



**Draft Final
Technical Memorandum Report
Potential Source Area and Sewer Line Field Screening
Dry Cleaning Facilities Area (Oper. Unit 003)
at
Fort Riley, Kansas**

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Prepared for



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LIST OF ACRONYMS AND ABBREVIATIONS

ASTM	American Society for Testing and Materials
ATV	All-Terrain Vehicle
B354	Building 354
bgs	below ground surface
BMcD	Burns & McDonnell Engineering Company, Inc.
CAS	Continental Analytical Services
cm/sec	centimeters per second
DCE	cis-1,2-Dichloroethene
DCFA	Dry Cleaning Facilities Area
DES	Fort Riley Directorate of Environment and Safety
EPS	Environmental Priority Service
EWMC	Environmental Waste Management Center
FS	Feasibility Study
GC	Gas Chromatograph
IDW	Investigative Derived Waste
IPS	Innovative Probing Solutions
J	Estimated Value Below Reporting Limit
KDHE	Kansas Department of Health and Environment
LBA	Louis Berger & Associates
MCL	Maximum Contaminant Level
ug/kg	micrograms per kilogram
ug/L	micrograms per Liter
mg/kg	milligrams per kilogram
MS/MSD	Matrix Spike/Matrix Spike Duplicate
msl	mean sea level
OU	Operable Unit
PA/SI	Preliminary Assessment/Site Investigation
PCE	Tetrachloroethene
PID	Photoionization Detector
PVC	Polyvinyl Chloride
QA	Quality Assurance
QC	Quality Control
QCSR	Quality Control Summary Report

LIST OF ACRONYMS AND ABBREVIATIONS (continued)

RI	Remedial Investigation
RSK	KDHE Tier 2 Risk-Based Standards
SAP	Sampling and Analysis Plan
SWP	Site Work Plan
TCE	Trichloroethene
TCL	Target Compound List
TPH-DRO	Total Petroleum Hydrocarbons – Diesel Range Organics
UN	United Nations
USAEHA	United States Army Environmental Hygiene Agency
USATHAMA	United States Army Toxic and Hazardous Materials Agency
USEPA	United States Environmental Protection Agency
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

* * * * *

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF REPORT

This Technical Memorandum Report for the Dry Cleaning Facilities Area (DCFA) Potential Source Area Investigation, Operable Unit [OU] 003 study area at Fort Riley, Kansas has been prepared to present the data evaluation and conclusions resulting from the field investigation conducted at the DCFA in fall 2000. This report has been prepared by Burns & McDonnell Engineering Company, Inc. (BMCD) for the United States Army Corps of Engineers (USACE) - Kansas City District.

The scope of this report is limited to an evaluation of the data collected in October, November, and December 2000 to assist in identifying whether potential sources for tetrachloroethene (PCE) contamination are present at the DCFA in the vicinity of former Buildings 180/181 or along the main sanitary sewer line that extends from south of Building 183 and former Buildings 180/181 eastward to the wastewater treatment plant. This sewer line formerly connected Buildings 180/181 and still connects Building 183 to the wastewater treatment plant. Contaminants of concern for this investigation include PCE and its daughter products - trichloroethene (TCE) and cis-1,2-dichloroethene (DCE). The location of the DCFA is shown on Figures 1-1 and 1-2.

1.2 SITE HISTORY

The site history of the DCFA is presented in Table 1-1.

1.3 REPORT ORGANIZATION

This report is arranged in the following manner:

- Section 2.0 provides a review of investigative 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 presents the nature and extent of contaminants detected during the fieldwork, which consisted of the field screening of groundwater and soil. The field screening data was also compared to the results from the concurrent sampling of the site's groundwater monitoring wells.
- Section 5.0 presents the summary and conclusions of the report.

2.0 FIELD ACTIVITIES

2.1 OVERVIEW OF FIELD ACTIVITIES

Investigative fieldwork at the DCFA study area was conducted using direct push soil and groundwater sampling procedures from October 10 through December 8, 2000. The DCFA field investigations conducted by BMcD were divided into three main areas:

- Area 1 - the Former Buildings 180/181 area includes the soil and groundwater investigation at the former location of Buildings 180/181;
- Area 2 - the Island includes the groundwater investigation along the sanitary sewer line located south of the former Buildings 180/181 location, extending from the train trestle to the Monitoring Well DCF00-34b/DCF00-34c well cluster; and
- Area 3 - the Point Bar/Horse Corral includes the soil and groundwater investigation along the sanitary sewer line located immediately south of the Union Pacific Railroad (UPRR) grade and extending from the western corner post of the of the horse corral to 100 feet east of the eastern horse corral corner post.

The extent of the investigation in all three areas was limited due to the proximity of the investigation to a protected eagle habitat and roost area. Figure 2-1 is a topographic map of the site and surrounding area. Figure 2-2 shows an aerial photograph of the site. The DCFA area locations are shown in Figure 1-2.

The study area for this effort encompasses portions of Main Post as far north as Custer Road near the former location of Buildings 180/181, and extends southward through the Island to the Kansas River, and east along the UPRR grade to the eastern end of the Horse Corral. Some probehole locations in Area 3, south of the UPRR and north of the Horse Corral are situated near probehole locations sampled during the fieldwork conducted for the Building 354 (B354) Area Solvent Detection Study Remedial Investigation (RI)/Feasibility Study (FS) (BMcD, 2001a). The B354 probeholes were established at 200-foot intervals while this investigation's probeholes were established at 50-foot intervals.

The chronology of the fieldwork that was conducted by BMcD for this investigation is:

- October 10 through October 13, 2000 - Arrived on site, conducted work at Area 2, collected 28 groundwater screening samples at 19 locations.

- October 16 through October 25, 2000 - Conducted work at Area 3, collected 17 soil screening samples and 55 groundwater screening samples at 25 locations.
- October 23, 2000 - Water levels measured in monitoring wells as part of October 2000 Groundwater Sampling Event.
- October 23 through October 27, 2000 - Groundwater samples collected from monitoring wells as part of October 2000 Groundwater Sampling Event.
- October 31 through December 8, 2000 - Conducted work at Area 1, collected 253 soil screening samples and 20 groundwater screening samples at 54 locations.

The site work plan (SWP), issued July 29, 2000, entitled *Work Plan to Evaluate Potential Other Sources for the Dry Cleaning Facilities Area at Fort Riley, Kansas*, (USACE, 2000) can be found in Appendix A. This work plan discusses the procedures to be used in this investigation and provides a grid map of the points to be sampled. Expansion or reduction of the sampling grids was completed to obtain additional information or to reflect actual site conditions. Changes to the sampling grids are described in Sections 2.3, 2.4, and 2.5.

Additional information on the study area, site specific sampling and field procedures, and general field procedures for Fort Riley can be found in the following work plans and reports:

- *Sampling and Analysis Plan for Environmental Investigations at Fort Riley, Kansas* (Site Wide SAP), BMcD, 1998a.
 - *Volume I, Field Sampling Plan*
 - *Volume II, Quality Assurance Project Plan*
- *Revised Site Safety and Health Plan for Environmental Investigations, Fort Riley, Kansas*, September 1998, (BMcD, 1998b).
- *Site Wide Quality Control Plan for Environmental Studies and Investigations at Fort Riley, Kansas*, February 1998, (BMcD, 1998c).

- *Revised Monitoring Well Installation Plan for Environmental Investigations at Fort Riley, Kansas, September 1998, (BMcD, 1998d).*
- *Data Summary Report, July 2000 Sampling Event, Dry Cleaning Facilities Area at Fort Riley, Kansas, January 2001, (BMcD, 2001c).*
- *Data Summary Report, October 2000 Sampling Event, Dry Cleaning Facilities Area at Fort Riley, Kansas, January 2001, (BMcD, 2001d).*
- *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, January 29, 2001, (BMcD, 2001a).*
- *Remedial Investigation Report, Dry Cleaning Facilities Study Area, Fort Riley, Kansas, March 1995, (Louis Berger & Associates [LBA], 1995).*
- *Remedial Investigation Addendum Monitoring Expansion Report, Dry Cleaning Facilities Study Area, Fort Riley, Kansas, March 1998, (LBA, 1998a).*

Direct push probehole activities were conducted using either a van or truck-mounted Geoprobe[®] in Area 1 and an all-terrain vehicle (ATV) mounted Geoprobe in Area 2 and Area 3. Environmental Priority Service (EPS) of Salina, Kansas, performed probehole activities in Area 1. In Area 2 and Area 3, probehole activities were performed by Innovative Probing Solutions (IPS), of Mount Vernon, Illinois. All on-site gas chromatograph (GC) analyses were performed by EPS using the purge and trap method. On-site analytical data tables produced by EPS are included in this report as Appendix B. Off-site confirmation analyses were conducted by Continental Analytical Services (CAS) of Salina, Kansas. Kaw Valley Engineering, of Junction City, Kansas, performed all surveying (survey data is in Appendix C). Probehole groundwater and soil sampling locations are shown on Figures 2-3, 2-4, and 2-5.

Probehole locations shown in Figure 2-3, Area 1, are differentiated into three main series; the 100 series denotes those probeholes situated at or in close proximity to the former Buildings 180/181; the 200 series denotes those probeholes west of the former Buildings 180/181 and south of Custer Road; and the 300 series denotes those probeholes north of Custer Road. In Figure 2-4, Area 2, Probeholes DCFB1 through

DCFB6, starting at Manhole 341, were completed, then Probeholes DCFB7 through DCFB19 were completed in a western direction up to the train trestle. Probeholes DCFB1 through DCFB19 were located within the eagle habitat area and were conducted first so that they were completed prior to the start of the eagle roosting season in October. In Figure 2-5, Area 3, DCFB20 through DCFB42 were completed between the sanitary sewer line and the horse corral and DCFB43 and DCFB44 were completed north of the UPRR and the sanitary sewer line.

2.2 SAMPLE SCREENING

The original SWP, found in Appendix A, included only the screening of soil and groundwater samples in Area 1. Soil screening began at 3-feet below ground surface (bgs) and continued at 6-foot intervals until the water table or bedrock was encountered. With the exception of DCFB101, DCFB102, DCFB102A, and DCFB102B, which were sampled at discrete intervals based on the original workplan, all other probeholes were logged continuously until refusal, or until the probehole collapsed below the water table. If dry bedrock was encountered, then the last soil sample of the probehole was collected just above the bedrock interface. If groundwater was encountered, then the last soil sample of the probehole was collected immediately above the watertable interface. A groundwater sample was collected from each probehole, if groundwater was present. As field activities progressed in Area 1, several probehole locations were logged as moist to wet, but groundwater was not immediately available for sampling. In an attempt to collect groundwater samples for field screening, temporary piezometers were installed at three locations (DCFB102, DCFB113F, and DCFB122). However, groundwater samples were only collected from DCFB113F and DCFB122; DCFB102 remained dry. In general, groundwater samples were collected southeast of but not including the DCFB106/DCFB111 gridline (See Figure 2-3). All probehole locations northwest of this grid line, including the 200-series and the 300-series sampling locations, were dry due to shallow bedrock depth. The range in depth of the groundwater samples collected was from 36 to 45 feet bgs.

A video survey of the sanitary sewer line was to be conducted with subsequent subsurface investigations based on any cracks or gaps seen in the line. Due to video equipment inaccessibility problems, subsequent subsurface field screening investigations in Area 2 and Area 3 were added to the scope of the original workplan. Probehole locations in Area 2 were situated south of the UPRR grade instead of immediately adjacent to the sanitary sewer line due to the probable absence of groundwater at the sewerline, the railroad immediately adjacent to the sewer line, and vehicle access problems between the sewer line and the UPRR tracks (Figure 2-4). Only groundwater screening was conducted in Area 2 due to the large distance the

locations were from the sanitary sewer line. Initially, these probeholes were situated as close as possible to the south side of the UPRR grade but shallow bedrock at some locations (DCFB1, DCFB3, DCFB5, DCFB9, DCFB10, DCFB13, DCFB16, and DCFB18) required offsets to the south by 10 to 20 feet to collect groundwater samples. Groundwater samples were collected at single or multiple depths, depending on the height of the water column.

Groundwater and soil screening was conducted in Area 3 since the probehole locations could be situated in close proximity to the sanitary sewer line (Figure 2-5). After the measurement of the sanitary sewer line invert at nine feet below ground surface, one soil sample was collected at five feet below the invert from Probeholes DCFB26 through DCFB42. These soil samples were collected to detect if the sanitary sewer line had leaked. The discrete soil-sampling interval at each location was from 10 to 14 feet bgs. Soil samples were not collected at DCFB20 through DCFB25 due to modifications in the scope of work for this area. Groundwater samples (DCFB20 through DCFB42) were collected at single or multiple depths, depending on the height of the water column. Probeholes DCFB43 and DCFB44 were used to determine depth to bedrock and presence of groundwater. Both probeholes were dry.

Field quality control (QC) protocol included blanks, calibration standards, duplicates, and laboratory confirmation samples. CAS provided off-site analysis of the laboratory confirmation samples, which were collected at a minimum frequency of 10 percent of total groundwater samples analyzed on site. Off-site groundwater samples were analyzed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260. The list for reported parameters for USEPA Method 8260B can be found in Table 2-1. In addition, a Quality Assurance (QA) sample was submitted to the USACE Chemistry and Materials Quality Assurance Laboratory at a minimum frequency of 10 percent of total off-site laboratory confirmation samples. Matrix spike/matrix spike duplicate (MS/MSD) samples were also collected at a minimum frequency of 10 percent of total off-site laboratory confirmation samples. Trip blanks accompanied each cooler with VOC samples, and temperature blanks accompanied all coolers. Details on sample validation are presented in the Quality Control Summary Reports (QCSRs) for the field screening samples and the confirmation samples (BMcD, 2001b and 2002b). Table 2-2 provides a summary of groundwater and soil samples and their associated QA/QC samples collected at the site.

2.2.1 Groundwater Screening

Groundwater screening samples were collected by either pushing a mill-slot screen or a wire mesh drop-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. Groundwater samples were field analyzed for PCE, TCE, and DCE. Initial locations were defined in the SWP (USACE, 2000) (Appendix A). 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.

Actual groundwater screening activities were controlled by hydrogeological conditions encountered across the study area. In Area 1, groundwater was not found at some probehole locations north of the former Buildings 180/181 due to the shallow depth of bedrock and only soil samples were collected. In Area 1 and Area 2, only a few feet of groundwater was present above bedrock at some probehole locations. Consequently, only a shallow groundwater sample was collected from these probehole locations.

In all three areas, only a small amount of groundwater was available for collection at some probehole locations, making it difficult to obtain the volume of groundwater required for field analysis and any required off-site laboratory confirmation analysis. In these cases, either the probe rod was temporarily left in place, or the rod was removed and replaced with a temporary piezometer composed of 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.

Multiple groundwater samples from single probehole locations were collected in Areas 2 and 3 where feasible. These probehole locations were located in the alluvial aquifer of the Kansas River. This region has a significant saturated thickness of alluvium in comparison to the terrace deposits encountered in Area 1. At probehole locations where three groundwater samples were collected (greater than 12 feet of saturated thickness), one sample (deep) was collected immediately above the bedrock, one sample (shallow) was collected just below the water table interface, and a third sample (intermediate) was collected at the approximate depth midway between the shallow and deep sampling depths. For probehole locations where only two samples were collected (more than eight feet but less than twelve feet of saturated thickness), a shallow sample was collected just below the watertable interface and a deep sample was collected immediately above bedrock. All groundwater screening locations were backfilled with hydrated bentonite upon completion of the probehole. Figures 2-3, 2-4, and 2-5 show former and current building locations, monitoring wells, manholes, sanitary sewer lines, geologic cross-section lines, and groundwater and soil screening locations for the three areas.

2.2.2 Soil Screening

Soils were collected using a Macro-core[®] (four-feet by two-inch) sampler with an inner acetate sleeve, that was advanced by direct push equipment. Probehole locations in Area 1 and Area 2 were logged by the site geologist and then field screened using a photoionization detector (PID) with an 11.7 electron-volt bulb (See Appendix D-Boring Logs). All soil screening locations were backfilled with hydrated bentonite upon completion of the probehole.

Soil samples were collected for field GC analysis of PCE, TCE, and DCE. In Area 1, two soil samples from Probeholes DCFB102B and DCFB107 were analyzed for Stoddard solvents based on elevated PID readings (See Section 4.2.1).

2.3 AREA 1 – FORMER BUILDINGS 180/181

In Area 1, twenty groundwater samples were collected where groundwater was encountered and 253 soil samples were collected from 54 locations for on-site and off-site analysis. Original sample locations were provided by the USACE and were established using a sampling grid developed by the ELIPGRID software (Figure 2-6) (USACE, 2000). The grid proposed in the work plan was identified as 95 percent confidence that contaminants of concern with a spread of 30 feet in diameter would be detected. A diameter of 30 feet was selected based on evaluations by the USACE of previous information gathered during the Preliminary Assessment/Site Investigation (PA/SI) (Law, 1993d), RI Report (LBA, 1995), and RI Addendum (LBA, 1998a). The primary areas of concern covered by the 100-series probehole locations (see Figure 2-6 in this document and Figure 2 in the SWP, Appendix A, USACE, 2000) were the following: the area beneath the former Buildings 180/181 and 182; the area upgradient of Monitoring Well DCF93-13; and the area near Manhole 366 (Manhole 366 is shown on Figure 2-7). The grid, as sampled within the area of Buildings 180/181, had a maximum distance between probeholes of approximately 80 feet and a minimum spread of approximately 18 feet. Soil and/or groundwater samples were collected from Probeholes DCFB100 through DCFB126.

The 200- and 300-series probehole locations (Grid B in the SWP, Appendix A) (USACE, 2000) covered the areas west and north of the 100 grid and Monitoring Well DCF94-02. Due to roads, utilities, and areas inaccessible to the direct push vehicles, the proposed sample points were moved to parallel Custer Road on the north and south side as shown on Figure 2-6. As discussed later in this section, utilities and inaccessibility caused most of these points to remain unsampled. Soil samples were collected from Boreholes DCFB201 through DCFB204, south of Custer Road. Soil samples were collected from

Boreholes DCFB301 and DCFB302, north of Custer Road: Figure 2-3 indicates probehole locations for Area 1. Soil and groundwater samples were collected from November 2 through December 8, 2000.

In general, soil samples collected for field GC analysis of PCE, TCE, and DCE were collected on six-foot intervals from the following depths: 3-4 feet bgs, 9-10 feet bgs, 15-16 feet bgs, 21-22 feet bgs, 27-28 feet bgs, 33-34 feet bgs, and 38-39 feet bgs. With the exception of Soil Sample SS10 from Probehole DCFB113, all soil samples were collected from above the water table. Variations in soil sampling depths occurred based on the depth of the water table interface and the depth to bedrock. Several probehole locations on the sample grid had to be offset due to obstructions caused by vegetation. Probehole locations offset due to utilities included DCFB104, DCFB105, DCFB109, DCFB110, DCFB111, and DCFB203. Probehole locations offset due to subsurface obstructions included DCFB113C, DCFB117, DCFB123, and DCFB124. Probehole locations situated along the perimeter of the original Sampling Grid A were relocated inward due to severe sloping topography, but still remained within the grid line pattern. During activities at Probeholes DCFB117 and DCFB120, the Macro-core sampler and the groundwater mill-slot were lost and remain in the probeholes.

As fieldwork progressed, additional locations were added based on historical information regarding dry cleaning operations, monitoring well analytical data, and field contaminant detections.

- The initial probeholes, DCFB100 – DCFB126, were situated in Sampling Grid A, located in the area beneath the former Buildings 180/181 and 182. This area was investigated due to potential sources in the area such as floor drains, sewer leakage at or near Manhole 366, and analytical results from Monitoring Well DCF93-13 located downgradient from former Buildings 180/181. Figure 2-7 shows the current sewer line layout. Figure 2-8 shows potential sources as determined in the RI (LBA, 1995).
- Additional Probeholes DCFB102A and DCFB102B were added to provide information on the nature and extent of soil contamination in this area possibly caused by leakage from three former underground storage tanks (USTs) that contained Stoddard solvents or from building floor drains (Figures 2-3 and 2-8).

- Probeholes DCFB100A, DCFB107A, DCFB108A, DCFB113B and DCFB113C were added to provide information on the nature and extent of soil contamination possibly caused by leakage from building floor drains (Figures 2-3 and 2-8).
- Probehole DCFB111A was added to extend the 100 series grid northeastward of Probehole DCFB111.
- Probehole DCFB113A was added to provide information on possible downgradient contamination from the former USTs.
- Probehole DCFB114A was added to provide information upgradient from Monitoring Well DCF93-13.
- Probeholes DCFB114B and DCFB115B were added for additional data regarding detections discovered in surrounding probehole locations.
- Probehole DCFB-115A was added to provide data on a location at which storage tanks were filled (Figures 2-3 and 2-8).
- Additional Probeholes DCFB113D, DCFB113E, and DCFB113F were added to provide information on the lateral extent of the subsurface obstruction encountered at nine feet bgs at Probehole DCFB113C and the nature and extent of groundwater and soil contamination in this area. Additional probing, without sampling, conducted on November 21, 2000 indicated that the subsurface obstruction is at least 30 feet by 17 feet in area (See Appendix D). Based upon reviews of historical drawings, it is possible that the subsurface obstruction may be a portion of the former building's basement or foundation.
- Additional Probeholes DCFB114AW1, DCFB114AW2, DCFB114AE1, and DCFB114AE2 were added to provide information on the nature and extent of soil and groundwater contamination downgradient of groundwater analytical results at locations DCFB114, DCFB114B, DCFB115, and DCFB116.

- Due to the extensive nature of utilities, the shallow depth to bedrock, and the close proximity of Custer Road and the UPRR right-of-way, only four of the planned borings for the 200-series locations were probed. Utilities in this area included a water line, a new high-pressure gas line, and an abandoned gas line. Immediately west of location DCFB204, shallow bedrock less than 4 feet bgs and steep slopes prohibited vehicle access and probing. North of Custer Road, only two of the 300-series probehole locations could be placed due to shallow bedrock and three telephone lines located between the road and a steep slope north of the road.

2.4 AREA 2 – THE ISLAND

ATV-mounted direct push equipment was used to collect 28 groundwater screening samples from 19 locations within Area 2. Planned sample locations were established at 50-foot intervals following the sanitary sewer line which travels east and south of the former Buildings 180/181 location and extends from the train trestle to the DCF00-34b/34c well cluster (see Figure 2-4). At locations where the sewer line is placed upgradient of and within the right-of-way of the UPRR track, it was not possible to advance probeholes in close proximity to the sewer line due to the railroad right-of-way, limited access due to topography, and the relative likelihood of no groundwater. A sample line was chosen that was as close to the railroad right-of-way as the topography of the site would allow, while maintaining a location downgradient of the sewer line. Since the probeholes were not in close proximity to the sewer line, soil samples were not collected. Several probehole locations had to be offset from the selected sample line due to obstructions caused by eagle habitat-protected vegetation, steep ground-surface relief, or shallow bedrock. Groundwater samples collected from October 10 through October 13, 2000 were analyzed for PCE, TCE, and DCE. As fieldwork advanced, additional locations were added for better delineation of Area 2. The following bullets describe the groundwater sampling efforts at Area 2 during October 2000:

- Probepoles DCFB1 through DCFB6 were situated immediately south of the sanitary sewer line and the UPRR grade on “The Island.” The probepole line began south of Manhole 341 and continued eastward at 50-foot intervals for approximately 350 feet. These probepoles were advanced first since Area 2 was located within the Kansas River 100-yard buffer zone established for the eagle habitat area. Sampling of these locations commenced on October 10, 2000 and was completed by the end of the next day. The locations were sampled to provide information on the nature and extent of groundwater contamination in this area and to determine if the sanitary sewer line was the source of contamination.

- Probeholes DCFB7 through DCFB19 were situated along a western line extending in 50-foot increments beginning at Sanitary Manhole 341 (near DCFB1) and ending at the railroad trestle located immediately southeast of the former Buildings 180/181 location. Sampling of these locations commenced on October 11, 2000 and was completed on October 13, 2000. These locations were sampled to provide more information on the nature and extent of groundwater contamination in this area.

A single groundwater sample was collected from each probehole for Probeholes DCFB2 through DCFB6, DCFB11, DCFB14 through DCFB16, and DCFB18. The range in depth of the shallow groundwater samples collected were between 8 to 33 feet bgs. Multiple groundwater samples were collected from the remaining probehole locations. The ranges in depths below ground surface were as follows: shallow, 14 to 25 feet bgs; intermediate, 22 to 38 feet bgs; and deep, 34 to 47 feet bgs. Probehole DCFB19 was dry.

2.5 AREA 3 – THE POINT BAR/HORSE CORRAL

ATV-mounted direct push equipment was used to collect 56 groundwater screening samples and 17 soil screening samples from 25 locations within Area 3. Sample locations were established at 50-foot intervals following the sanitary sewer line located immediately south of the UPRR grade and extending from the western corner post of the of the horse corral immediately east of the eagle habitat area, to 100 feet east of the eastern horse corral corner post, west of Henry Drive (see Figure 2-5). Probehole locations in Area 3 included DCFB20 through DCFB44. Due to eagle habitat restrictions, locations planned west of DCFB20 could not be completed. Probehole location DCFB26 had to be offset due to obstructions caused by vegetation. Several other locations had minor offsets due to obstructions caused by vegetation. As fieldwork advanced, additional locations were added. Groundwater and soil samples collected from October 16 through October 25, 2000 were analyzed for PCE, TCE, and DCE. The following bullets describe the soil and groundwater sampling efforts at the study area during October 2000:

- The initial probehole locations (DCFB20 – DCFB40) were situated immediately south of the sanitary sewer line and north of the horse corral fence on “The Point Bar.” These sample locations followed the approximate location of the “F Line” investigation conducted during the Fall of 1999 for the B354 investigation (Figure 2-5) (BMcD, 2001a). Only groundwater samples were collected for analysis from Probeholes DCFB20 through DCFB25. Soil and groundwater samples were collected for analysis from Probeholes DCFB26 through DCFB40. These locations were sampled to provide information on the nature and extent of soil and

groundwater contamination in this area and to determine if the sanitary sewer line was the source of contamination.

- Additional probing was conducted at Probehole DCFB20 due to the abnormal depth of probe refusal at 92 feet bgs. The depth reached at this location was possibly due to a bedrock fracture. After completion of the initial probehole, the bottom two probe rods and the mill-slot were lost and the lower rods were slightly bent. Two subsequent attempts to duplicate the total depth of DCFB20 for logging purposes both yielded probe refusal at 47 feet bgs. These locations were immediately adjacent to the DCFB20 location. Soil samples collected on the first subsequent attempt were logged and stored in a waterproof container for future examination. Re-sampling of the DCFB20 location was conducted on October 23 and October 24, 2000.
- Probeholes DCFB41 and DCFB42 were situated along an eastern line extending in 50-foot increments beginning near the eastern corner of the horse corral. Soil and groundwater sampling of these locations was conducted on October 25, 2000. These locations were sampled to provide information on the nature and extent of groundwater contamination in this area and to determine if the sanitary sewer line was the source of contamination. Probehole locations DCFB43 and DCFB44 were located north of the UPRR grade and the DCFB42 location. These locations were sampled to provide information on the depth to bedrock and provide information for the B354 RI/FS study (BMcD, 2001a).

The range in depth of the shallow groundwater samples collected was between 19 and 42 feet bgs. Intermediate groundwater samples were collected at depths ranging from 27 to 36 feet bgs and deep samples were collected at depths ranging from 36 to 46 feet bgs. The groundwater samples for DCFB20 were collected from 61 to 63 and 81 to 83 feet bgs. It is suspected that these were sampled from a fracture.

2.6 GROUNDWATER SAMPLING

In October 2000, groundwater sampling of monitoring wells was conducted at the study area. Regular groundwater sampling is being conducted at the DCFA during the period between the RI and the RI Addendum. Monitoring wells were sampled using either dedicated bladder pumps or dedicated inertial pumps. Monitoring wells were purged and sampled using standard Fort Riley protocols based on the Site Wide SAP (BMcD, 1998a). Off-site laboratory analyses were performed by CAS and included target

compound list (TCL) VOCs and total petroleum hydrocarbons – diesel range organics (TPH-DRO). Results for this groundwater sampling event are included in Appendix E of this report, and are covered in detail in the October 2000 Data Summary Report (BMcD, 2001d).

2.7 INVESTIGATIVE DERIVED WASTE MANAGEMENT

Liquid investigative derived waste (IDW) generated during fieldwork consisted of decontamination water used to clean soil and groundwater probing equipment and purge water generated during probe sampling activities. Liquid IDW was initially containerized in United Nations (UN) approved barrels on site and was later disposed according to the Fort Riley Directorate of Environment and Safety (DES) IDW Management Plan. Based on the low level of contaminants present in the liquid IDW and the similarity of the field screening analyses to the analytical results from the periodic groundwater sample events (BMcD, 2001d), the Fort Riley National Pollutant Discharge Elimination System permit allows disposal of the liquid IDW directly into the Fort Riley sanitary sewer system. Soil IDW generated during fieldwork consisted of cuttings produced during probehole soil sampling activities. The soil IDW was stored in UN approved barrels for appropriate disposal. Other disposable materials, including nitrile gloves, acetate soil sample liners, and other sampling debris were bagged and disposed in an authorized dumpster at the Environmental Waste Management Center (EWMC) at Camp Funston.

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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. Gentle, westward sloping plains separate east-facing escarpments (cuestas) of more resistant rock units. 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). The DCFA lies on a terrace and alluvial plain in the lowland area of the Kansas River.

3.1.2 Site Topography and Surface Drainage

Area 1 is an alluvial terrace situated north of the UPRR grade and adjacent to the Kansas River alluvium. The terrace is overlain by material deposited during flooding of the Kansas River, erosion of upland areas north of Area 1, and placement of fill material along the eastern boundary. Inlets carved into the terrace wall are the results of flooding and intermittent stream action. The topography of the terrace in this area generally rises to the north. Area 2 and Area 3 lie south and southeast of Area 1, respectively and consist of two point bars in the alluvial floodplain of the Kansas River. Soil deposition in these two areas consists of Kansas River flood deposits and erosional deposits from the upland and terrace areas north of the UPRR tracks. The western point bar (Area 2) is called the "Island," and the eastern point bar (Area 3) is called the "Point Bar/Horse Corral." The point bars are areas of low relief with ground elevations generally between 1049 and 1063 feet above mean sea level (msl). For Area 1, elevations vary from about 1065 feet above msl south along the railroad grade, to approximately 1089 feet above msl in the northern portion of Area 1 in the vicinity of Custer Road.

An intermittent stream, identified as Tributary A lies immediately east of Area 1 and cuts through the terrace before joining Tributary B on the Island (LBA, 1995). Tributary A carries seep water and storm-water runoff from the terrace and upland areas and flows beneath the railroad trestle onto the Island before joining Tributary B. Tributary B meanders through the northern half of the Island in a west-southeast trend. There are no other creeks or streams found in the study area.

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 Doyle Shale of the Chase Group (composed of the Gage Shale, Towanda Limestone, and the Holmesville Shale Members) is the uppermost bedrock in the upland areas. The generalized stratigraphy for Fort Riley is shown in Figure 3-1 (Zeller, 1994). The interbedded limestone and shale sequences continue to depths of several hundred feet. The bedrock surface has been eroded by the major rivers and streams. Site specific geology for each of the three study areas is detailed in Section 3.2.2.

3.2.2 Site Geology

Area 1 – Former Buildings 180/181

Information obtained from boring and probehole logs collected during this investigation (Appendix D) and investigations conducted previously at the study area (LBA, 1995 and 1998a) indicates that soils sampled in Area 1 are primarily composed of unconsolidated deposits of dark silty clay and sandy soil. The site has fill material underlain by alluvial sediments which consist of clays, silts, and sands of varying depths and thicknesses deposited by the Kansas River. These sediments overlie bedrock consisting of the Blue Rapids Shale and the Upper Crouse Limestone of the Council Grove Group. The Blue Rapids Shale is a multicolored, calcareous, non-fossiliferous shale. The Crouse Limestone at the DCFA can be divided into upper and lower limestone units separated by a limey shale. The Upper Crouse Limestone is a thin and platy limestone. Bedrock formations are eroded from the terrace area but outcrop east of Tributary A along the UPRR grade toward Henry Drive Bridge. The outcrop consists of the Funston Limestone (base) and the Speiser Shale (middle) of the Council Grove Group, and the Three Mile Limestone (upper) Member of the Wreford Limestone, all of the Chase Group. These formations are thicker toward the east and thin near Area 1. The formations also outcrop, but to a lesser degree, west of Tributary A. They are not present in Areas 2 and 3 and have been eroded away by the Kansas River.

The probeholes logged in Area 1 exhibit an upward-fining sequence typical of alluvial sediments with coarse-grained sands at depth grading upward into medium- to fine-grained sands and silts with clays near

the surface. Subsurface soil logged at probehole locations away from the southern and eastern edge of Area 1 were composed primarily of natural deposits with some evidence of fill material near the surface. Soil samples collected at Probeholes DCFB117, DCFB118, and DCFB122 along the southern and eastern perimeter of Area 1 show evidence of fill material. Subsurface obstructions encountered at Probehole DCFB113C and the immediate surrounding area are thought to be foundation or basement remnants from the demolition of former Building 180/181. Visual observations made with USACE personnel on January 21, 2001 indicate evidence of a substantial amount of fill material on the western bank of Tributary A immediately north of the train trestle.

The alluvial and terrace sediments of Area 1 were deposited on top of an erosional surface consisting of calcareous shale or limestone bedrock. Probeholes were advanced to refusal. Top of bedrock was logged in 34 of the probeholes. For 18 probeholes, refusal was assumed to occur at the top of bedrock. Two probeholes met refusal on fill materials. 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 Area 1. Figure 3-3 presents a three-dimensional representation of the bedrock surface in Area 1. Depth to bedrock ranged from 3.4 feet bgs at Probehole DCFB203A to 49 feet bgs at Probehole DCFB111A. Shallow depths to bedrock were evident at the 200-series and 300-series probehole locations situated along Custer Road in the northeastern portion of Area 1. Shallow depths to bedrock were also encountered along the gridline from DCFB100 to DCFB104 (See Boring Logs - Appendix D.) Bedrock elevations across Area 1 decreased from DCFB202 (1082.03 feet above msl), located in the northwest portion of Area 1 to DCFB123 (1037.68 feet above msl), located in the southern portion of Area 1 (Figure 3-2).

