94-01
354-00-PZ20
354-00-PZ17
354-99-13C
354-99-13B
MPL94-03
354-00-PZ21
354-00-PZ14
354-00-PZ14C
KANSAS RIVER
LEGEND
PIEZOMETER
MONITORING WELL
DIRECTION OF GROUNDWATER FLOW
ROADS WITH PARKING LOTS
FENCE
RAILROAD
BUILDINGS
N
300 0 300 Feet
Burns & McDonnell
SINCE 1898
Figure 2-3
Monitoring Well/Piezometer Locations
354 Area Solvent Detections RI/FS

\\WCGIS\fortriley\usfr354\aview\354techmemo.apr\Fig3-1topography view and Layout CAG 9\6\00 1:3600

TERRACE

POINT BAR

Horse Corral

KANSAS RIVER

Dickman Ave

Lower Pl

Carr Ave

Carter Ave

Pershing Ave

Dickman Avenue

Holbrook Avenue

Marshall Avenue

Dickman Avenue

Drainage Ditch

Union Pacific Railroad

Stuart Ave

Henry Drive

I-70

354-00-10

354-99-08

PSF92-01

PSF92-02

PSF92-03

PSF92-04

PSF92-05

354-99-07

354-99-09

MW95-06

TSO292-01

PZ-B

PZ-A

TSO292-02

MW95-04

PZ-D

PZ-C

MW95-03

354-00-PZ15

354-00-PZ16

354-00-PZ18

354-00-PZ19

354-00-PZ20

354-00-PZ21

354-00-PZ22

354-00-PZ23

354-00-PZ14

354-00-PZ14C

354-00-PZ17

354-99-11C

354-99-11

354-99-12

354-99-12B

354-99-12C

MPL94-02

MPL94-01

354-99-13C

354-99-13B

MPL94-03

DCF-99-37B

DCF-99-37C

DCF-99-38C

DCF-99-38B

NOTES:

1. TOPOGRAPHIC CONTOUR DATA RECIEVED FROM USGS.
2. TOPOGRAPHIC CONTOUR VALUES DETERMINED BY ON-SITE SURVEY DATA.
3. CONTOUR ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL.

TECH MEMO/WP, FIG. 3-1, REVISED 01/26/01

LEGEND

- PIEZOMETER
- MONITORING WELL
- ROADS WITH PARKING LOTS
- FENCE
- 2 FOOT ELEVATION CONTOUR
- 10 FOOT ELEVATION CONTOUR
- RAILROAD
- BUILDINGS

N

300 0 300 Feet

Burns & McDonnell SINCE 1898

Figure 3-1
Site Topography
354 Area Solvent
Detections RI/FS

LEGEND

- ARROW POINTS DOWNSLOPE
- BEDROCK SURFACE ELEVATION CONTOUR, 10 FOOT INTERVAL
- BEDROCK SURFACE ELEVATION CONTOUR, 2 FOOT INTERVAL
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

N

TECH MEMO/WP, FIG. 3-2, REVISED 01/23/01

Burns & McDonnell SINCE 1898

FIGURE 3-2
Bedrock Surface Elevation Map
354 Area Solvent Detections RI/FS

U:/arc/usfr354/bu/354techmemo

A

A'

ELEVATION IN FEET ABOVE MEAN SEA LEVEL

1140
1120
1100
1080
1060
1040
1020
1000

B232 B243 B242 B248 B252 B108 B90 T01 B121 B74 B120 T14 T12 B20 B27 B35 B36 T21 B702 T09 B54 B62

APPROXIMATE GROUND SURFACE

TERRACE DEPOSITS

LIMESTONE/SHALE

KANSAS RIVER ALLUVIUM

LEGEND

ALLUVIUM/TERRACE DEPOSITS

LIMESTONE/SHALE

VERTICAL
20 0 20 40
SCALE IN FEET

HORIZONTAL
150 0 150 300
SCALE IN FEET

Burns & McDonnell SINCE 1898

Figure 3-3
Cross Section A – A'
354 Area Solvent Detections
RI/FS

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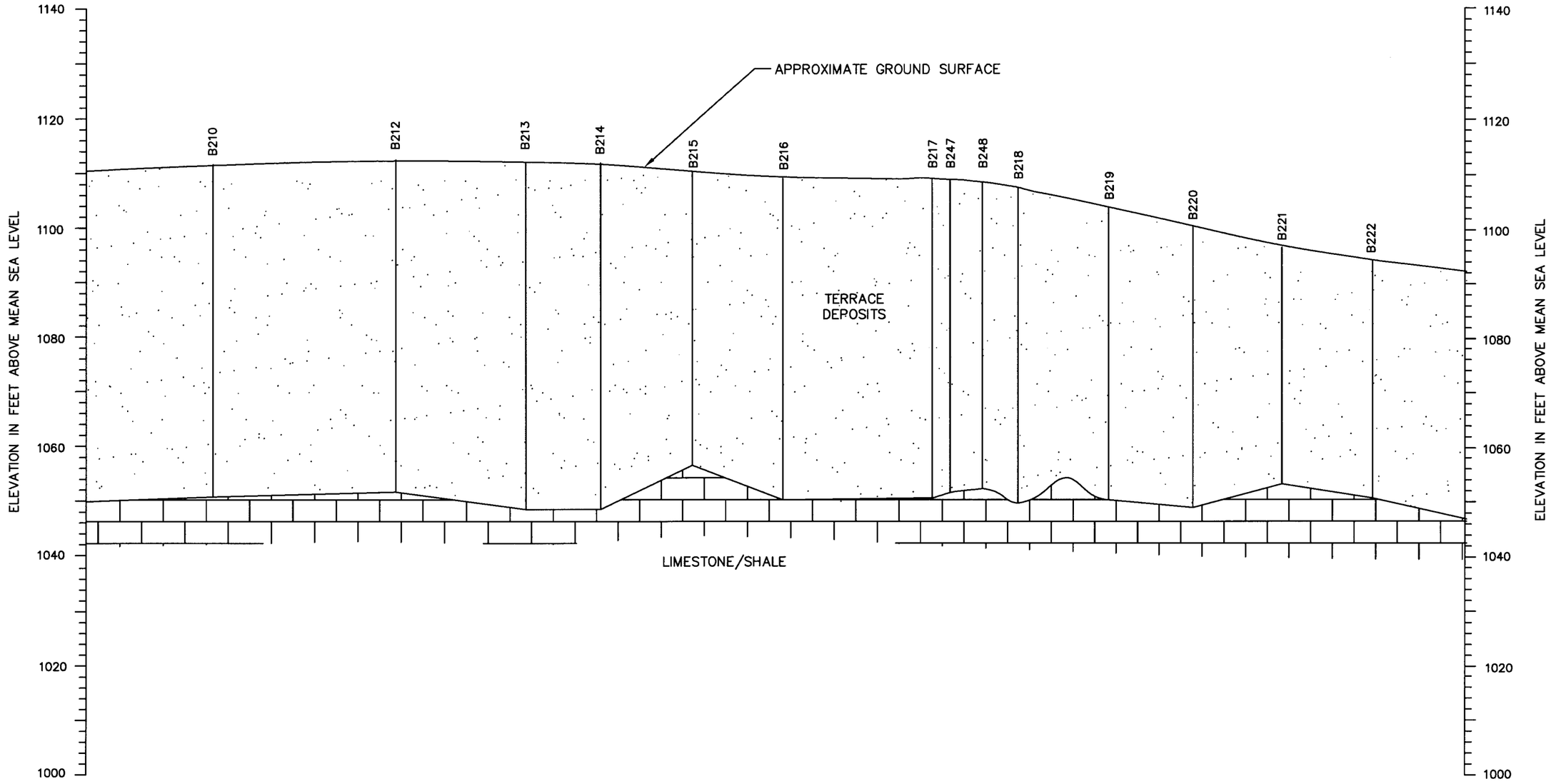
B

B'



LEGEND

TERRACE DEPOSITS

LIMESTONE/SHALE

VERTICAL

20 0 20 40

SCALE IN FEET

HORIZONTAL

60 0 60 120

SCALE IN FEET

Burns & McDonnell SINCE 1898

Figure 3-4
Cross Section B – B'
354 Area Solvent Detections
RI/FS

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C

C'

ELEVATION IN FEET ABOVE MEAN SEA LEVEL

1140
1120
1100
1080
1060
1040
1020
1000

APPROXIMATE GROUND SURFACE

B202 B117 B95 B93 B91 B89 B90 B94 B98 B99 B100 B175 B177

TERRACE DEPOSITS

LIMESTONE/SHALE

LEGEND

TERRACE DEPOSITS

LIMESTONE/SHALE

VERTICAL
20 0 20 40
SCALE IN FEET

HORIZONTAL
100 0 100 200
SCALE IN FEET

Burns & McDonnell SINCE 1898

Figure 3-5
Cross Section C – C'
354 Area Solvent Detections
RI/FS

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D

D'

ELEVATION IN FEET ABOVE MEAN SEA LEVEL

1140
1120
1100
1080
1060
1040
1020
1000

APPROXIMATE GROUND SURFACE

B137 B138 B140 B59 B61 B54 TSO292-02 B47 B78 P4

ALLUVIUM

LIMESTONE/SHALE

LEGEND

ALLUVIUM

LIMESTONE/SHALE

VERTICAL
20 0 20 40
SCALE IN FEET

HORIZONTAL
80 0 80 160
SCALE IN FEET

Burns & McDonnell
SINCE 1898

Figure 3-6
Cross Section D – D'
354 Area Solvent Detections
RI/FS

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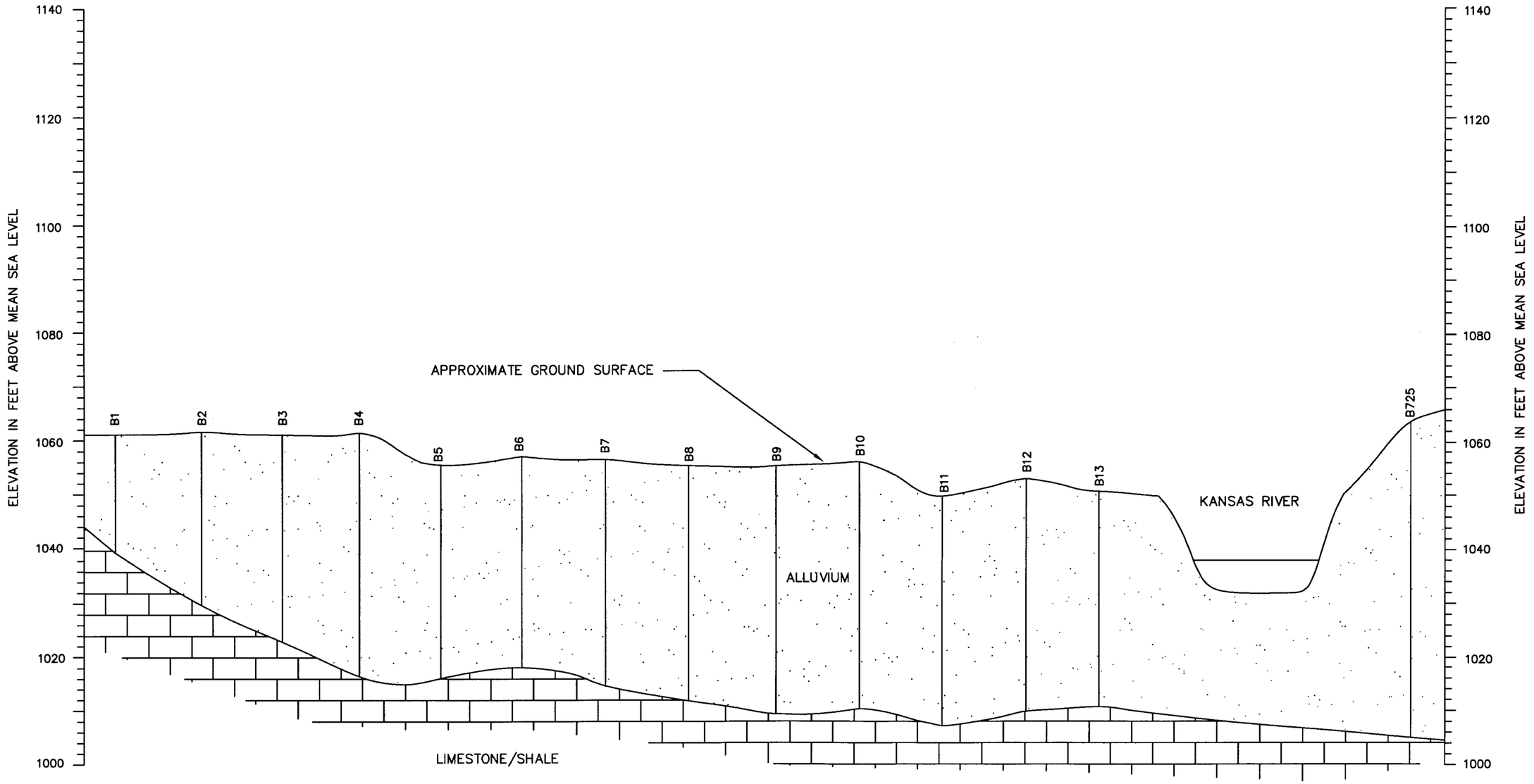
E

E'



LEGEND

ALLUVIUM

LIMESTONE/SHALE

VERTICAL

20 0 20 40

SCALE IN FEET

HORIZONTAL

250 0 250 500

SCALE IN FEET

Burns & McDonnell SINCE 1898

Figure 3-7
Cross Section E – E'
354 Area Solvent Detections
RI/FS

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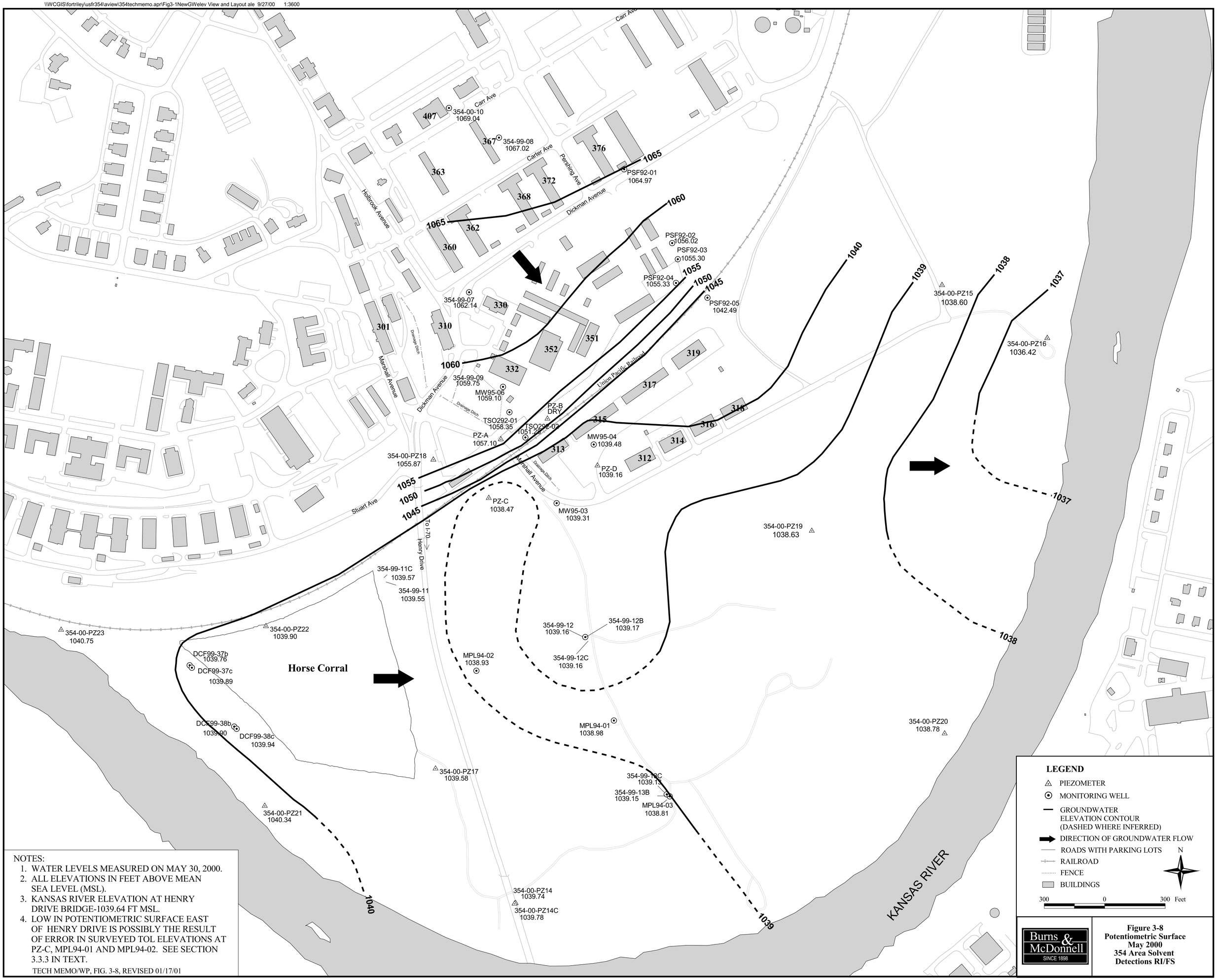
\\WCGIS\fortriley\usfr354\aview\354techmemo.apr\Fig3-1NewGWelev View and Layout ale 9/27/00 1:3600