Representative cross sections of the Area 1 are presented in Figure 3-4. Cross Section A to A' depicts the bedrock surface depth and elevation, sample depths, field analytical results, and surface elevations in a northwest to southeast trend from Custer Road to the southern edge of former Building 180. Cross Section B to B' also depicts the bedrock surface depth and elevation, sample depths, field analytical results, and surface elevations but in a southwest to northeast trend from the southern edge of former Building 180 to Custer Road.

The bedrock surface on the terrace has up to approximately 44 feet of relief. A bedrock erosional channel exists in the area between DCFB114A, DCFB114AE1, DCFB114AE2, and DCFB115B gridline and DCFB120 and DCFB121 gridline (See Figure 3-2.) The bedrock appears to slope in two directions within the channel, southwest towards the Island and northeast towards Tributary A. This bedrock channel may

be the result of tributary streams that once flowed into the ancestral Kansas River at roughly right angles to the direction of river flow. Subsequent to this period, the river filled the present day terrace area to the north of the railroad grade with alluvial sediments.

Overlaying the shale and limestone bedrock in Area 1 are varying thicknesses of silty sand and sand. Along the northern portion of Area 1 the sand is thinner and increases in thickness towards the southern portion of the area (Figure 3-4). The sand thickness at Probehole DCFB123 was approximately 16 feet (see Boring Logs – Appendix D).

Areas 2 and 3 – The Island and The Point Bar/Horse Corral Sewer Line

Information obtained from probehole logs collected during this investigation (Appendix D), the B354 F-Line investigation (BMcD, 2001a), and those investigations conducted previously at the study area (LBA, 1995), indicates that the soils overlying bedrock in Area 2 and Area 3 are primarily composed of alluvial sediments formed from deposition by the Kansas River. These alluvial sediments overlie the Easley Creek Shale and the Middleburg Member of the Bader Limestone, both of the Council Grove Group, which serve as the basement bedrock formations for Area 2 and Area 3. In general, the Easley Creek Shale is a buff- to red-colored shale with a small limestone bed in the middle, while the Middleburg Member of the Bader Limestone is a fossiliferous limestone with thin shale beds toward the middle of the formation. Overlying the Easley and Middleburg are the Lower and Upper Crouse Limestone and the Blue Rapids Shale, also of the Council Grove Group. Data collected during the B354 Investigation on alluvial deposits east of Henry Drive Bridge and the horse corral, as well as data collected during this investigation, indicate that the Crouse Limestone and the Blue Rapids Shale have been eroded by the Kansas River.

The subsurface lithology of the point bar regions in Area 2 and Area 3 exhibit a typical upward-fining sequence. These sediments consist of thick, coarse-grained sands at depth, grading upward into medium- to fine-grained sands, with thin layers of silts and clays near the surface. Subsurface descriptions of the point bar area can be found in Appendix E, Boring Logs for B354-99-11, B354-99-12, and B354-99-13C of the *B354 Data Evaluation Technical Memorandum and Work Plan Addendum* (BMcD, 2001a). The general nature of the soil overburden was similar in both point bars of Area 2 and Area 3.

Area 2 and Area 3 are separated from Area 1 by an abrupt, south-facing escarpment with approximately 25 to 30 feet of relief. The point bars contain a series of bedrock channels developed by the ancestral Kansas River. These are oriented roughly sub-parallel to the modern Kansas River channel and have a modest

relief of just a few feet. Elevations of the bedrock surface range from about 1006 feet above msl to the south (along the Kansas River) to approximately 1060 feet above msl to the north (along the UPRR grade). Bedrock topography was probably developed by surface erosion when the ancestral Kansas River was deeply incised into the river valley. Subsequent to this period of bedrock erosion, the river filled the valley with alluvial sediments. The Kansas River then eroded the valley to essentially its present configuration.

Probehole locations in Area 2 and Area 3 were advanced to refusal, with refusal assumed to occur at the top of bedrock. Bedrock depths and elevations to bedrock across the study area are summarized in Table 3-1. Depths to bedrock across the alluvial deposits in Area 2 ranged from 10 feet bgs at Probehole DCFB3 to 47.0 feet bgs at Probehole DCFB10. Shallow depths to bedrock were evident at probehole locations near the UPRR grade while depths to bedrock increased for probehole locations situated further south towards the Kansas River. Probeholes DCFB7 through DCFB10 follow the trend of an outcropping ledge of limestone several feet high believed to be the Crouse Limestone Member. The Crouse Limestone Member has been subject to erosion by the Kansas River and is not found west of Tributary B. Bedrock elevations across Area 2 ranged from 1006 feet above msl at Probehole DCFB10 to 1040 feet above msl at Probehole DCFB3.

Depth to bedrock across the alluvial deposits in Area 3 south of the UPRR grade ranged from 40 feet bgs at Probehole DCFB39 to 49 feet bgs at Probehole DCFB22. Refusal for Probehole DCFB20 was at 92 feet bgs. The abnormal depth is possibly due to a bedrock fracture. Bedrock elevations in Area 3 south of the UPRR, ranged from 1021 feet above msl at Probehole DCFB37 to 1012 feet above msl at Probehole DCFB22. Depth to bedrock decreased slightly toward the western part of Area 3. Depth to bedrock at Probeholes DCFB43 and DCFB44 located north of the UPRR grade but below the terrace was 22 and 21.5 feet bgs, respectively. Bedrock elevations were 1041 feet above msl at Probehole DCFB43 and 1042 feet above msl at Probehole DCFB44.

Generalized subsurface profiles of Area 2 and Area 3 are presented in Figure 3-5. Cross Section C to C' depicts the bedrock surface depth and elevation, sample depths, field analytical results, groundwater level elevation, if available, and surface elevations for Area 2 beginning at Probehole DCFB19 and continuing eastward to Probehole DCFB6. The deeper bedrock depths shown on this figure are situated further south of the UPRR grade than the shallow locations. Cross Section D to D' depicts the bedrock surface depth and elevation, sample depths, field analytical results, groundwater level elevation, if available, and surface elevations for Area 3 beginning at Probehole DCFB20 and continuing eastward to Probehole DCFB44.

With the exception of Probehole DCFB20 to the west and Probeholes DCFB43 and DCFB44 to the north, the depth to bedrock in this area is relatively uniform.

In general, the bedrock geology of the study areas reflects erosional surfaces of the ancestral Kansas River in which varying rock units continuously outcrop southward toward the Kansas River in a “stair-step” fashion beginning with the Three Mile Limestone Member at the top in Area 1 and ending with the Middleburg Limestone Member in Area 2 and possibly the Hooser Shale Member in the eastern part of Area 3 at the bottom of the stratigraphic column (LBA, 1998a).

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 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 (10 to 15 feet being typical) of unconsolidated material over bedrock. Within the transition zone, it is not uncommon for the overburden to be dry down to the top of bedrock. The study area is located across all three of these hydrogeologic environments (Jewett, 1941; Fader, 1974).

3.3.2 Aquifer Characteristics

The aquifer beneath the study areas consists of the alluvial sequence described above in Section 3.2.2. The nature of this material is generally the same both in the point bars of the Kansas River alluvial valley in Area 2 and Area 3 and on the terrace in Area 1. In general, 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 unknown whether the bedrock acts as a barrier to the downward movement of groundwater.

Both the unconsolidated terrace deposits aquifer in Area 1 and the Kansas River alluvial aquifer in Area 2

and Area 3 are considered unconfined aquifers. In Area 1, the thickness of the saturated zone is highly variable, ranging from zero (dry) along the northern margin of the terrace adjacent to Custer Road, to approximately 7.5 feet at Probehole DCFB123. Limited information is available concerning the hydraulic conductivity of the unconsolidated terrace aquifer. During the installation of monitoring wells on the terrace in late 1999 during the B354 study, 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 feet bgs, had a laboratory permeability of 3.4×10^{-7} centimeters per second (cm/sec), which is a reasonable value for this soil type. Slug tests conducted on terrace monitoring wells DCF92-03, DCF92-05, and DCF93-13, screened in unconsolidated sediments, resulted in hydraulic conductivities of 7.546×10^{-4} cm/sec, 1.32×10^{-3} cm/sec, and 3.46×10^{-4} cm/sec, respectively (LBA, 1995).

A greater saturated thickness of alluvium is present in the Kansas River alluvial aquifer. In Area 2, the alluvial aquifer thickness varies between approximately 2.9 feet thick at Probehole DCFB16 to 28.5 feet thick at Probehole DCFB10. The depth to water in Area 2 varies from as little as 14 feet bgs at location DCFB6 near the UPRR grade to depths of approximately 28 feet bgs at DCFB12, in the western portion of the Island. In Area 3, the aquifer thickness varies between approximately 6.4 feet thick at Probehole DCFB28 to 22 feet thick at Probehole DCFB20. The depth to water in Area 3 varies from as little as 19.1 feet bgs at Probehole DCFB35 to depths of approximately 31.7 feet bgs at DCFB22, located in the western portion of horse corral area. Depths to groundwater recorded during the October 2000 Groundwater Sampling Event at the B354 Site at Piezometers 354-00-PZ23, 354-00-PZ22, and 354-99-11C, were 29.37 ft, 22.68 ft, and 21.16 ft, respectively (Figure E-1 in Appendix E). Piezometer 354-00-PZ23, located south of the UPRR grade, is positioned between Area 2 and Area 3. Piezometer 354-00-PZ22 is located along the sampling line used for this investigation. Piezometer 354-99-11C is located slightly southeast of the eastern horse corral fence corner.

No hydraulic conductivity data is available for the Island or the Point Bar/Horse Corral; however, the hydraulic conductivity of the Kansas River alluvial aquifer has been determined from data collected during aquifer pumping tests performed at various areas throughout Fort Riley and along the Kansas River valley. These tests were performed 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 Marshall Army Airfield for the purpose of potentially constructing a small groundwater production facility for use during airfield

operations. Though not representative of site-specific conditions, these tests may represent aquifer conditions on a regional scale. Available hydraulic conductivity information for the Kansas River alluvium is summarized below:

- The 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 feet southwest of the Fire Fighting Training Area at Marshall Army Airfield 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).

3.3.3 Site Hydrogeology

Groundwater elevation data collected from the study areas were obtained from water levels measured during direct push activities and are not considered appropriate in providing information on groundwater flow direction and magnitude; however, this work provided qualitative information on the configuration of the unconfined aquifers, both under the terrace area and the Kansas River floodplain. Water levels from these temporary locations were not used to generate a groundwater contour map since these locations were not constructed as monitoring wells or piezometers.

Water levels have been measured at monitoring wells and piezometers on a periodic basis since May 1996 (LBA, 1998a). In general, these groundwater contour maps provided an understanding of the geometry and dynamics of the groundwater system, over time, within the area directly beneath and adjacent to the study areas. The hydrogeologic setting in Area 1 consists of unconfined water table conditions that generally conform to the slope of the uppermost erosional bedrock surface (Figure 3-2) and ground surface topography, with a general groundwater flow direction to the southwest, off the terrace area, and onto the Kansas River floodplain. The hydrogeologic setting in Area 2 and Area 3 also conforms to the slope of the

uppermost erosional bedrock surface and ground surface with a general groundwater flow direction to the south and into the Kansas River, which serves as a groundwater discharge zone during non-flood periods.

A groundwater contour map is provided, based upon the complete round of groundwater level measurements taken during October 2000 on Figure E-1 in Appendix E.

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4.0 NATURE AND EXTENT OF CONTAMINATION

4.1 GENERAL

Section 4.0 describes the nature and extent of soil and groundwater contamination at the DCFA Study Areas. This section is organized into the following subsections:

- Section 4.2 discusses the nature and extent of contamination in the groundwater and subsurface soils at Area 1 – Former Buildings 180/181. Chlorinated VOCs are addressed. Both on- and off-site soil and groundwater analytical results are described.
- Section 4.3 discusses the nature and extent of contamination in the groundwater at Area 2 – the Island. Chlorinated VOCs are addressed. Both on- and off-site groundwater analytical results are described.
- Section 4.4 discusses the nature and extent of contamination in the groundwater and subsurface soils at Area 3 – the Point Bar/Horse Corral. Chlorinated VOCs are addressed. Both on- and off-site soil and groundwater analytical results are described.
- Section 4.5 discusses if contaminant source areas were detected in this investigation.
- Section 4.6 presents a comparison of the field screening results with the October 2000 Interim Groundwater Sampling.
- Section 4.7 summarizes the nature and extent of contamination at Area 1, Area 2, and Area 3.

The scope of this report is limited to evaluating the data collected in October, November, and December 2000 to identify whether potential sources for PCE contamination are present at the DCFA in the vicinity of former Buildings 180/181 or near the sanitary sewer line that extends from south of Building 183 and former Buildings 180/181 eastward to the wastewater treatment plant.

Groundwater and soil samples were collected from October 18 through December 8, 2000, during a field screening event conducted at the DCFA at Fort Riley, Kansas. The samples were analyzed on-site by EPS of Salina, Kansas, for the following VOCs: PCE, TCE, and DCE. Soil and groundwater samples were

analyzed with a GC utilizing purge and trap extraction as an introduction technique for the GC. Field screening duplicate samples were routinely analyzed on site.

Confirmation samples were collected for 16 groundwater samples and 32 soil samples to confirm VOC results obtained from the on-site analyses. CAS of Salina, Kansas analyzed the laboratory confirmation samples. Two soil samples were also analyzed by CAS for TPH-DRO, which included analysis for Stoddard solvent.

Field screening duplicates and confirmation samples were evaluated using the procedures outlined in the USACE, Northwest District – Kansas City *CEMRK-EC-EF Data Quality Evaluation Guidance* (USACE, 1999). The following criteria were applied to the field screening duplicates and confirmation samples:

- For all analyses in a water matrix, data were considered in agreement if the results were within a factor of two of each other. Data between a factor of two and three of each other were considered a minor discrepancy. Data greater than a factor of three of each other were considered a major discrepancy.
- For organic analyses in a soil matrix, data were considered in agreement if the results were within a factor of four of each other. Data between a factor of four and five of each other were considered a minor discrepancy. Data greater than a factor of five of each other were considered a major discrepancy.

The comparison of the laboratory confirmation and field screening results for soil and groundwater are presented on Tables 4-1 and 4-2, respectively. Detections for the soil confirmation samples are shown on Table 4-3. Detections for the groundwater confirmation samples are shown on Table 4-4. Only field screening results are used for comparison purposes for this report. Confirmation samples are discussed where appropriate.

Groundwater results for PCE, TCE, and DCE were compared to their associated USEPA maximum contaminant levels (MCLs) of 5.0 micrograms per liter (ug/L), 5.0 ug/L, and 70 ug/L. Soil detections were compared to the Kansas Department of Health and Environment (KDHE) Tier 2 Risk-Based Standards (RSK) (KDHE, 2001) for both residential and non-residential use for soil and the soil-to-groundwater protection pathways. The more conservative number of the residential soil-to-groundwater protection

pathway was used in the comparisons. Residential soil-to-groundwater protection pathway RSK values are 180 microgram per kilogram (ug/kg), 200 ug/kg, and 800 ug/kg, respectively, for PCE, TCE, and DCE.

4.2 AREA 1 – FORMER BUILDINGS 180/181

Subsurface soil samples and groundwater samples were collected at Area 1. Subsurface soil samples were collected at Area 1 to determine if a source area for PCE was present in the soil beneath the location of the former Buildings 180/181. Groundwater samples were collected to better define the extent of PCE, TCE, and DCE in this media. Soil samples were collected with direct push equipment at six-foot intervals to the top of groundwater. Soil sample depths ranged from 2.5 to 40 feet bgs. A groundwater sample was collected from each boring where groundwater was present.

4.2.1 Soil

At Area 1, 253 soil samples (not including duplicates or confirmation samples) were taken at 54 probehole locations (Figure 2-3). Except for one DCE detection in Sample DCFB112, 27-28 feet bgs, PCE was the only chlorinated VOC detected in the soil samples taken from probehole locations. Off-site confirmation samples were collected at ten percent of the locations. PCE was the only chlorinated VOC detected in the confirmation samples. Soil analytical results for on-site GC analyses are presented in Table 4-5. The comparison of the laboratory confirmation and field screening results for soil are presented in Table 4-1.

In 85 percent of the soil confirmation samples, neither major nor minor discrepancies were noted between the soil field screening and confirmation results for PCE. The following bullets summarize the discrepancies between the field and laboratory soil results:

- Confirmation Sample DCFB114/SS3 had a PCE concentration greater than five times the field screening Sample DCFB114, 9-10' and its duplicate (major discrepancy).
- Confirmation Sample DCFB114AW2/SS3 had a PCE concentration greater than five times the field screening Sample DCFB114AW2, 9-10' and its duplicate (major discrepancy).
- The PCE result for confirmation Sample DCFB114A/SS3 exceeded the calibration range. This sample was reanalyzed to obtain a PCE concentration greater than five times the field screening Sample DCFB114A, 9-10' and its duplicate (major discrepancy).

- Confirmation Sample DCFB115/SS2 had a PCE concentration greater than five times the field screening Sample DCFB115, 9-10' (major discrepancy).
- Confirmation Sample DCFB122/SS10 had a PCE concentration greater than five times the field screening Sample DCFB122, 39-40' (major discrepancy).

PCE was detected in the soil at the following locations:

DCFB100	DCFB100A	DCFB102	DCFB103	DCFB104	DCFB105
DCFB106	DCFB108	DCFB108A	DCFB109	DCFB110	DCFB111
DCFB111A	DCFB113	DCFB113A	DCFB113B	DCFB113C	DCFB113D
DCFB113E	DCFB113F	DCFB114	DCFB114A	DCFB114AE1	DCFB114AE2
DCFB114AW1	DCFB114AW2	DCFB114B	DCFB115	DCFB115A	DCFB115B
DCFB116	DCFB117	DCFB118	DCFB119	DCFB120	DCFB121
DCFB122	DCFB123	DCFB124	DCFB125	DCFB126	

- PCE was detected in 137 of 253 samples and in 41 of 54 probehole locations, at concentrations ranging from 0.1J ug/kg (various locations) to 56.9J (estimated) ug/kg (DCFB113C, 8-9 feet bgs). All field detections fell well below the RSK value for residential soil-to-groundwater protection of 180 ug/kg. The confirmation sample for DCFB114A, 9-10 feet bgs, however, had a PCE detection of 188 ug/kg, which is above the RSK value.

DCE was detected only in Sample DCFB112, 27-28 feet bgs, at a concentration of 0.1J ug/kg.

Figures 4-1 and 4-2 present soil results for PCE at shallow depths (approximately 2.5-7 feet bgs) and intermediate depths (approximately 14-16 feet bgs), respectively, at the former Buildings 180/181. At Area 1, PCE is present in the soil near the surface and decreases with depth. A small increase is seen in some borings just above the groundwater surface. Contamination of soils at depth (within a few feet of the groundwater surface) is probably the result of lateral transport of contaminated groundwater, combined with vertical fluctuations in water table elevation. The highest detections of PCE in soils were in the central portion of the southwest half of former Building 180. PCE was only detected at low levels in soil collected from the northwestern portion of Area 1.

Soil samples collected from Probeholes DCFB102B and DCFB107 had elevated PID readings but were analyzed as containing only minor amounts of PCE in the field analyses. The borings were in the vicinity of three former USTs (Figure 4-1). The three USTs had stored Stoddard solvent until 1966. Two of the USTs had been removed and one abandoned in place in July 1994 as part of the RI (LBA, 1995). The UST abandoned in place was removed during the demolition of Buildings 180/181 during the summer of 2000. Soil Samples DCFB102B SS-4 and DCFB107 SS-5 were analyzed off-site for TPH-DRO, which included analysis for Stoddard solvent. When the samples were quantified against the Stoddard solvent standard, they yielded results of 2060 milligrams per kilogram (mg/kg) and 555 mg/kg dry weight, respectively.

4.2.2 Groundwater

Twenty groundwater samples (not including duplicates or confirmation samples) were taken at 54 possible probehole locations at Area 1. Thirty-four probehole locations were dry. Groundwater results for on-site GC analyses are presented in Table 4-5. A comparison between on-site field screening results and off-site laboratory analytical results for groundwater samples is presented in Table 4-2.

One confirmation sample had a major discrepancy noted between the groundwater field screening and confirmation results for PCE and one had a minor discrepancy. The field data compared well with the off-site confirmation data (BMcD, 2001b).

The following summarizes the comparison of the field and laboratory results:

- The PCE detections in field screening Sample DCFB115, 37-39' and the confirmation Sample DCFB-115GW indicated a major discrepancy. The field screening sample had the higher detection.
- Field screen sample DCFB113F, 37.4-38.9 feet bgs, and its duplicate had PCE detections that were greater than the confirmation sample's result (a minor discrepancy). However, it should be noted that the confirmation sample duplicate, had a PCE result within a factor of two of the field screening samples.

PCE, TCE, and 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 DCE are byproducts of the

reductive dechlorination of PCE and both are included in small amounts in most commercial grades of PCE. The distribution of PCE, TCE, and DCE is depicted on Figure 4-3.

PCE was detected at the following locations:

DCFB113D	DCFB113F	DCFB114	DCFB114A	DCFB114AE1	DCFB114AE2
DCFB114AW1	DCFB114AW2	DCFB114B	DCFB115	DCFB115B	DCFB116
DCFB117	DCFB118	DCFB119	DCFB120	DCFB121	DCFB122
DCFB123	DCFB124				

- PCE was detected in all 20 of the groundwater samples collected at Area 1 at concentrations ranging from 1.8J ug/L (DCFB114, 36-38 feet bgs) to 202J ug/L (DCFB114A, 40-42 feet bgs).
- Seventeen of the 20 groundwater samples had detections above the USEPA MCL of 5.0 ug/L for PCE.
- PCE was detected at higher levels under the southeastern portion of the location of former Buildings 180/181.

TCE was detected at the following locations:

DCFB118	DCFB119	DCFB120	DCFB121	DCFB123	DCFB124
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- TCE was detected in six of the 20 groundwater samples at concentrations ranging from 0.9J ug/L (DCFB118, 43-45 feet bgs) to 132 ug/L (DCFB123, 43-45 feet bgs).
- Three groundwater samples (DCFB119, DCFB121, and DCFB123) had detections above the USEPA MCL of 5.0 ug/L for TCE.
- TCE detections were concentrated along the southeastern edge of the former Buildings 180/181.

DCE was detected at the following locations:

DCFB118 DCFB120 DCFB121 DCFB123 DCFB124

- DCE was detected in five of the 20 groundwater samples at concentrations ranging from 0.9J ug/L (DCFB118, 43-45 feet bgs) to 29.4 ug/L (DCFB121, 37-39 feet bgs).
- None of the groundwater samples had detections above the USEPA MCL of 70 ug/L for DCE.
- DCE detections were concentrated along the southeastern edge of the former Buildings 180/181.

Figure 4-3 depicts the distribution of PCE, TCE, and DCE contamination across the study area using on-site field screening results. Where there were field duplicates, the greater of the results was used on the figure. Groundwater was present in the unconsolidated overburden within the bedrock erosional channel that trends northeast/southwest across Area 1. Groundwater flow, as determined by the *October 2000 Data Summary Report* (BMcD, 2001d), is to the southwest in this area. Only PCE was detected in the groundwater samples collected from the northwest portion of the channel that was beneath the former Buildings 180/181. PCE, TCE, and DCE were detected in groundwater samples from the southeast portion of the channel.

4.3 AREA 2 – THE ISLAND

Groundwater samples were collected at Area 2 to determine if the sanitary sewer that formerly connected Buildings 180/181 and 183 to the wastewater treatment plant had leaked PCE into the subsurface. Since it was not possible to collect soil samples next to the sewer line, which is in the UPRR right-of-way, only groundwater samples were collected. At probehole locations where greater than 12 feet of saturated thickness was present, one groundwater sample (deep) was collected immediately above the bedrock, one groundwater sample (shallow) was collected just below the water table interface, and a third groundwater sample (intermediate) was collected at the approximate depth midway between the shallow and deep sampling depths. At locations where less than twelve feet but more than eight feet of saturated thickness was present, two groundwater samples were collected, one immediately above the bedrock and one just below the water table interface. At least one groundwater sample was collected from each boring where groundwater was present.

4.3.1 Groundwater

Twenty-eight samples (not including duplicates or confirmation samples) were taken at 19 probehole locations. One probehole was dry and no groundwater sample was collected. Groundwater results for on-site GC analyses are presented in Table 4-6. A comparison between on-site field screening results and off-site laboratory analytical results for groundwater samples is presented in Table 4-2. Figure 3-5 depicts the distribution of PCE, TCE, and DCE contamination across Area 2.

Two of the seven groundwater confirmation samples had major or minor discrepancies. The field data compared well with the off-site confirmation data (BMcD, 2002b). The following summarizes the comparison of the field and laboratory results:

- Confirmation Sample DCF8B/GW and the Field Screening Sample DCF8, 28-30' were greater than the field screening duplicate (a major discrepancy). It should be noted that the confirmation sample was within a factor of two of the field screening sample.
- Confirmation Sample DCF16A/GW and the Field Screening Sample DCF-16A 19-21' had a minor discrepancy for PCE and major discrepancies for TCE and DCE. The confirmation sample had the higher detections in this instance.

The distribution of PCE, TCE, and DCE is depicted on Figure 3-5 and is summarized as the following:

- PCE was detected in 24 of the 28 samples at concentrations ranging from 0.2J ug/L (DCFB1, 14-16 feet bgs) to 34.3J ug/L (DCFB9, 31-33 feet bgs). Twelve of the 28 groundwater samples had detections above the USEPA MCL of 5.0 ug/L for PCE.
- TCE was detected in 20 of the 28 samples at concentrations ranging from 0.1J ug/L (various locations) to 6.2 ug/L (DCFB13, 23-25 feet bgs). One of the 28 groundwater samples had a detection above the USEPA MCL of 5.0 ug/L for TCE.
- DCE was detected in 25 of the 28 samples at concentrations ranging from 0.2J ug/L (DCFB6, 16.5-18.5 feet bgs) to 27.4 ug/L (DCFB17, 21-23 feet bgs). None of these locations had detections above the USEPA MCL of 70 ug/L for DCE.

- Groundwater samples from one set of four probeholes (DCFB13, DCFB14, DCFB15, and DCFB16) and one set of three probeholes (DCFB8, DCFB9, and DCFB10) had higher detections of PCE, TCE, and DCE. Generally, the detected concentrations increased with depth.

4.4 AREA 3 – THE POINT BAR/HORSE CORRAL

Groundwater and soil samples were collected at Area 3 to determine if the sanitary sewer that formerly connected Buildings 180/181 and 183 to the wastewater treatment plant had leaked PCE into the subsurface. Soil samples were collected from 10 to 14 feet bgs, approximately five feet below the measured sewer manhole invert. At probehole locations where greater than 12 feet of saturated thickness was present, one groundwater sample (deep) was collected immediately above the bedrock, one groundwater sample (shallow) was collected just below the water table interface, and a third groundwater sample (intermediate) was collected at the approximate depth midway between the shallow and deep sampling depths. At locations where less than twelve feet but more than eight feet of saturated thickness was present, two groundwater samples were collected, one immediately above the bedrock and one just below the water table interface. At least one groundwater sample was collected from each boring where groundwater was present

4.4.1 Soil

Seventeen soil samples (not including duplicates or confirmation samples) were taken at 25 possible probehole locations (Figure 3-3) adjacent to the sewer line. PCE, TCE, and DCE were not detected in any of the soil samples taken from the probehole locations. Off-site confirmation samples were collected at four of the locations. Chlorinated VOCs were not detected in any of the confirmation samples. Soil analytical results for on-site GC analyses are presented in Table 4-7. The comparison of the laboratory confirmation and the field screening results are presented in Table 4-1. There were no discrepancies between the laboratory and the field screening data.

4.4.2 Groundwater

Fifty-five samples (not including duplicates or confirmation samples) were taken at 25 possible probehole locations. Groundwater results for on-site GC analyses are presented in Table 4-7. A comparison between on-site field screening results and off-site laboratory analytical results for groundwater samples is presented in Table 4-2. Figure 3-5 depicts the distribution of PCE, TCE, and DCE across Area 3.

Three confirmation samples had minor discrepancies, there were no major discrepancies. The field data compared well with the off-site confirmation data (BMcD, 2002b). The following summarizes the comparison of the field and laboratory results:

- The field screening sample and laboratory confirmation sample for DCFB33, 38-42 feet bgs, had a minor discrepancy with PCE.
- The field screening sample and laboratory confirmation sample for DCFB35, 37-41 feet bgs, had a minor discrepancy with PCE.
- The field screening sample and laboratory confirmation sample for DCFB36, 29-32 feet bgs, had a minor discrepancy with PCE.

The distribution of PCE, TCE, and DCE is depicted on Figure 3-5 and is summarized as the following:

- PCE was detected in 52 of the 55 groundwater samples at concentrations ranging from 0.2J ug/L (DCFB29, 24-28 feet bgs) to 13.0 ug/L (DCFB37, 28-32 feet bgs). Twenty-two of the 55 groundwater samples had detections above the USEPA MCL of 5.0 ug/L for PCE.
- TCE was detected in 52 of the 55 groundwater samples at concentrations ranging from 0.1J ug/L (DCFB26, 22-26 feet bgs) to 10.4 ug/L (DCFB39, 36-40 feet bgs). Three of the 55 groundwater samples had detections above the USEPA MCL of 5.0 ug/L for TCE.
- DCE was detected in 45 of the 55 samples at concentrations ranging from 0.1J ug/L (various) to 21.2 ug/L (DCFB37, 36-40 feet bgs). None of these locations had detections above the USEPA MCL of 70 ug/L for DCE.
- PCE, TCE, and DCE were detected in groundwater at fairly consistent levels with a slight increase in concentrations seen in the vicinity of Probeholes DCFB34, DCFB35, DCFB36, and DCFB37.

4.5 SOURCE AREAS

The objective of this field investigation was to determine if soil source areas were present beneath the location of the former Buildings 180/181 and to determine if the sewer line that previously connected Buildings 180/181 and 183 to the wastewater treatment facility may have released PCE into the subsurface.

Area 1 – Former Buildings 180/181

Of the 253 soil samples collected from Area 1 – Former Buildings 180/181, the highest concentration of PCE found was 56.9 ug/kg. The confirmation Soil Sample DCFB114A, 9-10 feet bgs had a PCE detection of 188 ug/kg, which is above the RSK value of 180 ug/kg. Only 13 of the 253 screening samples had PCE results greater than 20 ug/kg. The highest detections of PCE in soils were in the central portion of the southwest half of former Building 180. PCE was detected in all twenty groundwater screening samples. Higher detections of PCE were seen in the groundwater near Probeholes DCFB114AW2, DCFB114AW1, DCFB114A, and DCFB114AE1.

Areas 2 and 3 – The Island and The Point Bar/Horse Corral Sewer Line

PCE, TCE, and DCE were not detected in the soil from Area 3; therefore, it does not appear that a source of PCE is present in the soil at Area 3. Because the sewer line was in the UPRR right-of-way in Area 2, no soil samples were collected.

PCE, TCE, and DCE were detected in the groundwater from both Area 2 and Area 3. Based on the site hydrogeologic model (LBA, 1995) and the groundwater levels observed in the regular groundwater sampling of October 2000, the sample locations for both Area 2 and Area 3 are located downgradient from the sewer line. It is probable that the PCE present in the groundwater is from past subsurface releases from the sewer line.

4.6 COMPARISON OF FIELD SCREENING RESULTS WITH OCTOBER 2000 GROUNDWATER SAMPLING RESULTS

Area 1 – Former Buildings 180/181

Three monitoring wells (Monitoring Wells DCF92-02, DCF92-05, and DCF93-13), sampled during the regular groundwater sampling in October 2000 (BMcD, 2001d), were within the area sampled during the Area 1 investigation. Analytical results for these wells are presented in Appendix E. Monitoring Well DCF92-05 had a PCE detection of 21.80 ug/L. Monitoring Well DCF92-05 is located southeast of

Probeholes DCFB120 and DCFB121 that had PCE results of 17.6 ug/L and 22.8 ug/L, respectively (Figure 4-3). Monitoring Well DCF93-13 had a PCE detection of 76.1 ug/L. Monitoring Well DCF93-13 is situated in the area of Probeholes DCFB114AW2, DCFB114AW1, DCFB119, DCFB120, and DCFB124 that had PCE detections of 76 ug/L, 46.5 ug/L, 60.7J ug/L, 17.6 ug/L, and 14.0 ug/L, respectively. Monitoring Well DCF92-02 is a bedrock well located midgradient of Probeholes DCFB116 and DCFB117. Monitoring Well DCF92-02 had a PCE detection of 23.1 ug/L and Probeholes DCFB116 and DCFB117 had detections of 30.4 ug/L and 9.0 ug/L, respectively. The results of the field screening investigation compare well with the October groundwater sampling results.

Area 2 – The Island

Four monitoring wells (Monitoring Wells DCF96-27, DCF96-24, DCF00-34b, and DCF00-34c) sampled during the regular groundwater sampling in October 2000 (BMcD, 2001d), are located downgradient of Area 2. Analytical results for these wells are presented in Appendix E. PCE results for the four wells ranged from nondetect to 7.6 ug/L, TCE from nondetect to 2.1 ug/L, and DCE from nondetect to 10.9 ug/L. Field screening groundwater results for Area 2 ranged from nondetect to 34.3 J ug/L for PCE, nondetect to 6.2 ug/L for TCE, and nondetect to 27.4 ug/L for DCE. The monitoring well results were generally lower than the results for the Area 2 field screening investigation.

Area 3 – The Point Bar/Horse Corral

Four monitoring wells (Monitoring Wells DCF99-37b, DCF99-37c, DCF99-38b, and DCF99-38c) sampled during the regular groundwater sampling in October 2000 (BMcD, 2001d), are located downgradient of Area 3. Analytical results for these wells are presented in Appendix E. PCE results for the four wells ranged from nondetect to 5.1 ug/L, TCE from nondetect to 1.0 ug/L, and DCE from nondetect to 6.3 ug/L. Field screening groundwater results for Area 3 ranged from nondetect to 13.0 ug/L for PCE, nondetect to 10.4 ug/L for TCE, and nondetect to 21.2 ug/L for DCE. The monitoring well results were generally lower than the results for the Area 3 field screening investigation.

4.7 SUMMARY OF NATURE AND EXTENT

Area 1 – Former Buildings 180/181

- PCE was detected in 137 of the 253 soil samples at concentrations ranging from 0.1J ug/kg to 56.9J ug/kg. The confirmation Soil Sample DCFB114A, 9-10 feet bgs had a PCE detection of 188 ug/kg, which is above the RSK value of 180 ug/kg. DCE was detected in Sample DCFB112, 27-28 feet bgs, at a concentration of 0.1J ug/kg. TCE was not detected in the soil

samples. The highest detections of PCE in soils were in the central portion of the southwest half of former Building 180. PCE was only detected at low levels in soil collected from the northwestern portion of Area 1.

- PCE was detected in 20 of the 20 groundwater samples at concentrations ranging from 1.8J ug/L to 202J ug/L. Seventeen of the 20 samples had detections above the USEPA MCL of 5.0 ug/L for PCE.
- TCE was detected in six of the 20 groundwater samples collected at concentrations ranging from 0.9J ug/L to 132 ug/L. Three of the samples had detections above the USEPA MCL of 5.0 ug/L for TCE.
- DCE was detected in five of the 20 groundwater samples at concentrations ranging from 0.9J ug/L to 29.4 ug/L. None of the locations had detections above the USEPA MCL of 70 ug/L for DCE.
- Only PCE was detected in the groundwater samples collected from the northwest portion of the bedrock channel that was beneath the former Buildings 180/181. PCE, TCE, and DCE were detected in groundwater samples from the southeast portion of the channel.

Area 2 – The Island

- PCE was detected in 24 of the 28 groundwater samples at concentrations ranging from 0.2J ug/L to 34.3J ug/L. Twelve of the 28 groundwater samples had detections above the USEPA MCL of 5.0 ug/L for PCE.
- TCE was detected in 20 of the 28 groundwater samples at concentrations ranging from 0.1J ug/L to 6.2 ug/L. One of the 28 groundwater samples had a detection above the USEPA MCL of 5.0 ug/L for TCE.
- DCE was detected in 25 of the 28 groundwater samples at concentrations ranging from 0.2J ug/L to 27.4 ug/L. None of the locations had detections above the USEPA MCL of 70 ug/L for DCE.

- Groundwater samples from one set of four probeholes (DCFB13, DCFB14, DCFB15, and DCFB16) and one set of three probeholes (DCFB8, DCFB9, and DCFB10) had higher detections of PCE, TCE, and DCE. Generally, the detected concentrations increased with depth.

Area 3 – The Point Bar/Horse Corral

- Seventeen soil samples were taken at 25 possible probehole locations. PCE, TCE, and DCE were not detected in any of the soil samples.
- PCE was detected in 52 of the 55 groundwater samples at concentrations ranging from 0.21 ug/L to 13.0 ug/L. Twenty-two of the 55 groundwater samples had detections above the USEPA MCL of 5.0 ug/L for PCE.
- TCE was detected in 52 of the 55 groundwater samples at concentrations ranging from 0.11 ug/L to 10.4 ug/L. Three of the 55 groundwater samples had detections above the USEPA MCL of 5.0 ug/L for TCE.
- DCE was detected in 45 of the 55 groundwater samples at concentrations ranging from 0.1 ug/L to 21.2 ug/L. None of the groundwater samples had detections above the USEPA MCL of 70 ug/L for DCE.
- PCE, TCE, and DCE were detected in groundwater at fairly consistent levels with a slight increase in levels seen in the vicinity of Probekholes DCFB34, DCFB35, DCFB36, and DCFB37.

5.0 SUMMARY AND CONCLUSIONS

This report has been prepared to present an evaluation of the data collected in October, November, and December 2000 at the DCFA. This investigation was conducted to assist in identifying whether potential sources for PCE contamination are present at the DCFA within the area of former Buildings 180/181 or near the sanitary sewer line that extends from south of Building 183 and former Buildings 180/181 eastward to the wastewater treatment plant. Contaminants of concern for this investigation include PCE, and its daughter products - TCE, and DCE.

Investigative fieldwork at the DCFA study area was conducted from October 10 through December 8, 2000. The DCFA field investigations conducted by BMcD were divided into three main areas:

- Area 1 - the Former Buildings 180/181 area includes the soil and groundwater investigation of the former location of Buildings 180/181;
- Area 2 - the Island area includes the groundwater investigation along the sanitary sewer line located south of the former Buildings 180/181 location, extending from the train trestle to the Monitoring Well DCF00-34b/DCF00-34c well cluster; and
- Area 3 - the Point Bar/Horse Corral area includes the soil and groundwater investigation along the sanitary sewer line located immediately south of the Union Pacific Railroad grade and extending from the western corner post of the of the horse corral to 100 feet east of the eastern horse corral corner post.

Field activities conducted for the investigation include:

- Area 1 - Collection of 253 soil screening samples and 20 groundwater screening samples at 54 probehole locations
- Area 2 - Collection of 28 groundwater screening samples at 19 probehole locations
- Area 3 - Collection of 17 soil screening samples and 55 groundwater screening samples at 25 probehole locations
- Off-site laboratory analysis of selected confirmation samples (soil and groundwater)
- Surveying of probehole locations

Soil and groundwater screening samples were analyzed on site for PCE, TCE, and DCE with a GC utilizing purge and trap extraction as an introduction technique for the GC. Confirmation samples were collected for 16 groundwater samples and 32 soil samples to confirm VOC results obtained from the on-

site analyses. Field screening duplicates and confirmation samples were evaluated using the procedures outlined in the USACE, Northwest District – Kansas City *CEMRK-EC-EF Data Quality Evaluation Guidance* (USACE, 1999). Results were presented in the *QCSR - Field Screening Samples* (BMcD, 2002b) and the *QCSR - Confirmation Samples* (BMcD, 2001b).

A summary of the soil and groundwater field investigation results is presented in Table 5-1. Of the 253 soil samples collected from Area 1 – Former Buildings 180/181, the highest concentration of PCE found was 56.9J ug/kg. Only 13 of the 253 field screening samples had PCE results greater than 20 ug/kg. The confirmation sample for DCFB114A, 9-10 feet bgs, however, had a PCE detection of 188 ug/kg, which is above the RSK value. Of the 20 groundwater samples collected at Area 1, PCE was detected in 20 samples and in seventeen of the 20 detections at levels greater than the associated MCL; TCE was detected in 6 of the 20 samples and in three of the six detections at levels greater than the associated MCL; and DCE was detected in five of the 20 samples with no detections above the associated MCL.

PCE, TCE, and DCE were detected in the groundwater from both Areas 2 and 3. Neither PCE, TCE, nor DCE were detected in the soil from Area 3. No soil samples were collected at Area 2. It does not appear that a source of PCE is present in the soil at Area 3. Based on the site hydrogeologic model (LBA, 1995) and the groundwater levels observed in the regular groundwater sampling of October 2000 (BMcD, 2001d), the sample locations for both Area 2 and Area 3 are located downgradient from the sewer line. It is probable that the PCE present in the groundwater is from past subsurface releases from the sewer line.

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6.0 REFERENCES

Burns & McDonnell Engineering Company, Inc. (BMcD), 1998a, *Sampling and Analysis Plan for Environmental Investigations at Fort Riley, Kansas* [Site Wide SAP]

- *Volume I, Field Sampling Plan*
- *Volume II, Quality Assurance Project Plan*

BMcD, 1998b, *Revised Site Safety and Health Plan for Environmental Investigations, Fort Riley, Kansas*, September 1998.

BMcD, 1998c, *Site Wide Quality Control Plan for Environmental Studies and Investigations at Fort Riley, Kansas*, February 1998.

BMcD, 1998d, *Revised Monitoring Well Installation Plan for Environmental Investigations at Fort Riley, Kansas*, September 1998.

BMcD, 1999a, *Data Summary Report – October 1998 Groundwater Sampling Event at the Dry Cleaning Facilities Area at Main Post Fort Riley, Kansas*, February 1999.

BMcD, 1999b, *Data Summary Report – May 1999 Groundwater Sampling Event at the Dry Cleaning Facilities Area at Main Post Fort Riley, Kansas*, September 1999.

BMcD, 1999c, *Data Summary Report – August/September 1999 Groundwater Sampling Event at the Dry Cleaning Facilities Area at Main Post Fort Riley, Kansas*, December 21, 1999.

BMcD, 2000a, *Quality Control Technical Memorandum – March 2000 USGS River Sampling Event at the Fort Riley, Kansas*, May 12, 2000.

BMcD, 2000b, *Data Summary Report – February 2000 Groundwater Sampling Event at the Dry Cleaning Facilities Area at Main Post Fort Riley, Kansas*, June 22, 2000.

References

BMcD, 2000c, *Quality Control Summary Report – July 2000 USGS River Sampling Event at the Fort Riley, Kansas*, September 2000.

BMcD, 2001a, *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*, January 29, 2001.

BMcD, 2001b, *Quality Control Summary Report – Confirmation Samples, Potential Source Area Investigation, Dry Cleaning Facilities Area, Fort Riley, Kansas*, January 29, 2001.

BMcD, 2001c, *Data Summary Report, July 2000 Sampling Event, Dry Cleaning Facilities Area at Fort Riley, Kansas*, January 2001.

BMcD, 2001d, *Data Summary Report, October 2000 Sampling Event, Dry Cleaning Facilities Area at Fort Riley, Kansas*, January 2001.

BMcD, 2001e, *Quality Control Summary Report – July 2001 USGS River Sampling Event for the Dry Cleaning Facilities Area, 354 Area Solvent Detections, Marshall Army Airfield, and Southwest Funston Landfill, Fort Riley, Kansas*, September 28, 2000.

BMcD, 2001f, *Data Summary Report, March 2001 Sampling Event, Dry Cleaning Facilities Area at Fort Riley, Kansas*, September 28, 2001.

BMcD, 2002a, *Data Summary Report, October 2001 Sampling Event, Dry Cleaning Facilities Area at Fort Riley, Kansas*, February 6, 2002.

BMcD, 2002b, *Quality Control Summary Report – Field Screening Samples, Potential Source Area Investigation, Dry Cleaning Facilities Area, Fort Riley, Kansas*, March 5, 2002.

Fader, S.W., 1974, *Ground Water in the Kansas River Valley, Junction City to Kansas City, Kansas*, State Geological Survey of Kansas, Bulletin 206, Part 2.

Jewett, J.M., 1941, *The Geology of Riley and Geary Counties, Kansas*, State Geological Survey of Kansas, Bulletin 39.

Kansas Department of Health and Environment, Bureau of Environmental Remediation (KDHE), 2001, *Risk-Based Standards for Kansas (RSK Manual) 2nd Version*, September 4, 2001.

Law Environmental, Inc (Law), 1993a, *Preliminary Assessment/Site Investigation for Dry Cleaning Facility, Fort Riley, Kansas. Quality Control Summary Report – First Quarter Groundwater Sampling Event*, January 1993.

Law, 1993b, *Preliminary Assessment/Site Investigation for Dry Cleaning Facility, Fort Riley, Kansas. Quality Control Summary Report – Second Quarter Groundwater Sampling Event*, April 1993.

Law, 1993c, *Remedial Investigation/Feasibility Study (RI/FS) Planning Documents Vol. I Work Plan, Vol. II Sampling & Analysis Plan (Fort Riley Military Installation) for Dry Cleaning Facility, Fort Riley, Kansas*, July 1993.

Law, 1993d, *Preliminary Assessment/Site Investigation for Dry Cleaning Facility, Fort Riley, Kansas. Quality Control Summary Report – Third Quarter Groundwater Sampling Event*, July 1993.

Louis Berger & Associates, Inc. (LBA), 1993, *Draft Final – Revised 12 October 1993 Remedial Investigation/Feasibility Study Planning Documents Sampling & Analysis Plan (SAP) Fort Riley Military Installation Fort Riley, Kansas*, January 6, 1993.

LBA, 1995, *Remedial Investigation Report, Dry Cleaning Facilities Study Area, Fort Riley, Kansas*, March 1995.

LBA, 1996a, *Pilot Test Study Results Report, Dry Cleaning Facilities Area, Fort Riley, Kansas*, March 1996.

LBA, 1996b, *Data Summary Reports for Post Remedial Investigation, Volume I, Dry Cleaning Facilities Area, Fort Riley, Kansas*, October 1996.

References

- LBA, 1998a, *Remedial Investigation Addendum Monitoring Expansion Report, Dry Cleaning Facilities Study Area, Fort Riley, Kansas, March 1998.*
- LBA, 1998b, *Data Summary Reports for Post Remedial Investigation, Volume II, Dry Cleaning Facilities Area, Fort Riley, Kansas, April 1998.*
- LBA, 1999, *Data Summary Reports for Groundwater Sampling Dry Cleaning Facilities Area, Volume III, Fort Riley, Kansas, January 1999.*
- Merriam, D.F., 1963, *The Geologic History of Kansas*, State Geological Survey of Kansas, Bulletin 162.
- Myers, N.C., J. Xiaodong, and G.D. Hargadine, 1996, *Effects of Pumping Municipal Wells at Junction City, Kansas, on Streamflow in the Republican River, Northeast Kansas, 1992-94*, United States Geological Survey, Water-Resources Investigations Report 96-4130.
- Schowe, W.H., 1949, *The Geography of Kansas, Part 2, Physical Geography*, Kansas Academy of Science Transactions, Vol. 52, No. 3, p. 261-333.
- United States Army Corps of Engineers (USACE), 1975, *Volume I – Groundwater Evaluation Report, Installation of Test Well and Aquifer Analysis, Fort Riley, Kansas*, Schwab-Eaton, Inc. Manhattan, Kansas.
- USACE, 1983, *Fort Riley, Kansas, Marshall Army Airfield Aquifer Pump Test, March 1983*, Unpublished Report.
- USACE, 1999, *CEMRK-EC-EF Data Quality Evaluation Guidance*, July 1999.
- USACE, 2000, *Work Plan to Evaluate Potential Other Sources for the Dry Cleaning Facilities Area at Fort Riley, Kansas*, July 29, 2000.
- United States Army Environmental Hygiene Agency (USAEHA), 1988, *Interim Final Report: Hazardous Waste Management Consultation. No. 87-26-0190-89 Evaluation of Solid Waste Management Units, Fort Riley, Kansas, May 9-13, 1988.*

References

United States Army Toxic and Hazardous Materials Agency (USATHAMA), 1984, *Installation Assessment of Fort Riley, Kansas. Report No. 341*, December 1984.

Zeller, Doris, 1994, *The Stratigraphic Succession of Kansas*, University of Kansas Publications, Bulletin 189, 1968 revised 1994 by Baars, D.L.

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TABLES

Table 1-1
Chronology of Events Associated with the DCFA
Dry Cleaning Facilities Area
Fort Riley, Kansas

Date	Activity	Reports/References
1914	Building 180 constructed (as Bldg. 109, Stone)	Law, 1993c Appendix, HADR; Real Property Records
1915	Laundry operations began in Building 180.	Law, 1993c
1930	Building 181 constructed (as Bldg. 213, Brick)	Law, 1993c Appendix, HADR; Real Property Records
1931	Dry cleaning operations in Building 181.	Drawing "Layout of Dry Cleaning As Installed" dated January 1931
1940	Building 182 constructed (as Bldg. 214, Stone), Inflammable Storage	HADR; Real Property Records; 1956 property listing
1941	Building 183 constructed (as Bldg. 216T, Wood), Laundry Building 184 constructed (as Bldg. 239), Laundry Boiler House	Real Property Records; 1956 Property listing HADR; 1956 property listing
1944	Building 180 burned on September 10.	Real Property Records
1944/45	"Solvent Used - Stoddard - Flash Point 300 - 400 F"	Drawing dated 1944/1945
1945	Building 181 reconstructed, 180 & 181 joined	Drawings dated 1945; Real Property Records
1966 (1971?)	<p>Change from Stoddard to Tetrachloroethylene (PCE) as dry cleaning fluid. (Report & Interview differ on date.)</p> <p>Also, dry cleaning operations started in Building 180, Drums of PCE stored near single unit. (Unclear, but apparently dry cleaning ceased in 181 at this time.)</p> <p>Interviewee also reported that diatomaceous earth filter material was "broadcast" and used as "fill" behind the building along southwest slope & that contents of "muck tank" holding still bottoms, distillate residue & filter material discharged to the sanitary sewer.</p> <p>Manager also recalled 3 tanks on north side of Bldg. 180 – held Stoddard but not PCE.</p>	<p>USATHAMA, 1984</p> <p>PA/SI (Law, 1993a) Appendix - Interview of Former Dry Cleaning Manager (1940-1971)</p>
1974	Building 180 re-designated from Laundry/Steam Plant to Warehouse (but Dry Cleaning operations apparently continued)	Real Property Records
1979- mid 80's	<p>PCE delivered by tanker truck. Pumped through window north side of 181 into barrels near machines.</p> <p>Initially filter cartridges & sludge (1-2 gallons every 3 months) disposed of in dumpster - later (approx. 1983) disposed (off- post) through Property Disposal Office.</p>	<p>PA/SI (Law, 1993a) Appendix H - Interview of Former Manager (1971 - mid 1980's)</p> <p>RI/FS Work Plan (Law, 1993c) Appendix – Interview (same person)</p>

Table 1-1
Chronology of Events Associated with the DCFA
Dry Cleaning Facilities Area
Fort Riley, Kansas

Date	Activity	Reports/References
October 1983	All dry cleaning (and laundry, if this had not occurred previously) activities moved to Building 183. Buildings 180/181 becomes General Purpose Warehouse (Installation Consolidated Property Book Office).	USATHAMA, 1984
1984	USATHAMA Installation Assessment reported still bottom residue was being dumped behind the building.	USATHAMA, 1984
1985	Contractor provides solvent supply and disposal/ recycling services.	RI/FS Work Plan (Law, 1993c) Appendix – Interview
June 1986	Fort Riley collected and USAEHA analyzed (GC) two soil samples from the west side of Building 181. Results indicated no detections and no recommendations for further sampling were made.	USAEHA, 1988
1988	Evaluation of Solid Waste Management units on Fort Riley; included former Dry Cleaning Plant area. No observational evidence of systematic spilling of solvent or sludge.	USAEHA, 1988
July 1989	Fort Riley was proposed for inclusion on National Priority List.	RI Report, (LBA, 1995)
August 1990	Fort Riley placed on National Priority List.	Federal Register - 30, August 30, 1990
June 1991	Federal Facilities Agreement effective; requires site investigation of former Dry Cleaners	
1991-1992	PA/SI Planning Draft Planning Documents, September 1991 Draft Final Planning Documents, December 1991 Revisions to Planning Documents, January 1992 Draft Modified Planning Documents, May 1992 Draft Final Mod Planning Documents, September 1992	PA/SI (Law, 1993a)
1991-1992	PA/SI Field Work Soil Gas Survey, October 29 – November 2, 1991 Soils Borings, March - April 1992 Monitoring Well Installation, April 1992 Monitoring Well Development, May – June 1992 Groundwater Sampling, July 1992 Exploratory Monitoring Well DCF92-07 installed (dry), August 1992	PA/SI (Law, 1993a)

Table 1-1
Chronology of Events Associated with the DCFA
Dry Cleaning Facilities Area
Fort Riley, Kansas

Date	Activity	Reports/References
September 1992	Working Draft PA/SI is submitted. A decision was made to have EPA and KDHE review this document instead of extending the schedule for submission of a Draft. A meeting was held on 16 October 1992, during which the project managers for the parties to the IAG decided that the Working Draft would be approved as Final with comments attached.	PA/SI (Law, 1993a)
1992- 1993	Periodic groundwater sampling of six monitoring wells installed during the PA/SI. November 1992 February 1993 May 1993	QCSRs (Law, 1993a, 1993b, and 1993d)
February - April 1993	RI/FS Initial Field Investigations, February - March 1993 Soil Gas Survey Sewer/Surface Water/Sediment Sampling Supplemental IFI Activities, March - April 1993 Sewer Survey and Tracing Dry Cleaning Operations Sampling	Results reported in RI/FS Work Plan, July 1993 (Law, 1993c)
July 1993	RI/FS Work Plan Submitted.	Law, 1993c
October 1993	Revised Draft Final RI Sampling and Analysis Plan. (Result of change in Contractor performing work.)	LBA, 1993
November - December 1993	RI field work. Soil Borings Surface Soil, Surface Water & Sediment Sampling Groundwater Sampling	RI (LBA, 1995)
December 1993	"Baseline" RI groundwater sampling including new RI monitoring wells.	RI (LBA, 1995)
February 1994	Groundwater Sampling Event, 1st Round after "Baseline" for RI	RI (LBA, 1995)
April 1994	USTs located. (Interview information about tanks unclear if removed or not. An electromagnetic survey performed by US Army Construction Engineers Laboratory revealed the presence of the tanks. Previous methods had been unsuccessful.)	RI (LBA, 1995)
May 1994	Sewer line repair. A portion of sanitary sewer line was replaced between manholes 365 and 363 (portion of line serving 183 above 180/182) due to suspected leakage of the aged line.	RI (LBA, 1995)
May 1994	Soil Sampling in conjunction with SVE Pilot Study	Pilot Test Study (LBA, 1996a)

Table 1-1
Chronology of Events Associated with the DCFA
Dry Cleaning Facilities Area
Fort Riley, Kansas

Date	Activity	Reports/References
May 1994	UST contents sampled	RI (LBA, 1995)
May 1994	Soil Vapor and Groundwater Extraction Pilot Studies initiated near Building 180/181.	Pilot Test Study (LBA, 1996a)
June 1994	Installation of soil vapor and groundwater extraction wells. (Subsequent pumping tests performed on the groundwater wells proved extraction to be impractical due to extremely low yield rates therefore groundwater extraction pilot test terminated.)	Pilot Test Study (LBA, 1996a)
June 1994	Groundwater Sampling Event, 2nd Round for RI	RI (LBA, 1995)
June – July 1994	Supplemental Sewer (flow) Investigations.	RI (LBA, 1995)
July 1994	UST removal (2 removed, 1 abandoned in place due to depth & proximity to building foundation & utilities).	RI (LBA, 1995)
August 1994	Monitoring Well DCF94-22 installed (driven well point) as a replacement for DCF94-11, which had gone dry.	RI (LBA, 1995)
August 1994	Groundwater Sampling Event, 3rd Round for RI	RI (LBA, 1995)
October 1994	UST area soil borings performed	RI (LBA, 1995)
November - December 1994	Soil Vapor Extraction Pilot Test - 30-day test performed	Pilot Test Study (LBA, 1996a)
January 1995	Groundwater Sampling Event, 4th Round for RI	RI (LBA, 1995)
January 1995	Additional surface water and sediment sampling	RI (LBA, 1995)
March 1995	Draft Final RI	RI (LBA, 1995)
May 1995	Groundwater Sampling Event, 1st Round.	DSR (LBA, 1996b)
June 1995	Groundwater Sampling Event, 2nd Round.	DSR (LBA, 1996b)
July 1995	Groundwater Sampling Event, 3rd Round.	DSR (LBA, 1996b)
August 1995	Groundwater Sampling Event, 4th Round	DSR (LBA, 1996b)
October 1995	Groundwater Sampling Event, 5th Round.	DSR (LBA, 1996b)
March 1996	Draft Final Pilot Test Study Results Report	Pilot Test Study (LBA, 1996a)
May 1996	Work Plan for Monitoring Network Expansion Including Additional Characterization of the Island	
May 1996	Installed new wells for monitoring expansion	RIAMER (LBA, 1998a)
May 1996	Groundwater Sampling Event, 6th Round.	DSR (LBA, 1998b)
October 1996	Groundwater Sampling Event, 7th Round.	DSR (LBA, 1998b)

Table 1-1
Chronology of Events Associated with the DCFA
Dry Cleaning Facilities Area
Fort Riley, Kansas

Date	Activity	Reports/References
February 1997	Groundwater Sampling Event, 8th Round.	DSR (LBA, 1998b)
May 1997	Groundwater Sampling Event, 9th Round.	DSR (LBA, 1998b)
September 1997	Groundwater Sampling Event, 10th Round.	DSR (LBA, 1998b)
December 1997	Groundwater Sampling Event, 11th Round.	DSR (LBA, 1999)
March 1998	Draft Final Remedial Investigation Addendum Monitoring Expansion Report	RIAMER (LBA, 1998a)
March 1998	Groundwater Sampling Event, 12th Round.	DSR (LBA, 1999)
June 1998	Groundwater Sampling Event, 13th Round.	DSR (LBA, 1999)
October 1998	Groundwater Sampling Event, 14th Round.	DSR (BMcD, 1999a)
January - March 1999	Dispute Resolution with KDHE on the Proposed Plan for the Dry Cleaning Facilities Area (DCFA), Fort Riley, Kansas	
April 1999	Installation of monitoring wells DCF-99-37B, DCF-99-37C, DCF-99-38B, and DCF-99-38C at Horse Corral	
May 1999	Groundwater Sampling Event, 15th Round.	DSR (BMcD, 1999b)
August - September 1999	Groundwater Sampling Event, 16th Round.	DSR (BMcD, 1999c)
February 2000	Groundwater Sampling Event, 17th Round.	DSR (BMcD, 2000b)
March 2000	USGS River Sampling Event	Quality Control Technical Memorandum (BMcD, 2000a)
April 2000	Installation of monitoring wells DCF00-34 and DCF00-34C to replace the damaged Monitoring Well DCF-96-34.	DSR (BMcD, 2001c)
Summer 2000	Demolition of Building 180/181	Field Observation
Summer 2000	Removal of UST	KDHE Report
July 2000	Groundwater Sampling Event, 18th Round.	DSR (BMcD, 2001c)
July 2000	USGS River Sampling Event	QCSR (BMcD, 2000c)
October 2000	Groundwater Sampling Event, 19th Round.	DSR (BMcD, 2001d)
October - December 2000	DCF Study Area Potential Source Area Investigation	
March 2001	Groundwater Sampling Event, 20th Round.	DSR (BMcD, 2001f)
July 2001	USGS River Sampling Event	QCSR, (BMcD, 2001e)
September 2001	Monitoring Well DCF01-40 installed	

Table 1-1
Chronology of Events Associated with the DCFA
Dry Cleaning Facilities Area
Fort Riley, Kansas

Date	Activity	Reports/References
October 2001	Groundwater Sampling Event, 21st Round.	DSR (BMcD, 2002a)
<p>Note: BMcD = Burns & McDonnell Engineering Company, Inc. DCFA = Dry Cleaning Facilities Area DSR = Data Summary Report GC = Gas Chromatograph HADR = Historical and Architectural Documentation Reports for Fort Riley, Kansas, October 1993. IAG = Interagency Agreement KDHE = Kansas Department of Health and Environment LBA = Louis Berger & Associates PA/SI = Preliminary Assessment/Site Investigation PCE = Tetrachloroethylene QCSR = Quality Control Summary Report RIAMER = Remedial Investigation Addendum Monitoring Expansion Report RI/FS = Remedial Investigation/Feasibility Study SVE = Soil Vapor Extraction USATHAMA = U.S. Army Toxic and Hazardous Materials Agency USAEHA = U.S. Army Environmental Hygiene Agency USEPA = United States Environmental Protection Agency USGS = United States Geological Survey UST = Underground Storage Tank</p>		

Table 2-1
Reported Parameters for EPA Method 8260B
Dry Cleaning Facilities Area
Fort Riley, Kansas

Volatile Organic Compounds

1,1,1-Trichloroethane	Chlorobenzene
1,1,2,2-Tetrachloroethane	Chloroethane
1,1,2-Trichloroethane	cis-1,2-Dichloroethene
1,1-Dichloroethane	cis-1,3-Dichloropropene
1,1-Dichloroethene	Dibromochloromethane
1,2-Dichloroethane	Ethylbenzene
1,2-Dichloropropane	m,p-Xylene
1,4-Dichlorobenzene	Methyl Chloride
2-Butanone	Methylene Chloride
2-Chloroethylvinyl Ether	o-Xylene
2-Hexanone	Styrene
4-Methyl-2-Pentanone	Tetrachloroethene
Acetone	Toluene
Benzene	trans-1,2-Dichloroethene
Bromodichloromethane	trans-1,3-Dichloropropene
Bromoform	Trichloroethene
Bromomethane	Trichloromethane
Carbon Disulfide	Vinyl Acetate
Carbon Tetrachloride	Vinyl Chloride

Table 2-2
Summary of Groundwater/Soil Samples and Associated QA/QC Samples
Dry Cleaning Facilities Area
Fort Riley, Kansas

Matrix	Total Field Screening Groundwater Samples	Total Lab Confirmation Samples	Total Duplicate / QA Samples	Total MS/MSD Samples
Groundwater	103	16	3/3	2/2
Soil	270	32	4/4	3/3

QA = Quality Assurance

QC = Quality Control

MS/MSD = Matrix Spike/Matrix Spike Duplicate

Table 3-1
Survey and Depth to Bedrock Information
Dry Cleaning Facilities Area
Fort Riley, Kansas

Borehole	Northing	Easting	Elevation	Depth to Bedrock	Bedrock Elevation	Bedrock Type
Area 1 - Former Buildings 180/181						
DCFB100	14192947.31	2267153.88	1085.19	9	1076.19	SH
DCFB100A	14192985.39	2267164.89	1085.75	8	1077.75	SH
DCFB101	14192979.70	2267196.99	1085.54	14.4	1071.14	LS
DCFB102	14193015.52	2267242.89	1085.80	14.4	1071.4	LS
DCFB102A	14193025.83	2267256.91	1086.14	14	1072.14	LS
DCFB102B	14193042.99	2267265.26	1086.71	16	1070.71	LS
DCFB103	14193051.29	2267288.09	1086.82	11	1075.82	LS
DCFB104	14193081.72	2267334.52	1087.75	11.6	1076.15	LS
DCFB105	14193101.51	2267397.57	1087.83	23	1064.83	SH
DCFB106	14192933.63	2267218.84	1083.73	21.5	1062.23	SH
DCFB107	14192958.98	2267249.99	1083.82	22.4	1061.42	SH
DCFB107A	14192997.55	2267258.29	1084.82	12	1072.82	LS
DCFB108	14192994.66	2267296.86	1084.88	15	1069.88	LS
DCFB108A	14193025.49	2267302.51	1085.73	15	1070.73	SH
DCFB109	14193029.46	2267341.22	1085.74	18	1067.74	LS
DCFB110	14193057.17	2267391.63	1085.70	28	1057.7	SH
DCFB111	14193088.07	2267437.79	1086.18	33	1053.18	SH
DCFB111A	14193108.01	2267475.17	1086.96	49 *	1037.96	UN
DCFB112	14192920.20	2267274.00	1084.00	33	1051	SH
DCFB113	14192936.19	2267303.80	1083.39	33	1050.39	SH
DCFB113A	14192968.66	2267315.33	1083.50	24	1059.5	SH
DCFB113B	14192953.37	2267325.25	1083.94	31	1052.94	SH
DCFB113C	14192936.06	2267340.16	1083.94	9**	NA	NA
DCFB113D	14192924.31	2267330.14	1083.88	42	1041.88	UN
DCFB113E	14192934.64	2267322.97	1083.77	34	1049.77	SH
DCFB113F	14192954.62	2267344.10	1083.96	38.4	1045.56	SH
DCFB114	14192971.96	2267349.56	1084.44	38 *	1046.44	UN
DCFB114A	14192957.02	2267389.37	1084.03	42 *	1042.03	UN
DCFB114AW1	14192949.30	2267372.06	1084.16	41.8 *	1042.36	UN
DCFB114AW2	14192936.60	2267356.59	1084.10	44 *	1040.1	UN
DCFB114AE1	14192970.75	2267398.53	1084.21	42.5 *	1041.71	UN
DCFB114AE2	14192983.12	2267412.02	1084.47	41 *	1043.47	UN
DCFB114B	14192991.09	2267374.19	1084.63	39.5 *	1045.13	UN
DCFB115	14193008.39	2267395.75	1084.55	38 *	1046.55	UN
DCFB115A	14193041.73	2267407.92	1085.00	35 *	1050	UN
DCFB115B	14192996.42	2267423.96	1084.51	40 *	1044.51	UN
DCFB116	14193042.72	2267440.95	1084.94	42.3 *	1042.64	UN
DCFB117	14193076.70	2267485.61	1086.03	43.6 *	1042.43	UN
DCFB118	14192889.91	2267323.90	1083.37	45 *	1038.37	UN
DCFB119	14192914.43	2267358.06	1083.52	45 *	1038.52	UN
DCFB120	14192949.47	2267404.27	1084.03	42 *	1042.03	UN
DCFB121	14192986.09	2267448.83	1084.45	35.6	1048.85	SH

Table 3-1
Survey and Depth to Bedrock Information
Dry Cleaning Facilities Area
Fort Riley, Kansas