NOTES:
1. WATER LEVELS MEASURED ON MAY 30, 2000.
2. ALL ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (MSL).
3. KANSAS RIVER ELEVATION AT HENRY DRIVE BRIDGE-1039.64 FT MSL.
4. LOW IN POTENTIOMETRIC SURFACE EAST OF HENRY DRIVE IS POSSIBLY THE RESULT OF ERROR IN SURVEYED TOL ELEVATIONS AT PZ-C, MPL94-01 AND MPL94-02. SEE SECTION 3.3.3 IN TEXT.

TECH MEMO/WP, FIG. 3-8, REVISED 01/17/01

LEGEND

- PIEZOMETER
- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- DIRECTION OF GROUNDWATER FLOW
- ROADS WITH PARKING LOTS
- RAILROAD
- FENCE
- BUILDINGS

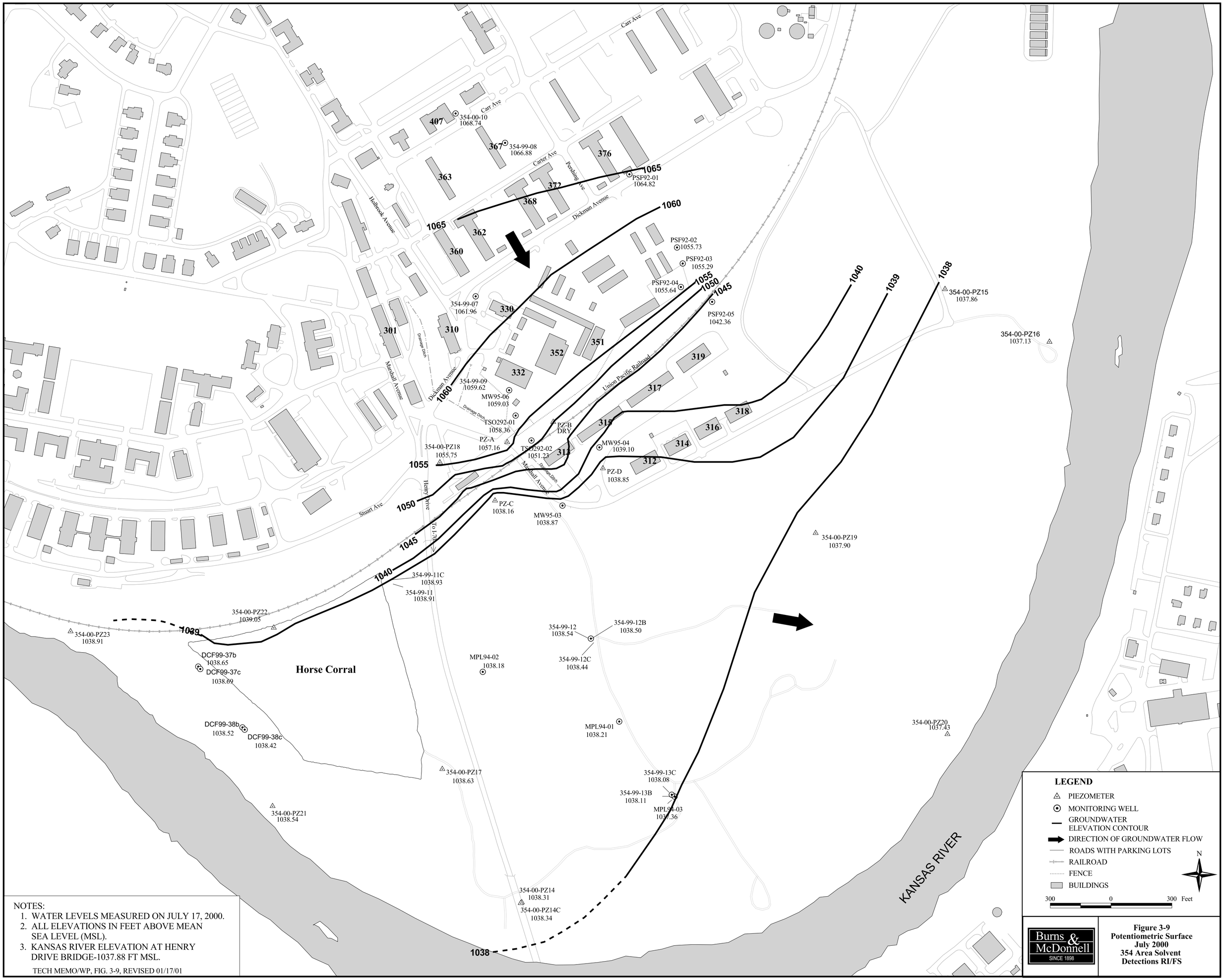
N

300 0 300 Feet

Burns & McDonnell SINCE 1898

Figure 3-8
Potentiometric Surface
May 2000
354 Area Solvent
Detections RI/FS

\\WCGIS\fortriley\usfr354\aview\354techmemo.apr\Fig3-8GWelev_0700 View and Layout ale 10/02/00 1:3600



NOTES:
1. WATER LEVELS MEASURED ON JULY 17, 2000.
2. ALL ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL (MSL).
3. KANSAS RIVER ELEVATION AT HENRY DRIVE BRIDGE-1037.88 FT MSL.

TECH MEMO/WP, FIG. 3-9, REVISED 01/17/01

LEGEND

- PIEZOMETER
- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR
- DIRECTION OF GROUNDWATER FLOW
- ROADS WITH PARKING LOTS
- RAILROAD
- FENCE
- BUILDINGS

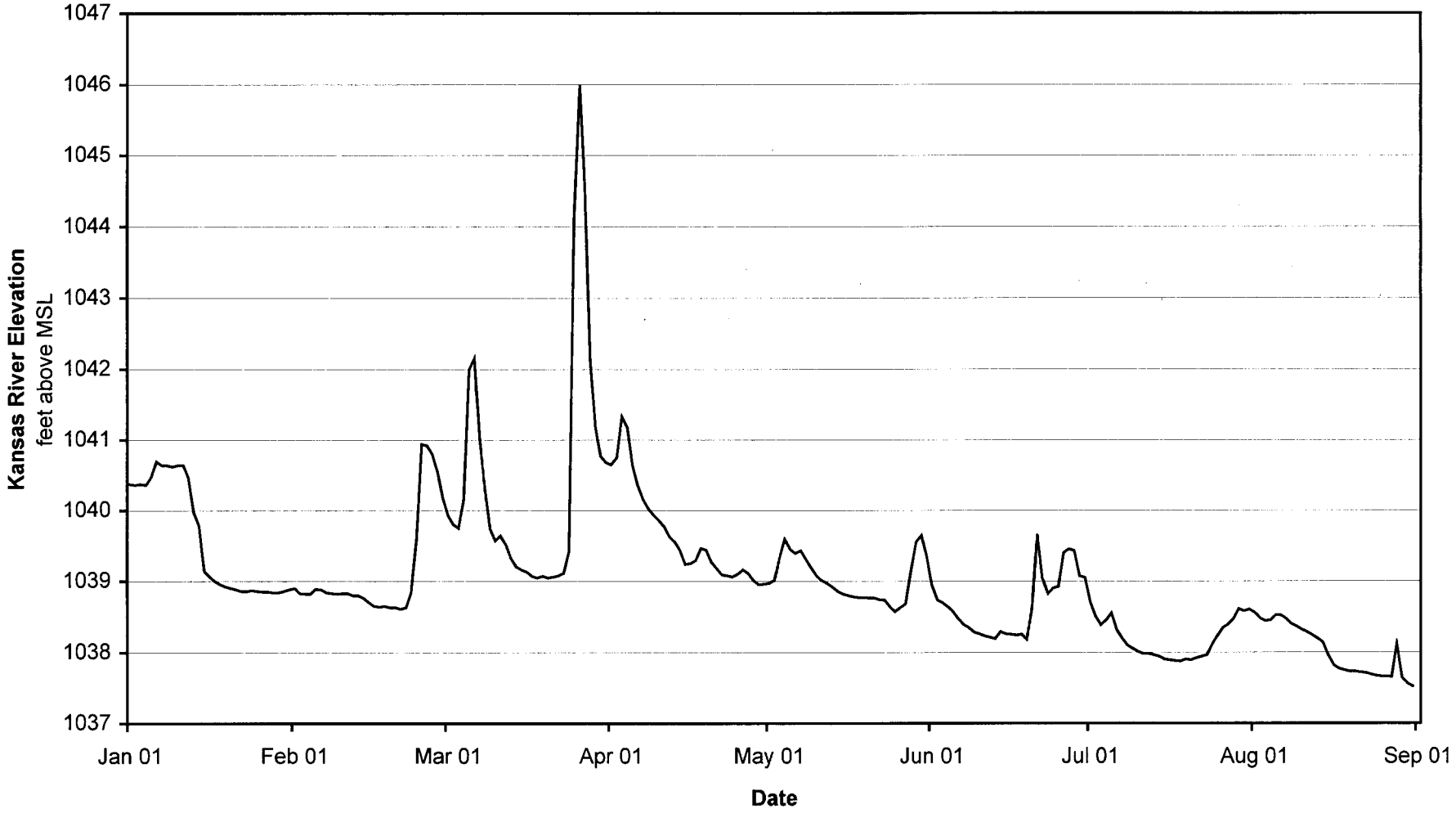
N

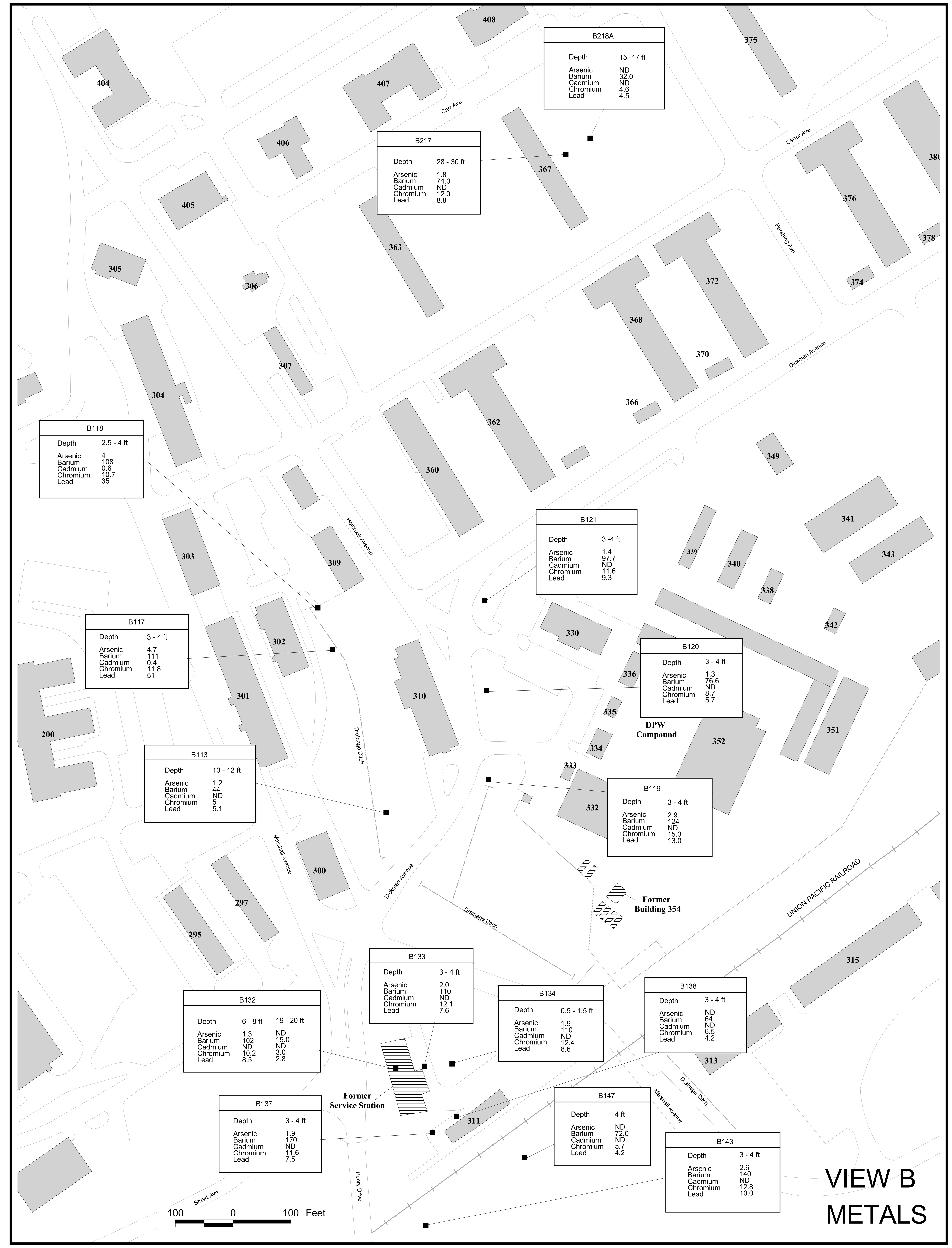
300 0 300 Feet

Burns & McDonnell SINCE 1898

Figure 3-9
Potentiometric Surface
July 2000
354 Area Solvent
Detections RI/FS

Figure 3-10
Kansas River Elevation at Henry Drive Bridge
January - August 2000
354 Area Solvent Detections RI/FS





LEGEND

- ■ DIRECT-PUSH SAMPLE LOCATION, SOIL ANALYSIS FOR RCRA METALS
- ▲ DIRECT-PUSH SAMPLE LOCATION, SOIL ANALYSIS FOR VOCS
- ROADS WITH PARKING LOTS
- FENCE
- DRAINAGE DITCH
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