Borehole	Northing	Easting	Elevation	Depth to Bedrock	Bedrock Elevation	Bedrock Type
DCFB122	14193024.99	2267474.03	1084.58	40	1044.58	SH
DCFB123	14192879.24	2267355.50	1082.68	45 *	1037.68	UN
DCFB124	14192909.46	2267403.00	1082.46	37.8	1044.66	LS
DCFB125	14192949.93	2267449.76	1082.70	34	1048.7	SH
DCFB126	14192973.37	2267477.49	1082.82	31.4	1051.42	SH
DCFB201	14193033.38	2267202.84	1087.52	9.8	1077.72	SH
DCFB202	14193013.34	2267147.14	1086.83	4.8	1082.03	SH
DCFB203	14193006.15	2267087.90	1087.02	6.6	1080.42	SH
DCFB203A	14192964.25	2267094.31	1085.38	3.4	1081.98	SH
DCFB204	14192979.91	2267028.91	1084.82	5**	NA	FILL
DCFB301	14193088.31	2267179.55	1089.84	8 *	1081.84	UN
DCFB302	14193119.90	2266549.10	1070.20	3.5	1066.7	SH
Area 2 - The Island						
DCFB1	14192262.81	2268037.81	1050.43	36 *	1014.43	UN
DCFB2	14192251.06	2268098.18	1049.79	14 *	1035.79	UN
DCFB3	14192233.23	2268150.51	1049.71	10 *	1039.71	UN
DCFB4	14192203.41	2268192.56	1049.52	11 *	1038.52	UN
DCFB5	14192174.28	2268234.42	1050.10	19.5 *	1030.6	UN
DCFB6	14192147.83	2268282.11	1051.62	18.5 *	1033.12	UN
DCFB7	14192292.00	2267980.25	1052.66	34 *	1018.66	UN
DCFB8	14192319.68	2267908.99	1052.03	30 *	1022.03	UN
DCFB9	14192313.67	2267856.94	1052.65	43 *	1009.65	UN
DCFB10	14192307.06	2267802.29	1052.81	47 *	1005.81	UN
DCFB11	14192436.14	2267786.67	1057.44	25 *	1032.44	UN
DCFB12	14192461.47	2267742.61	1056.86	33 *	1023.86	UN
DCFB13	14192502.49	2267695.10	1057.12	38 *	1019.12	UN
DCFB14	14192534.40	2267654.67	1056.39	21 *	1035.39	UN
DCFB15	14192567.17	2267608.39	1056.88	23.5 *	1033.38	UN
DCFB16	14192591.25	2267559.82	1057.04	21 *	1036.04	UN
DCFB17	14192607.29	2267515.62	1056.51	34 *	1022.51	UN
DCFB18	14192639.55	2267473.39	1057.76	25 *	1032.76	UN
DCFB19	14192705.76	2267445.59	1058.04	24 *	1034.04	UN
Area 3 - The Point Bar/Horse Corral						
DCFB20	14191770.22	2269767.17	1061.84	92 *	969.84	UN
DCFB21	14191776.09	2269832.62	1061.28	46 *	1015.28	UN
DCFB22	14191781.23	2269883.13	1060.72	49 *	1011.72	UN
DCFB23	14191790.99	2269929.61	1061.49	46 *	1015.49	UN
DCFB24	14191798.99	2269980.32	1061.22	46 *	1015.22	UN
DCFB25	14191810.74	2270028.90	1059.76	44.5 *	1015.26	UN
DCFB26	14191836.39	2270133.13	1058.26	43 *	1015.26	UN
DCFB27	14191857.36	2270178.18	1056.79	41 *	1015.79	UN
DCFB28	14191864.98	2270228.67	1058.03	42 *	1016.03	UN
DCFB29	14191884.91	2270270.97	1059.21	42 *	1017.21	UN

Table 3-1
Survey and Depth to Bedrock Information
Dry Cleaning Facilities Area
Fort Riley, Kansas

Borehole	Northing	Easting	Elevation	Depth to Bedrock	Bedrock Elevation	Bedrock Type
DCFB30	14191900.53	2270321.29	1060.92	44 *	1016.92	UN
DCFB31	14191923.98	2270366.11	1060.29	43 *	1017.29	UN
DCFB32	14191944.64	2270410.78	1060.12	43 *	1017.12	UN
DCFB33	14191962.26	2270453.49	1059.09	42 *	1017.09	UN
DCFB34	14191982.12	2270497.20	1057.96	41 *	1016.96	UN
DCFB35	14192006.05	2270540.06	1060.26	41 *	1019.26	UN
DCFB36	14192028.00	2270569.89	1061.19	41 *	1020.19	UN
DCFB37	14192061.58	2270620.57	1061.19	40 *	1021.19	UN
DCFB38	14192036.39	2270579.67	1060.80	41.5 *	1019.3	UN
DCFB39	14192084.82	2270660.23	1061.11	40 *	1021.11	UN
DCFB40	14192109.89	2270702.42	1057.01	41 *	1016.01	UN
DCFB41	14192134.24	2270745.69	1059.55	43 *	1016.55	UN
DCFB42	14192159.04	2270780.01	1060.92	43 *	1017.92	UN
DCFB43	14192274.89	2270719.99	1063.32	22 *	1041.32	UN
DCFB44	14192315.36	2270785.76	1063.45	21.5 *	1041.95	UN

* Depth to refusal (used when bedrock was not logged)

** Refusal met on Fill

NA = Not Applicable

SH = Shale

LS = Limestone

UN = Unknown

**Table 4-1
Laboratory Confirmation and Field Screening Results Comparison
Summary of Soil Results
Dry Cleaning Facilities Area - Fort Riley, Kansas**

Location	PCE (ug/kg)	TCE (ug/kg)	cis-1,2-DCE(ug/kg)
DCFA			
DCFB100A (7-8 feet bgs)			
Confirmation	5.4 U	5.4 U	5.4 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB102B (15-16.5 feet bgs)			
Confirmation	1,100 U	1,100 U	1,100 U
Confirmation-Reanalysis	280 U	280 UJ	280 U
Field Screen	5 U	5 U	5 U
DCFB104 (9-10 feet bgs)			
Confirmation	5.6 U	5.6 U	5.6 U
Field Screen	2 U	2.0 U	2.0 U
Field Screen-dup	2 U	2 U	2 U
DCFB107 (9-10 feet bgs)			
Confirmation	5.3 U	5.3 U	5.3 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB107 (19-20 feet bgs)			
Confirmation	29 U	29 U	29 U
Field Screen	2 U	2 U	2 U
DCFB108A (9-10 feet bgs)			
Confirmation	5.4 U	5.4 U	5.4 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB110 (15-16 feet bgs)			
Confirmation	5.4 U	5.4 U	5.4 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB111 (15-16 feet bgs)			
Confirmation	5.7 U	5.7 U	5.7 U
Field Screen	1.1	2 U	2 U
Field Screen-dup	0.8 J	2 U	2 U

Location	PCE (ug/kg)	TCE (ug/kg)	cis-1,2-DCE(ug/kg)
DCFB111A (15-16 feet bgs)			
Confirmation	5.6 U	5.6 U	5.6 U
Field Screen	0.4 J	2 U	2 U
Field Screen-dup	0.2 J	2 U	2 U
DCFB112 (9-10 feet bgs)			
Confirmation	5.7 U	5.7 U	5.7 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB113B (21-22 feet bgs)			
Confirmation	5.1 U	5.1 U	5.1 U
Field Screen	2 UJ	2 UJ	2 UJ
Field Screen-dup	2 UJ	2 UJ	2 UJ
DCFB113E (15-16 feet bgs)			
Confirmation	5.4 U	5.4 U	5.4 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB114 (9-10 feet bgs)			
Confirmation	18.5	5.9 U	5.9 U
Field Screen	1.9 J	2 UJ	2 UJ
Field Screen-dup	1.7 J	2 UJ	2 UJ
DCFB114A (9-10 feet bgs)			
Confirmation	OVERC	5.9 U	5.9 U
Confirmation-Dilution	188	12 U	12 U
Field Screen	21.4	2 U	2 U
Field Screen-dup	21.6	2 U	2 U
DCFB114AE1 (27-28 feet bgs)			
Confirmation	5.5 U	5.5 U	5.5 U
Field Screen	2 U	2 U	2 U
DCFB114AW2 (9-10 feet bgs)			
Confirmation	120	6 U	6 U
Field Screen	11.8	2 U	2 U
Field Screen-dup	24	2 U	2 U

= No discrepancy, lab and field screening samples within a factor of four of each other
 = Minor discrepancy, lab and field screening samples were between a factor of four to five of each other.
 = Major discrepancy, lab and field screening samples were greater than a factor of five of each other.
 PCE = Tetrachloroethylene
 TCE = Trichloroethylene
 cis-1,2-DCE = cis-1,2-Dichloroethylene
 J = Qualified as estimated by either the laboratory or the QC evaluation
 U = Qualified as undetected by the laboratory
 R = Qualified as unusable

ug/kg = micrograms per kilograms
 bgs = below ground surface
 OVERC = Concentration Over calibration range

**Table 4-1
Laboratory Confirmation and Field Screening Results Comparison
Summary of Soil Results
Dry Cleaning Facilities Area - Fort Riley, Kansas**

Location	PCE (ug/kg)	TCE (ug/kg)	cis-1,2-DCE(ug/kg)
DCFB114AW2 (21-22 feet bgs)			
Confirmation	5.2 U	5.2 U	5.2 U
Confirmation-dup	5.4 U	5.4 U	5.4 U
Field Screen	4.5	2 U	2 U
Field Screen-dup	5.4	2 U	2 U
DCFB114B (15-16 feet bgs)			
Confirmation	5.7 U	5.7 U	5.7 U
Field Screen	0.4 J	2 U	2 U
Field Screen-dup	0.2 J	2 U	2 U
DCFB115 (9-10 feet bgs)			
Confirmation	15.4	6 U	6 U
Confirmation-dup	19.3	5.6 U	5.6 U
Field Screen	2.7	1 U	1 U
Field Screen-dup	2.1	1 U	1 U
DCFB117 (15-16 feet bgs)			
Confirmation	5.6 U	5.6 U	5.6 U
Field Screen	4.9	2 U	2 U
Field Screen-dup	4.3	2 U	2 U
DCFB118 (27-28 feet bgs)			
Confirmation	6.4 U	6.4 U	6.4 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB119 (15-16 feet bgs)			
Confirmation	6 U	6 U	6 U
Field Screen	2 UJ	2 UJ	2 UJ
Field Screen-dup	2 UJ	2 UJ	2 UJ
DCFB120 (9-10 feet bgs)			
Confirmation	5.4 U	5.4 U	5.4 U
Field Screen	0.7 J	2 U	2 U
Field Screen-dup	0.3 J	2 U	2 U
DCFB121 (9-10 feet bgs)			
Confirmation	6.1 U	6.1 U	6.1 U
Field Screen	3.9	2 U	2 U
Field Screen-dup	4.9	2 U	2 U

Location	PCE (ug/kg)	TCE (ug/kg)	cis-1,2-DCE(ug/kg)
DCFB122 (39-40 feet bgs)			
Confirmation	12.4	5.9 U	5.9 U
Field Screen	2.4	2 U	2 U
Field Screen-dup	2.8	2 U	2 U
DCFB123 (21-22 feet bgs)			
Confirmation	5.2 U	5.2 U	5.2 U
Confirmation-dup	5.2 U	5.2 U	5.2 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB126 (21-22 feet bgs)			
Confirmation	5.1 U	5.1 U	5.1 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
DCFB201 (3-4 feet bgs)			
Confirmation	5.2 U	5.2 U	5.2 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U
The Horse Corral			
DCFB27 (10-14 feet bgs)			
Confirmation	5.1 U	5.1 U	5.1 U
Field Screen	2 U	2 U	2 U
DCFB33 (10-14 feet bgs)			
Confirmation	5.1 U	5.1 U	5.1 U
Field Screen	2 UJ	2 UJ	2 UJ
Field Screen-dup	2 UJ	2 UJ	2 UJ
DCFB35 (10-14 feet bgs)			
Confirmation	5.5 U	5.5 U	5.5 U
Confirmation-dup	5.6 U	5.6 U	5.6 U
Field Screen	2 U	2 U	2 U
DCFB40 (10-14 feet bgs)			
Confirmation	5.6 U	5.6 U	5.6 U
Field Screen	2 U	2 U	2 U
Field Screen-dup	2 U	2 U	2 U

= No discrepancy, lab and field screening samples within a factor of four of each other
 = Minor discrepancy, lab and field screening samples were between a factor of four to five of each other.
 = Major discrepancy, lab and field screening samples were greater than a factor of five of each other.
 PCE = Tetrachloroethylene
 TCE = Trichloroethylene
 cis-1,2-DCE = cis-1,2-Dichloroethylene
 J = Qualified as estimated by either the laboratory or the QC evaluation
 U = Qualified as undetected by the laboratory
 R = Qualified as unusable

ug/kg = micrograms per kilogram
 bgs = below ground surface
 OVERC = Concentration Over calibration range

**Table 4-2
Laboratory Confirmation and Field Screening Results Comparison
Summary of Groundwater Results
Dry Cleaning Facilities Area - Fort Riley, Kansas**

Location	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE(ug/L)
DCFA			
DCFB113D (40-42 feet bgs)			
Confirmation	31.5	0.9	0.9
Field Screen	28.6	5 U	5 U
DCFB113F (37.4-38.9 feet bgs)			
Confirmation	29.2	0.9	1.6
Confirmation-dup	46.3 J	1.1 J	1.8 J
Confirmation-dup-reanalysis	95.2 J	1.4 J	2.1 J
Field Screen	66.4	20 U	20 U
Field Screen-dup	59	20 U	20 U
DCFB114A (40-42 feet bgs)			
Confirmation	OVERC	0.6 U	0.5 U
Confirmation-Dilution	255	1 U	1 U
Field Screen	202	5 U	5 U
DCFB115 (37-39 feet bgs)			
Confirmation	19	0.6 U	0.9
Field Screen	104 J	2 U	2 U
DCFB123 (43-45 feet bgs)			
Confirmation	21	126	28.6
Field Screen	20.1	132	23.4
The Island			
DCFB5 (17.5-19.5 feet bgs)			
Confirmation	1.1 U	0.8	1.2
Field Screen	1.1	0.5 J	1.2
Field Screen-dup	0.9 J	0.4 J	1.2
DCFB8 (28-30 feet bgs)			
Confirmation	10.6	1	0.7
Field Screen	9.1	0.8 J	0.9 J
Field Screen-dup	3.2	0.5 J	0.4 J
DCFB14 (19-21 feet bgs)			
Confirmation	23.6	1.5	3.1
Confirmation-dup	25.5	1.5	3.1
Field Screen	25.2	1.9	2.7
Field Screen-dup	22.7	1.6	2.8
DCFB16 (19-21 feet bgs)			
Confirmation	16.5	2.6	8.4
Field Screen	6.1	0.8 J	2.0

Location	PCE (ug/L)	TCE (ug/L)	cis-1,2-DCE(ug/L)
The Horse Corral			
DCFB26 (29-33 feet bgs)			
Confirmation	3	0.7	0.5 U
Field Screen	3.5	0.7 J	0.4 J
Field Screen-dup	3.7	0.7 J	0.4 J
DCFB33 (38-42 feet bgs)			
Confirmation	2.3 R	0.6 UR	0.5 UR
Field Screen	5.8 J	0.5 J	0.3 J
Field Screen-dup	4.5 J	0.4 J	0.2 J
DCFB35 (37-41 feet bgs)			
Confirmation	8.7	0.9	0.5 U
Confirmation-dup	7.7	0.9	0.5
Field Screen	3.7	0.6 J	0.6 J
Field Screen-dup	4.4	0.7 J	0.7 J
DCFB36 (29-32 feet bgs)			
Confirmation	6	0.6 U	0.5 U
Field Screen	12.5	0.8 J	2 U
DCFB39 (28-32 feet bgs)			
Confirmation	7.3	1.2	0.6
Field Screen	6.3	1.0 J	0.3 J
Field Screen-dup	8.3	1.1 J	0.4 J
DCFB41 (39-43 feet bgs)			
Confirmation	9	2.1	0.8
Field Screen	9.2	2.2	0.7 J
DCFB42 (39-43 feet bgs)			
Confirmation	1.8	3.2	2.8
Field Screen	2.7	3.6	3.0
Field Screen-dup	2.1	3.6	3.3

PCE = Tetrachloroethylene

TCE = Trichloroethylene

cis-1,2-DCE = cis-1,2-Dichloroethylene

J = Qualified as estimated by either the laboratory or the QC evaluation

U = Qualified as undetected by the laboratory

R = Qualified as unusable

ug/L = micrograms per Liter

bgs = below ground surface

OVERC = Concentration Over Calibration Range

= No discrepancy, lab and field screening samples within a factor of two of each other

= Minor discrepancy, lab and field screening samples were between a factor of two to three of each other.

= Major discrepancy, lab and field screening samples were greater than a factor of three of each other.

**Table 4-3
Confirmation Soil Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

Sample Point: Date Sampled: Sample Depth From: Sample Depth To: Laboratory Number:		DCF27/SS1 10/18/2000 10 14 00101707	DCF33/SS1 10/19/2000 10 14 00101814	DCF35/SS1 10/20/2000 10 14 00101931	DCF35/SS11 10/20/2000 10 14 00101932 Duplicate	DCF40/SS1 10/24/2000 10 14 00102059	DCFB100A/SS2 12/08/2000 7 8 00121059	DCFB102B/SS4 11/02/2000 15 16.5 00110246
Volatiles	UNITS							
Acetone	ug/kg	100 U	100 U	110 U	110 U	110 U	120	22,000 U
Tetrachloroethylene	ug/kg	5.1 U	5.1 U	5.5 U	5.6 U	5.6 U	5.4 U	1,100 U
Total Petroleum Hydrocarbons	UNITS							
Calculated as Kerosene	mg/kg	NA	NA	NA	NA	NA	NA	953 J

LEGEND:

Bold, italics - Compound was detected
OVERC - Concentration over calibration range

J - Estimated value
R - Qualified as unusable

ug/kg - micrograms per kilogram
U - Compound was not detected

NA - Not Analyzed

**Table 4-3
Confirmation Soil Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

Sample Point:		DCFB102B/SS4	DCFB104/SS3	DCFB107/SS3	DCFB107/SS5	DCFB108A/SS3	DCFB110/SS4	DCFB111/SS4
Date Sampled:		11/02/2000	11/03/2000	11/06/2000	11/06/2000	11/21/2000	12/01/2000	12/01/2000
Sample Depth From:		15	9	9	19	9	15	15
Sample Depth To:		16.5	10	10	20	10	16	16
Laboratory Number:		00110246R Reanalysis	00110334	00110497	00110498	00111799	00120143	00120142
Volatiles	UNITS							
Acetone	ug/kg	5,500 U	110 U	110 U	580 U	110 U	110 U	110 U
Tetrachloroethylene	ug/kg	280 U	5.6 U	5.3 U	29 U	5.4 U	5.4 U	5.7 U
Total Petroleum Hydrocarbons	UNITS							
Calculated as Kerosene	mg/kg	NA	NA	NA	260 J	NA	NA	NA

LEGEND: **Bold, italics** - Compound was detected **J** - Estimated value ug/kg - micrograms per kilogram **NA** - Not Analyzed
 OVERC - Concentration over calibration range **R** - Qualified as unusable **U** - Compound was not detected

**Table 4-3
Confirmation Soil Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

Sample Point: Date Sampled: Sample Depth From: Sample Depth To: Laboratory Number:		DCFB111A/SS4 12/07/2000 15 16 00120740	DCFB112/SS3 11/15/2000 9 10 00111435	DCFB113B/SS6 11/07/2000 21 22 00110580	DCFB113E/SS4 11/22/2000 15 16 00111899	DCFB114/SS3 11/07/2000 9 10 00110579	DCFB114A/SS3 11/29/2000 9 10 00112158	DCFB114A/SS3 11/29/2000 9 10 00112158R Dilution
Volatiles	UNITS							
Acetone	ug/kg	110 U	110 U	100 U	110 U	120 U	120 U	240 U
Tetrachloroethylene	ug/kg	5.6 U	5.7 U	5.1 U	5.4 U	18.5	9999,999 OVERC	188
Total Petroleum Hydrocarbons	UNITS							
Calculated as Kerosene	mg/kg	NA	NA	NA	NA	NA	NA	NA

LEGEND: Bold, italics - Compound was detected J - Estimated value ug/kg - micrograms per kilogram NA - Not Analyzed
 OVERC - Concentration over calibration range R - Qualified as unusable U - Compound was not detected

**Table 4-3
Confirmation Soil Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

Sample Point:		DCFB114AE1/SS7	DCFB114B/SS4	DCFB114AW2/SS3	DCFB114AW2/SS6	DCFB114AW2/SS66	DCFB115/SS2	DCFB115/SS21
Date Sampled:		12/05/2000	12/06/2000	12/04/2000	12/04/2000	12/04/2000	11/08/2000	11/08/2000
Sample Depth From:		27	15	9	21	21	9	9
Sample Depth To:		28	16	10	22	22	10	10
Laboratory Number:		00120395	00120623	00120222	00120223	00120224 Duplicate	00110924	00110925 Duplicate
Volatiles	UNITS							
Acetone	ug/kg	110 U	110 U	120 U	100 U	110 U	120 U	120 U
Tetrachloroethylene	ug/kg	5.5 U	5.7 U	120	5.2 U	5.4 U	15.4	19.3
Total Petroleum Hydrocarbons	UNITS							
Calculated as Kerosene	mg/kg	NA	NA	NA	NA	NA	NA	NA

LEGEND: Bold, italics - Compound was detected J - Estimated value ug/kg - micrograms per kilogram NA - Not Analyzed
OVERC - Concentration over calibration range R - Qualified as unusable U - Compound was not detected

**Table 4-3
Confirmation Soil Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

Sample Point:		DCF117/SS4	DCFB118/SS7	DCFB119/SS4	DCFB120/SS3	DCFB121/SS3	DCFB122/SS10	DCFB123/SS6
Date Sampled:		11/09/2000	11/14/2000	11/14/2000	11/10/2000	11/10/2000	11/20/2000	11/16/2000
Sample Depth From:		15	27	15	9	9	39	21
Sample Depth To:		16	28	16	10	10	40	22
Laboratory Number:		00111101	00111337	00111336	00111103	00111102	00111721	00111588
Volatiles	UNITS							
Acetone	ug/kg	110 U	130 U	120 U	110 U	120 U	120 U	100 U
Tetrachloroethylene	ug/kg	5.6 U	6.4 U	6 U	5.4 U	6.1 U	12.4	5.2 U
Total Petroleum Hydrocarbons	UNITS							
Calculated as Kerosene	mg/kg	NA	NA	NA	NA	NA	NA	NA

LEGEND: Bold, italics - Compound was detected J - Estimated value ug/kg - micrograms per kilogram NA - Not Analyzed
OVERC - Concentration over calibration range R - Qualified as unusable U - Compound was not detected

**Table 4-3
Confirmation Soil Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

		Sample Point: Date Sampled: Sample Depth From: Sample Depth To: Laboratory Number:	DCFB123/SS66 11/16/2000 21 22 00111589 Duplicate	DCFB126/SS6 11/20/2000 21 22 00111720	DCFB201/SS1 11/30/2000 3 4 00112287
Volatiles	UNITS				
Acetone	ug/kg	100	U	100	U
Tetrachloroethylene	ug/kg	5.2	U	5.1	U
Total Petroleum Hydrocarbons	UNITS				
Calculated as Kerosene	mg/kg	NA		NA	NA

LEGEND: **Bold, italics** - Compound was detected J - Estimated value ug/kg - micrograms per kilogram NA - Not Analyzed
 OVERC - Concentration over calibration range R - Qualified as unusable U - Compound was not detected

Table 4-4
Confirmation Groundwater Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area

	Sample Point:	DCF5A/GW	DCF8B/GW	DCF14A/GW	DCF14A/GW11	DCF16A/GW	DCF26B/GW	DCF33C/GW
	Date Sampled:	10/10/2000	10/11/2000	10/13/2000	10/13/2000	10/13/2000	10/18/2000	10/19/2000
	Sample Matrix:	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
	Sample Depth From:	11	0	19	19	19	29	38
	Sample Depth To:	13	0	21	21	21	33	42
	Laboratory Number:	00101256	00101281	00101496	00101497 Duplicate	00101498	00101706	00101815
Volatiles	UNITS							
cis-1,2-Dichloroethylene	ug/L	1.2	0.7	3.1	3.1	8.4	0.5 U	0.5 UR
Tetrachloroethylene	ug/L	1.1 U	10.6	23.6	25.5	16.5	3 U	2.3 R
Toluene	ug/L	0.5	0.4	0.4 U	0.4 U	0.4 U	0.4 U	0.4 UR
trans-1,2-Dichloroethylene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UR
Trichloroethylene	ug/L	0.8	1	1.5	1.5	2.6	0.7	0.6 UR
Total Petroleum Hydrocarbons	UNITS							
		NA	NA	NA	NA	NA	NA	NA

LEGEND: **Bold, italics** - Compound was detected J - Estimated value ug/L - micrograms per liter NA - Not analyzed
OVERC - Concentration over calibration range R - Qualified as unusable U - Compound was not detected

**Table 4-4
Confirmation Groundwater Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

Sample Point: Date Sampled: Sample Matrix: Sample Depth From: Sample Depth To: Laboratory Number:		DCF35C/GW 10/20/2000 LIQUID 37 41 00101929	DCF35C/GW11 10/20/2000 LIQUID 37 41 00101930 Duplicate	DCF36B/GW 10/20/2000 LIQUID 29 32 00101933	DCF39B/GW 10/24/2000 LIQUID 28 32 00102058	DCF41B/GW 10/25/2000 LIQUID 39 43 00102205	DCF42C/GW 10/25/2000 LIQUID 39 43 00102204	DCFB113D/GW 11/21/2000 LIQUID 40 42 00111800
Volatiles	UNITS							
cis-1,2-Dichloroethylene	ug/L	0.5 U	<i>0.5</i>	0.5 U	<i>0.6</i>	<i>0.8</i>	<i>2.8</i>	<i>0.9</i>
Tetrachloroethylene	ug/L	<i>8.7</i>	<i>7.7</i>	<i>6</i>	<i>7.3</i>	<i>9</i>	<i>1.8</i>	<i>31.5</i>
Toluene	ug/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
trans-1,2-Dichloroethylene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	ug/L	<i>0.9</i>	<i>0.9</i>	0.6 U	<i>1.2</i>	<i>2.1</i>	<i>3.2</i>	<i>0.9</i>
Total Petroleum Hydrocarbons	UNITS							
		NA	NA	NA	NA	NA	NA	NA

LEGEND: Bold, italics - Compound was detected J - Estimated value ug/L - micrograms per liter NA - Not analyzed
OVERC - Concentration over calibration range R - Qualified as unusable U - Compound was not detected

**Table 4-4
Confirmation Groundwater Sample Detections
Potential Source Area Investigation
Dry Cleaning Facilities Area**

Sample Point: Date Sampled: Sample Matrix: Sample Depth From: Sample Depth To: Laboratory Number:		DCFB113f/GW 12/04/2000 LIQUID 37.4 38.9 00120225	DCFB113f/GW11 12/04/2000 LIQUID 37.4 38.9 00120226 Duplicate	DCFB113f/GW11 12/04/2000 LIQUID 37.4 38.9 00120226R Reanalysis	DCFB114A/GW 11/29/2000 LIQUID 40 42 00112159	DCFB114A/GW 11/29/2000 LIQUID 40 42 00112159R Dilution	DCFB115/GW 11/08/2000 LIQUID 37 39 00110926	DCFB123/GW 11/16/2000 LIQUID 43 45 00111590
Volatiles	UNITS							
cis-1,2-Dichloroethylene	ug/L	1.6	1.8 <i>J</i>	2.1 <i>J</i>	0.5 U	1 U	0.9	28.6
Tetrachloroethylene	ug/L	29.2	46.3 <i>J</i>	95.2 <i>J</i>	9999,999 <i>OVERC</i>	255	19	21
Toluene	ug/L	0.4 U	0.4 UJ	0.4 UJ	0.4 U	0.8 U	0.4 U	0.4 U
trans-1,2-Dichloroethylene	ug/L	0.5 U	0.5 UJ	0.5 UJ	0.5 U	1 U	0.5 U	1.5
Trichloroethylene	ug/L	0.9	1.1 <i>J</i>	1.4 <i>J</i>	0.6 U	1 U	0.6 U	126
Total Petroleum Hydrocarbons	UNITS							
		NA	NA	NA	NA	NA	NA	NA

LEGEND: **Bold, italics** - Compound was detected *J* - Estimated value ug/L - micrograms per liter NA - Not analyzed
 OVERC - Concentration over calibration range *R* - Qualified as unusable U - Compound was not detected

Table 4-5
Field Data Summary, Area 1 - Former Buildings 180/181
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB100	SS1	3-4	12/08/00	Soil	0.1J	2U	2U
DCFB100	SS3	8-9	12/08/00	Soil	2U	2U	2U
DCFB100A	SS1	3-4	12/08/00	Soil	1.5J	2U	2U
DCFB100A	SS2	7-8	12/08/00	Soil	2U	2U	2U
DCFB100A	SS2-Dup	7-8	12/08/00	Soil	2U	2U	2U
DCFB101	SS1	3-7	11/02/00	Soil	2U	2U	2U
DCFB101	SS1-Dup	3-7	11/02/00	Soil	2U	2U	2U
DCFB101	SS2	13-16.2	11/02/00	Soil	2U	2U	2U
DCFB102	SS1	3-7	11/02/00	Soil	5U	5U	5U
DCFB102	SS2	7-11	11/02/00	Soil	5U	5U	5U
DCFB102	SS3	11-14	11/02/00	Soil	5U	5U	5U
DCFB102	SS4	14-15	11/02/00	Soil	3.0J	5U	5U
DCFB102A	SS1	3-7	11/02/00	Soil	5U	5U	5U
DCFB102A	SS2	7-11	11/02/00	Soil	2U	2U	2U
DCFB102A	SS3	11-15	11/02/00	Soil	2U	2U	2U
DCFB102B	SS1	3-7	11/02/00	Soil	5U	5U	5U
DCFB102B	SS2	7-11	11/02/00	Soil	2U	2U	2U
DCFB102B	SS3	11-16	11/02/00	Soil	2U	2U	2U
DCFB102B	SS4	15-16.5	11/02/00	Soil	5U	5U	5U
DCFB103	SS1	3-4	11/03/00	Soil	0.1J	2U	2U
DCFB103	SS3	9-10	11/03/00	Soil	2U	2U	2U
DCFB103	SS4	12-13	11/03/00	Soil	2U	2U	2U
DCFB104	SS1	3-4	11/03/00	Soil	0.1J	2U	2U
DCFB104	SS3	9-10	11/03/00	Soil	2U	2U	2U
DCFB104	SS3-Dup	9-10	11/03/00	Soil	2U	2U	2U
DCFB104	SS4	12.2-12.8	11/03/00	Soil	2U	2U	2U
DCFB105	SS1	3-4	12/07/00	Soil	1.6	2U	2U
DCFB105	SS3	9-10	12/07/00	Soil	0.2J	2U	2U
DCFB105	SS4	15-16	12/07/00	Soil	1.1	2U	2U
DCFB105	SS6	21-22	12/07/00	Soil	2U	2U	2U
DCFB106	SS1	3-4	12/07/00	Soil	1.0	2U	2U
DCFB106	SS3	9-10	12/07/00	Soil	2U	2U	2U
DCFB106	SS4	15-16	12/07/00	Soil	2U	2U	2U
DCFB106	SS6	20-21	12/07/00	Soil	0.1J	2U	2U
DCFB107	SS1	3-4	11/06/00	Soil	2U	2U	2U
DCFB107	SS3	9-10	11/06/00	Soil	2U	2U	2U
DCFB107	SS3-Dup	9-10	11/06/00	Soil	2U	2U	2U
DCFB107	SS4	15-16	11/06/00	Soil	2U	2U	2U
DCFB107	SS5	19-20	11/06/00	Soil	2U	2U	2U
DCFB107A	SS1	3-4	11/06/00	Soil	2U	2U	2U
DCFB107A	SS3	9-10	11/06/00	Soil	2U	2U	2U
DCFB107A	SS4	14-15	11/06/00	Soil	2U	2U	2U
DCFB108	SS1	3-4	11/03/00	Soil	0.9	2U	2U
DCFB108	SS3	9-10	11/03/00	Soil	2U	2U	2U
DCFB108	SS4	15-16	11/03/00	Soil	2U	2U	2U
DCFB108A	SS1	3-4	11/21/00	Soil	0.4J	2U	2U
DCFB108A	SS3	9-10	11/21/00	Soil	2U	2U	2U
DCFB108A	SS3-Dup	9-10	11/21/00	Soil	2U	2U	2U
DCFB108A	SS4	14-15	11/21/00	Soil	2U	2U	2U