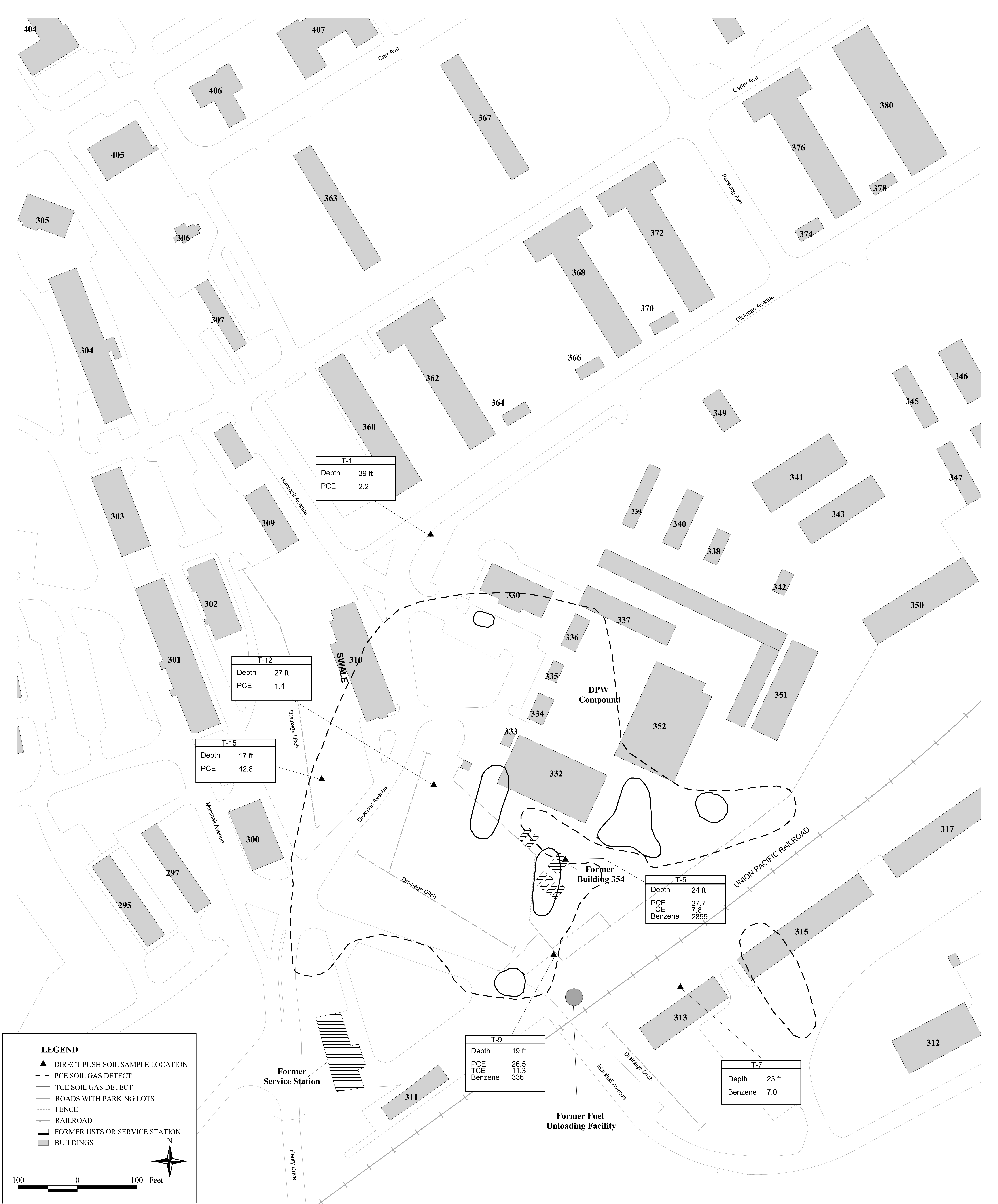
N

TECH MEMO/WP, FIG. 4-1, REVISED 01/26/01

NOTES:
1. ND - No detections at this location
2. NA - Not analyzed
3. J - Detection below the reporting limit
4. On - site GC reporting limits: PCE and TCE - 2 ug/kg; Cis-1,2-DCE, Benzene, Toluene, Ethyl-benzene, and Xylenes - 5 ug/kg.
5. Off-site lab reporting limits: vary, see Table 4-1 for values.
6. RCRA metals reporting limits: Arsenic - 1.9 mg/kg; Cadmium - 0.4 mg/kg; Mercury - 0.1 mg/kg; Selenium - 0.6 mg/kg; Silver - 1.2 mg/kg; Barium, Chromium, and Lead - not defined.
7. ug/L - micrograms per liter
8. mg/kg - milligrams per kilogram
9. PEC - Tetrachloroethene
10. TCE - Trichloroethene
11. DCE - Dichloroethene

Burns & McDonnell SINCE 1898

FIGURE 4-1
Soil Sampling Results
354 Area Solvent Detections RI/FS



NOTES:

1. Data abstracted from IFI Report (BMcD, 1998c). See IFI Report for specific sample locations.
2. Delineated areas from PCE and TCE soil-gas distribution include all locations with detections, including those below the reporting limits. See IFI Report for specific locations and analytical results.
3. Boxes show depth and results for on-site soil analysis. Results in micrograms per kilogram (ug/kg).
4. PCE - Tetracholorethene
5. TCE - Trichloroethene

TECH MEMO/WP, FIG. 4-2, REVISED 01/26/01

Burns & McDonnell
SINCE 1898

FIGURE 4-2
Summary of IFI Soil and
Soil-Gas Results
354 Area Solvent Detections RI/FS

NOTES:

1. RESULTS ARE FOR ONSITE ANALYSIS.
2. ND--NOT DETECTED
3. NS--NOT SAMPLED
4. EC--EXTENT OF CONTAMINATION
5. J-ESTIMATED VALUE BELOW REPORTING LIMIT.
6. REPORTING LIMIT FOR PCE = 1.0 ug/L.
7. UNITS IN MICROGRAMS PER LITER (ug/L).
8. EXTENT OF CONTAMINATION LINE DELINEATES AREA WITH DETECTION AT OR ABOVE THE REPORTING LIMIT.

TECH MEMO/WP, FIG 4-3, REVISED 01/26/01

LEGEND

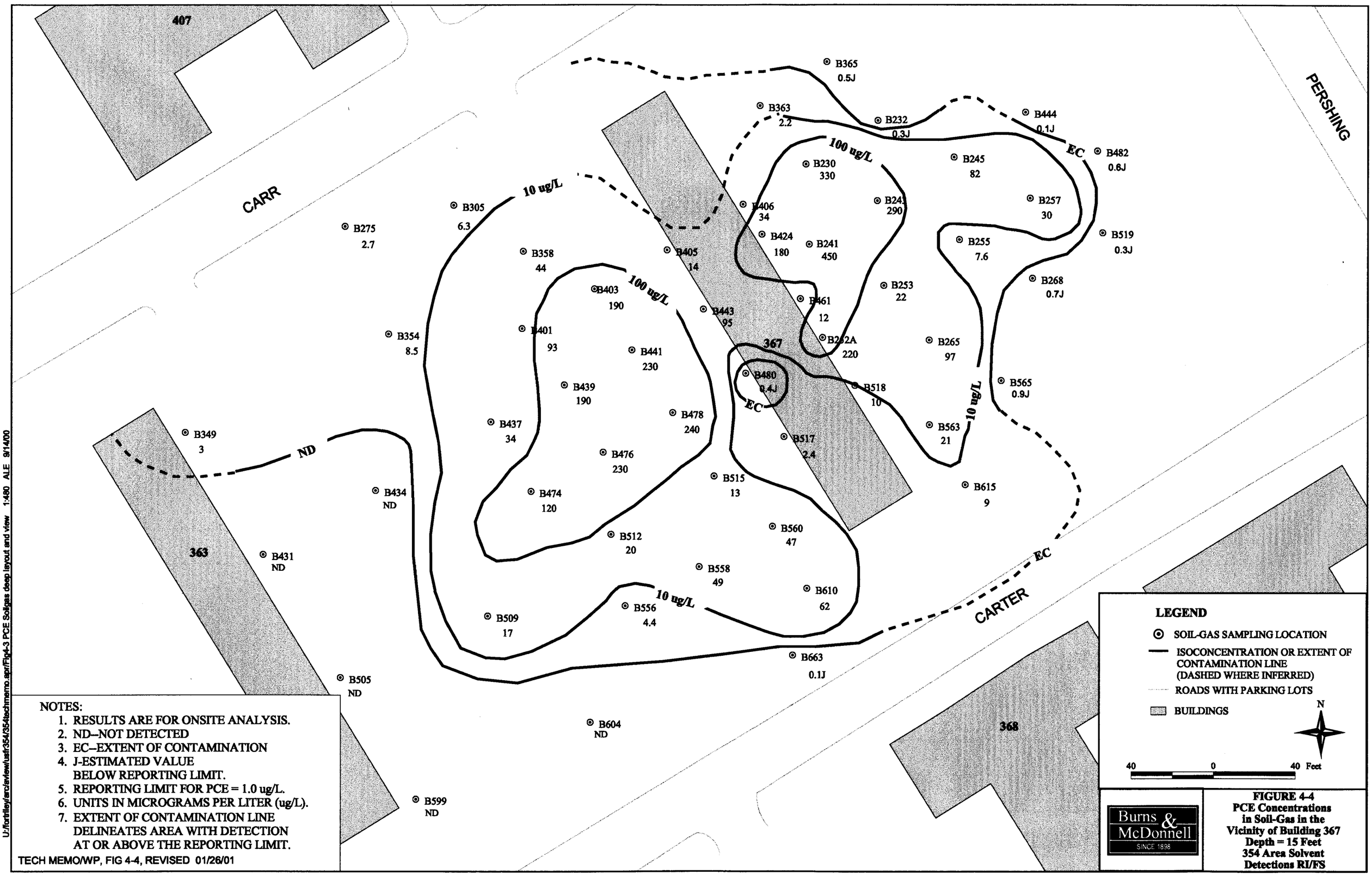
- SOIL-GAS SAMPLING LOCATION
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED)
- ROADS WITH PARKING LOTS
- BUILDINGS

N

40 0 40 Feet

Burns & McDonnell SINCE 1898

FIGURE 4-3
PCE Concentrations in Soil-Gas in the Vicinity of Building 367 Depth = 9 Feet
354 Area Solvent Detections RI/FS



NOTES:

1. RESULTS ARE FOR ONSITE ANALYSIS.
2. ND--NOT DETECTED
3. EC--EXTENT OF CONTAMINATION
4. J-ESTIMATED VALUE BELOW REPORTING LIMIT.
5. REPORTING LIMIT FOR PCE = 1.0 ug/L.
6. UNITS IN MICROGRAMS PER LITER (ug/L).
7. EXTENT OF CONTAMINATION LINE DELINEATES AREA WITH DETECTION AT OR ABOVE THE REPORTING LIMIT.

TECH MEMO/WP, FIG 4-4, REVISED 01/26/01

LEGEND

- SOIL-GAS SAMPLING LOCATION
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED)
- ROADS WITH PARKING LOTS
- BUILDINGS

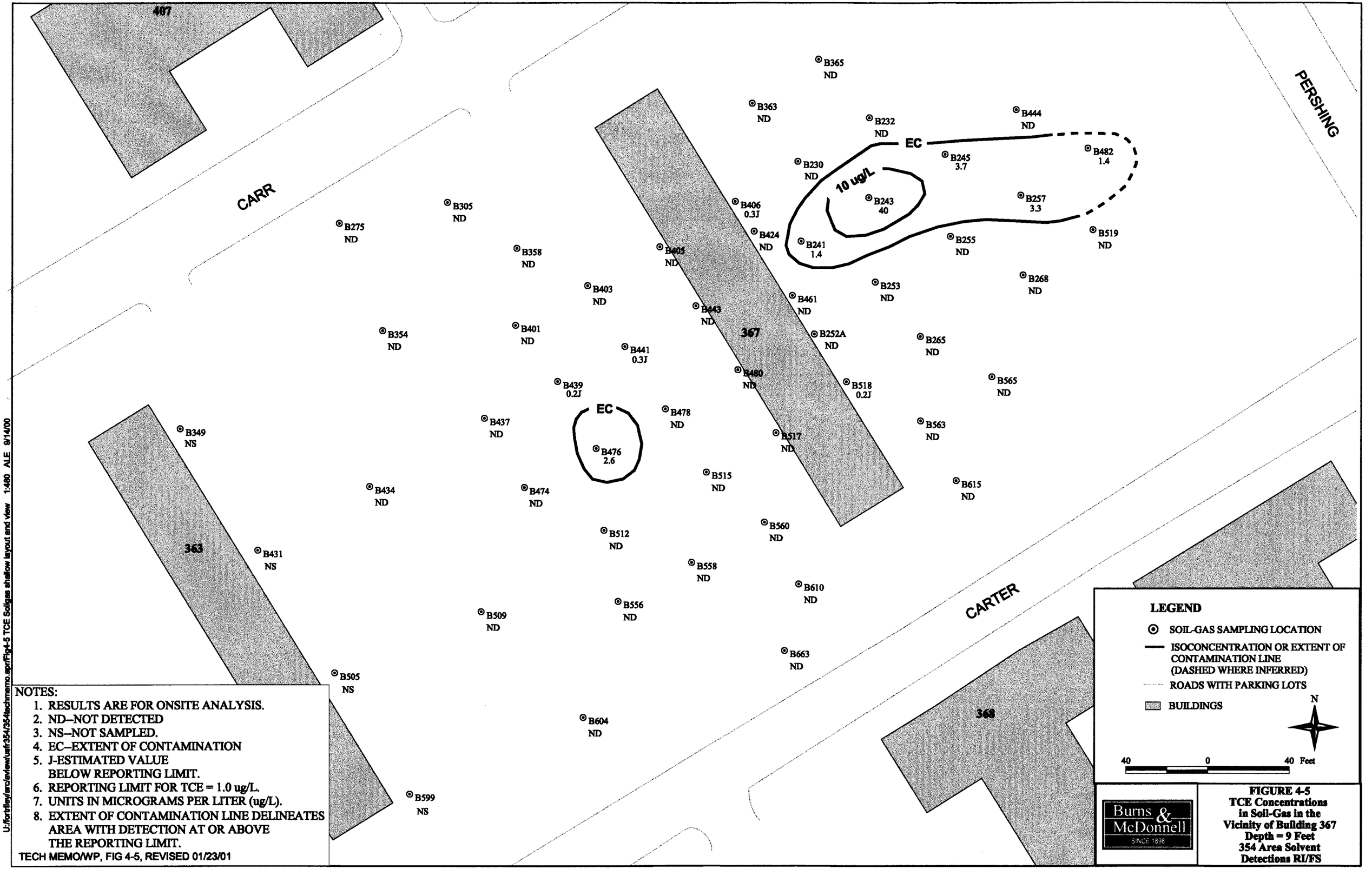
N

40 0 40 Feet

Burns & McDonnell SINCE 1898

FIGURE 4-4
PCE Concentrations in Soil-Gas in the Vicinity of Building 367 Depth = 15 Feet 354 Area Solvent Detections RI/FS

U:/fortriley/arc/aview/usfr354/354techmemo.apr/Fig4-3 PCE Soilgas deep layout and view 1:480 ALE 9/14/00



NOTES:

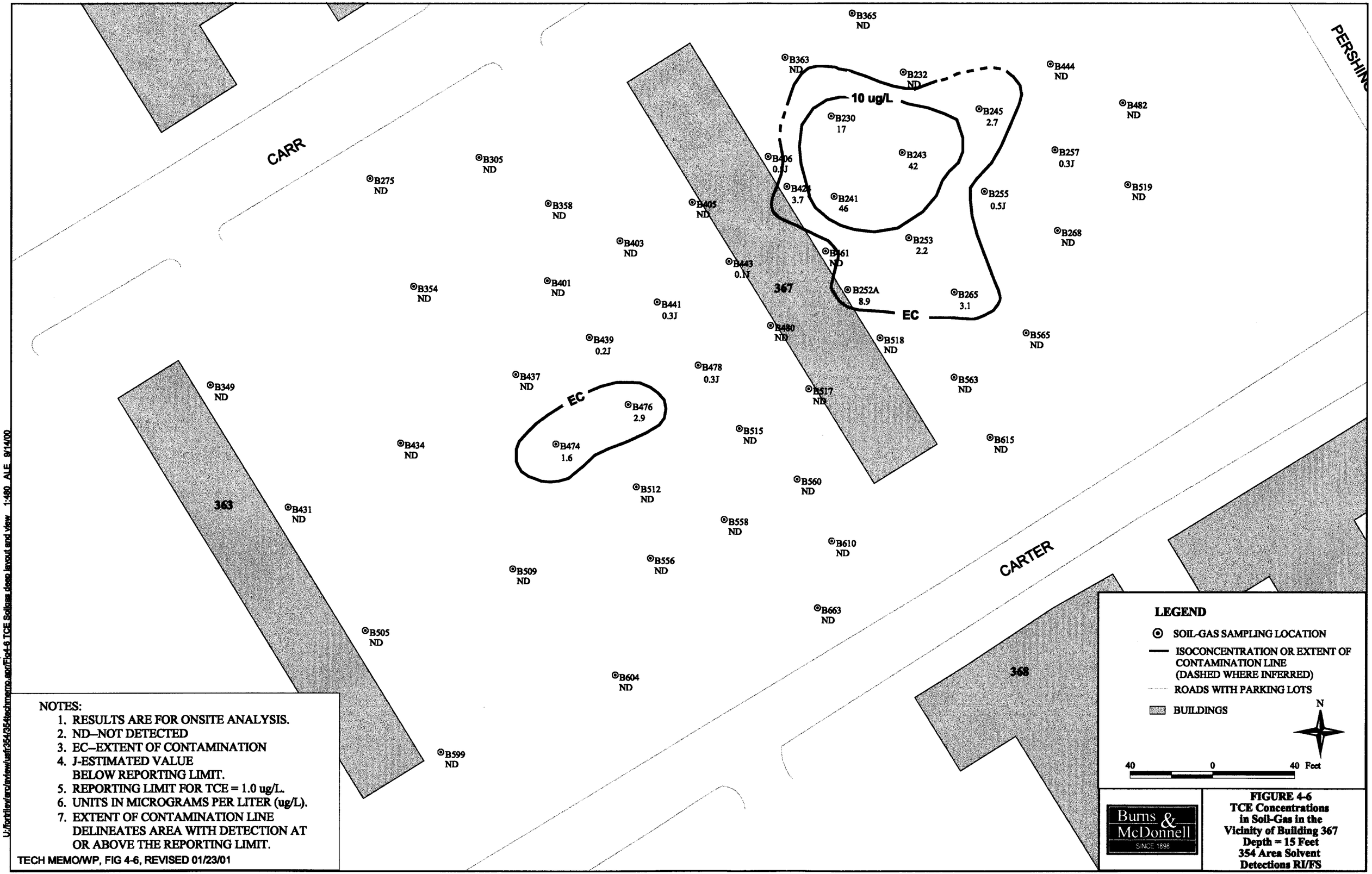
1. RESULTS ARE FOR ONSITE ANALYSIS.
2. ND--NOT DETECTED
3. NS--NOT SAMPLED.
4. EC--EXTENT OF CONTAMINATION
5. J-ESTIMATED VALUE BELOW REPORTING LIMIT.
6. REPORTING LIMIT FOR TCE = 1.0 ug/L.
7. UNITS IN MICROGRAMS PER LITER (ug/L).
8. EXTENT OF CONTAMINATION LINE DELINEATES AREA WITH DETECTION AT OR ABOVE THE REPORTING LIMIT.

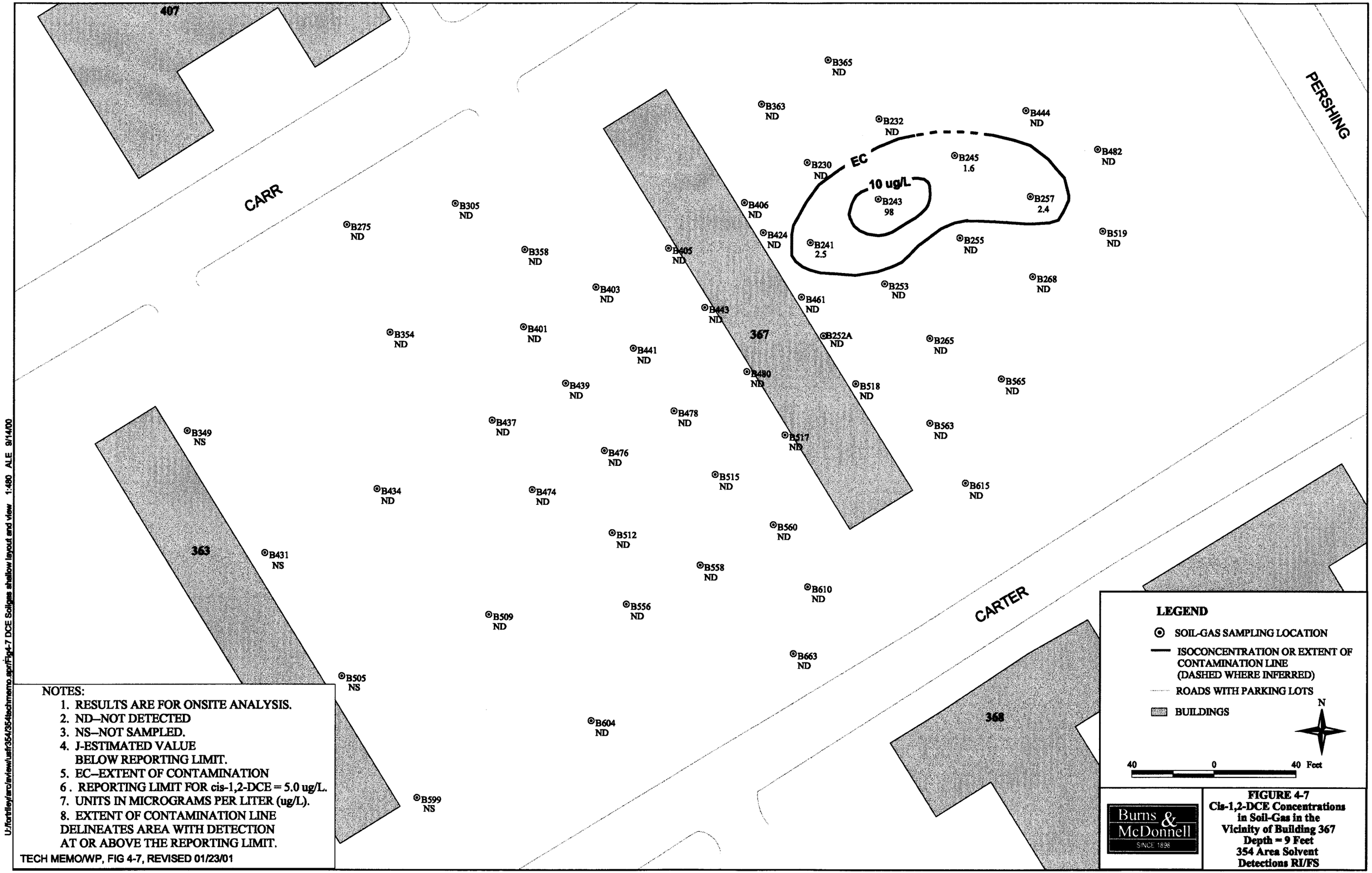
TECH MEMO/WP, FIG 4-5, REVISED 01/23/01

Burns & McDonnell SINCE 1898

FIGURE 4-5
TCE Concentrations in Soil-Gas in the Vicinity of Building 367 Depth = 9 Feet 354 Area Solvent Detections RI/FS

U:/fortilley/arc/aview/usfr354/354techmemo.apr/Fig4-5 TCE Soilgas shallow layout and view 1:480 ALE 9/14/00


B365 ND
B363 ND
B232 ND
B444 ND
B482 ND
10 ug/L
B230 17
B245 2.7
B243 42
B257 0.3J
B406 0.3J
B423 3.7
B241 46
B255 0.5J
B519 ND
B275 ND
B305 ND
B358 ND
B405 ND
B403 ND
B253 2.2
B268 ND
B461 ND
B443 0.1J
B354 ND
B401 ND
367
B252A 8.9
B265 3.1
EC
B441 0.3J
B480 ND
B439 0.2J
B518 ND
B565 ND
B478 0.3J
B437 ND
B563 ND
B349 ND
B517 ND
EC
B476 2.9
B515 ND
B615 ND
B434 ND
B474 1.6
B512 ND
B560 ND
363
B431 ND
B558 ND
B610 ND
B556 ND
B509 ND
CARTER
B663 ND
B505 ND
368
B604 ND
B599 ND
PERSHING
LEGEND
SOIL-GAS SAMPLING LOCATION
ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED)
ROADS WITH PARKING LOTS
BUILDINGS
N
40 0 40 Feet
NOTES:
1. RESULTS ARE FOR ONSITE ANALYSIS.
2. ND--NOT DETECTED
3. EC--EXTENT OF CONTAMINATION
4. J-ESTIMATED VALUE BELOW REPORTING LIMIT.
5. REPORTING LIMIT FOR TCE = 1.0 ug/L.
6. UNITS IN MICROGRAMS PER LITER (ug/L).
7. EXTENT OF CONTAMINATION LINE DELINEATES AREA WITH DETECTION AT OR ABOVE THE REPORTING LIMIT.
TECH MEMO/WP, FIG 4-6, REVISED 01/23/01
Burns & McDonnell
SINCE 1898
FIGURE 4-6
TCE Concentrations in Soil-Gas in the Vicinity of Building 367
Depth = 15 Feet
354 Area Solvent Detections RI/FS
U:/fortriley/src/eview/usafr354/354techmemo.ap/Fig4-6 TCE Soilgas depth layout and view 1:480 ALE 9/14/00



NOTES:

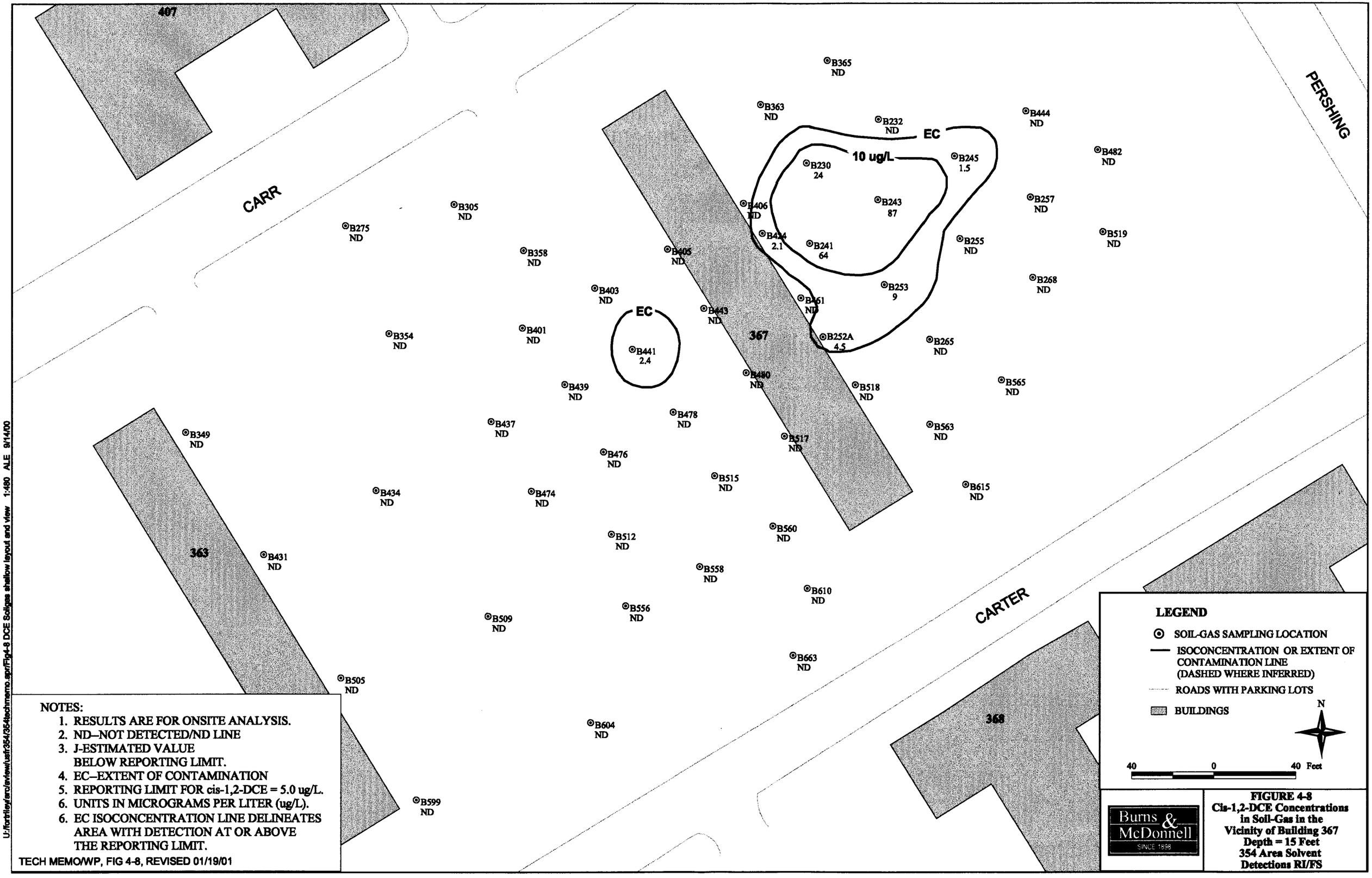
1. RESULTS ARE FOR ONSITE ANALYSIS.
2. ND--NOT DETECTED
3. NS--NOT SAMPLED.
4. J-ESTIMATED VALUE BELOW REPORTING LIMIT.
5. EC--EXTENT OF CONTAMINATION
6. REPORTING LIMIT FOR cis-1,2-DCE = 5.0 ug/L.
7. UNITS IN MICROGRAMS PER LITER (ug/L).
8. EXTENT OF CONTAMINATION LINE DELINEATES AREA WITH DETECTION AT OR ABOVE THE REPORTING LIMIT.

TECH MEMO/WP, FIG 4-7, REVISED 01/23/01

Burns & McDonnell SINCE 1898

FIGURE 4-7
Cis-1,2-DCE Concentrations in Soil-Gas in the Vicinity of Building 367 Depth = 9 Feet 354 Area Solvent Detections RI/FS

U:/fortriley/arc/eview/usrfr354/354techmemo.apr/Fig4-7 DCE Soilgas shallow layout and view 1:480 ALE 9/14/00



NOTES:

1. RESULTS ARE FOR ONSITE ANALYSIS.
2. ND–NOT DETECTED/ND LINE
3. J-ESTIMATED VALUE BELOW REPORTING LIMIT.
4. EC–EXTENT OF CONTAMINATION
5. REPORTING LIMIT FOR cis-1,2-DCE = 5.0 ug/L.
6. UNITS IN MICROGRAMS PER LITER (ug/L).
6. EC ISOCONCENTRATION LINE DELINEATES AREA WITH DETECTION AT OR ABOVE THE REPORTING LIMIT.