Table 4-5
Field Data Summary, Area 1 - Former Buildings 180/181
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB109	SS1	3-4	11/03/00	Soil	0.1J	2U	2U
DCFB109	SS3	9-10	11/03/00	Soil	2U	2U	2U
DCFB109	SS4	15-16	11/03/00	Soil	0.1J	2U	2U
DCFB109	SS6	21-22	11/03/00	Soil	2U	2U	2U
DCFB110	SS1	3-4	11/30/00	Soil	1.0	2U	2U
DCFB110	SS3	9-10	11/30/00	Soil	2U	2U	2U
DCFB110	SS4	15-16	12/01/00	Soil	2U	2U	2U
DCFB110	SS4-Dup	15-16	12/01/00	Soil	2U	2U	2U
DCFB110	SS6	21-22	12/01/00	Soil	0.4J	2U	2U
DCFB110	SS7	27-28	12/01/00	Soil	2U	2U	2U
DCFB111	SS1	3-4	11/30/00	Soil	2.8	2U	2U
DCFB111	SS3	9-10	11/30/00	Soil	2U	2U	2U
DCFB111	SS4	15-16	12/01/00	Soil	1.1	2U	2U
DCFB111	SS4-Dup	15-16	12/01/00	Soil	0.8J	2U	2U
DCFB111	SS6	21-22	12/01/00	Soil	0.2J	2U	2U
DCFB111	SS7	27-28	12/01/00	Soil	0.2J	2U	2U
DCFB111	SS9	32-33	12/01/00	Soil	1.6	2U	2U
DCFB111A	SS1	3-4	12/06/00	Soil	2.6	2U	2U
DCFB111A	SS3	9-10	12/07/00	Soil	0.6J	2U	2U
DCFB111A	SS4	15-16	12/07/00	Soil	0.4J	2U	2U
DCFB111A	SS4-Dup	15-16	12/07/00	Soil	0.2J	2U	2U
DCFB111A	SS6	21-22	12/07/00	Soil	1.3	2U	2U
DCFB111A	SS7	27-28	12/07/00	Soil	2U	2U	2U
DCFB111A	SS8	33-34	12/07/00	Soil	2U	2U	2U
DCFB112	SS1	3-4	11/15/00	Soil	2U	2U	2U
DCFB112	SS3	9-10	11/15/00	Soil	2U	2U	2U
DCFB112	SS3-Dup	9-10	11/15/00	Soil	2U	2U	2U
DCFB112	SS4	15-16	11/15/00	Soil	2U	2U	2U
DCFB112	SS6	21-22	11/15/00	Soil	2U	2U	2U
DCFB112	SS7	27-28	11/15/00	Soil	2U	2U	0.1J
DCFB112	SS9	33-34	11/15/00	Soil	2U	2U	2U
DCFB113	SS1	3-4	11/15/00	Soil	0.2J	2U	2U
DCFB113	SS3	9-10	11/15/00	Soil	1.7	2U	2U
DCFB113	SS4	15-16	11/15/00	Soil	0.3J	2U	2U
DCFB113	SS6	21-22	11/15/00	Soil	0.1J	2U	2U
DCFB113	SS7	27-28	11/16/00	Soil	0.3J	2U	2U
DCFB113	SS9	32-33	11/16/00	Soil	0.2J	2U	2U
DCFB113A	SS1	3-4	11/06/00	Soil	0.5J	2U	2U
DCFB113A	SS3	9-10	11/06/00	Soil	0.4J	2U	2U
DCFB113A	SS4	15-16	11/06/00	Soil	1.3	2U	2U
DCFB113A	SS5	21-22	11/06/00	Soil	0.3J	2U	2U
DCFB113A	SS7	25-26	11/06/00	Soil	10U	10U	10U
DCFB113B	SS1	3-4	11/07/00	Soil	0.8J	2UJ	2UJ
DCFB113B	SS3	9-10	11/07/00	Soil	2.7J	2UJ	2UJ
DCFB113B	SS4	15-16	11/07/00	Soil	0.6J	2UJ	2UJ
DCFB113B	SS6	21-22	11/07/00	Soil	2UJ	2UJ	2UJ
DCFB113B	SS6-Dup	21-22	11/07/00	Soil	2UJ	2UJ	2UJ
DCFB113B	SS7	27-28	11/08/00	Soil	2U	2U	2U
DCFB113B	SS8	31-32	11/08/00	Soil	2U	2U	2U
DCFB113C	SS1	3-4	11/07/00	Soil	33.0J	2UJ	2UJ
DCFB113C	SS3	8-9	11/07/00	Soil	56.9J	2UJ	2UJ

Table 4-5
Field Data Summary, Area 1 - Former Buildings 180/181
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB113D	SS1	3-4	11/21/00	Soil	9.6	2U	2U
DCFB113D	SS3	9-10	11/21/00	Soil	2.6	2U	2U
DCFB113D	SS4	15-16	11/21/00	Soil	0.2J	2U	2U
DCFB113D	SS6	21-22	11/21/00	Soil	2U	2U	2U
DCFB113D	SS7	27-28	11/21/00	Soil	2U	2U	2U
DCFB113D	SS9	33-34	11/21/00	Soil	0.4J	2U	2U
DCFB113D	GW	40-42	11/21/00	Groundwater	28.6	5U	5U
DCFB113E	SS1	3-4	11/22/00	Soil	10.5	2U	2U
DCFB113E	SS3	9-10	11/22/00	Soil	2.3	2U	2U
DCFB113E	SS4	15-16	11/22/00	Soil	2U	2U	2U
DCFB113E	SS4-Dup	15-16	11/22/00	Soil	2U	2U	2U
DCFB113E	SS6	21-22	11/22/00	Soil	2U	2U	2U
DCFB113E	SS7	27-28	11/22/00	Soil	0.2J	2U	2U
DCFB113E	SS9	33-34	11/22/00	Soil	0.3J	2U	2U
DCFB113F	SS1	3-4	11/22/00	Soil	55.0J	2U	2U
DCFB113F	SS3	9-10	11/22/00	Soil	3.9	2U	2U
DCFB113F	SS4	15-16	11/22/00	Soil	0.3J	2U	2U
DCFB113F	SS6	21-22	11/22/00	Soil	1U	1U	1U
DCFB113F	SS7	27-28	11/22/00	Soil	1.0	2U	2U
DCFB113F	SS9	33-34	11/22/00	Soil	0.3J	2U	2U
DCFB113F	SS10	37-38	11/22/00	Soil	0.2J	2U	2U
DCFB113F	GW	37.4-38.9	12/04/00	Groundwater	66.4**	20U	20U
DCFB113F	GW	37.4-38.9Dup	12/04/00	Groundwater	59.0**	20U	20U
DCFB114	SS1	3-4	11/07/00	Soil	0.4J	2UJ	2UJ
DCFB114	SS3	9-10	11/07/00	Soil	1.9J	2UJ	2UJ
DCFB114	SS3-Dup	9-10	11/07/00	Soil	1.7J	2UJ	2UJ
DCFB114	SS4	15-16	11/07/00	Soil	2UJ	2UJ	2UJ
DCFB114	SS6	21-22	11/07/00	Soil	2UJ	2UJ	2UJ
DCFB114	SS7	27-28	11/07/00	Soil	1.8J	2UJ	2UJ
DCFB114	SS9	33-34	11/07/00	Soil	2UJ	2UJ	2UJ
DCFB114	GW	36-38	11/07/00	Groundwater	1.8J	2UJ	2UJ
DCFB114A	SS1	3-4	11/29/00	Soil	25.0	2U	2U
DCFB114A	SS3	9-10	11/29/00	Soil	21.4	2U	2U
DCFB114A	SS3-Dup	9-10	11/29/00	Soil	21.6	2U	2U
DCFB114A	SS4	15-16	11/29/00	Soil	2.3	2U	2U
DCFB114A	SS6	21-22	11/29/00	Soil	1.0	2U	2U
DCFB114A	SS7	27-28	11/29/00	Soil	2U	2U	2U
DCFB114A	SS9	32-33	11/29/00	Soil	0.4J	2U	2U
DCFB114A	GW	40-42	11/29/00	Groundwater	202J	5U	5U
DCFB114aE1	SS1	3-4	12/05/00	Soil	1.6	2U	2U
DCFB114aE1	SS3	9-10	12/05/00	Soil	1.2	2U	2U
DCFB114aE1	SS4	15-16	12/05/00	Soil	0.9J	2U	2U
DCFB114aE1	SS6	21-22	12/05/00	Soil	0.1J	2U	2U
DCFB114aE1	SS6-Dup	21-22	12/05/00	Soil	0.1J	2U	2U
DCFB114aE1	SS7	27-28	12/05/00	Soil	2U	2U	2U
DCFB114aE1	SS9	33-34	12/05/00	Soil	2U	2U	2U
DCFB114aE1	SS10	39-40	12/05/00	Soil	0.7J	2U	2U
DCFB114aE1	GW	40.5-42.5	12/05/00	Groundwater	84	10U	10U

Table 4-5
Field Data Summary, Area 1 - Former Buildings 180/181
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB114aE2	SS1	3-4	12/05/00	Soil	13.7	2U	2U
DCFB114aE2	SS3	9-10	12/05/00	Soil	5.5	2U	2U
DCFB114aE2	SS4	15-16	12/05/00	Soil	1.9	2U	2U
DCFB114aE2	SS6	21-22	12/06/00	Soil	1.0	2U	2U
DCFB114aE2	SS7	27-28	12/06/00	Soil	2U	2U	2U
DCFB114aE2	SS9	33-34	12/06/00	Soil	2U	2U	2U
DCFB114aE2	SS10	37-38	12/06/00	Soil	1.9	2U	2U
DCFB114aE2	GW	38-40	12/06/00	Groundwater	11.1	10U	10U
DCFB114aW1	SS1	3-4	12/01/00	Soil	27.5	2U	2U
DCFB114aW1	SS3	9-10	12/01/00	Soil	14.0	2U	2U
DCFB114aW1	SS4	15-16	12/01/00	Soil	1.3	2U	2U
DCFB114aW1	SS6	21-22	12/01/00	Soil	2.5	2U	2U
DCFB114aW1	SS7	27-28	12/01/00	Soil	2U	2U	2U
DCFB114aW1	SS9	33-34	12/04/00	Soil	0.5J	2U	2U
DCFB114aW1	SS10	39-40	12/04/00	Soil	7.8	2U	2U
DCFB114aW1	GW	40.8-41.8	12/04/00	Groundwater	46.5	5U	5U
DCFB114aW2	SS1	3-4	12/04/00	Soil	9.1	2U	2U
DCFB114aW2	SS3	9-10	12/04/00	Soil	11.8	2U	2U
DCFB114aW2	SS3-Dup	9-10	12/04/00	Soil	24.0	2U	2U
DCFB114aW2	SS4	15-16	12/04/00	Soil	0.7	1U	1U
DCFB114aW2	SS6	21-22	12/04/00	Soil	4.5	2U	2U
DCFB114aW2	SS6-Dup	21-22	12/04/00	Soil	5.4	2U	2U
DCFB114aW2	SS7	27-28	12/04/00	Soil	0.2J	2U	2U
DCFB114aW2	SS9	33-34	12/04/00	Soil	0.9J	2U	2U
DCFB114aW2	SS10	39-40 ^(a)	12/05/00	Soil	0.8J	2U	2U
DCFB114aW2	GW	42-44	12/05/00	Groundwater	76	10U	10U
DCFB114B	SS1	3-4	12/06/00	Soil	38.4	2U	2U
DCFB114B	SS3	9-10	12/06/00	Soil	2.9	2U	2U
DCFB114B	SS4	15-16	12/06/00	Soil	0.4J	2U	2U
DCFB114B	SS4-Dup	15-16	12/06/00	Soil	0.2J	2U	2U
DCFB114B	SS6	21-22	12/06/00	Soil	0.5J	2U	2U
DCFB114B	SS7	27-28	12/06/00	Soil	0.9J	2U	2U
DCFB114B	SS9	33-34	12/06/00	Soil	0.5J	2U	2U
DCFB114B	GW	39-39.5	12/06/00	Groundwater	15.1	10U	10U
DCFB115	SS1	3-4	11/08/00	Soil	19.7	2U	2U
DCFB115	SS3	9-10	11/08/00	Soil	2.7	1U	1U
DCFB115	SS3-Dup	9-10	11/08/00	Soil	2.1	1U	1U
DCFB115	SS4	15-16	11/08/00	Soil	2U	2U	2U
DCFB115	SS6	21-22	11/08/00	Soil	2U	2U	2U
DCFB115	SS7	27-28	11/08/00	Soil	0.9J	2U	2U
DCFB115	SS9	32-33	11/08/00	Soil	1.5	2U	2U
DCFB115	GW	37-39	11/08/00	Groundwater	104J	2U	2U
DCFB115A	SS1	3-4	11/13/00	Soil	1.1	2U	2U
DCFB115A	SS3	9-10	11/13/00	Soil	0.7J	2U	2U
DCFB115A	SS4	15-16	11/13/00	Soil	1.0	2U	2U
DCFB115A	SS6	21-22	11/13/00	Soil	0.3J	2U	2U
DCFB115A	SS7	27-28	11/13/00	Soil	0.9	2U	2U
DCFB115A	SS9	33-34	11/13/00	Soil	0.2J	2U	2U
DCFB115A	SS9-Dup	33-34	11/13/00	Soil	0.1J	2U	2U

Table 4-5
Field Data Summary, Area 1 - Former Buildings 180/181
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB115B	SS1	3-4	11/29/00	Soil	7.9	2U	2U
DCFB115B	SS3	9-10	11/29/00	Soil	8.1	2U	2U
DCFB115B	SS4	15-16	11/29/00	Soil	1.0	2U	2U
DCFB115B	SS6	21-22	11/29/00	Soil	1.0	2U	2U
DCFB115B	SS7	27-28	11/29/00	Soil	0.5J	2U	2U
DCFB115B	SS7-Dup	27-28	11/29/00	Soil	0.2J	2U	2U
DCFB115B	SS9	33-34	11/30/00	Soil	2U	2U	2U
DCFB115B	GW	38-40	11/30/00	Groundwater	5.0	5U	5U
DCFB116	SS1	3-4	11/08/00	Soil	5.6	2U	2U
DCFB116	SS3	9-10	11/08/00	Soil	51.1J	2U	2U
DCFB116	SS4	15-16	11/08/00	Soil	1.0	2U	2U
DCFB116	SS6	21-22	11/08/00	Soil	3.8	2U	2U
DCFB116	SS7	27-28	11/09/00	Soil	5.1	2U	2U
DCFB116	SS9	32-33	11/09/00	Soil	3.4	2U	2U
DCFB116	GW	40.3-42.3	11/09/00	Groundwater	30.4	2U	2U
DCFB117	SS1	3-4	11/09/00	Soil	6.4	2U	2U
DCFB117	SS3	9-10	11/09/00	Soil	30.7	2U	2U
DCFB117	SS4	15-16	11/09/00	Soil	4.9	2U	2U
DCFB117	SS4-Dup	15-16	11/09/00	Soil	4.3	2U	2U
DCFB117	SS6	21-22	11/09/00	Soil	3.9	2U	2U
DCFB117	SS7	27-28	11/09/00	Soil	2U	2U	2U
DCFB117	SS9	33-34	11/10/00	Soil	2U	2U	2U
DCFB117	GW	41.6-43.6	11/10/00	Groundwater	9.0	2U	2U
DCFB118	SS1	3-4	11/14/00	Soil	0.6J	2U	2U
DCFB118	SS3	9-10	11/14/00	Soil	2U	2U	2U
DCFB118	SS4	15-16	11/14/00	Soil	2U	2U	2U
DCFB118	SS6	21-22	11/14/00	Soil	2U	2U	2U
DCFB118	SS7	27-28	11/14/00	Soil	2U	2U	2U
DCFB118	SS7-Dup	27-28	11/14/00	Soil	2U	2U	2U
DCFB118	SS9	33-34	11/15/00	Soil	2U	2U	2U
DCFB118	SS10	38-39	11/15/00	Soil	0.1J	2U	2U
DCFB118	GW	43-45	11/15/00	Groundwater	3.1	0.9J	0.9J
DCFB119	SS1	3-4	11/13/00	Soil	26.9	2U	2U
DCFB119	SS3	9-10	11/13/00	Soil	2U	2U	2U
DCFB119	SS4	15-16	11/14/00	Soil	2UJ	2UJ	2UJ
DCFB119	SS4-Dup	15-16	11/14/00	Soil	2UJ	2UJ	2UJ
DCFB119	SS6	21-22	11/14/00	Soil	2UJ	2UJ	2UJ
DCFB119	SS7	27-28	11/14/00	Soil	2UJ	2UJ	2UJ
DCFB119	SS9	33-34	11/14/00	Soil	2UJ	2UJ	2UJ
DCFB119	SS10	38-39	11/14/00	Soil	3.2	2UJ	2UJ
DCFB119	GW	43-45	11/14/00	Groundwater	60.7J	28.9	2U
DCFB120	SS1	3-4	11/10/00	Soil	8.8	2U	2U
DCFB120	SS3	9-10	11/10/00	Soil	0.7J	2U	2U
DCFB120	SS3-Dup	9-10	11/10/00	Soil	0.3J	2U	2U
DCFB120	SS4	15-16	11/10/00	Soil	0.6J	2U	2U
DCFB120	SS6	21-22	11/13/00	Soil	2.6	2U	2U
DCFB120	SS7	27-28	11/13/00	Soil	2U	2U	2U
DCFB120	SS9	33-34	11/13/00	Soil	2U	2U	2U
DCFB120	GW	40-42	11/13/00	Groundwater	17.6	5.0	7.1

Table 4-5
Field Data Summary, Area 1 - Former Buildings 180/181
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB121	SS1	3-4	11/10/00	Soil	4.5	2U	2U
DCFB121	SS3	9-10	11/10/00	Soil	3.9	2U	2U
DCFB121	SS3-Dup	9-10	11/10/00	Soil	4.9	2U	2U
DCFB121	SS4	15-16	11/10/00	Soil	5.8	2U	2U
DCFB121	SS6	21-22	11/10/00	Soil	2U	2U	2U
DCFB121	SS7	27-28	11/10/00	Soil	2U	2U	2U
DCFB121	SS9	33-34	11/10/00	Soil	2U	2U	2U
DCFB121	GW	37-39	11/10/00	Groundwater	22.8	6.5	29.4
DCFB122	SS1	3-4	11/20/00	Soil	0.2J	2U	2U
DCFB122	SS3	9-10	11/20/00	Soil	0.3J	2U	2U
DCFB122	SS4	15-16	11/20/00	Soil	2.6	1U	1U
DCFB122	SS6	21-22	11/20/00	Soil	2U	2U	2U
DCFB122	SS7	27-28	11/20/00	Soil	2U	2U	2U
DCFB122	SS9	33-34	11/20/00	Soil	2.7	2U	2U
DCFB122	GW	38.5-40.5	11/21/00	Groundwater	9.4	5U	5U
DCFB122*	SS10	39-40	11/20/00	Soil	2.4	2U	2U
DCFB122*	SS10-Dup	39-40	11/20/00	Soil	2.8	2U	2U
DCFB123	SS1	3-4	11/16/00	Soil	0.2J	2U	2U
DCFB123	SS3	9-10	11/16/00	Soil	2U	2U	2U
DCFB123	SS4	15-16	11/16/00	Soil	2U	2U	2U
DCFB123	SS6	21-22	11/16/00	Soil	2U	2U	2U
DCFB123	SS6-Dup	21-22	11/16/00	Soil	2U	2U	2U
DCFB123	SS7	27-28	11/16/00	Soil	2U	2U	2U
DCFB123	SS9	33-34	11/16/00	Soil	2U	2U	2U
DCFB123	GW	43-45	11/16/00	Groundwater	20.1	132	23.4
DCFB124	SS1	3-4	11/16/00	Soil	2U	2U	2U
DCFB124	SS3	9-10	11/16/00	Soil	2U	2U	2U
DCFB124	SS4	15-16	11/16/00	Soil	2U	2U	2U
DCFB124	SS6	21-22	11/16/00	Soil	2U	2U	2U
DCFB124	SS7	27-28	11/17/00	Soil	2U	2U	2U
DCFB124	SS9	32-33	11/17/00	Soil	0.2J	2U	2U
DCFB124	SS10	36-37	11/17/00	Soil	48.9J	2U	2U
DCFB124	GW	37-38	11/17/00	Groundwater	14.0	2.8	6.4
DCFB125	SS1	3-4	11/17/00	Soil	0.3J	2U	2U
DCFB125	SS3	9-10	11/17/00	Soil	2U	2U	2U
DCFB125	SS4	15-16	11/17/00	Soil	2U	2U	2U
DCFB125	SS4-Dup	15-16	11/17/00	Soil	2U	2U	2U
DCFB125	SS6	21-22	11/17/00	Soil	2U	2U	2U
DCFB125	SS7	27-28	11/17/00	Soil	2U	2U	2U
DCFB125	SS9	33-34	11/17/00	Soil	2U	2U	2U
DCFB126	SS1	3-4	11/17/00	Soil	0.1J	2U	2U
DCFB126	SS3	9-10	11/17/00	Soil	2U	2U	2U
DCFB126	SS4	15-16	11/17/00	Soil	2U	2U	2U
DCFB126	SS6	21-22	11/20/00	Soil	2U	2U	2U
DCFB126	SS6-Dup	21-22	11/20/00	Soil	2U	2U	2U
DCFB126	SS7	27-28	11/20/00	Soil	2U	2U	2U
DCFB126	SS8	31-32	11/20/00	Soil	2U	2U	2U
DCFB201	SS1	3-4	11/30/00	Soil	2U	2U	2U
DCFB201	SS1-Dup	3-4	11/30/00	Soil	2U	2U	2U
DCFB201	SS3	9-10	11/30/00	Soil	2U	2U	2U
DCFB202	SS1	3-4	11/30/00	Soil	2U	2U	2U

Table 4-5
Field Data Summary, Area 1 - Former Buildings 180/181
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB203	SS1	3-4	11/30/00	Soil	2U	2U	2U
DCFB203A	SS1	3-4	11/30/00	Soil	2U	2U	2U
DCFB203A	SS2	7-8	11/30/00	Soil	2U	2U	2U
DCFB204	SS1	3-4	11/30/00	Soil	2U	2U	2U
DCFB301	SS1	3-4	12/08/00	Soil	2U	2U	2U
DCFB301	SS2	7-8	12/08/00	Soil	2U	2U	2U
DCFB302	SS1	2.5-3.5	12/08/00	Soil	2U	2U	2U

PCE = Tetrachloroethylene

Bold, italics = Compound was detected.

TCE = Trichloroethylene

DCE = cis-1-,2-Dichloroethylene

DCFB = Dry Cleaning Facility Borehole

GW = Groundwater

SS = Soil Sample

J = Qualified as estimated by either the Lab or the QC Evaluation.

U = Qualified as undetected by Laboratory.

Dup = Duplicate

All soil results are in micrograms per kilogram (ug/kg).

All groundwater results are in micrograms per Liter (ug/L).

** = Estimated based on maximum dilution/fuel interference.

(a) Sample collected below saturated zone.

Table 4-6
Field Data Summary, Area 2 - The Island
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB1	NA		10/10/00				
DCFB1	GW	14-16	10/11/00	Groundwater	<i>0.2J</i>	1U	<i>0.7J</i>
DCFB1	GW	22-24	10/11/00	Groundwater	<i>0.9J</i>	1U	<i>0.7J</i>
DCFB1	GW	34-36	10/11/00	Groundwater	3.9	<i>0.3J</i>	<i>0.4J</i>
DCFB2	GW	12-14	10/10/00	Groundwater	1U	1U	1U
DCFB3	GW	8-10	10/10/00	Groundwater	<i>0.3J</i>	1U	1U
DCFB4	GW	9-11	10/10/00	Groundwater	<i>0.5J</i>	<i>0.1J</i>	1U
DCFB5	GW	17.5-19.5	10/10/00	Groundwater	1.1	<i>0.5J</i>	1.2
DCFB5Dup	GW	17.5-19.5	10/10/00	Groundwater	<i>0.9J</i>	<i>0.4J</i>	1.2
DCFB6	GW	16.5-18.5	10/10/00	Groundwater	1.6	<i>0.4J</i>	<i>0.2J</i>
DCFB7	GW	22-24	10/11/00	Groundwater	1U	1U	1.9
DCFB7	GW	32-34	10/11/00	Groundwater	1U	1U	1.3
DCFB8	GW	18-20	10/11/00	Groundwater	2.5	<i>0.4J</i>	2.4
DCFB8	GW	28-30	10/11/00	Groundwater	9.1	<i>0.8J</i>	<i>0.9J</i>
DCFB8Dup	GW	28-30	10/11/00	Groundwater	3.2	<i>0.5J</i>	<i>0.4J</i>
DCFB9	GW	23-25	10/11/00	Groundwater	12.4	1.3	3.5
DCFB9	GW	31-33	10/11/00	Groundwater	34.3J	3.1	11.5
DCFB9	GW	41-43	10/11/00	Groundwater	19.6	1.3	4.9
DCFB10	GW	20-22	10/12/00	Groundwater	<i>0.7J</i>	<i>0.1J</i>	11.7
DCFB10	GW	31-33	10/12/00	Groundwater	5.7	<i>0.8J</i>	3.5J
DCFB10	GW	45-47	10/12/00	Groundwater	10.4	1.6	2.9
DCFB11	GW	23-25	10/12/00	Groundwater	2.1	<i>0.2J</i>	<i>0.6J</i>
DCFB12	GW	31-33	10/12/00	Groundwater	2U	2U	3.2
DCFB13	GW	23-25	10/12/00	Groundwater	10.8	6.2	17.4
DCFB13	GW	36-38	10/12/00	Groundwater	7.4	1.3	1.0
DCFB13Dup	GW	36-38	10/12/00	Groundwater	8.6	1.2	0.9
DCFB14	GW	19-21	10/13/00	Groundwater	25.2	1.9	2.7
DCFB14Dup	GW	19-21	10/13/00	Groundwater	22.7J	1.6	2.8
DCFB15	GW	21.5-23.5	10/13/00	Groundwater	5.4	1.2	7.6
DCFB16	GW	19-21	10/13/00	Groundwater	6.1	<i>0.8J</i>	2.0
DCFB17	GW	21-23	10/13/00	Groundwater	<i>0.5J</i>	1U	27.4
DCFB17	GW	32-34	10/16/00	Groundwater	3.4	<i>0.7J</i>	2.1
DCFB18	GW	23-25	10/13/00	Groundwater	13.6	1.7	2.7
DCFB19	GW	24	10/13/00	Dry			

PCE = Tetrachloroethylene

Bold, italics = Compound was detected.

TCE = Trichloroethylene

DCE = cis-1-,2-Dichloroethylene

DCFB = Dry Cleaning Facility Borehole

NA = No sample collected at this location. Location was offset the following day and the samples collected.

GW = Groundwater

J = Qualified as estimated by either the Lab or the QC Evaluation.

U = Qualified as undetected by Laboratory.

Dup = Duplicate

All groundwater results are in micrograms per Liter (ug/L).

Table 4-7
Field Data Summary, Area 3 - The Point Bar/Horse Corral
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB20	GW	61-63	10/16/00	Groundwater	1.0	5.1	5.0
DCFB20	GW	81-83	10/16/00	Groundwater	3.0	0.8J	2.8
DCFB21	GW	30-34	10/17/00	Groundwater	2.2	0.3J	0.4J
DCFB21	GW	42-46	10/17/00	Groundwater	1.1	1.0	2.6
DCFB22	GW	32-36	10/17/00	Groundwater	0.5J	0.2J	0.2J
DCFB22	GW	45-49	10/17/00	Groundwater	2.5	4.0	3.7
DCFB23	GW	30-34	10/17/00	Groundwater	2.1	0.3J	0.2J
DCFB23	GW	42-46	10/17/00	Groundwater	2.8	1.5	0.7J
DCFB24	GW	32-36	10/17/00	Groundwater	5.0	0.3J	2U
DCFB24	GW	42-46	10/17/00	Groundwater	1.0	2U	2U
DCFB25	GW	32-36	10/17/00	Groundwater	4.4	0.2J	0.2J
DCFB25	GW	40.5-44.5	10/17/00	Groundwater	1.2	2U	1.5
DCFB26	SS-1	10-14	10/17/00	Soil	5U	5U	5U
DCFB26	GW	22-26	10/18/00	Groundwater	0.6J	0.1J	2U
DCFB26	GW	29-33	10/18/00	Groundwater	3.5	0.7J	0.4J
DCFB26Dup	GW	29-33	10/18/00	Groundwater	3.7	0.7J	0.4J
DCFB26	GW	39-43	10/18/00	Groundwater	2.2	2.0	2.0
DCFB27	SS-1	10-14	10/18/00	Soil	2U	2U	2U
DCFB27	GW	34-38	10/18/00	Groundwater	2U	0.6J	1.7
DCFB28	SS-1	10-14	10/18/00	Soil	2U	2U	2U
DCFB28	GW	38-42	10/18/00	Groundwater	2U	2.2	7.4
DCFB29	SS-1	10-14	10/18/00	Soil	2U	2U	2U
DCFB29	GW	24-28	10/18/00	Groundwater	0.2J	2U	0.1J
DCFB29	GW	36-40	10/18/00	Groundwater	7.4	2.6	1.2
DCFB30	SS-1	10-14	10/18/00	Soil	2U	2U	2U
DCFB30	GW	23-27	10/18/00	Groundwater	0.7J	0.2J	0.3J
DCFB30	GW	32-36	10/18/00	Groundwater	6.5	1.3	0.6J
DCFB30	GW	40-44	10/18/00	Groundwater	4.8	1.6	0.7J
DCFB31	SS-1	10-14	10/19/00	Soil	2UJ	2UJ	2UJ
DCFB31	GW	24-28	10/19/00	Groundwater	0.8J	0.3J	0.2J
DCFB31	GW	31-35	10/19/00	Groundwater	4.9J	1.2J	0.5J
DCFB31	GW	39-43	10/19/00	Groundwater	4.1J	2.6J	1.9J
DCFB32	SS-1	10-14	10/19/00	Soil	2UJ	2UJ	2UJ
DCFB32	GW	23-27	10/19/00	Groundwater	0.5J	0.3J	0.8J
DCFB32	GW	31-35	10/19/00	Groundwater	6.0	0.5J	0.6J
DCFB32	GW	39-43	10/19/00	Groundwater	7.2	1.1	1.1
DCFB33	SS-1	10-14	10/19/00	Soil	2UJ	2UJ	2UJ
DCFB33Dup	SS-1 Dup	10-14	10/19/00	Soil	2UJ	2UJ	2UJ
DCFB33	GW	21-24	10/19/00	Groundwater	0.3J	0.4J	1.1J
DCFB33	GW	29-33	10/19/00	Groundwater	5.7J	0.6J	2UJ
DCFB33	GW	38-42	10/19/00	Groundwater	5.8J	0.5J	0.3J
DCFB33Dup	GW	38-42	10/19/00	Groundwater	4.5J	0.4J	0.2J
DCFB34	SS-1	10-14	10/19/00	Soil	2UJ	2UJ	2UJ
DCFB34	GW	30-34	10/20/00	Groundwater	11.9	2.6	0.9J
DCFB34	GW	37-41	10/20/00	Groundwater	6.1	5.9	3.8

Table 4-7
Field Data Summary, Area 3 - The Point Bar/Horse Corral
Dry Cleaning Facilities Area, Fort Riley, Kansas

Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
DCFB35	SS-1	10-14	10/20/00	Soil	2U	2U	2U
DCFB35	GW	19-22	10/20/00	Groundwater	1.4	0.4J	2.1
DCFB35	GW	27-31	10/20/00	Groundwater	11.7	0.9J	0.2J
DCFB35	GW	37-41	10/20/00	Groundwater	3.7	0.6J	0.6J
DCFB35Dup	GW	37-41	10/20/00	Groundwater	4.4	0.7J	0.7J
DCFB36	SS-1	10-14	10/20/00	Soil	2U	2U	2U
DCFB36	GW	19-23	10/20/00	Groundwater	4.8	0.5J	1.0
DCFB36	GW	29-32	10/20/00	Groundwater	12.5	0.8J	2U
DCFB36	GW	37-41	10/20/00	Groundwater	2U	0.6J	10.6
DCFB37	SS-1	10-14	10/20/00	Soil	2U	2U	2U
DCFB37	GW	21-25	10/23/00	Groundwater	12.0	0.7J	0.9J
DCFB37	GW	28-32	10/23/00	Groundwater	13.0	1.3	3.0
DCFB37	GW	36-40	10/23/00	Groundwater	8.5	1.8	21.2
DCFB38	SS-1	10-14	10/23/00	Soil	2U	2U	2U
DCFB38	GW	20-24	10/23/00	Groundwater	5.4	0.4J	2U
DCFB38	GW	27-31	10/23/00	Groundwater	6.6	0.8J	0.6J
DCFB38	GW	37.5-41.5	10/23/00	Groundwater	1.2	0.4J	1.2
DCFB39	SS-1	10-14	10/24/00	Soil	2U	2U	2U
DCFB39	GW	20-24	10/24/00	Groundwater	4.6	0.4J	2U
DCFB39	GW	28-32	10/24/00	Groundwater	6.3	1.0J	0.3J
DCFB39Dup	GW	28-32	10/24/00	Groundwater	8.3	1.1J	0.4J
DCFB39	GW	36-40	10/24/00	Groundwater	6.3	10.4	8.6
DCFB40	SS-1	10-14	10/24/00	Soil	2U	2U	2U
DCFB40Dup	SS-1 Dup	10-14	10/24/00	Soil	2U	2U	2U
DCFB40	GW	28-32	10/24/00	Groundwater	8.8	0.7J	2U
DCFB40	GW	37-41	10/24/00	Groundwater	10.1	1.3	1.0J
DCFB41	SS-1	10-14	10/25/00	Soil	2U	2U	2U
DCFB41	GW	28-32	10/25/00	Groundwater	6.7	0.7J	2U
DCFB41	GW	39-43	10/25/00	Groundwater	9.2	2.2	0.7J
DCFB42	SS-1	10-14	10/25/00	Soil	2U	2U	2U
DCFB42	GW	22-26	10/25/00	Groundwater	4.7	0.6J	2U
DCFB42	GW	29-33	10/25/00	Groundwater	9.7	1.2	0.1J
DCFB42	GW	39-43	10/25/00	Groundwater	2.7	3.6	3.0
DCFB42Dup	GW	39-43	10/25/00	Groundwater	2.1	3.6	3.3
DCFB43	GW	22	10/25/00	Dry			
DCFB44	GW	21.5	10/25/00	Dry			

PCE = Tetrachloroethylene

Bold, italics = Compound was detected.

TCE = Trichloroethylene

DCE = cis-1-,2-Dichloroethylene

DCFB = Dry Cleaning Facility Borehole

NA = No sample collected at this location. Location was offset the following day and the samples collected.

GW = Groundwater

J = Qualified as estimated by either the Lab or the QC Evaluation.

U = Qualified as undetected by Laboratory.

Dup = Duplicate

SS = Soil Sample

All groundwater results are in micrograms per Liter (ug/L).

All soil results are in micrograms per kilogram (ug/kg).