TECH MEMO/WP, FIG 4-8, REVISED 01/19/01

Burns & McDonnell SINCE 1898

FIGURE 4-8
Cis-1,2-DCE Concentrations in Soil-Gas in the Vicinity of Building 367 Depth = 15 Feet 354 Area Solvent Detections RI/FS

U:/fortriley/erc/eviews/usfr354/354techmemo.apr/Fig4-8 DCE Soilgas shallow layout and view 1:480 ALE 9/14/00

LEGEND

- MONITORING WELL
- PROBEHOLE, NON-DETECT/BELOW REPORTING LIMIT
- PROBEHOLE, DRY (NOT SAMPLED)
- PROBEHOLE, POSITIVE DETECTION
- PROBEHOLE, NOT SAMPLED WITHIN DEEP ZONE (POINT BAR ONLY)
- PIEZOMETER
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED; 1999 AND 2000 FIELDWORK)
- EXTENT OF CONTAMINATION--1997 FIELDWORK (APPROXIMATE)
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

N

TECH MEMO/WP, FIG. 4-9, REVISED 01/22/01

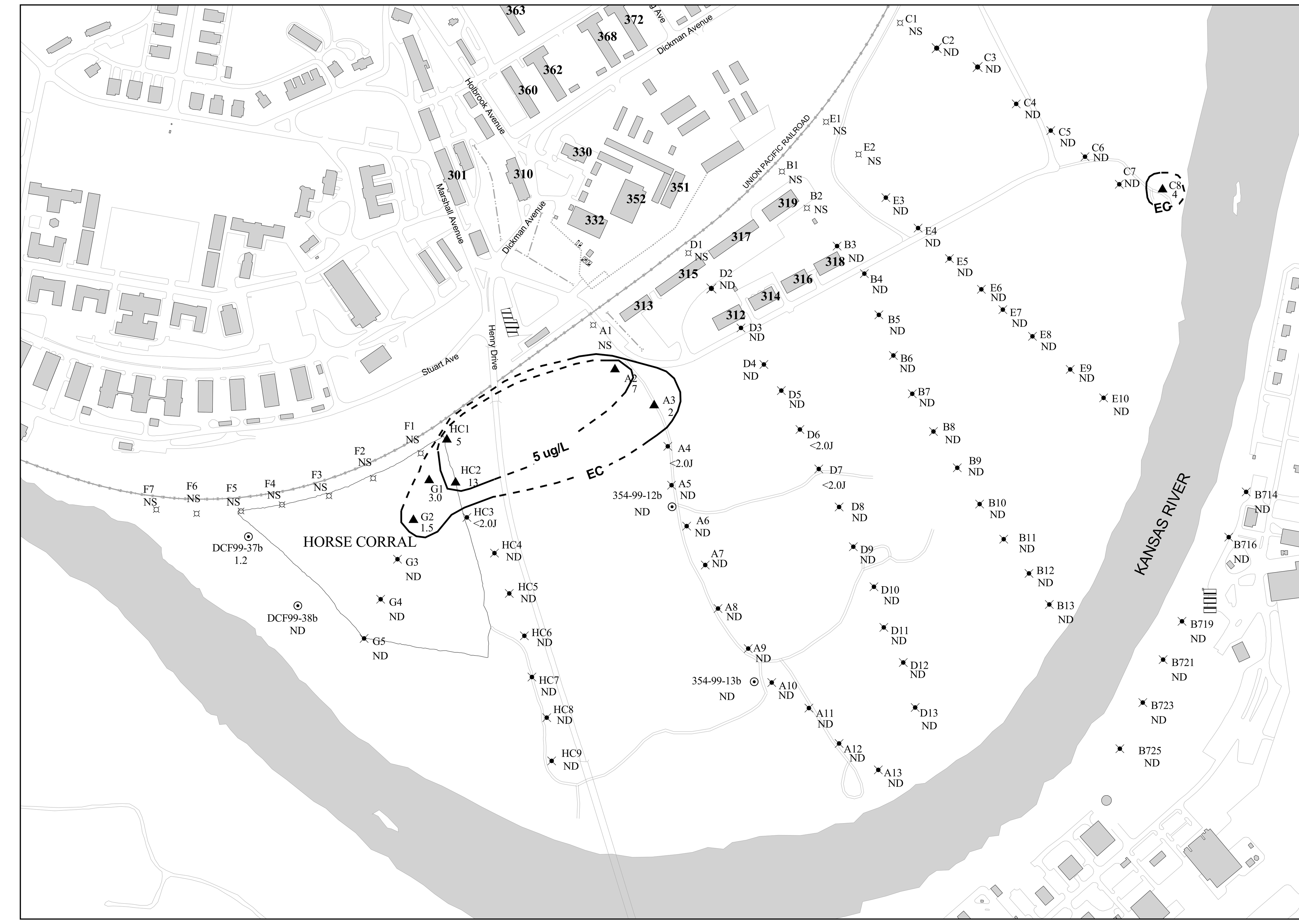
NOTES:

1. FOR PROBEHOLES, RESULTS ARE FOR ONSITE ANALYSIS UNLESS 2 VALUES ARE PRESENTED. IN THIS CASE, THE FIRST VALUE IS ONSITE AND THE SECOND VALUE IS OFFSITE LAB (ONSITE/OFFSITE). ALL MONITORING WELL RESULTS ARE OFFSITE LAB.
2. ND--NOT DETECTED.
3. NS--NOT SAMPLED WITHIN DEEP ZONE.
4. J-ESTIMATED VALUE BELOW REPORTING LIMITS.
5. EC--EXTENT 0F CONTAMINATION
6. MCL FOR PCE = 5 ug/L.
7. CONTAMINATION EXTENT FOR 1997 FIELDWORK TAKEN FROM IFI REPORT (BMcD, 1998c), MODIFIED TO INCLUDE DETECTIONS BELOW MCLs.
8. LOCATION OF B716 NOT SURVEYED. LOCATION APPROXIMATE.
9. MONITORING WELLS SAMPLED IN FEBRUARY 2000. SEE DSR (BMcD, 2000d) FOR DETAILED INFORMATION ON SAMPLING EVENT.

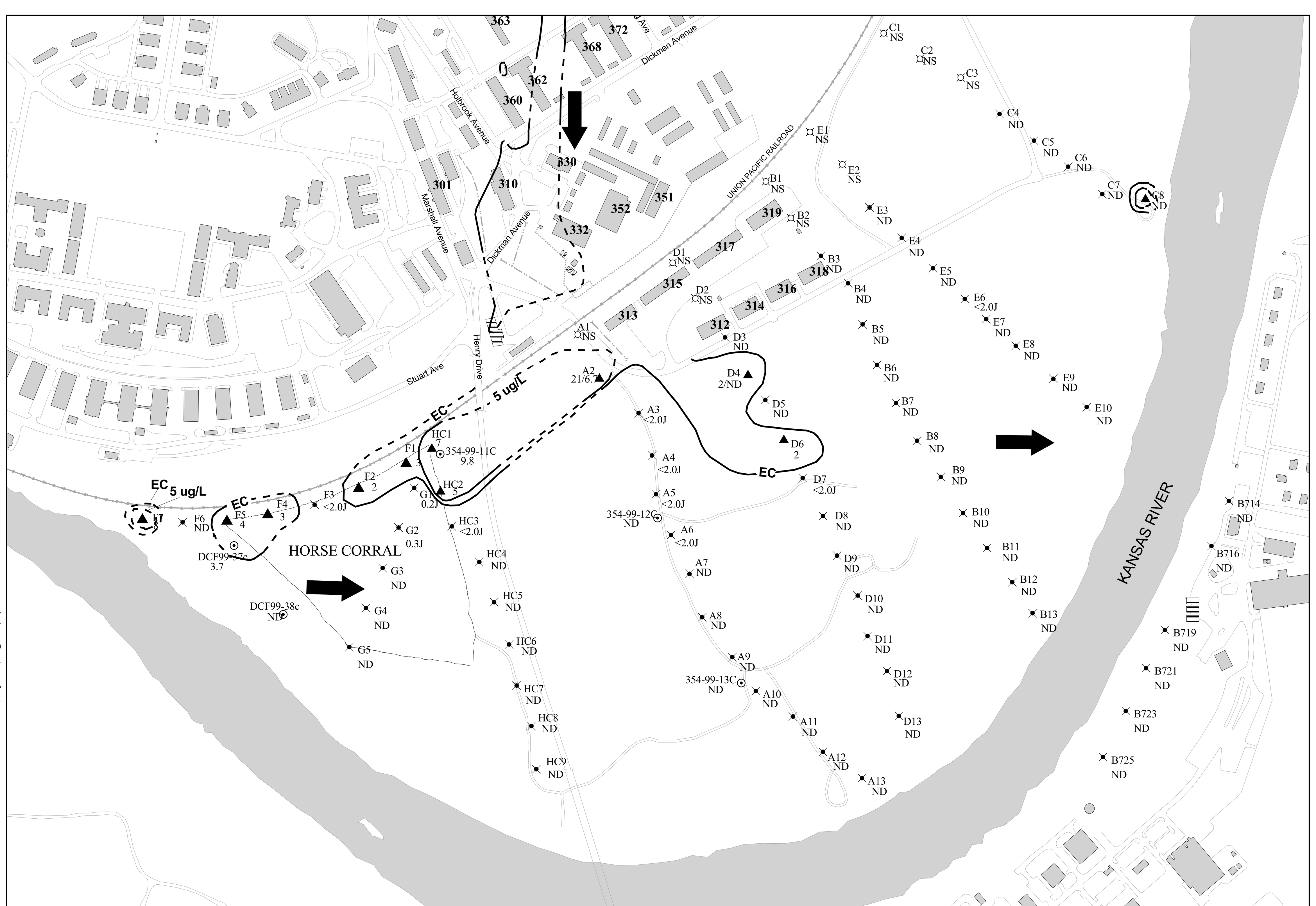
Burns & McDonnell SINCE 1956

FIGURE 4-9
PCE Concentrations in Groundwater
354 Area Solvent Detections RI/FS

POINT BAR--SHALLOW



POINT BAR--INTERMEDIATE



POINT BAR--DEEP

NOTES:
1. FOR PROBHOLES, RESULTS ARE FOR ONSITE ANALYSIS UNLESS 2 VALUES ARE PRESENTED. IN THIS CASE, THE FIRST VALUE IS ONSITE AND THE SECOND VALUE IS OFFSITE LAB (ONSITE/OFFSITE). ALL MONITORING WELL RESULTS ARE OFFSITE LAB.
2. ND--NOT DETECTED.
3. NS--NOT SAMPLED WITHIN ZONE
4. EC--EXTENT OF CONTAMINATION
5. MCL FOR PCE = 5 ug/L.
6. DISTRIBUTION OF CONTAMINATION TO THE NORTH OF RAILROAD GRADE SHOWN ON 'DEEP' VIEW.
7. LOCATION OF B716 APPROXIMATE.
8. J-ESTIMATED VALUES BELOW REPORTING LIMIT.
9. MONITORING WELLS SAMPLED IN FEBRUARY 2000. SEE DSR (BMCD, 2000D) FOR DETAILED INFORMATION ON SAMPLING EVENT.

LEGEND

- MONITORING WELL
- PROBEHOLE, NON-DETECT/BELOW REPORTING LIMIT
- PROBEHOLE, NOT SAMPLED WITHIN ZONE
- PROBEHOLE, POSITIVE DETECTION
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION (DASHED WHERE INFERRED)
- DIRECTION OF GROUNDWATER FLOW
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS
- FORMER USTS OR SERVICE STATION

400 0 400 Feet

N

TECH MEMO/WP, FIG. 4-10, REVISED 01/23/01

Burns & McDonnell SINCE 1898

FIGURE 4-10
PCE Concentrations in Groundwater
Point Bar--Shallow, Intermediate and Deep
354 Area Solvent Detections RI/FS

LEGEND

- MONITORING WELL
- PROBEHOLE, NON-DETECT/BELOW REPORTING LIMIT
- PROBEHOLE, DRY (NOT SAMPLED)
- PROBEHOLE, POSITIVE DETECTION
- PROBEHOLE, NOT SAMPLED WITHIN DEEP ZONE (POINT BAR ONLY)
- PIEZOMETER
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED; 1999 AND 2000 FIELDWORK)
- EXTENT OF CONTAMINATION--1997 FIELDWORK (APPROXIMATE)
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

N

U:/arc/usfr354/bu/354techmemo.apr/Fig3-9TCElayout 1:4800/1:1200/1:600 ALE 9/21/00

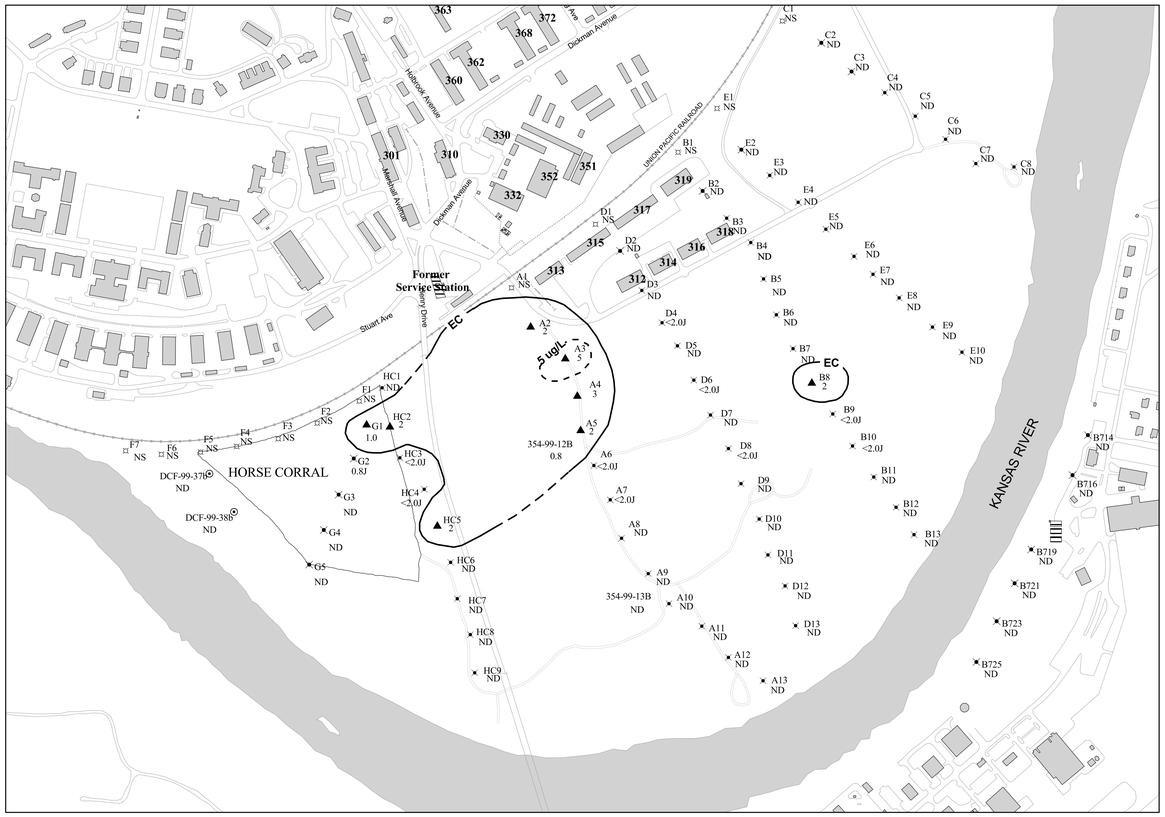
TECH MEMO/WP, FIG. 4-11, REVISED 01/26/01

NOTES:
1. FOR PROBHOLES, RESULTS ARE FOR ONSITE ANALYSIS UNLESS 2 VALUES ARE PRESENTED. IN THIS CASE, THE FIRST VALUE IS ONSITE AND THE SECOND VALUE IS OFFSITE LAB (ONSITE/OFFSITE). ALL MONITORING WELL RESULTS ARE OFFSITE LAB.
2. ND--NOT DETECTED.
3. NS--NOT SAMPLED WITHIN DEEP ZONE
4. J-ESTIMATED VALUE BELOW REPORTING LIMITS (EPS RESULT).
5. EC--EXTENT OF CONTAMINATION
6. MCL FOR TCE = 5 ug/L.
7. EXTENT OF CONTAMINATION FOR 1997 FIELDWORK TAKEN FROM IFI REPORT (BMcD, 1998c), MODIFIED TO INCLUDE DETECTIONS BELOW MCLs.
8. LOCATION OF B716 NOT SURVEYED. LOCATION APPROXIMATE.
9. MONITORING WELLS SAMPLED IN FEBRUARY 2000. SEE DSR (BMcD, 2000d) FOR DETAILED INFORMATION ON SAMPLING EVENT.