**Table 5-1
Summary of Conclusions
Dry Cleaning Facility Area, Fort Riley, Kansas**

Area/Contaminant of Concern		Range of Detections	USEPA MCL or RSK Value	Exceeds Standards?	Location of Detections
Area 1 – Former Buildings 180/181					
Soil	PCE	FS: 0.1J - 56.9J ug/kg CS: 12.4 - 188 ug/kg	180 ug/kg	FS – No CS – Yes (1 sample)	Highest detections in central portion of the southwest half of former Building 180
	TCE	FS: None CS: None	200 ug/kg	FS – No CS – No	
	DCE	FS: 0.1J ug/kg CS: None	800 ug/kg	FS – No CS – No	
Groundwater	PCE	FS: 1.8J – 202J ug/L CS: 19 – 255 ug/L	5 ug/L	FS - Yes (17 samples) CS – Yes (5 samples)	The bedrock channel beneath former Building 180
	TCE	FS: 0.9J – 132 ug/L CS: 0.9 – 126 ug/L	5 ug/L	FS - Yes (3 samples) CS – Yes (1 sample)	
	DCE	FS: 0.9J – 29.4 ug/L CS: 0.9 – 28.6 ug/L	70 ug/L	FS – No CS – No	
Area 2 – The Island					
Soil	No soil samples collected from this area.				NA
Groundwater	PCE	FS: 0.2J – 34.3J ug/L CS: 10.6 – 25.5 ug/L	5 ug/L	FS - Yes (12 samples) CS: Yes (3 samples)	Higher detections at Probeholes DCFB13, DCFB14, DCFB15, DCFB16, DCFB8, DCFB9, and DCFB10
	TCE	FS: 0.1J – 6.2 ug/L CS: 0.8 – 2.6 ug/L	5 ug/L	FS - Yes (1 sample) CS: No	
	DCE	FS: 0.2J – 27.4 ug/L CS: 0.7 – 8.4 ug/L	70 ug/L	FS – No CS: - No	
Area 3 – The Point Bar/Horse Corral					
Soil	PCE	FS – No CS – No	180 ug/kg	FS: None CS: None	No detections in soil.
	TCE	FS – No CS – No	200 ug/kg	FS: None CS: None	
	DCE	FS – No CS – No	800 ug/kg	FS: None CS: None	
Groundwater	PCE	FS: Yes (22 samples) CS: Yes (4 samples)	5 ug/L	FS: 0.2J – 13.0 ug/L CS: 1.8 – 9 ug/L	Consistently detected in groundwater with a slight increase in levels in the vicinity of Probeholes DCFB34, DCFB35, DCFB36, and DCFB37
	TCE	FS: Yes (3 samples) CS: No	5 ug/L	FS: 0.1J – 10.4 ug/L CS: 0.7 – 3.2 ug/L	
	DCE	FS – No CS – No	70 ug/L	FS: 0.1J – 21.2 ug/L CS: 0.5 – 2.8 ug/L	

Notes: CS = Confirmation Sample
DCE = cis-1,2-Dichloroethene
FS = Field Screening Sample
MCL = Maximum Contaminant Level
ug/kg = micrograms per kilogram
USEPA = U.S. Environmental Protection Agency

NA = Not applicable
PCE = Tetrachloroethene
RSK = KDHE Tier 2 Risk-Based Standards
TCE = Trichloroethene
ug/L = micrograms per Liter

FIGURES

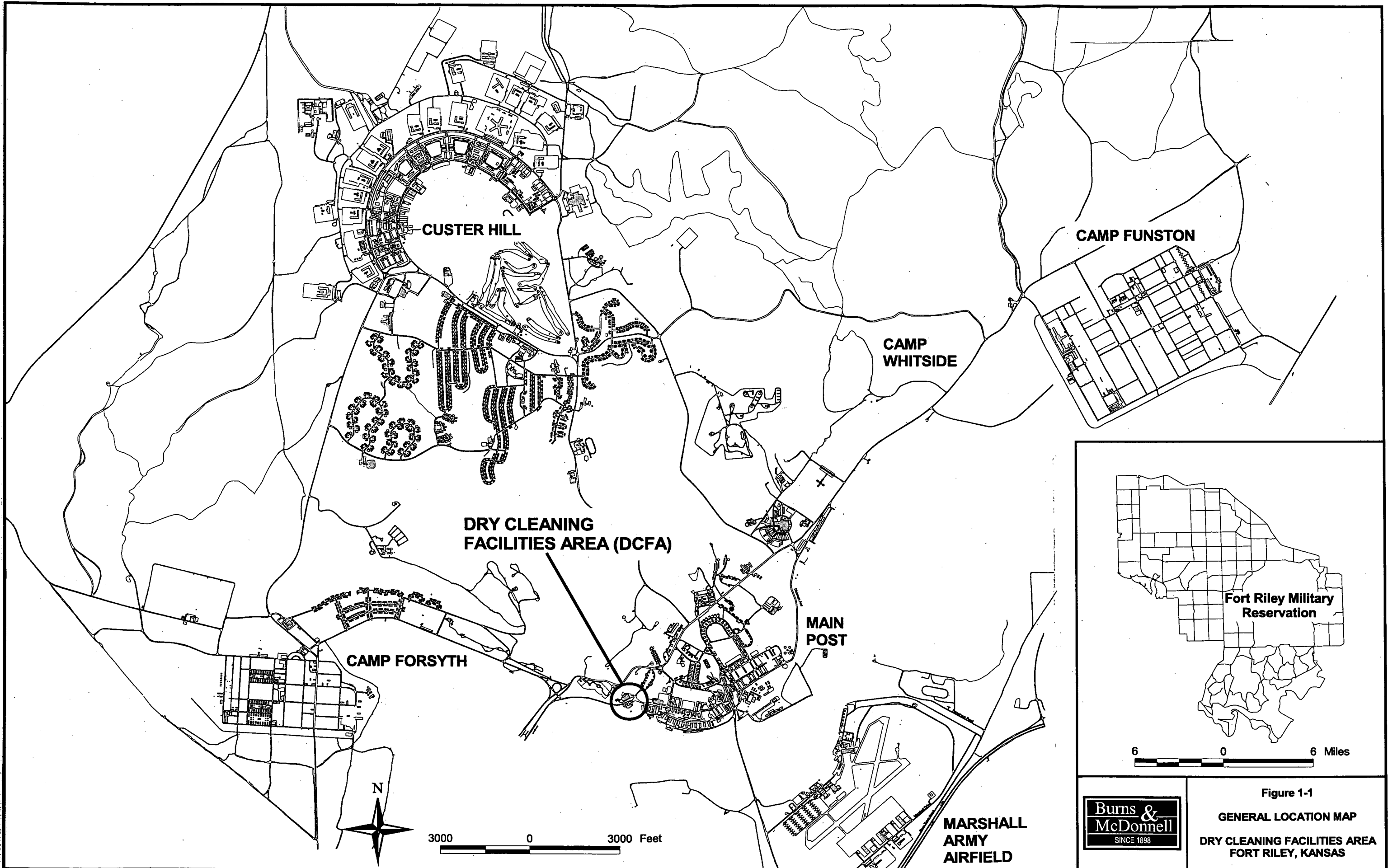
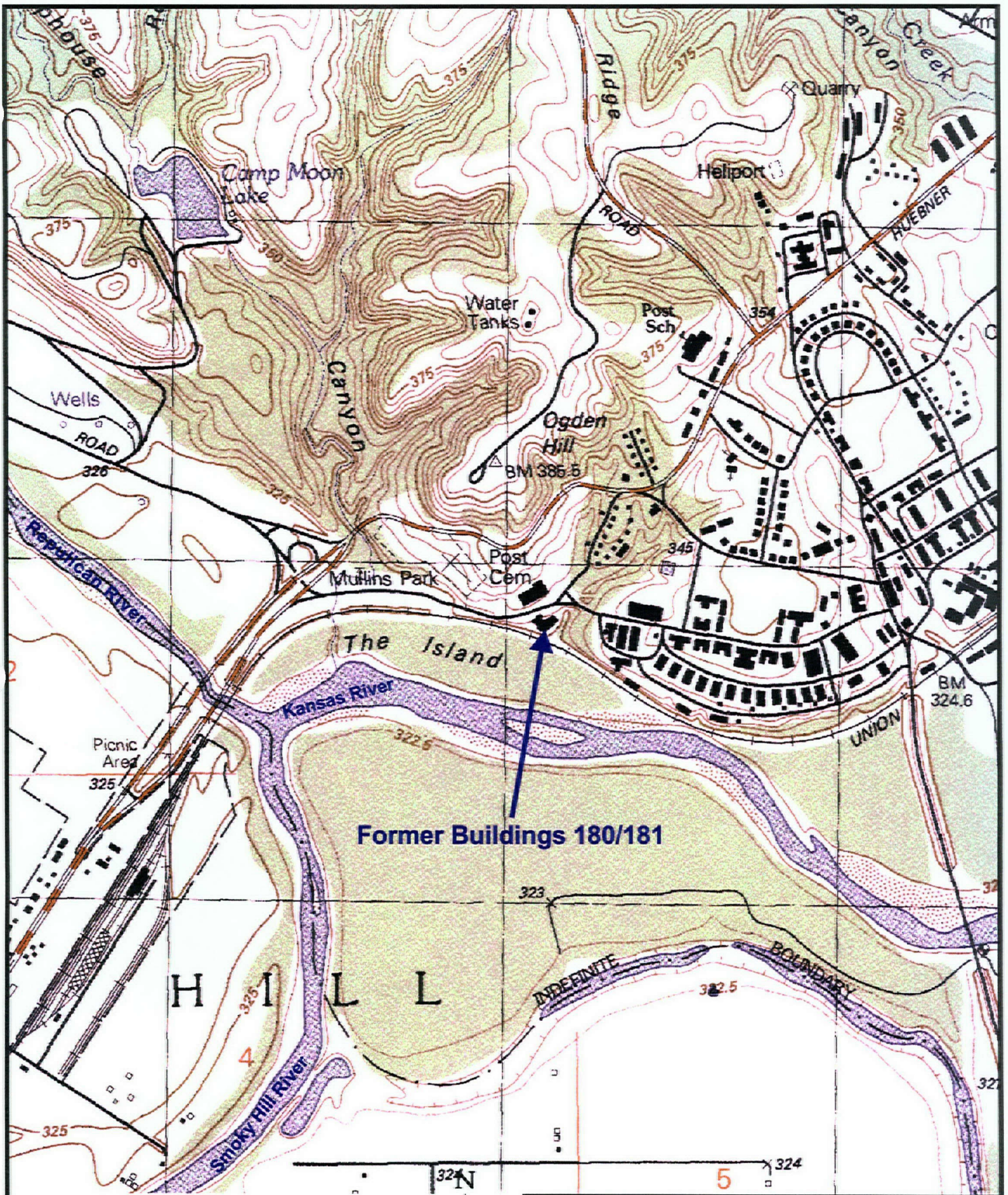


Figure 1-1
GENERAL LOCATION MAP
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS



2000 Feet 0 2000 Feet

- Note:
1. Contours in meters
 2. From the Junction City Quadrangle, USGS, 1989



Figure 2-1
 SITE TOPOGRAPHY
 DRY CLEANING FACILITIES AREA
 FORT RILEY, KANSAS



Former Buildings 180/181



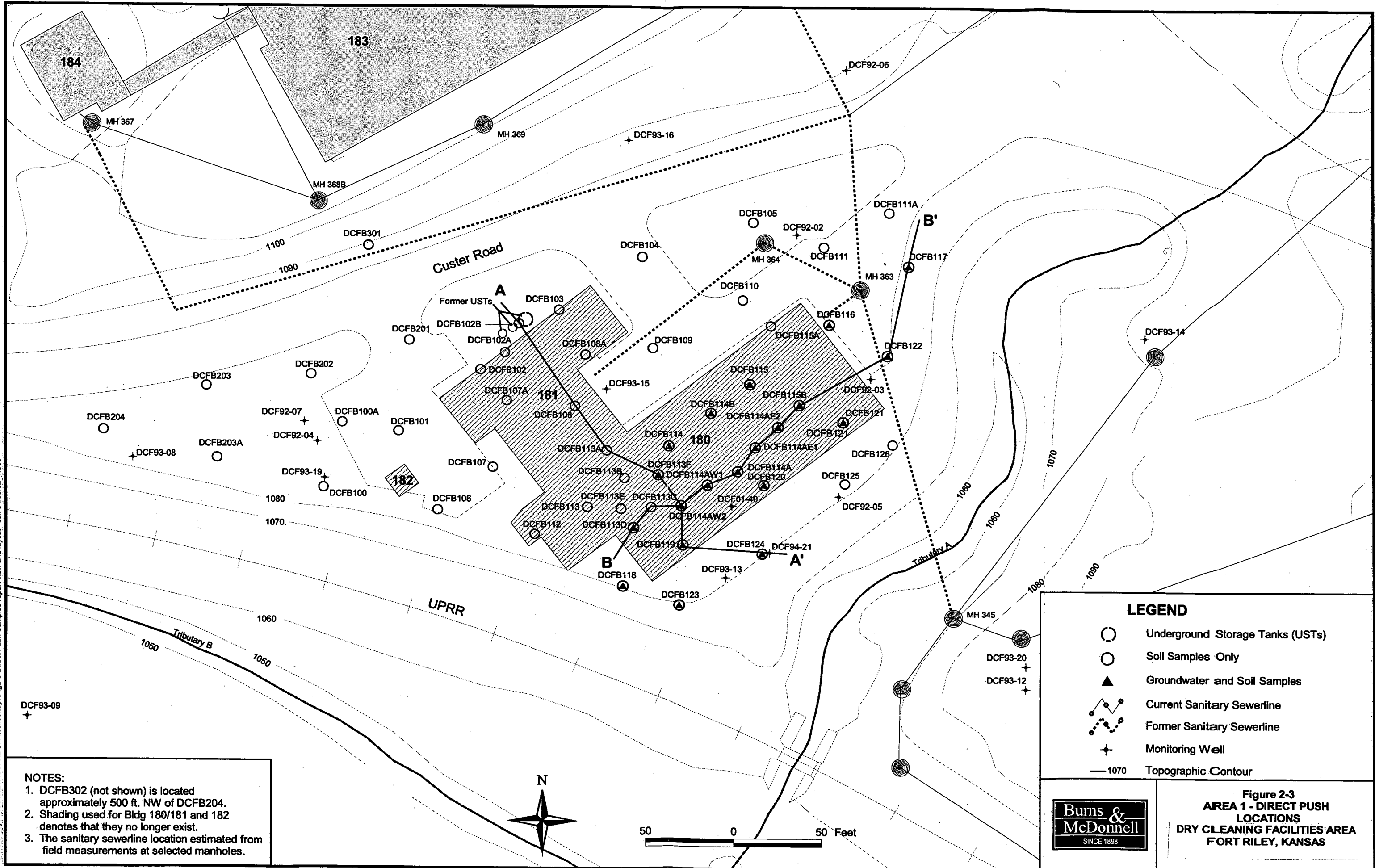
Notes:

- 1. *Aerial photographs taken 2-8-98.*
- 2. *Scale is approximately 800 feet per inch.*



**Figure 2-2
AERIAL PHOTOGRAPH
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS**

U:\FortRiley\ARC\VIEW\USFRDC\A\soilbor.apa\Fig2-3 Direct Push Samples report view and layout. ssk 04/05/02 1:00



NOTES:

1. DCFB302 (not shown) is located approximately 500 ft. NW of DCFB204.
2. Shading used for Bldg 180/181 and 182 denotes that they no longer exist.
3. The sanitary sewerline location estimated from field measurements at selected manholes.

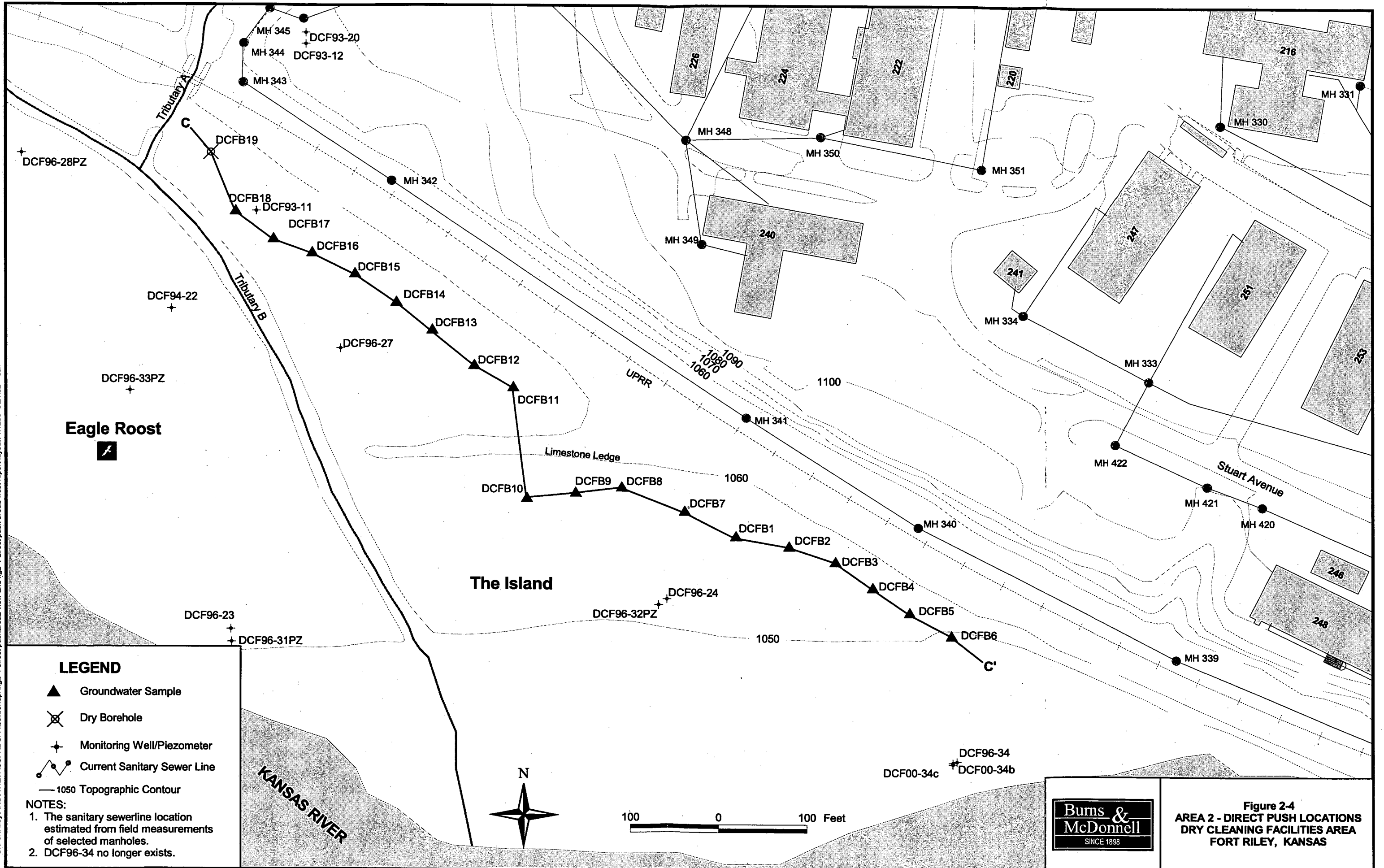
LEGEND

- Underground Storage Tanks (USTs)
- Soil Samples Only
- ▲ Groundwater and Soil Samples
- Current Sanitary Sewerline
- - - Former Sanitary Sewerline
- + Monitoring Well
- 1070 Topographic Contour



Figure 2-3
AREA 1 - DIRECT PUSH
LOCATIONS
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

U:\FortRiley\ARC\VIEW\USFRDCFA\isolibor.apr\fig2-4 direct push areas2 view and fig2-4 direct push areas2 west report layout\1:1200_312102.ssk



LEGEND

- ▲ Groundwater Sample
- ⊗ Dry Borehole
- + Monitoring Well/Piezometer
- Current Sanitary Sewer Line
- 1050 Topographic Contour

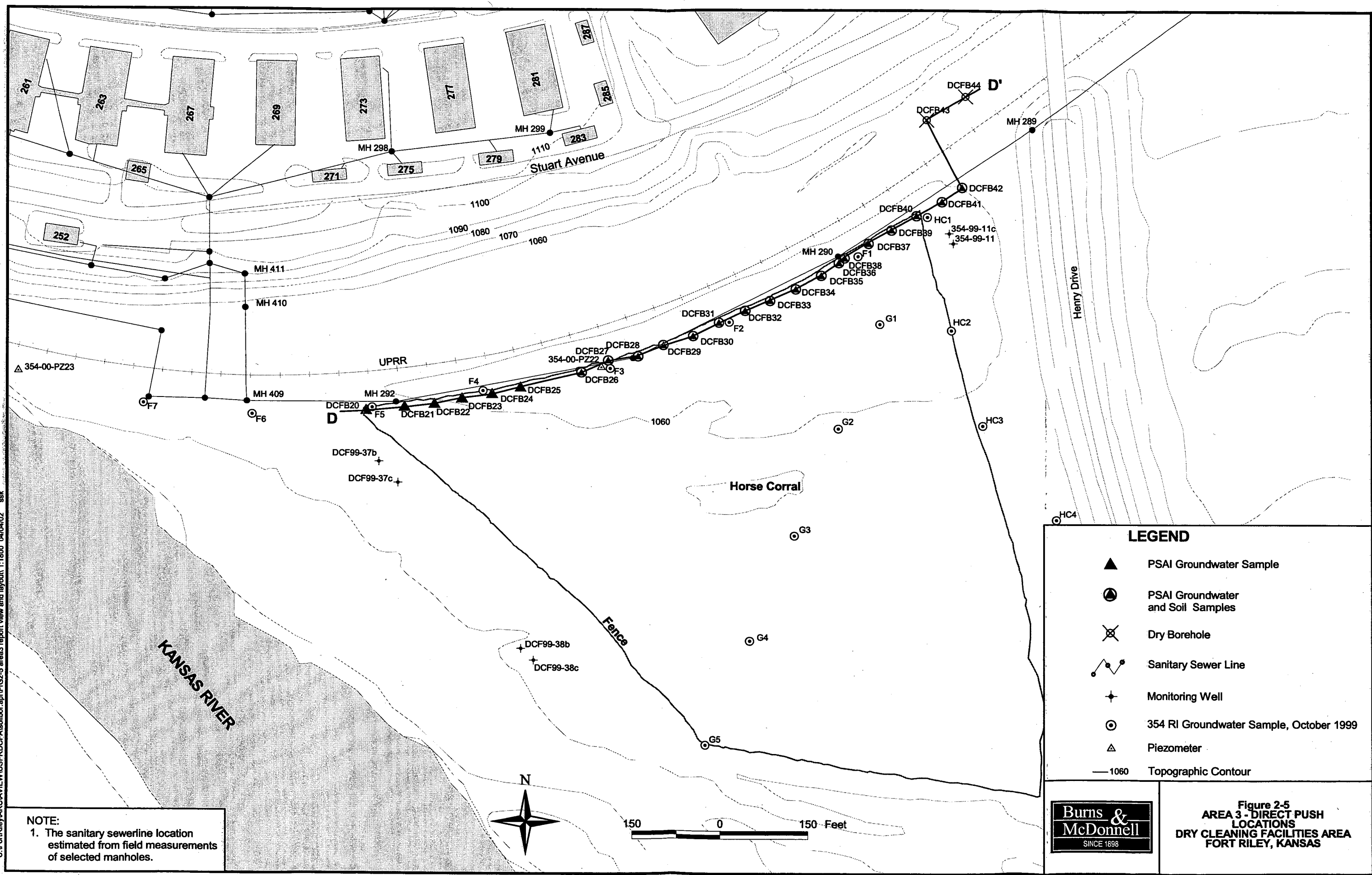
NOTES:

1. The sanitary sewerline location estimated from field measurements of selected manholes.
2. DCF96-34 no longer exists.

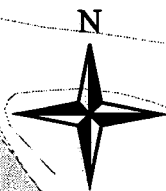


Figure 2-4
AREA 2 - DIRECT PUSH LOCATIONS
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

U:\FortRiley\ARC\VIEW\USFRDC\CF\A\scilbor.apr\FIG2-5 area3 report view and layout 1:1800 04/04/02 ssk



NOTE:
 1. The sanitary sewerline location estimated from field measurements of selected manholes.

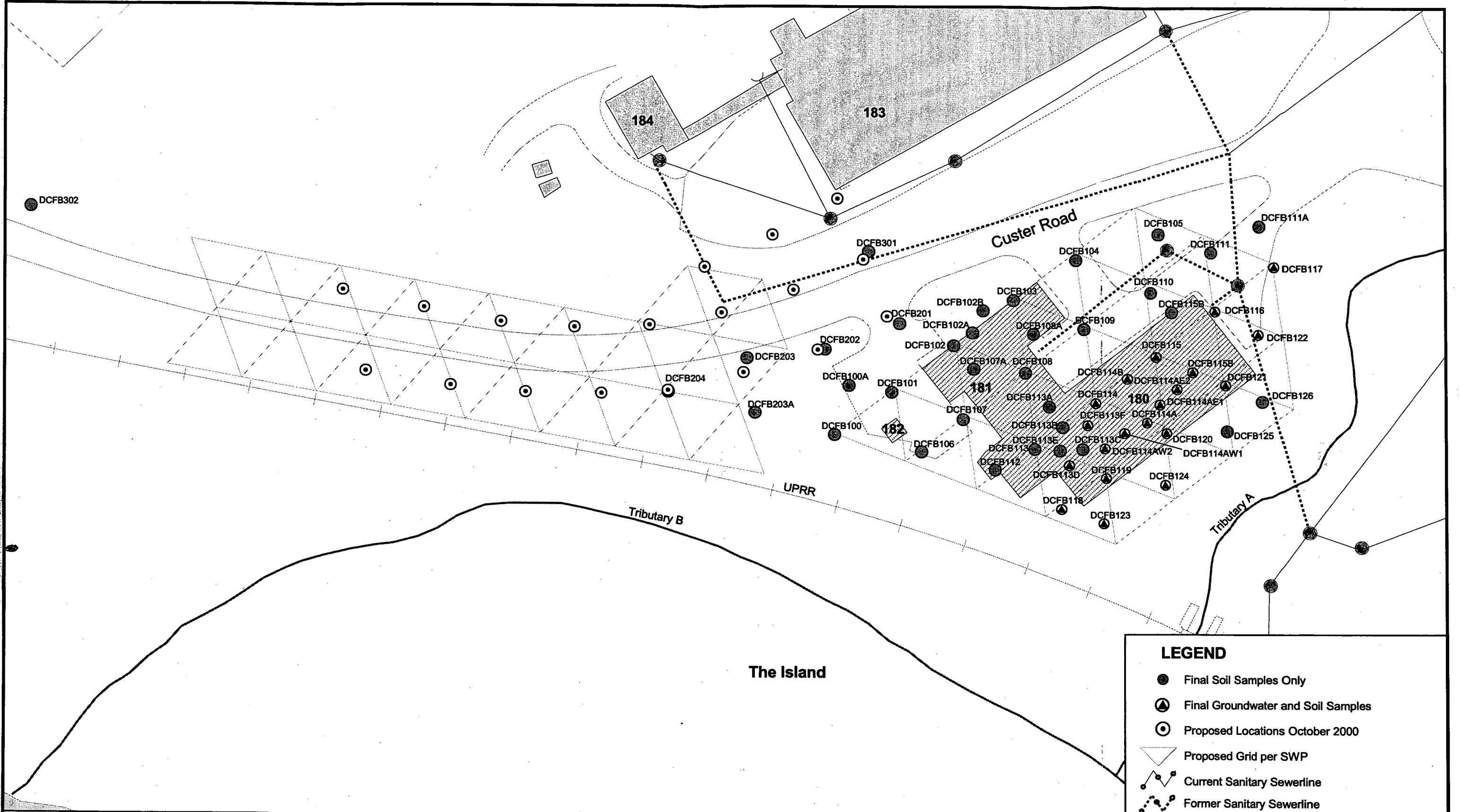


LEGEND	
	PSAI Groundwater Sample
	PSAI Groundwater and Soil Samples
	Dry Borehole
	Sanitary Sewer Line
	Monitoring Well
	354 RI Groundwater Sample, October 1999
	Piezometer
	1060 Topographic Contour



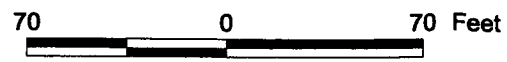
Figure 2-5
AREA 3 - DIRECT PUSH
LOCATIONS
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

U:\FortRiley\ARC\VIEW\USFRDC\F\A\soilbor.apr\Fig-6 Proposed and Final Borehole Locations View & Layout ssk 04/05/02 1:840



NOTES:

- 1. Shading used for Bldg 180/181 and 182 denotes that they no longer exist.
- 2. The sanitary sewerline location estimated from field measurements of selected manholes.



LEGEND

- Final Soil Samples Only
- ▲ Final Groundwater and Soil Samples
- Proposed Locations October 2000
- ▽ Proposed Grid per SWP
- Current Sanitary Sewerline
- - - Former Sanitary Sewerline



**Figure 2-6
PROPOSED AND FINAL
PROBEHOLE LOCATIONS - AREA 1
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS**

NORTH



BUFFALO CORRAL

DCFA

DEMOLISH MANHOLE
PLUG/ABANDON
LINE IN PLACE

DEMOLISH MANHOLE
PLUG/ABANDON
LINE IN PLACE

ELECTRICAL
SLEEVE - STATION NO. 4

MH 370

SANITARY SEWER
CONT. TO MH 434
TURNS SOUTH TO
MH 353 THEN TUR-
NS SOUTHWEST AND
CONN. TO MH 352

ONE STOP FRAME
BUILDING NO. 153

MH 368A

MH 368

MH 368-1

DEMOLISH MANHOLE
ABANDON LINE IN PLACE

DEMOLISH MANHOLE
PLUG/ABANDON
LINE IN PLACE

STEAM
GENERATING
PLANT

MH 367

MH 369

MH 368A

MH 365

REPAIRED DURING
MAY 1994 (SECTION
BETWEEN MH 365 &
MH 363)

CUSTER ROAD

CATCH
BASIN

MH 364

MH 363B

MH 363

OUTLET

MH 352

DIVERTED
SANITARY/STORM
SEWER

MH 366

DEMOLISH MANHOLE
ABANDON LINE IN PLACE

PLUG/ABANDON
LINE IN PLACE

ROCK
BUILDING
NO. 152

ONE STOP
LIMESTONE
BLOCK BUILDING
NO. 152

MH 363A

ABAND.
SS MH

ABAND.
SS MH

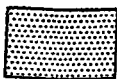
MH 345

THE ISLAND

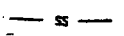
NOTE:

- EXCEPT FOR SECTION BETWEEN MH 365 & MH 363, BOLDFACE NOTES REFLECT SEWER DIVERSION INFORMATION AS SHOWN ON SHEET 10F1 (4-5-96) BY PUBLIC WORKS FORT RILEY, KANSAS.