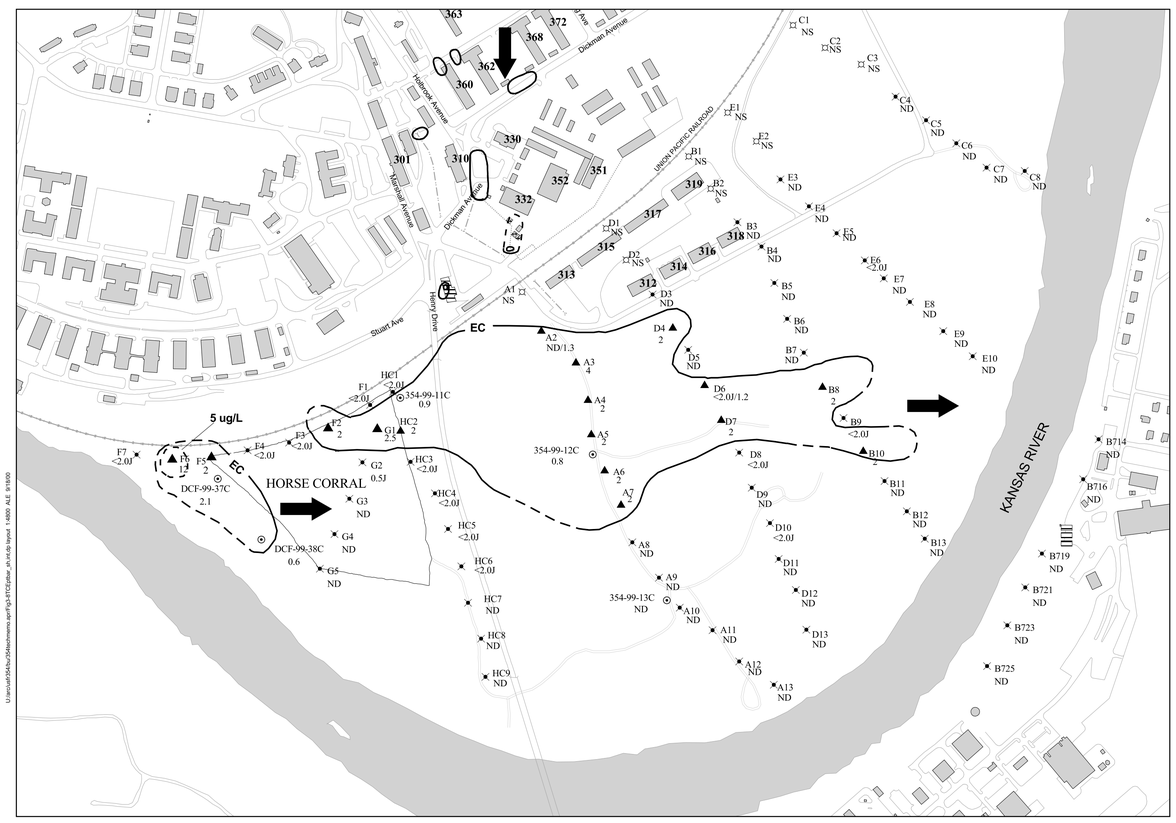
Burns & McDonnell SINCE 1898

FIGURE 4-11
TCE Concentrations in Groundwater
354 Area Solvent Detections RI/FS

POINT BAR--SHALLOW



POINT BAR--INTERMEDIATE



POINT BAR--DEEP

NOTES:
1. FOR PROBEHOLES, RESULTS ARE FOR ONSITE ANALYSIS UNLESS 2 VALUES ARE PRESENTED. IN THIS CASE, THE FIRST VALUE IS ONSITE AND THE SECOND VALUE IS OFFSITE LAB (ONSITE/OFFSITE). ALL MONITORING WELL RESULTS ARE OFFSITE LAB.
2. ND--NOT DETECTED.
3. NS--NOT SAMPLED WITHIN ZONE
4. EC--EXTENT OF CONTAMINATION
5. MCL FOR TCE = 5 ug/L.
6. DISTRIBUTION OF CONTAMINATION TO THE NORTH OF RAILROAD GRADE SHOWN ON 'DEEP' VIEW.
7. LOCATION OF B716 APPROXIMATE.
8. J-ESTIMATED VALUE BELOW REPORTING LIMIT.
9. MONITORING WELLS SAMPLED IN FEBRUARY 2000. SEE DSR (BMCD, 2000D) FOR DETAILED INFORMATION ON SAMPLING EVENT.

LEGEND

- MONITORING WELL
- PROBEHOLE, NON-DETECT/BELOW REPORTING LIMIT
- PROBEHOLE, NOT SAMPLED WITHIN ZONE
- PROBEHOLE, POSITIVE DETECTION
- DIRECTION OF GROUNDWATER FLOW
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED; 1999 AND 2000 FIELDWORK)
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS
- FORMER USTS OR SERVICE STATION

N

400 0 400 Feet

TECH MEMO/WP, FIG. 4-12, REVISED 01/26/01

Burns & McDonnell SINCE 1898

FIGURE 4-12
TCE Concentrations in Groundwater
Point Bar--Shallow, Intermediate and Deep
354 Area Solvent Detections RI/FS

LEGEND

- MONITORING WELL
- PROBEHOLE, NON-DETECT/BELOW REPORTING LIMIT
- PROBEHOLE, DRY (NOT SAMPLED)
- PROBEHOLE, POSITIVE DETECTION
- PIEZOMETER
- PROBEHOLE, NOT SAMPLED WITHIN DEEP ZONE (POINT BAR ONLY)
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED; 1999 AND 2000 FIELDWORK)
- EXTENT OF CONTAMINATION --1997 FIELDWORK (APPROXIMATE)
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

U:/arc/usfr354/bu/354techmemo.apr/Sample Layout 1:4800/1:1200/1:600 lgb 3/13/00

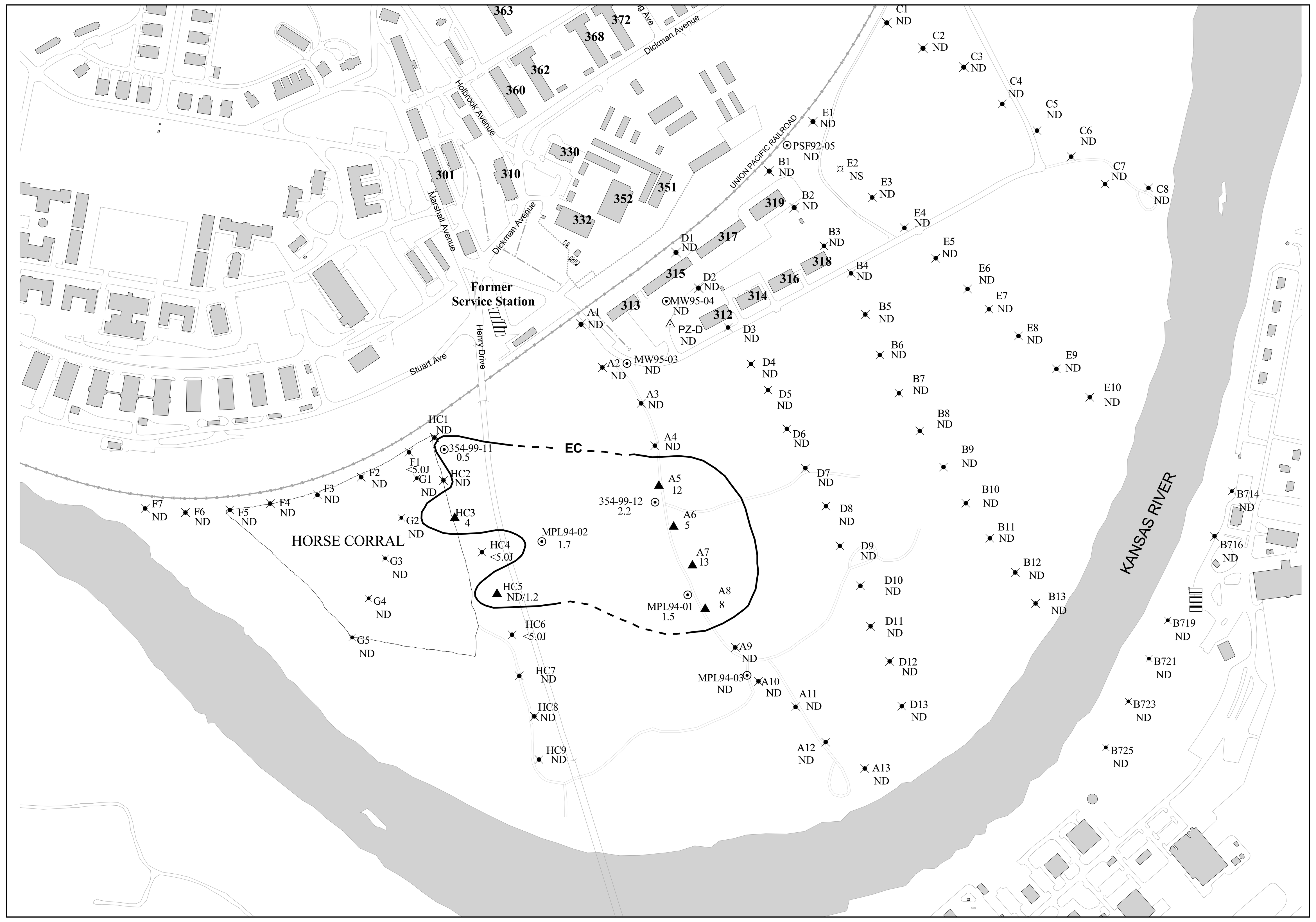
TECH MEMO/WP, FIG. 4-13, REVISED 01/22/01

NOTES:

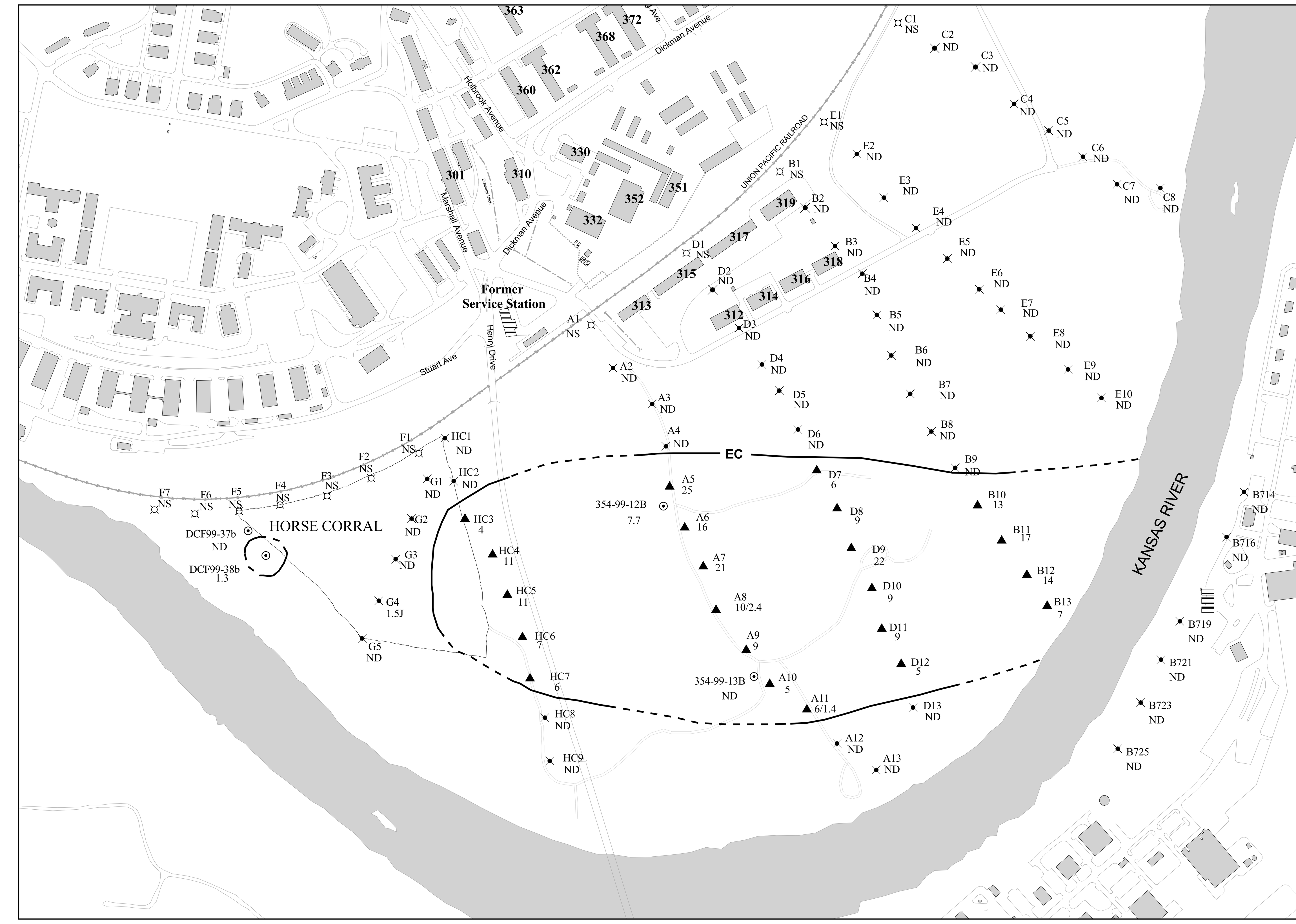
1. FOR PROBEHOLES, RESULTS ARE FOR ONSITE ANALYSIS UNLESS 2 VALUES ARE PRESENTED. IN THIS CASE, THE FIRST VALUE IS ONSITE AND THE SECOND VALUE IS OFFSITE LAB (ONSITE/OFFSITE). ALL MONITORING WELL RESULTS ARE OFFSITE LAB.
2. ND--NOT DETECTED.
3. NS--NOT SAMPLED WITHIN DEEP ZONE
4. BMDL--BELOW METHOD DETECTION LIMIT (< 5 ug/L).
5. EC--EXTENT OF CONTAMINATION
6. MCL FOR CIS-1,2-DCE = 70 ug/L.
7. EXTENT OF CONTAMINATION FOR 1997 FIELDWORK TAKEN FROM IFI REPORT (BMcD, 1998c), MODIFIED TO INCLUDE DETECTIONS BELOW MCLs.
8. LOCATION OF B716 NOT SURVEYED. LOCATION APPROXIMATE.
9. MONITORING WELLS SAMPLED IN FEBRUARY 2000. SEE DSR (BMcD, 2000d) FOR DETAILED INFORMATION ON SAMPLING EVENT.

Burns & McDonnell SINCE 1898

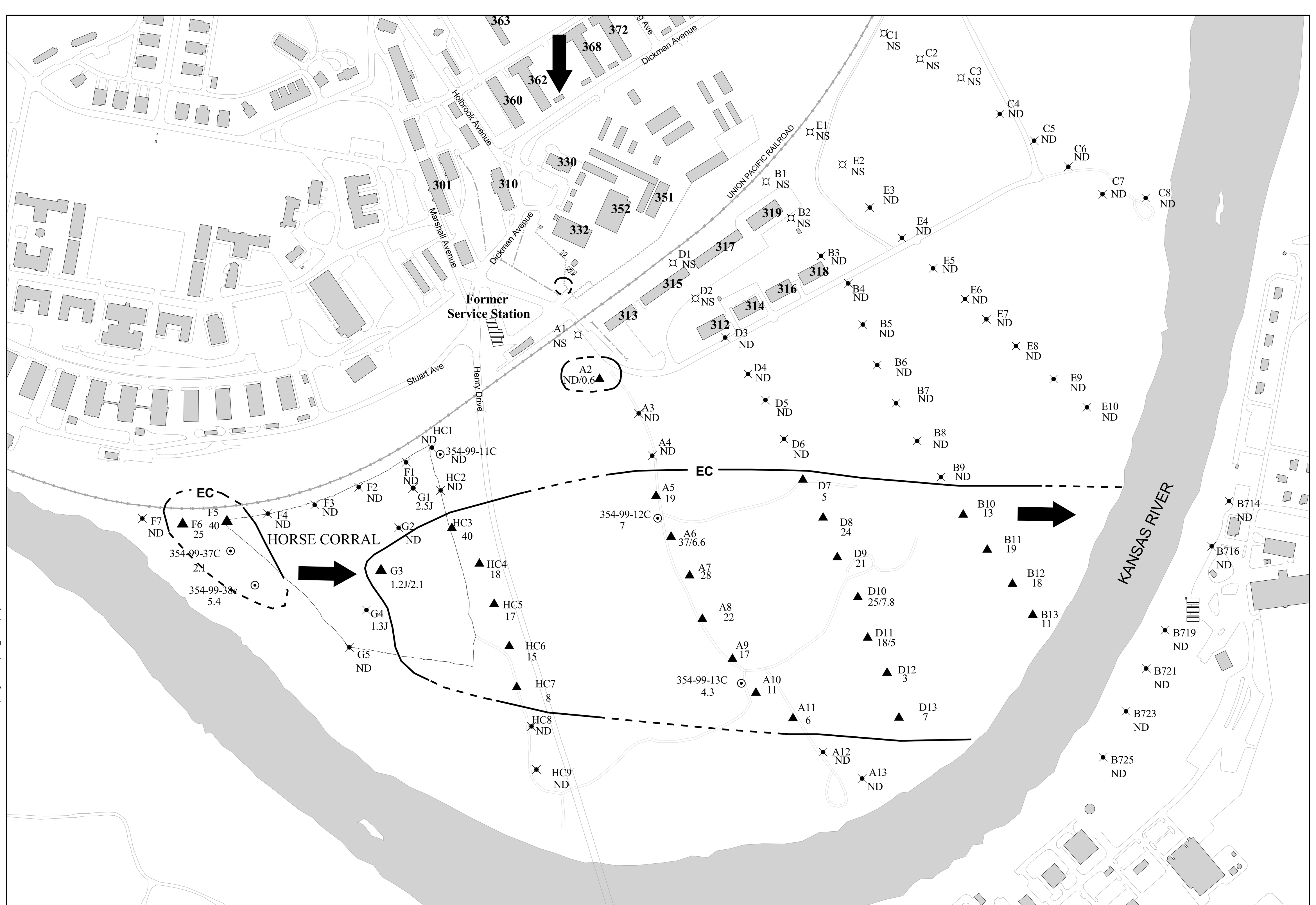
FIGURE 4-13
Cis-1,2-DCE Concentrations in Groundwater
354 Area Solvent Detections RI/FS



POINT BAR--SHALLOW



POINT BAR--INTERMEDIATE



POINT BAR--DEEP

NOTES:

1. FOR PROBE HOLES, RESULTS ARE FOR ONSITE ANALYSIS UNLESS 2 VALUES ARE PRESENTED. IN THIS CASE, THE FIRST VALUE IS ONSITE AND THE SECOND VALUE IS OFFSITE LAB (ONSITE/OFFSITE). ALL MONITORING WELL RESULTS ARE OFFSITE LAB.
2. ND--NOT DETECTED.
3. NS--NOT SAMPLED WITHIN ZONE
4. EC--EXTENT OF CONTAMINATION
5. MCL FOR CIS-1,2-DCE = 70 ug/L.
6. DISTRIBUTION OF CONTAMINATION TO THE NORTH OF RAILROAD GRADE SHOWN ON 'DEEP' VIEW.
7. LOCATION OF B716 APPROXIMATE.
8. J--ESTIMATED VALUE BELOW REPORTING LIMIT.
9. MONITORING WELLS SAMPLED IN FEBRUARY 2000. SEE DSR (BMCD, 2000D) FOR DETAILED INFORMATION ON SAMPLING EVENT.

LEGEND

- MONITORING WELL
- PROBEHOLE, NON-DETECT/BELOW REPORTING LIMIT
- PROBEHOLE, NOT SAMPLED WITHIN ZONE
- PROBEHOLE, POSITIVE DETECTION
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE (DASHED WHERE INFERRED; 1999 AND 2000 FIELDWORK)
- DIRECTION OF GROUNDWATER FLOW
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS
- FORMER USTS OR SERVICE STATION

400 0 400 Feet

N

TECH MEMO/WP, FIG. 4-14, REVISED 01/23/01

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FIGURE 4-14
Cis-1,2-DCE Concentrations
in Groundwater
Point Bar--Shallow, Intermediate and Deep
354 Area Solvent Detections RI/FS

U:/arc/usfr354/bu/354techmemo.apr/Fig 2-1 Sample Loc MultiView 1:4800/1:1200/1:600 ale

LEGEND

- MONITORING WELL
- PIEZOMETER
- PROBEHOLE, NON-DETECT OR NOT ANALYZED
- PROBEHOLE, POSITIVE DETECTION
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE FOR CARBON TETRACHLORIDE (DASHED WHERE INFERRED; 2000 AND 1999 FIELDWORK)
- ISOCONCENTRATION OR EXTENT OF CONTAMINATION LINE FOR TRICHLROMETHANE (DASHED WHERE INFERRED; 2000 AND 1999 FIELDWORK)
- EXTENT OF CARBON TETRACHLORIDE CONTAMINATION-1997 FIELDWORK (APPROXIMATE)
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

N

TECH MEMO/WP, FIG. 4-15, REVISED 01/26/01

NOTES:

1. RESULTS REPRESENT BOTH ONSITE AND OFFSITE LAB RESULTS.
   CARBON TETRACHLORIDE (ONSITE)/CARBON TETRACHLORIDE (OFFSITE).
   TRICHLOROMETHANE (OFFSITE)
2. RED = CARBON TETRACHLORIDE
3. GREEN = TRICHLOROMETHANE
4. ND--NOT DETECTED
5. NA--NOT ANALYZED
6. EC--EXTENT OF CONTAMINATION
7. J-ESTIMATED VALUE BELOW REPORTED LIMIT.
8. U-UNDETECTED VALUE BELOW REPORTED LIMIT.
9. MCL FOR CARBON TETRACHLORIDE = 5 ug/L.
10. MONITORING WELLS SAMPLED IN FEBRUARY 2000. SEE DSR (BMCD, 2000d) FOR DETAILED INFORMATION ON SAMPLING EVENT.
11. PROBE-HOLES WHICH DID NOT YIELD ANY GROUNDWATER ARE MARKED "DRY".

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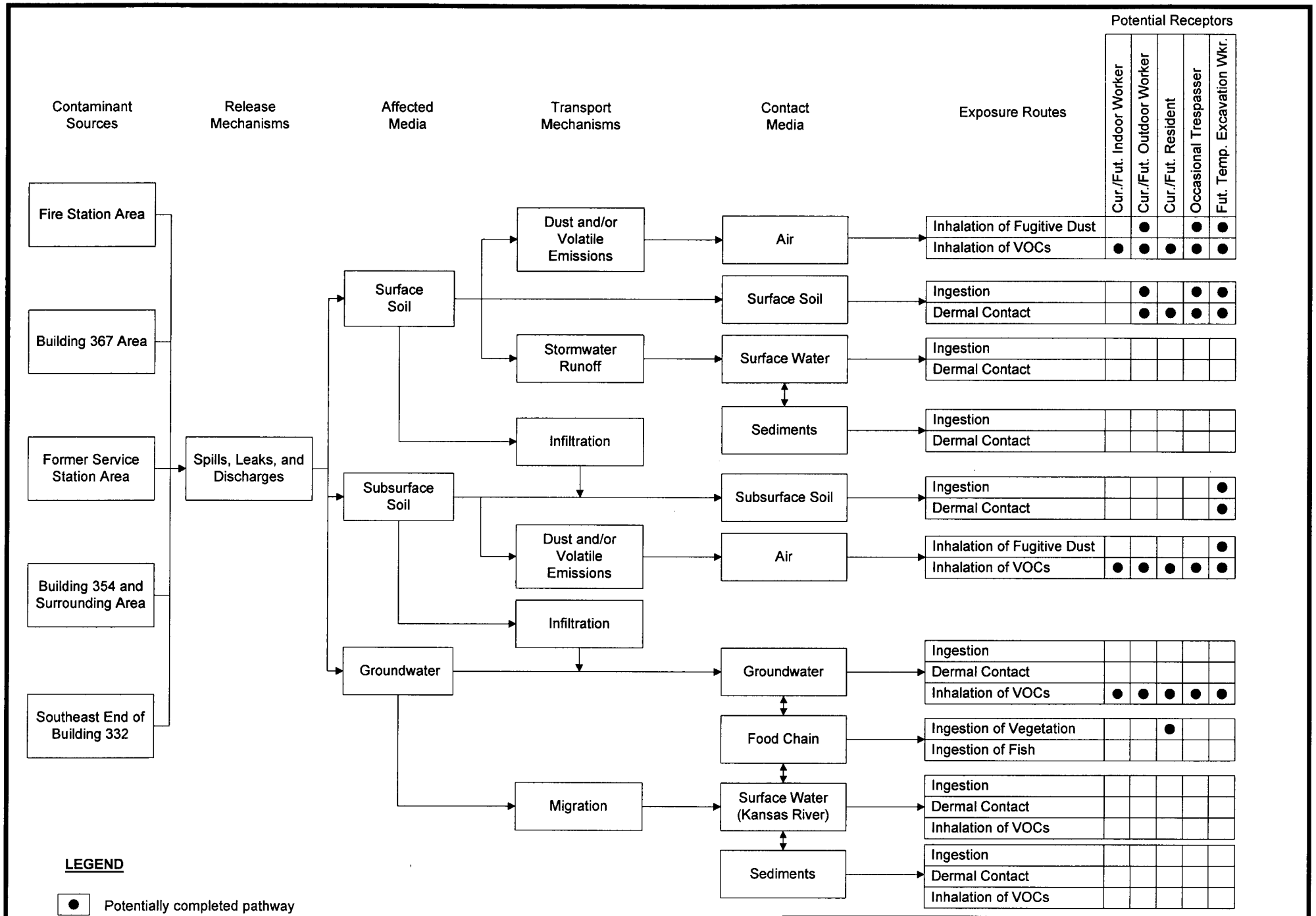
FIGURE 4-15
Carbon Tetrachloride and Trichloromethane Concentrations in Groundwater
354 Area Solvent Detections RI/FS

FIGURE 4-16
PCE, TCE, Cis-1,2-DCE, and Carbon Tetrachloride Distribution in Groundwater
354 Area Solvent Detections RI/FS

NOTES:
1. REPRESENTS COMPOSITE FOR BOTH IFI AND RI FIELDWORK PERFORMED AT THIS SITE.



10/8/2000 K:\usfr354\dataeval\csm.vsd

Burns & McDonnell SINCE 1898

Figure 6-1
Human Health Conceptual Model
354 Solvent Detection Site at
Main Post, Fort Riley, KS

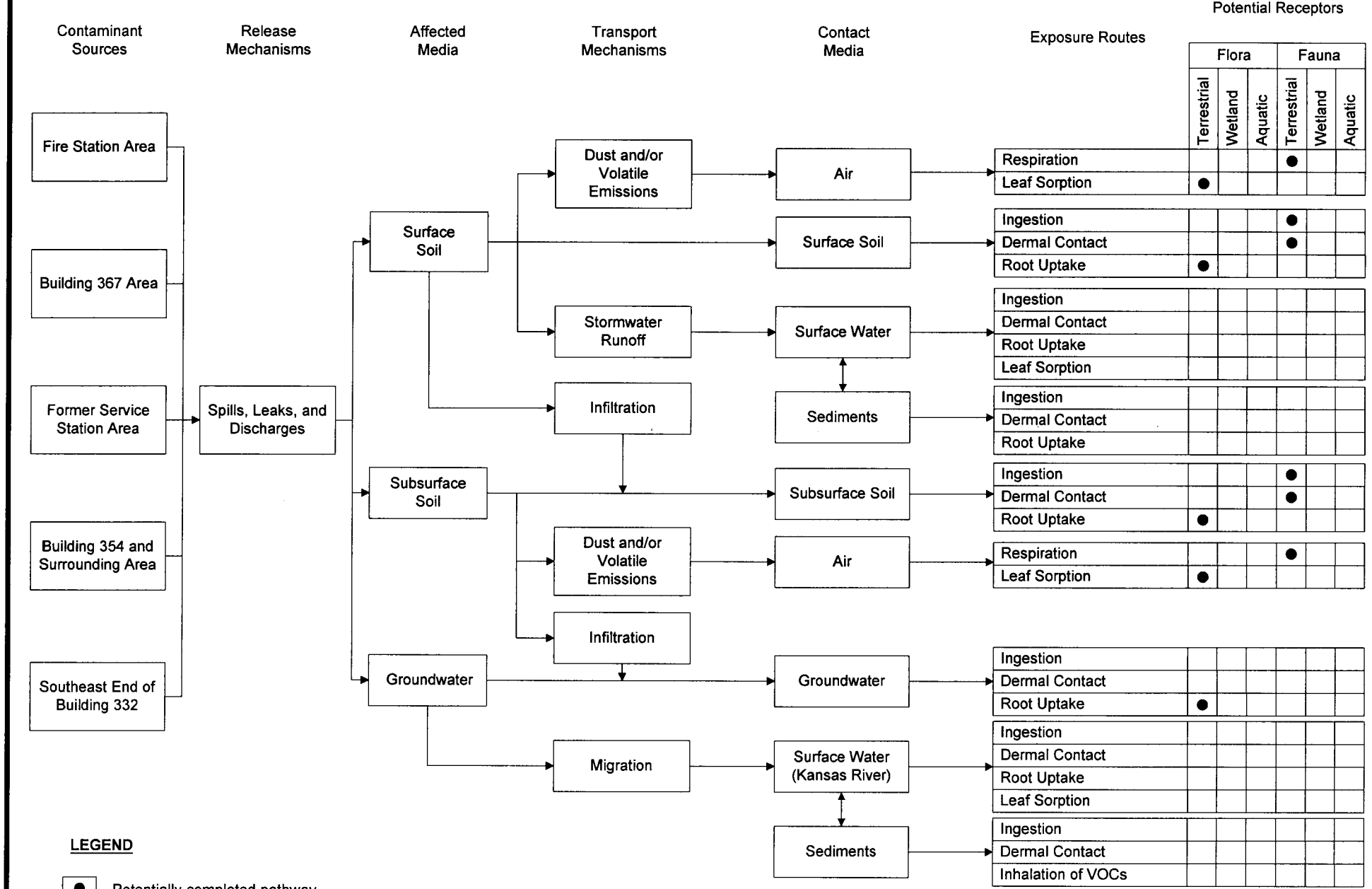


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Figure 6-2
Ecological Conceptual Model
354 Solvent Detection Site at
Main Post, Fort Riley, KS