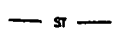
LEGEND



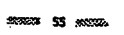
UNPAVED AREAS



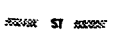
Sanitary Sewer Line



Storm Sewer Line



Abandoned Sanitary Sewer Line



Abandoned Storm Sewer Line



New or Diverted Sanitary/Storm
Sewer Line



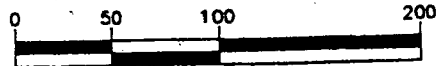
Manhole



Catch Basin (Grate)



Cast Iron Pipe



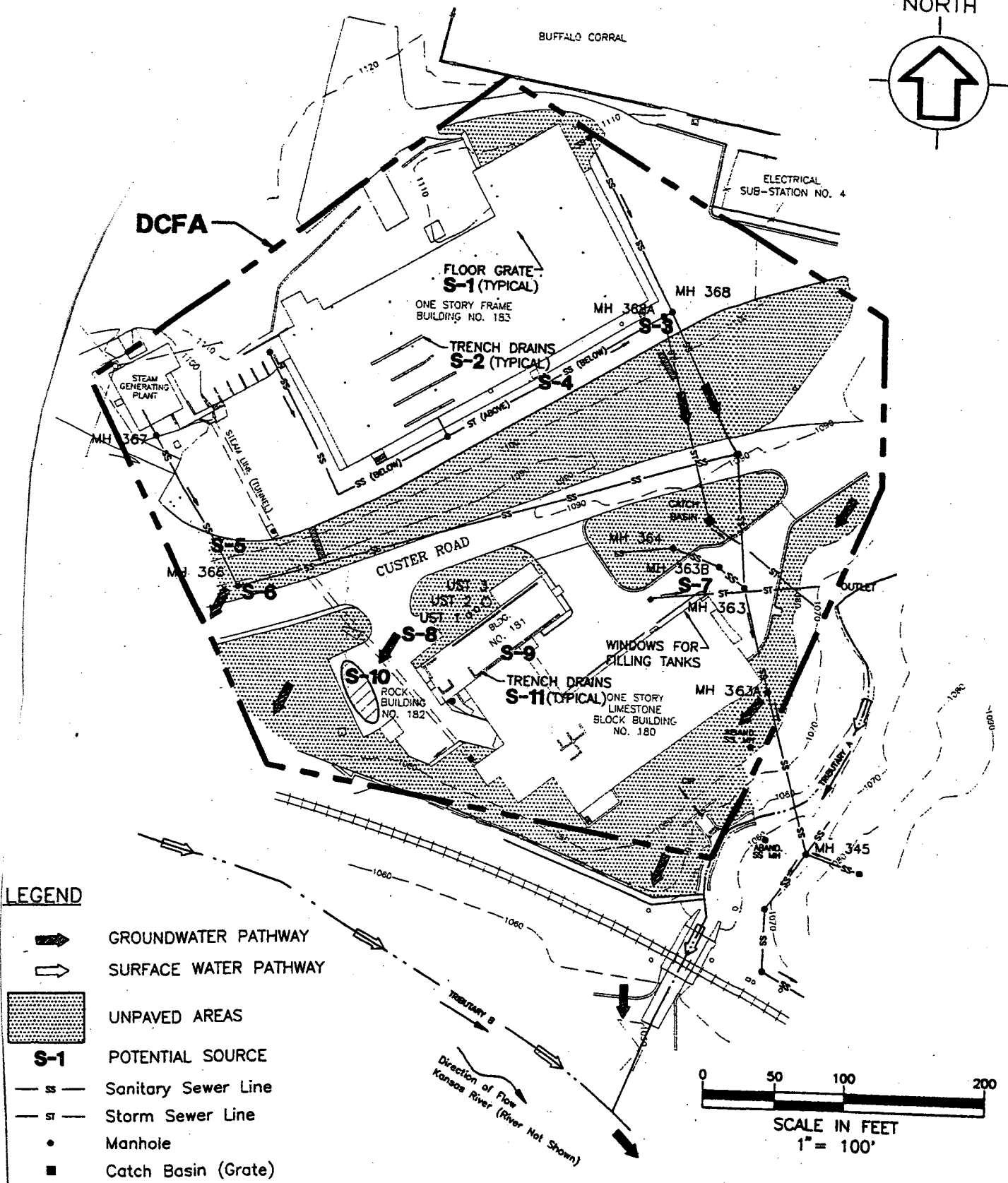
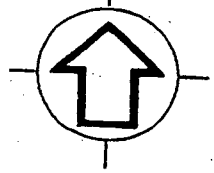
SCALE IN FEET
1" = 100'





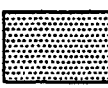
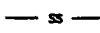
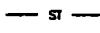



Figure 2-7
SEWER REPAIRS FROM
1994 AND 1996
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

Figure 1-3 from LBA, 1998a

NORTH



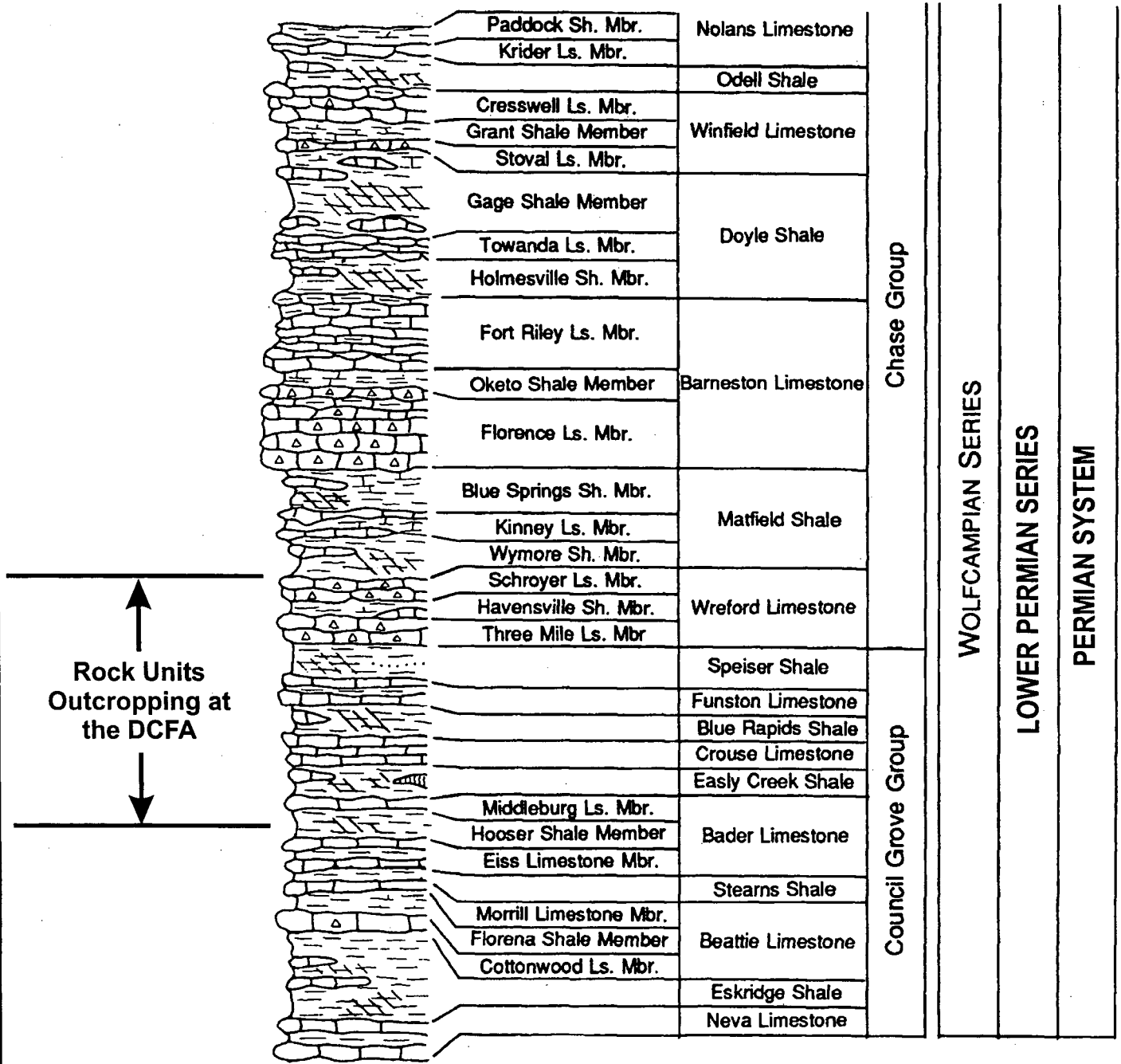
LEGEND

-  GROUNDWATER PATHWAY
-  SURFACE WATER PATHWAY
-  UNPAVED AREAS
- S-1** POTENTIAL SOURCE
-  Sanitary Sewer Line
-  Storm Sewer Line
-  Manhole
-  Catch Basin (Grate)
-  SUSPECTED ACCIDENTAL SPILL AREA



**Figure 2-8
POTENTIAL SOURCES
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS**

Figure 2-11 from LBA, 1995

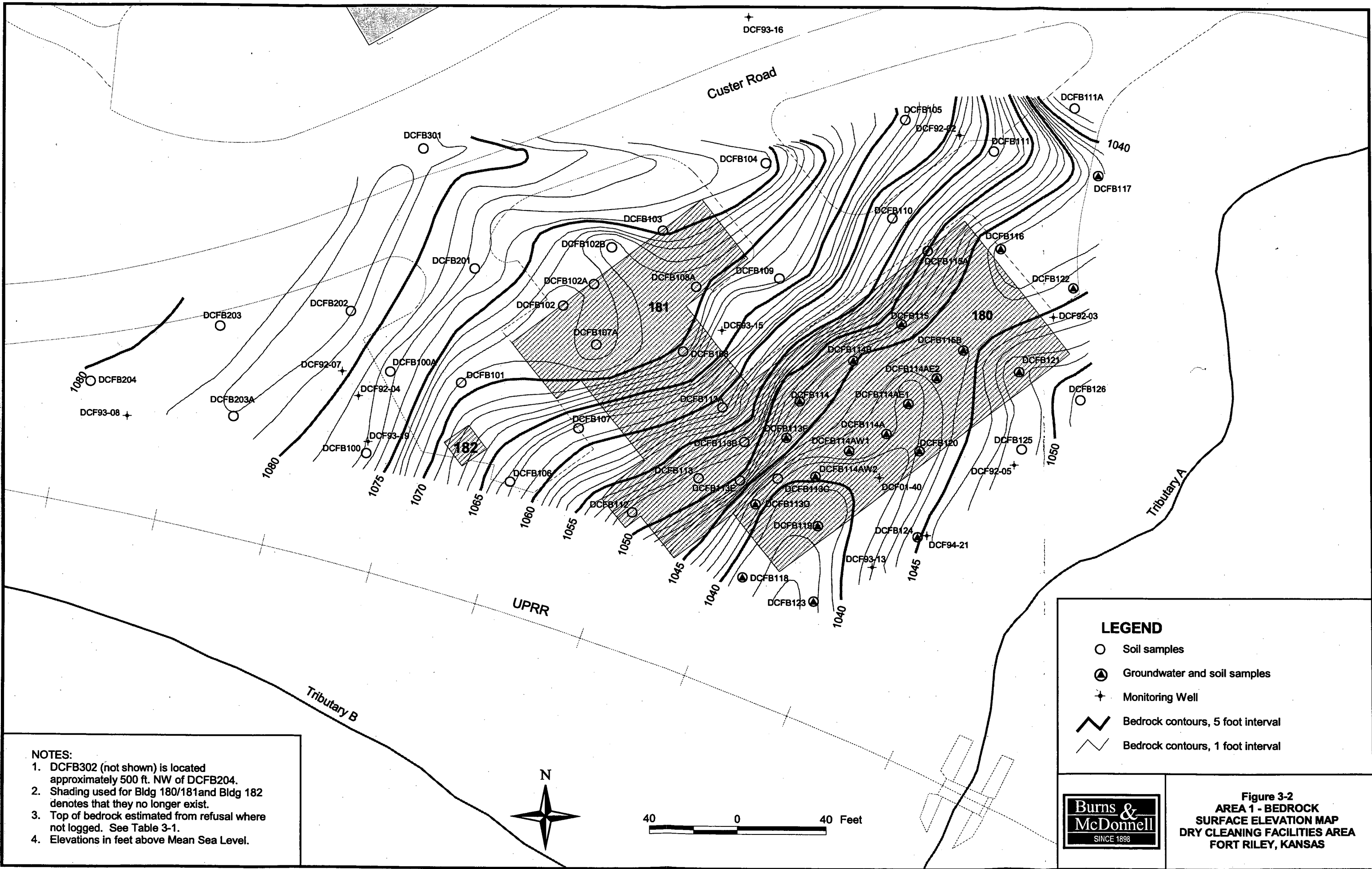


From: Zeller, 1994



Figure 3-1
GENERAL SITE STRATIGRAPHY
FOR THE FORT RILEY AREA
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

U:\FortRiley\ARC\VIEW\USFRDC\FAlsolbor.apr\Fig 3-5 Area 1 Bedrock Contours View and Fig3-2 Bedrock Surface Elevation layout ask 3/21/02 1:480



LEGEND

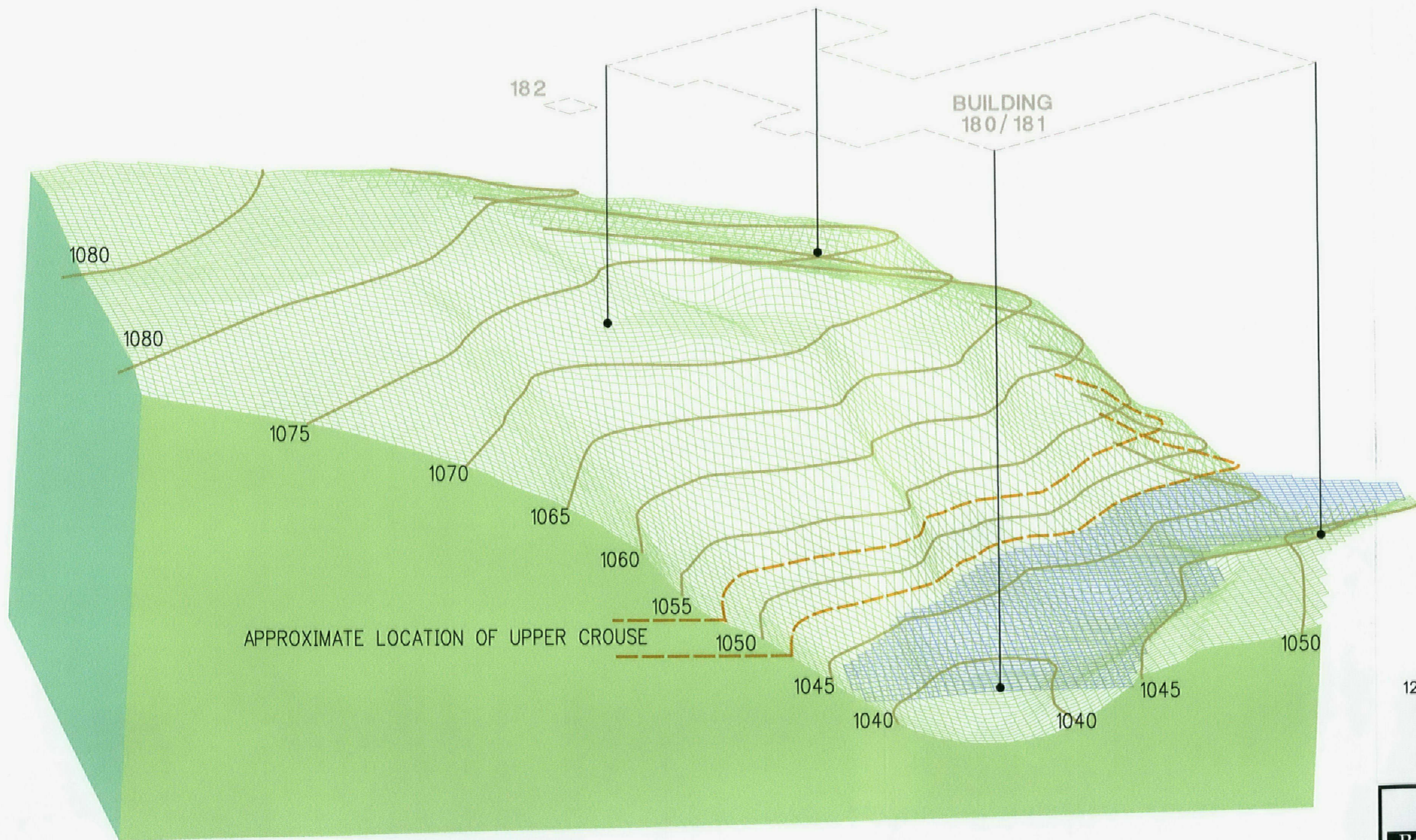
- Soil samples
- ⊕ Groundwater and soil samples
- + Monitoring Well
- ▬ Bedrock contours, 5 foot interval
- ▬ Bedrock contours, 1 foot interval





Figure 3-2
AREA 1 - BEDROCK
SURFACE ELEVATION MAP
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

NOTES:

1. DCFB302 (not shown) is located approximately 500 ft. NW of DCFB204.
2. Shading used for Bldg 180/181 and Bldg 182 denotes that they no longer exist.
3. Top of bedrock estimated from refusal where not logged. See Table 3-1.
4. Elevations in feet above Mean Sea Level.

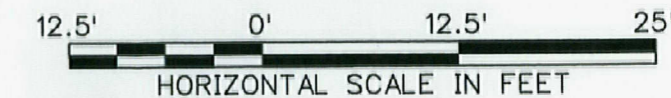



LEGEND

-  BEDROCK SURFACE
-  APPROXIMATE GROUNDWATER SURFACE

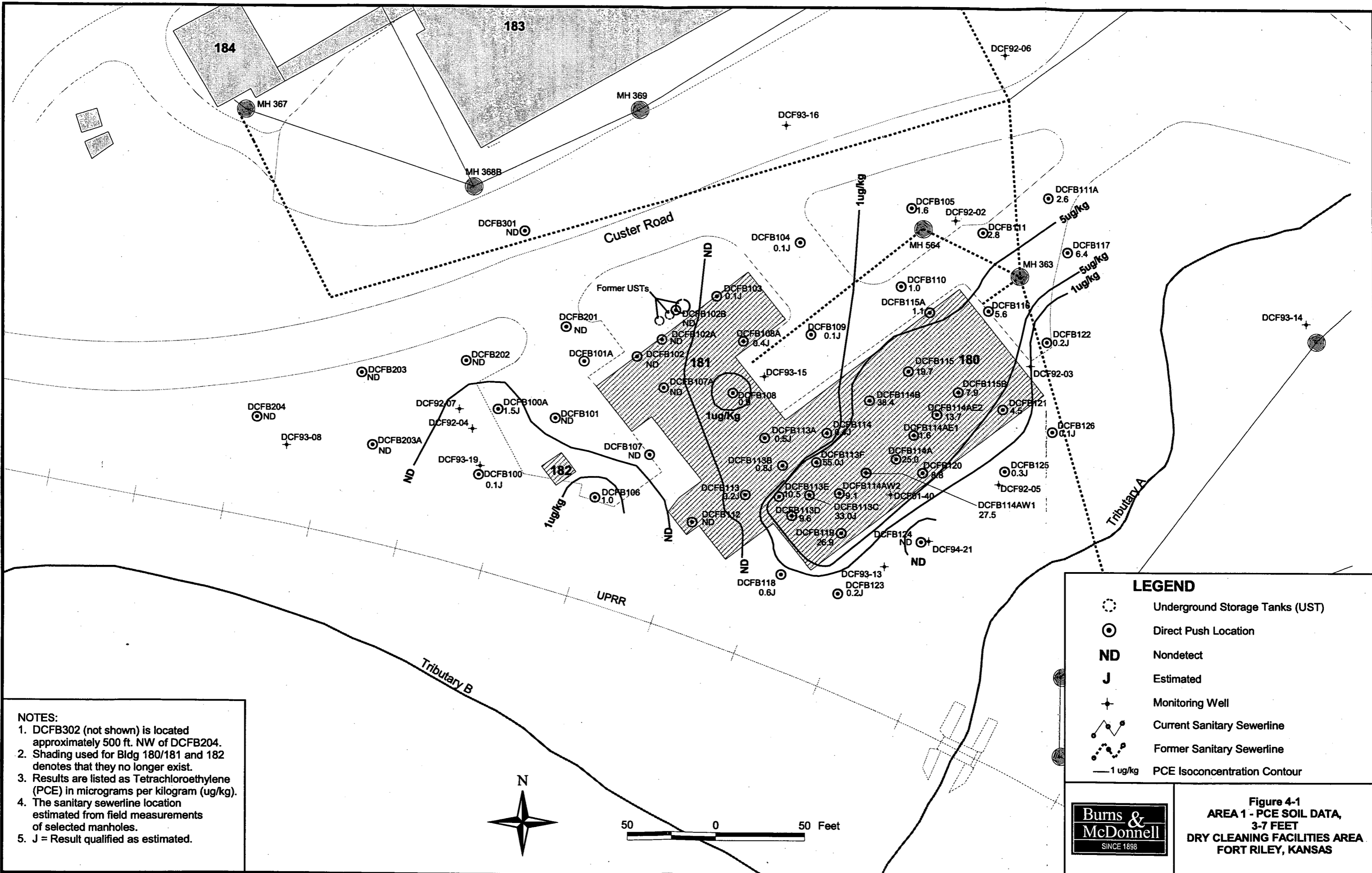
NOTES

- 1) TOP OF BEDROCK AS DETERMINED IN THE PSAI. TOP OF BEDROCK DETERMINED BY LOGGED SAMPLE OR BY REFUSAL (TABLE 3-1).
- 2) ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL



 <p>Burns & McDonnell SINCE 1898</p>	<p>Figure 3-3 AREA 1 - 3-DIMENSIONAL TOP OF BEDROCK MAP DRY CLEANING FACILITIES AREA FORT RILEY, KANSAS</p>
--	--

U:\FortRiley\ARC\VIEW\USFRDC\F\colibor.apr\Figure 3-6 DCFsoildata_3_7ft view and Fig 4-1 DCFsoildata_3_7ft report layout_ask 3/21/02 1:500



- NOTES:**
1. DCFB302 (not shown) is located approximately 500 ft. NW of DCFB204.
 2. Shading used for Bldg 180/181 and 182 denotes that they no longer exist.
 3. Results are listed as Tetrachloroethylene (PCE) in micrograms per kilogram (ug/kg).
 4. The sanitary sewerline location estimated from field measurements of selected manholes.
 5. J = Result qualified as estimated.

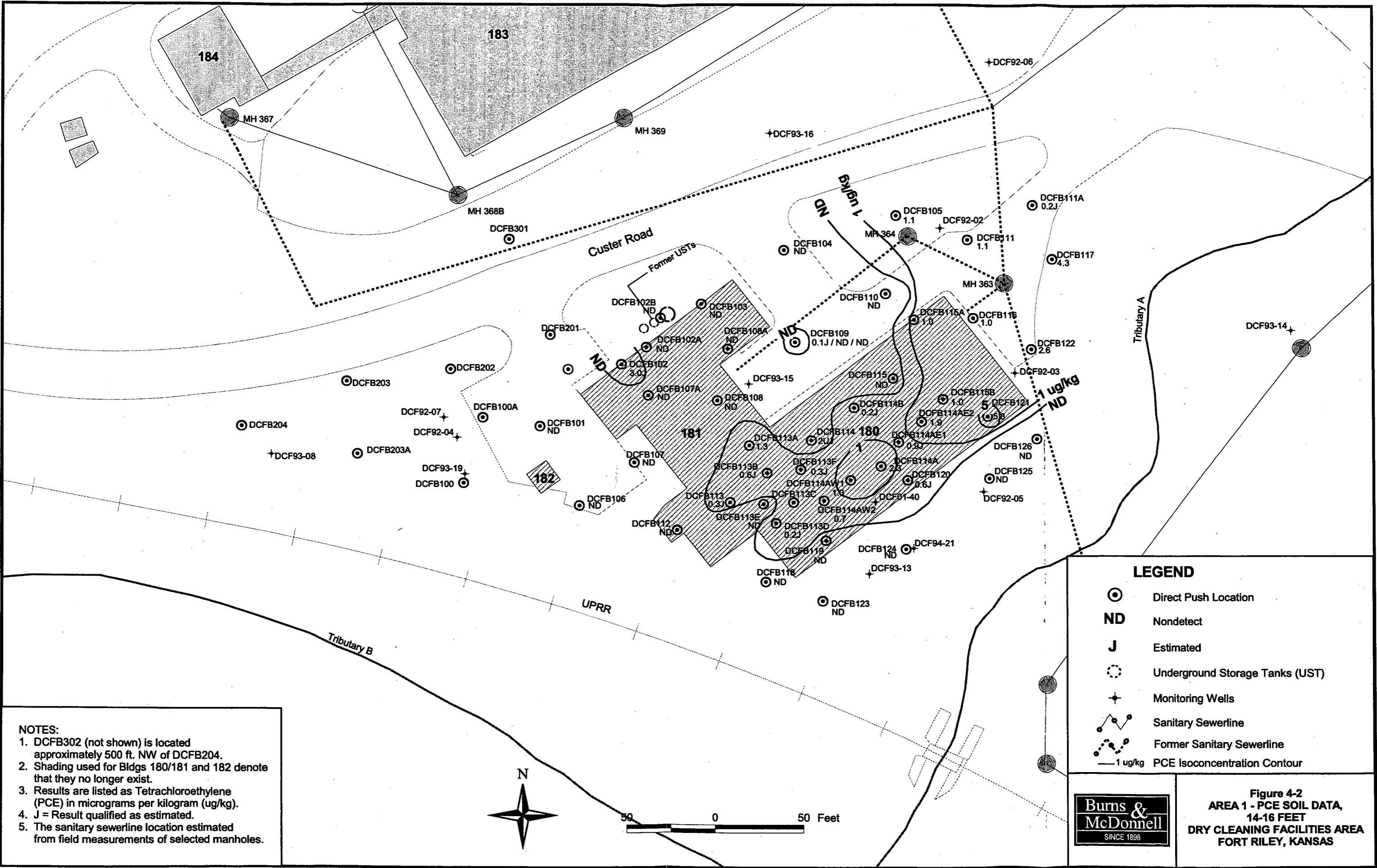
LEGEND

- Underground Storage Tanks (UST)
- Direct Push Location
- ND** Nondetect
- J** Estimated
- Monitoring Well
- Current Sanitary Sewerline
- Former Sanitary Sewerline
- 1 ug/kg PCE Isoconcentration Contour



Figure 4-1
AREA 1 - PCE SOIL DATA,
3-7 FEET
DRY CLEANING FACILITIES AREA,
FORT RILEY, KANSAS

U:\FordRiley\ARC\VIEW\USFRDC\A\scilbor.apn\Fig3-7_DCFsoliddata_14_16ft view and fig 4-2 DCFsoliddata_14_16ft layout esk 3/21/02 1:500



- NOTES:**
1. DCFB302 (not shown) is located approximately 500 ft. NW of DCFB204.
 2. Shading used for Bldgs 180/181 and 182 denote that they no longer exist.
 3. Results are listed as Tetrachloroethylene (PCE) in micrograms per kilogram (ug/kg).
 4. J = Result qualified as estimated.
 5. The sanitary sewerline location estimated from field measurements of selected manholes.

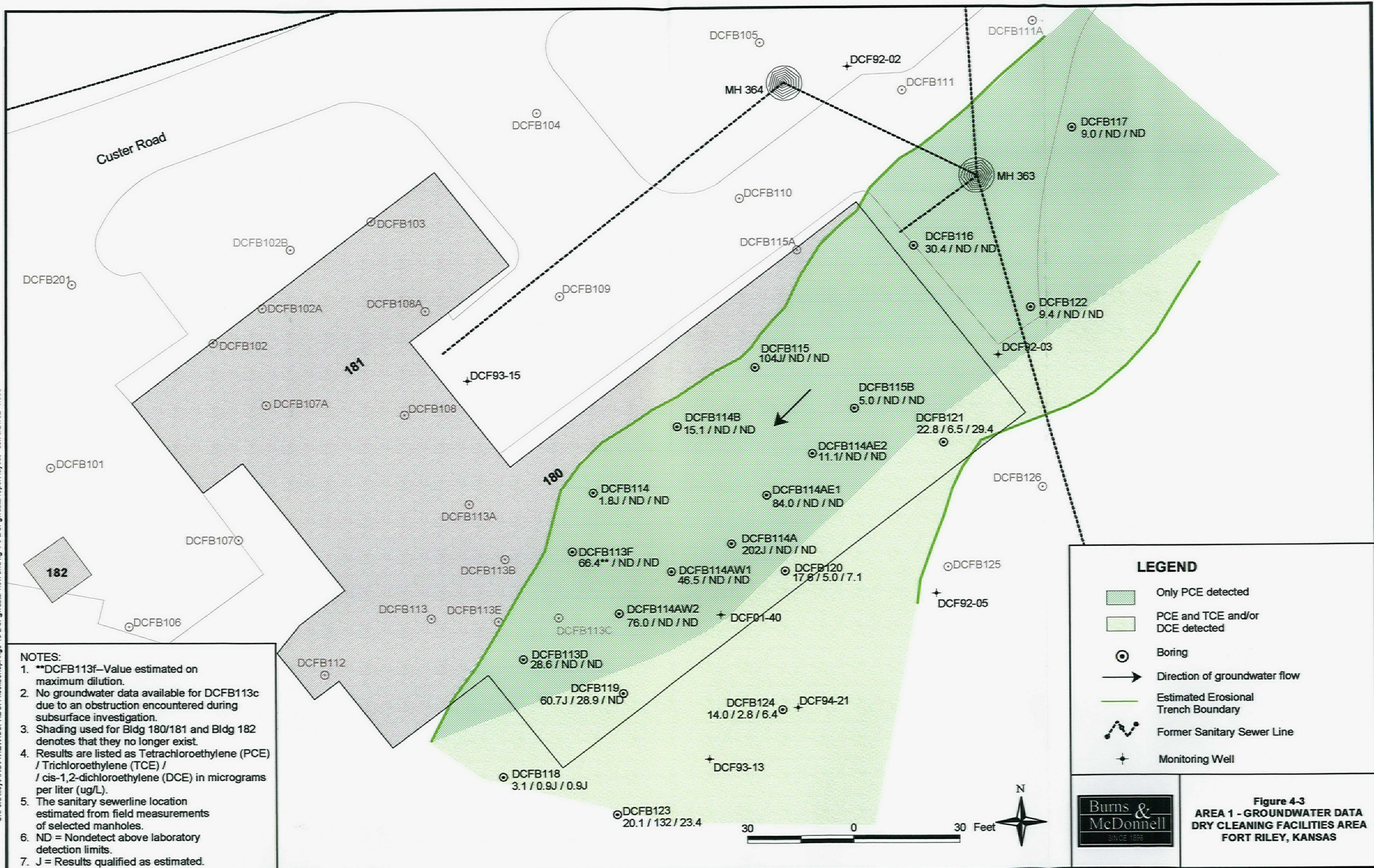
LEGEND

- ⊙ Direct Push Location
- ND Nondetect
- J Estimated
- Underground Storage Tanks (UST)
- + Monitoring Wells
- Sanitary Sewerline
- - - Former Sanitary Sewerline
- 1 ug/kg PCE Isoconcentration Contour


Burns & McDonnell
SINCE 1898

Figure 4-2
AREA 1 - PCE SOIL DATA,
14-16 FEET
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

U:\FortRiley\ARC\VIEW\FRDC\FAL\bor.apr\fig3-10 DCFgwdata view and fig 4-3 DCFgwdata report layout ssk 3/21/02 1:300

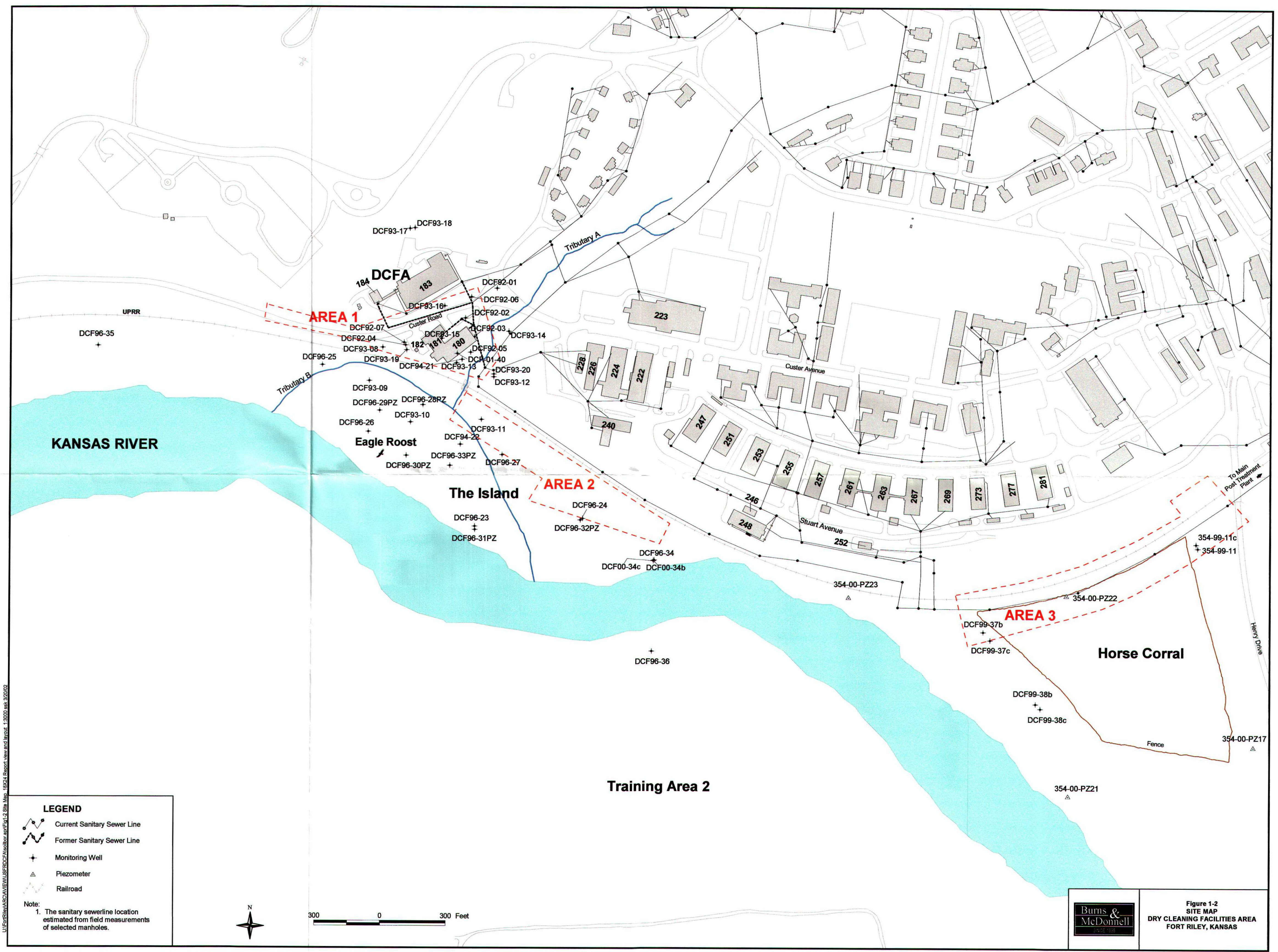


- NOTES:**
1. **DCFB113f--Value estimated on maximum dilution.
 2. No groundwater data available for DCFB113c due to an obstruction encountered during subsurface investigation.
 3. Shading used for Bldg 180/181 and Bldg 182 denotes that they no longer exist.
 4. Results are listed as Tetrachloroethylene (PCE) / Trichloroethylene (TCE) / cis-1,2-dichloroethylene (DCE) in micrograms per liter (ug/L).
 5. The sanitary sewerline location estimated from field measurements of selected manholes.
 6. ND = Nondetect above laboratory detection limits.
 7. J = Results qualified as estimated.