LEGEND

- PROPOSED SOIL SAMPLING LOCATION
- PROPOSED GROUNDWATER SCREENING LOCATION
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS W/BUILDING NO.
- FORMER USTS OR SERVICE STATION

N

TECH MEMO/WP, FIG. 7-1, REVISED 01/26/01

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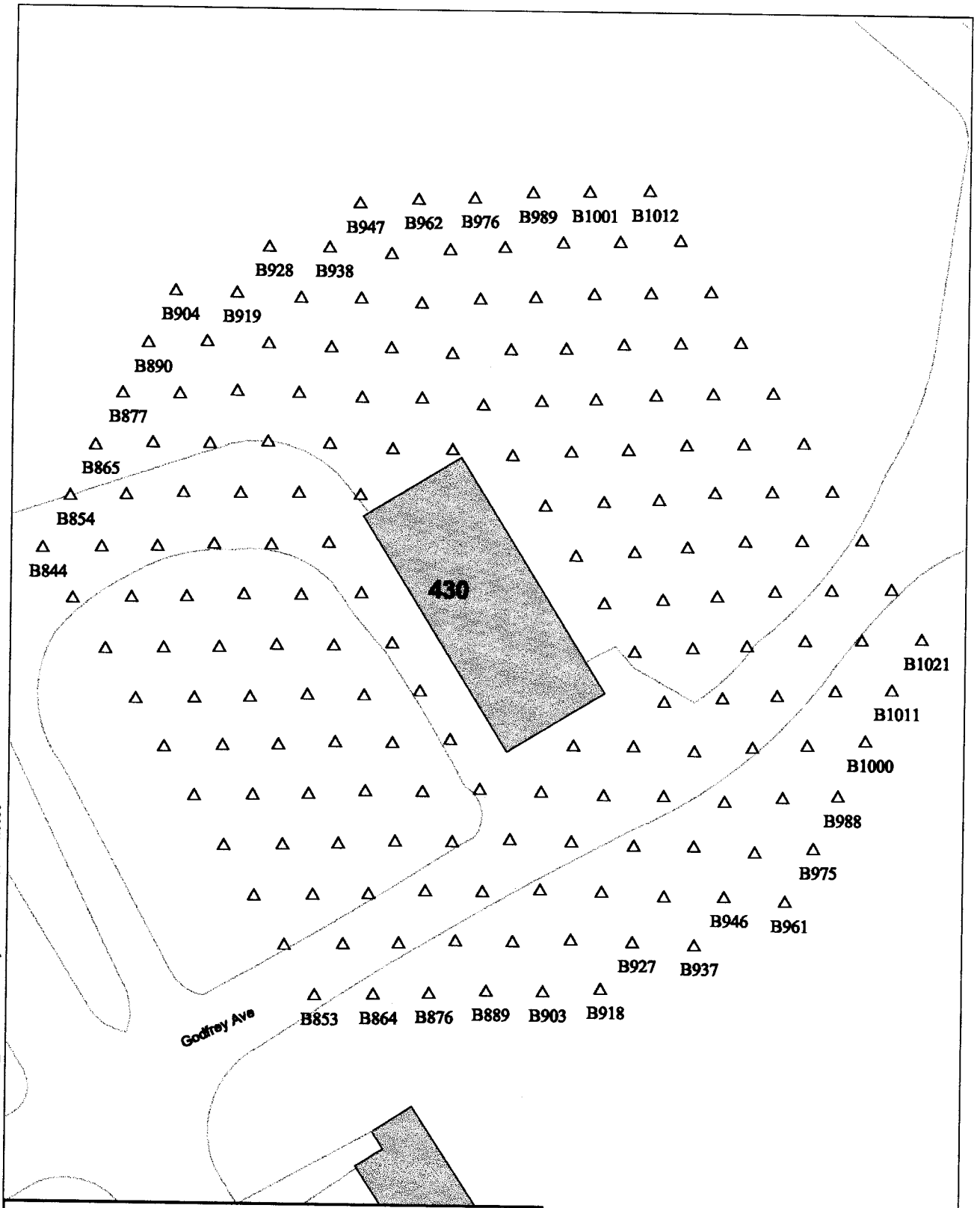
FIGURE 7-1
Proposed Direct-Push Soil and Groundwater Sampling Locations
354 Area Solvent Detections RI/FS



LEGEND

- PROPOSED DIRECT-PUSH SOIL-GAS SAMPLING LOCATION
- ROADS WITH PARKING LOTS
- BUILDINGS

50 0 50 Feet

N

TECH MEMO/WP, FIG. 7-2, REVISED 01/26/01

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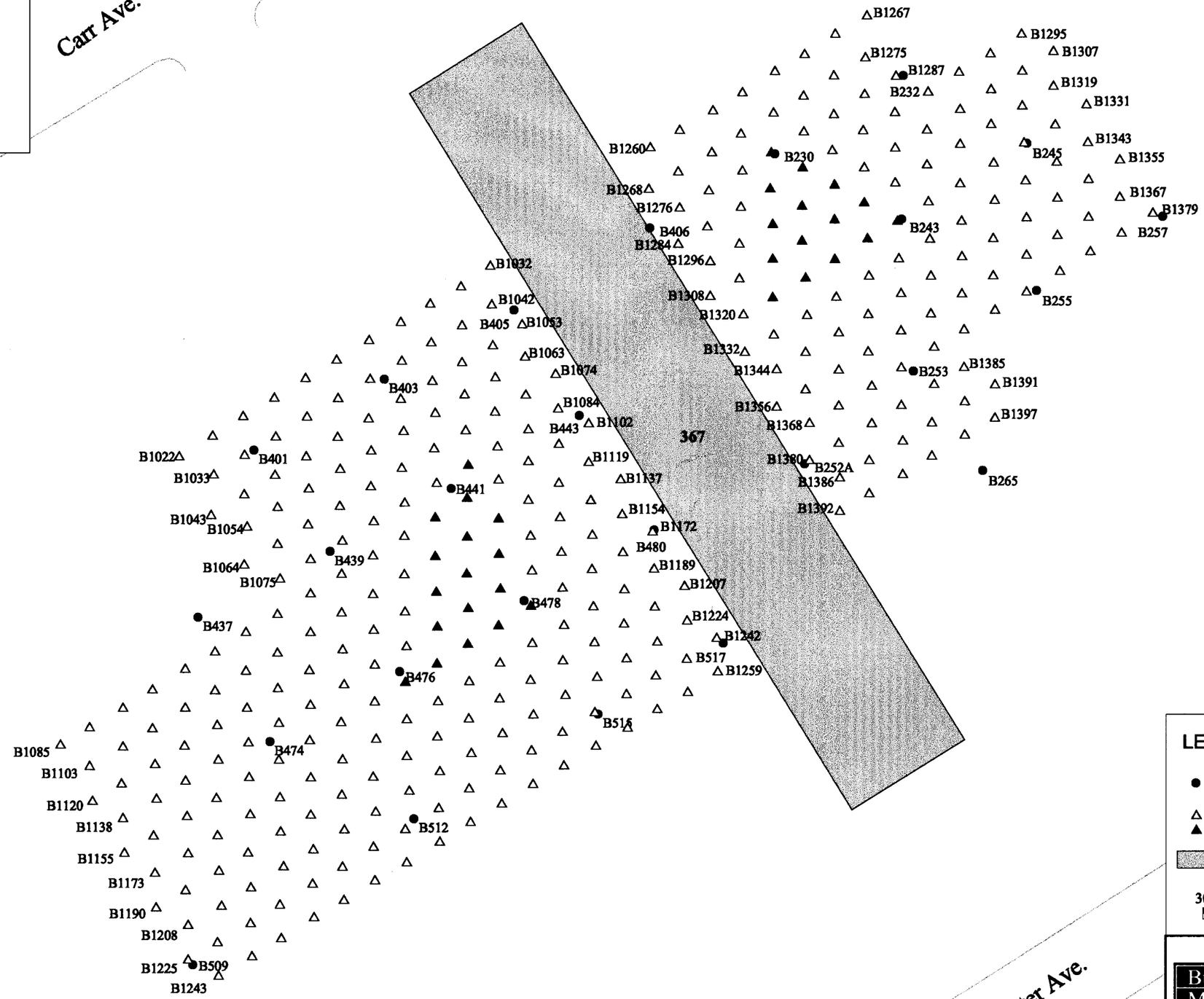
FIGURE 7-2
Proposed Direct-Push Soil Gas Sampling Locations in the Vicinity of Building 430 (Main Post Fire Station) 354 Area Solvent Detections RI/FS

\\WCGIS\fortriley\usr\354\view\354techmemo.apr\Fig3-BGWeley_0700 View and Layout ale 10/02/00 1:3800

NOTE:
DIRECT-PUSH SAMPLING LOCATIONS REPRESENTED BY SOLID BLACK TRIANGLES WILL ALL BE SAMPLED. THOSE REPRESENTED BY OPEN TRIANGLES WILL BE SAMPLED USING AN ITERATIVE METHOD. ALL OF THESE WILL NOT NECESSARILY BE SAMPLED.

Carr Ave.



Carter Ave.

LEGEND

- DIRECT-PUSH SAMPLING LOCATION (COMPLETED)
- △ PROPOSED DIRECT-PUSH SOIL SAMPLING LOCATION
- BUILDING

N

30 0 30 Feet

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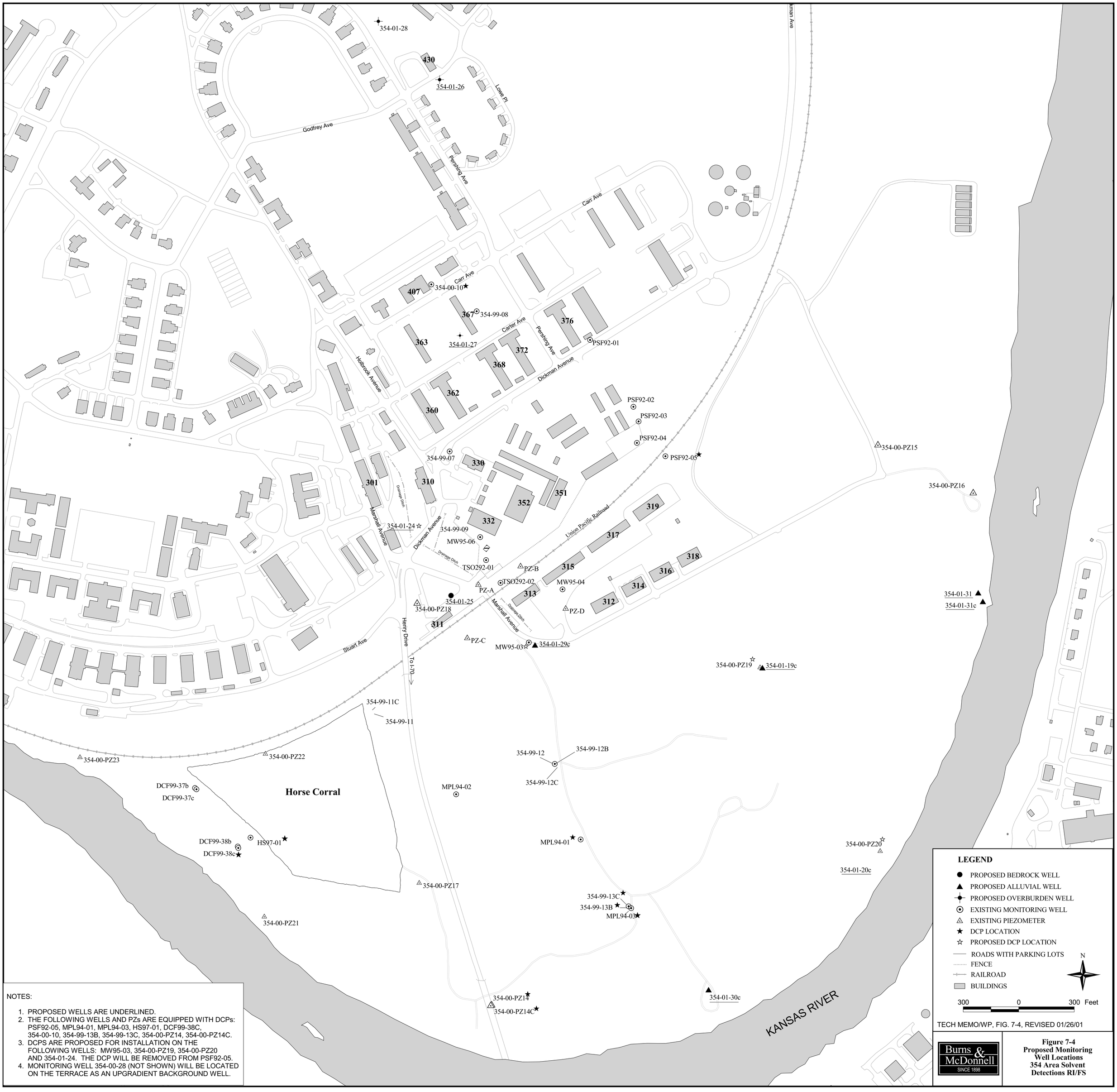
FIGURE 7-3
Proposed Direct-Push Soil Sampling Locations at Building 367

354 Area Solvent Detection RI/FS

TECH MEMO/WP, FIG 7-3, REVISED 01/12/01

\\WCGIS\fortriley\usfr354\aview\354techmemo.apr\Fig2-3 Proposed MWlocations View and Layout ALE 9/27/00 1:3600



NOTES:

1. PROPOSED WELLS ARE UNDERLINED.
2. THE FOLLOWING WELLS AND PZs ARE EQUIPPED WITH DCPs: PSF92-05, MPL94-01, MPL94-03, HS97-01, DCF99-38C, 354-00-10, 354-99-13B, 354-99-13C, 354-00-PZ14, 354-00-PZ14C.
3. DCPS ARE PROPOSED FOR INSTALLATION ON THE FOLLOWING WELLS: MW95-03, 354-00-PZ19, 354-00-PZ20 AND 354-01-24. THE DCP WILL BE REMOVED FROM PSF92-05.
4. MONITORING WELL 354-00-28 (NOT SHOWN) WILL BE LOCATED ON THE TERRACE AS AN UPGRADIENT BACKGROUND WELL.

LEGEND

- PROPOSED BEDROCK WELL
- PROPOSED ALLUVIAL WELL
- PROPOSED OVERBURDEN WELL
- EXISTING MONITORING WELL
- EXISTING PIEZOMETER
- DCP LOCATION
- PROPOSED DCP LOCATION
- ROADS WITH PARKING LOTS
- FENCE
- RAILROAD
- BUILDINGS

N

300 0 300 Feet

TECH MEMO/WP, FIG. 7-4, REVISED 01/26/01

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Figure 7-4
Proposed Monitoring Well Locations
354 Area Solvent Detections RI/FS