Burns & McDonnell
SINCE 1898

Figure 4-3
AREA 1 - GROUNDWATER DATA
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS



U:\Projects\A03\VIEW\USFDC\FALSECOLOR\Fig1_2_Site_Map_18024_Report_view_and_layout_13000.esd, 3/20/02

LEGEND

-  Current Sanitary Sewer Line
-  Former Sanitary Sewer Line
-  Monitoring Well
-  Piezometer
-  Railroad

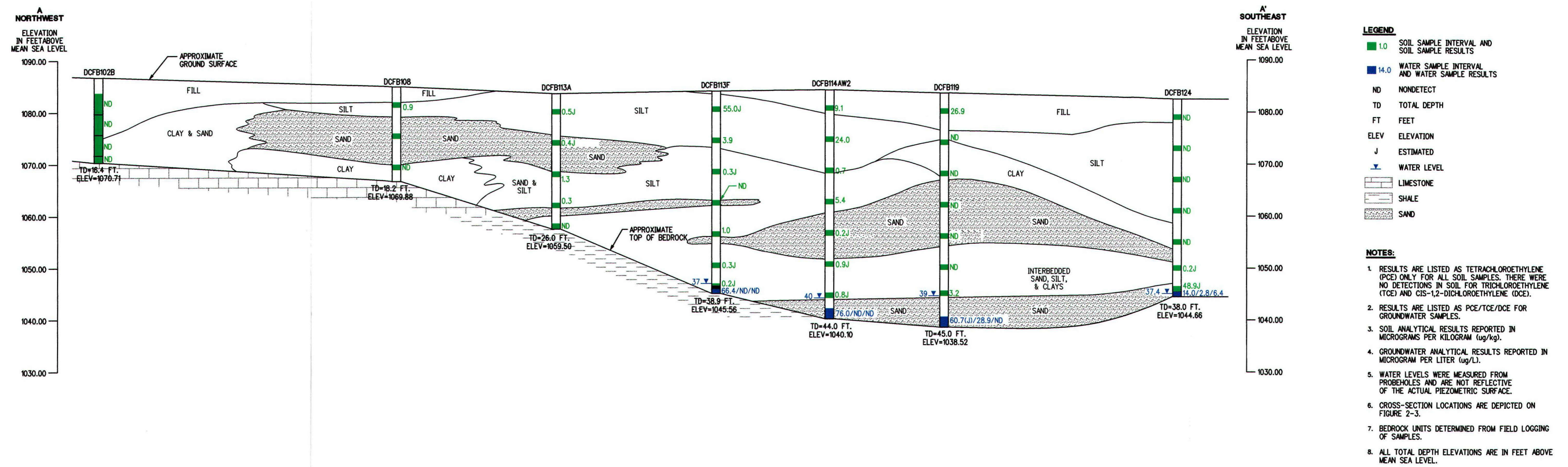
Note:
 1. The sanitary sewerline location estimated from field measurements of selected manholes.



300 0 300 Feet



**Figure 1-2
 SITE MAP
 DRY CLEANING FACILITIES AREA
 FORT RILEY, KANSAS**



LEGEND

- 1.0 SOIL SAMPLE INTERVAL AND SOIL SAMPLE RESULTS
- 14.0 WATER SAMPLE INTERVAL AND WATER SAMPLE RESULTS
- ND NONDETECT
- TD TOTAL DEPTH
- FT FEET
- ELEV ELEVATION
- J ESTIMATED
- ▽ WATER LEVEL
- LIMESTONE
- ▨ SHALE
- ▩ SAND

NOTES:

1. RESULTS ARE LISTED AS TETRACHLOROETHYLENE (PCE) ONLY FOR ALL SOIL SAMPLES. THERE WERE NO DETECTIONS IN SOIL FOR TRICHLOROETHYLENE (TCE) AND CIS-1,2-DICHLOROETHYLENE (DCE).
2. RESULTS ARE LISTED AS PCE/TCE/DCE FOR GROUNDWATER SAMPLES.
3. SOIL ANALYTICAL RESULTS REPORTED IN MICROGRAMS PER KILOGRAM (ug/kg).
4. GROUNDWATER ANALYTICAL RESULTS REPORTED IN MICROGRAM PER LITER (ug/L).
5. WATER LEVELS WERE MEASURED FROM PROBEHOLES AND ARE NOT REFLECTIVE OF THE ACTUAL PIEZOMETRIC SURFACE.
6. CROSS-SECTION LOCATIONS ARE DEPICTED ON FIGURE 2-3.
7. BEDROCK UNITS DETERMINED FROM FIELD LOGGING OF SAMPLES.
8. ALL TOTAL DEPTH ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL.

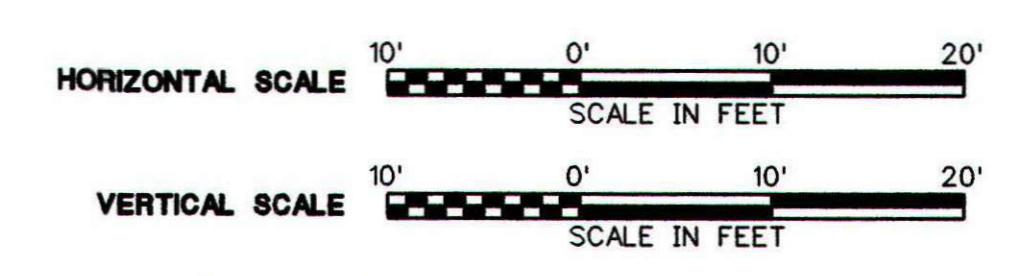
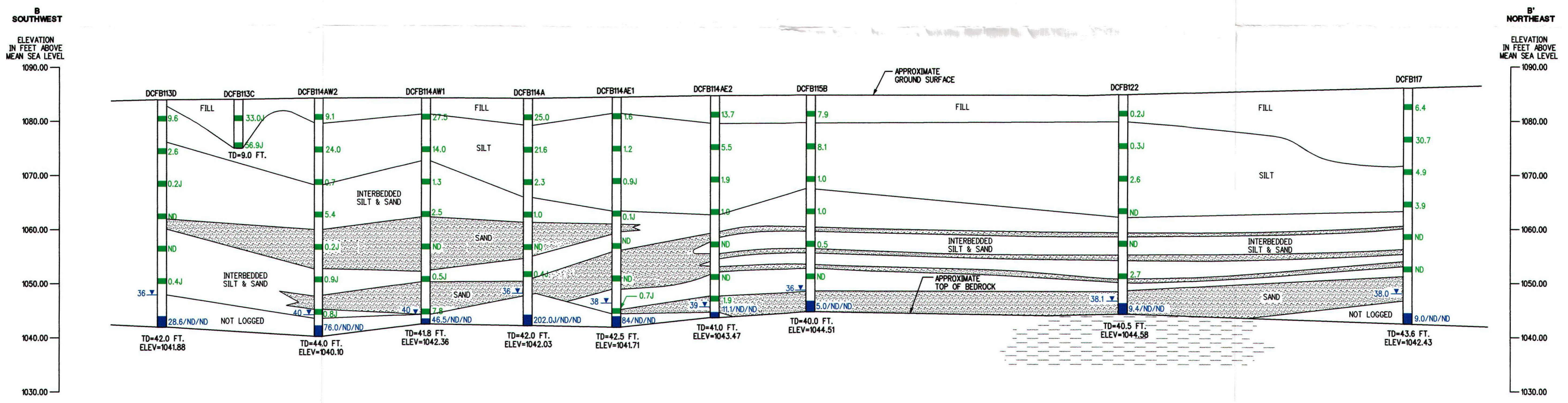


Figure 3-4
CROSS SECTIONS A-A' AND B-B'
AREA 1
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

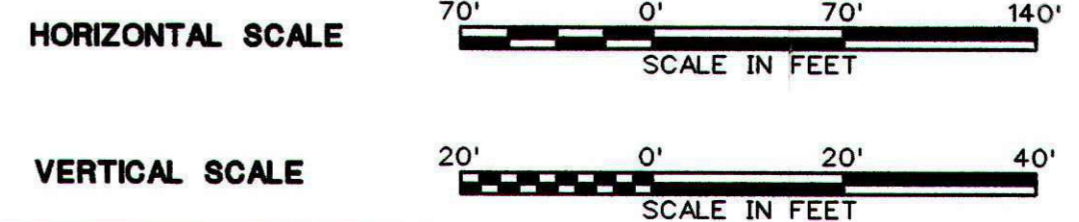
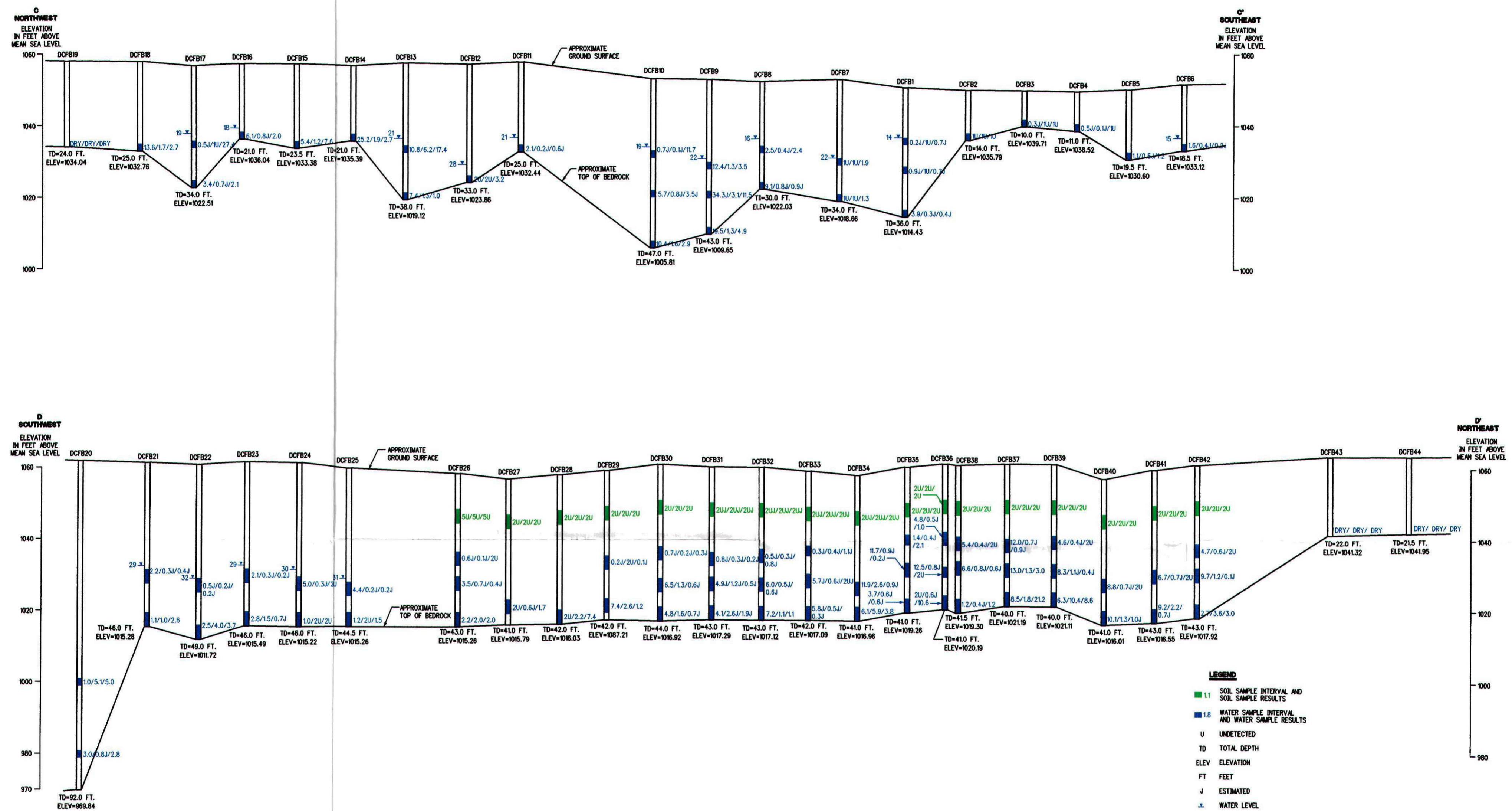


Figure 3-5
C-C' AND D-D'
AREAS 2 AND 3
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

APPENDIX A
WORK PLAN TO EVALUATE POTENTIAL OTHER SOURCES

July 29, 2000

Work Plan to Evaluate Potential Other Sources for the Dry Cleaning Facilities Area at Fort Riley, Kansas

1. Introduction

A requirement for additional investigations has been identified for the Dry Cleaning Facilities Area (DCFA), Operable Unit 3, and related utilities. Figure 1 illustrates the location of the DCFA site on Fort Riley.

Specific procedures and guidelines for conducting field activities are described in the Comprehensive Basic Documents for the Fort Riley site, prepared by Burns & McDonnell Engineering, Inc (BMcD), including:

Site Safety and Health Plan (Site Wide SSHP) (BMcD, 1998b)

Sampling and Analysis Plan (Site Wide SAP) (BMcD, 1998a)
Volume I, Field Sampling Plan (FSP)
Volume II, Quality Assurance Project Plan (QAPP)

Site Wide Quality Control Plan (Site Wide QCP) (BMcD, 1998c)

Investigation Derived Waste Management Plan (IDWMP) (BMcD, 1996a)

2. Purpose of Work Plan

The purpose of this work plan is to present proposed activities for screening evaluations of volatile organic compound (VOC) concentrations in soils and groundwater in the area of the upland, or terrace area, of the Dry Cleaning Facilities Area (DCFA) site and along the sanitary sewer that extends from the DCFA site to the Main Post Water Treatment plant. (See Fig 1.) This work plan includes a summary of relevant background information, designation of parties responsible for the work to be done and a description of the activities to be completed.

3. Previous Investigations

Primary information from previous investigations of the DCFA site, used to develop this work plan, is included in:

Working Draft (Final) Preliminary Assessment/Site Investigation (PA/SI), Law Environmental, 1992

Draft Final Remedial Investigation Report, Louis Berger & Associates, Inc., 1995

Draft Final Remedial Investigation Addendum Monitoring Expansion Report, Louis Berger & Associates, 1998.

A listing of all of the documents produced for this site and provided to EPA and KDHE, including the Groundwater Monitoring Data Summary Reports, is attached to this work plan.

4.0 Site Location and Description

The DCFA is the area surrounding the former dry cleaning facility that was located in Buildings 180 and 181, that operated prior to 1980. Buildings 180 and 181 were removed in June of 2000. The facility site is located along Custer Avenue in the southwest portion of the Historic Main Post area. It is adjacent to the Kansas River on the first terrace above the alluvial valley. Depositional features located in the alluvial valley below the terrace include two point bars, identified as the "Island" and the "Horse Corral". The Island is located immediately below the terrace which contained Buildings 180 and 181. The Horse Corral area is located downstream of the Island. The Island and the Horse Corral areas are separated from the terrace and upland areas by the Union Pacific Railroad. A sanitary sewer line extends from the DCFA site along the south side of the railroad track and follows the track until it crosses back to the north to connect to the Main Post water treatment facility, a distance of approximately 6,000 feet. Investigations described in this work plan will take place on the terrace area at DCFA where Buildings 180 and 181 were located and along the sewer line from DCFA extending along the north side of the Horse Corral point bar to a point approximately 800' east of Building 319. (See Fig 2)

5.0 Project Organization

The Fort Riley Installation Restoration Program (IRP) will provide coordination between services provided by Fort Riley in-house resources and those provided through the U.S. Army Corps of Engineers (USACE), Kansas City District (KCD).

The USACE, KCD will provide administration and contracting for the investigations.

The sewer line video will be conducted by the Fort Riley Directorate of Public Works (PW) using in-house resources.

Soil and groundwater screening will be conducted by Burns & McDonnell, Inc. (BMcD). They will provide key project personnel, subcontractors, laboratory support and documentation.

The overall organizational responsibilities are provided in the Fort Riley InterAgency Agreement (LAG) and the referenced installation wide Basic Documents.

5.1 Subcontractors

5.1.1 Direct Push Contractor

(To be identified – contractor will provide appendix to work plan which will include field procedures and calibration procedures for the on site Gas Chromatograph [GC])

5.1.2 Surveyor

(To be identified)

5.1.3 Analytical laboratory (assumed)

Continental Analytical Services, Inc. (CAS), 1804 Glendale Road, Salina Kansas 67401, has been selected to perform the off-site analytical testing for confirmation samples associated with direct push activities. All samples will be analyzed in accordance with procedures outlined in the "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (SW-846) Environmental Protection Agency [EPA], 1986).

5.1.4 Quality Assurance laboratory

The USACE Chemistry and Materials Quality Assurance Laboratory (Quality Assurance Lab) (USACE Missouri River Region Analytical Laboratory) will analyze confirmation samples associated with the direct push sampling activities.

6.0 Activities

6.1 Sewer Line Video Survey

Previous investigations of the sanitary sewers at the DCFA indicated that solvents most likely were introduced into the sanitary sewer system by past management practices. The sanitary sewer line has been in place since prior to 1980 and no records exist of past evaluations to determine structural integrity. It is assumed that the most likely places to look for contaminants, that may have inadvertently been introduced to the system, would be where breaks occur. A video survey will be completed along the sewer line from DCFA to east of building 319. This survey will be accomplished by the Operations and Maintenance Division of the Fort Riley Public Works (PW). Areas identified from the video survey will be evaluated for further screening to determine locations for soils and groundwater sampling. If the information from the video survey is inconclusive, then alternate plans will have to be evaluated for investigations in this area.

Work will be conducted using the industry standards for utility inspections. The equipment and personnel will be provided by PW. A copy of the videotape taken during the survey will be provided. Manhole identification and horizontal direction of the survey will be provided. The videotape will be marked in footage by the segments measured between each manhole. The camera operator will identify cracks, breaks or blockages on the videotape.

Health and safety requirements for the video survey will be guided by OSHA regulations. PW will be responsible for the safety aspects of this work. The video survey is being conducted as a standard operations and maintenance task for public utilities. The line to be inspected is a main sewer line and has significant daily flows. The line will be jetted with high pressure water prior to inserting the camera. Extremely low level contaminants that might be or have been present in the line, such as those from DCF, would be volatilized, diluted and flushed by both the daily operation of the line and the prework jetting. No exposure to contaminants from DCF is expected.

6.2 Direct Push Sampling

Samples of both soils and groundwater (if available) will be taken in the terrace area using direct push sample techniques. Samples will be analyzed for targeted volatile organic compounds (VOCs): perchloroethylene (PCE), trichloroethylene (TCE), 1,2-dichloroethylene and vinyl chloride (VC).

A sampling grid has been developed using the ELIPGRID software. This software provides a sampling location spacing with a 95% confidence limit for detections of contaminants in specified areal limits. ELIPGRID techniques have been used by both Louis Berger & Assoc. (LBA) and BMcD in previously approved work plans at Fort Riley for the Marshal Army Airfield site. ELIPGRID was designed by Oak Ridge National Laboratories, primarily for EPA. Further information regarding ELIPGRID software is available on the Oak Ridge National Laboratories web site. The grid proposed in this work plan has been identified as 95% confident that contaminants of concern with a spread of 30' in diameter will be detected. There exists a possibility that the location of utilities and roads may impact the ability to sample exact points along the proposed grid. If this occurs, and if it is deemed necessary to recalculate the confidence level of the sampling grid, that information will be provided in the report for the field screening results.

The diameter of 30' was selected by evaluating the previous information from soil gas and soil boring investigations conducted during the PA/SI and RI investigations. These investigations analyzed for PCE, TCE, DCE and VC as the primary contaminants of concern on this site. Results from these investigations are reported in the Draft Final RI, Chapter 3. Analytical data from these investigations indicated that the areal extent of significant contamination was approximately 100' in length and width. Based on this size range, a diameter of search in the 30' range was considered to be conservative by a factor of three. The screening will also take samples as close to the bedrock surface as is possible. Relatively narrow streams of contaminant released at the surface would flow downward to the bedrock and then spread along the bedrock surface. The 30' diameter radius proposed would intercept these lateral flows, which have been shown in the RI to exceed this radius. Similar circumstances are projected to have created the same flow patterns in the area adjacent to Well 25 and the same level of confidence is projected for the 30' diameter of detection proposed by the sampling grid.

Proposed sampling locations are presented on Fig 2. The primary areas of concern to be covered by the sampling grid are; 1. The area beneath the former structures 180/181, 2. The area upgradient of Well 25, 3. The area near manhole 366.

The direct push sampling system will obtain soil samples starting at 3' below ground surface and at 6' intervals thereafter until either bedrock or the water table is reached. If bedrock is encountered the last sample will be at and just above bedrock. If groundwater is reached a sample will be taken of the groundwater. It is anticipated that no sample depth will exceed 65'. It is also anticipated that some locations may be as shallow as a few feet. Best professional judgement will be used to collect appropriate samples where these and similar unique conditions may occur.

A field GC will be used to evaluate samples on site during the screening activities. Field duplicate and method blanks will be analyzed on-site at a rate of 10% of screening samples. Confirmation samples will be collected on a 10% frequency and sent to the contract laboratory. In addition, 10% of confirmation samples will be submitted to the QA Lab for VOC analyses.

Quality Control (QC) samples will also be submitted to the QA Lab. All sampling and analyses will be handled and analyzed according to the SAP.

6.3 Surveying

Direct push locations will be surveyed by a Licensed Surveyor to determine horizontal locations and ground surface topographic elevations. Surveying will be performed in accordance with procedures outlined in the SAP

6.4 Investigation Derived Waste (IDW)

IDW will be managed in accordance with the Investigation Derived Waste Management Plan, 1996a. The IDW plans are generated within the Basic Documents provided by both LBA and BMcD and are part of the documents referenced by the work plan. Previous arrangements concerning IDW management on Fort Riley have been submitted to both EPA and KDHE by letter and concurrence has been obtained. Fort Riley's National Pollutant Discharge /Elimination System (NPDES) permit requirements include the disposition of IDW consistent with the history of each individual site. Only those items specific to each site are described in the site specific requirements.

6.4.1.1 Site specific requirements are as follows:

Liquid IDW will consist of decontamination fluids and groundwater screening samples generated during sampling. The NPDES permit for Fort Riley allows for disposal of liquid IDW directly into the Fort Riley sanitary sewer via designated points. Manhole 363 has been the primary disposal location at DCFA, with manholes 344 and 345 as alternate locations. However, manhole 363 was plugged during the removal of buildings 180/181. Manhole 368, near the southeast corner of building 183, will replace manhole 363. The sewer connection at manhole 368 flows east along Custer Avenue. Field screening analyses will be used to determine if groundwater screening samples are in the same-range as those typically found during the periodic groundwater sampling events. If sample levels are similar they will be disposed in the sanitary sewer. If levels are above those typically found, then the samples will be drummed, aerated, reanalyzed with the field GC and disposed in the sanitary sewers once the appropriate levels have been reached, as is described in the Basic Plans.

Soils derived from the direct push sampling activities will be drummed. Two composite samples will be taken from each drum. Both samples will be packaged and shipped to the contract laboratory. One composite sample will be analyzed for VOCs (Method 8260). The VOC samples will be analyzed immediately. If no VOCs are detected in the first analysis, the soils will be used as daily cover for the construction debris landfill pending approval from Fort Riley and the Kansas Department of Health and Environment (KDHE).

If chlorinated organic compounds are detected in the first analysis, then the second composite sample will be analyzed by Toxic Characteristic Leaching Procedure (TCLP) analysis consisting of volatile, semi-volatile and metals. Based on the results of these analyses, a disposal method will be proposed for approval.

Personal protective equipment and miscellaneous trash will be disposed of at a designated dumpster at Camp Funston.

No IDW is expected to be generated by the sewer line video survey. Water flushing, down the line to the main water treatment plant, with a jet truck is required prior to running the camera in the line segments.

7.0 References

Burns & McDonnell Engineering, Inc., 1998a, Draft Final (Revised) Sampling and Analysis Plan for Environmental Investigations at Fort Riley, Kansas, Volumes I and II, September 1998

Burns & McDonnell Engineering, Inc., 1998b, Draft Final (Revised) Site Safety and Health Plan for Environmental Investigations, Fort Riley, Kansas, September 1998

Burns and McDonnell Engineering Company, Inc., 1998c, Site Wide Quality Control Plan for Environmental Studies and Investigations at Fort Riley, Kansas, February 1998

Burns & McDonnell Engineering Company, Inc., 1996, Working Draft Investigative Derived Waste Management Plan for Environmental Investigations at Fort Riley, Kansas

Louis Berger & Associates, Inc., Draft Final Remedial Investigation Report Dry Cleaning Facilities Area, Fort Riley Kansas, 1995

Louis Berger & Associates, Inc., Draft Final Remedial Investigation Addendum Monitoring Expansion Report Dry Cleaning Facilities Study Area, Fort Riley, Kansas, 1998

LIST OF ACRONYMS AND ABBREVIATIONS

BMcD	Burns & McDonnell Engineering, Inc.
CAS	Continental Analytical Services, Contract Laboratory
DCFA	Dry Cleaning Facilities Area
ELIPGRID	Sampling grid design software
EPA	Environmental Protection Agency
FSP	Field Sampling Plan
IDW	Investigation Derived Waste
IDWMP	Investigation Derived Waste Management Plan
IRP	Installation Restoration Program

KCD	Kansas City District
KDHE	Kansas Department of Health and Environment
LBA	Louis Berger & Assc.
MRR	Missouri River Region
NPDES	National Pollutant Discharge Elimination System
PCE	Perchloroethylene
PW	Directorate of Public Works
QA	Quality Assurance
QA Lab	Quality Assurance Laboratory, USACE MRR Analytical Laboratory
QAPP	Quality Assurance Project Plan
QCP	Quality Control Plan
SAP	Sample and Analysis Plan
SSHP	Site Safety and Health Plan
TCE	trichloroethylene
TCLP	Toxic Characteristic Leaching Procedure
USACE	United States Army Corp of Engineers
USEPA	United States Environmental Protection Agency
VC	Vinyl chloride
VOC	Volatile organic compound
1,2-DCE	1,2-Dichloroethylene

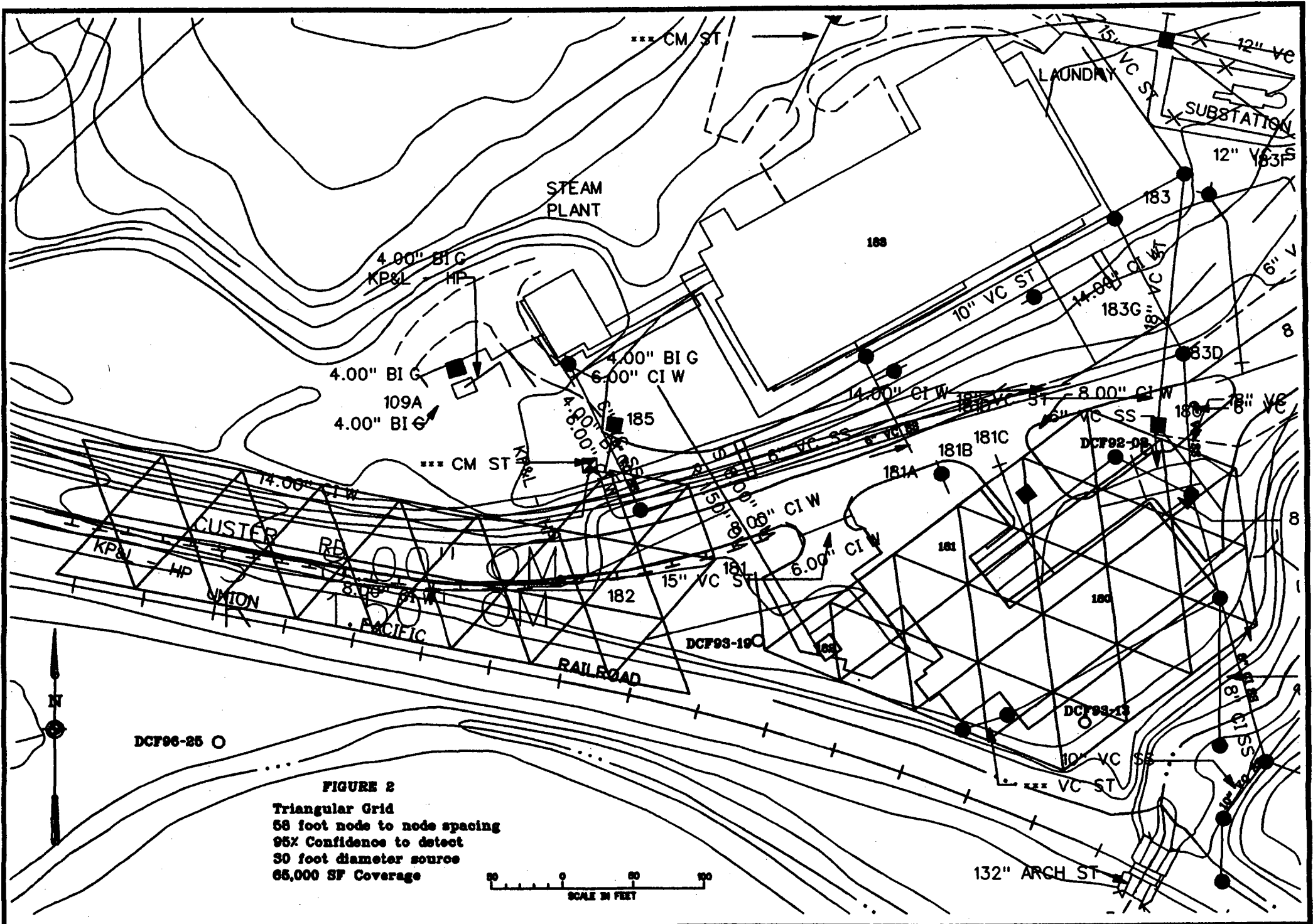


FIGURE 2

Triangular Grid
 58 foot node to node spacing
 95% Confidence to detect
 30 foot diameter source
 65,000 SF Coverage



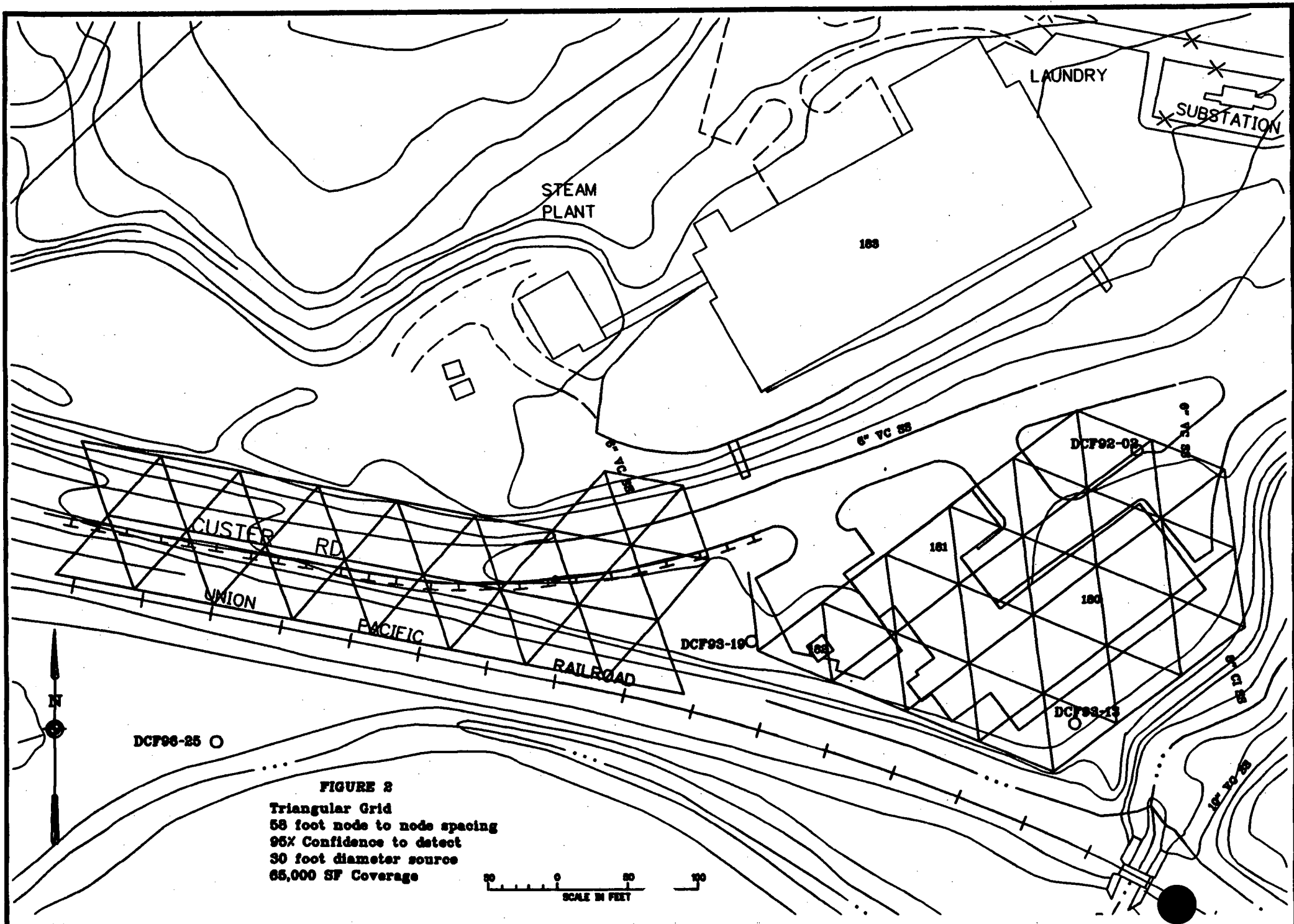


FIGURE 2
Triangular Grid
58 foot node to node spacing
96% Confidence to detect
30 foot diameter source
65,000 SF Coverage

0 50 100
 SCALE IN FEET

FILE SUMMARY BY SITE

22-Aug-00

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft	Vol I-Work Plan, Vol II-Monitoring Well Installation Plan, Vol III-site Safety & Health Plan, Vol IV-Chemical Data Acquisition Plan	09/01/1991	
DCF	Draft Final	Vol I-Work Plan, Vol II-Monitoring Well Installation Plan, Vol III-Site Safety & Health Plan, Vol IV-Chemical Data Acquisition Plan	12/01/1991	
DCF	Draft Final	Chemical Data Acquisition Plan and Site Specific Sampling Plan for PA/SI	01/01/1992	
DCF	Draft	Modified Chemical Data Acquisition Plan and Site Specific Sampling Plan for PA/SI	05/15/1992	
DCF	Draft	Modified Site Safety and Health Plan for PA/SI	05/15/1992	
DCF	Draft	Modified Well Installation Plan for PA/SI	05/15/1992	

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft	Modified Work Plan for PA/SI		05/15/1992
DCF	Draft Final	Modified Work Plans - Vo I - IV		09/01/1992
DCF	QCSR	PA/SI Quality Control Summary Report		09/03/1992
DCF	Working Draft	Preliminary Assessment/Site Investigatin Report		09/15/1992
DCF	QCSR	PA/SI Quality Control Summary Report-First Quarter Groundwater Sampling Event		01/01/1993
DCF	QCSR	PA/SI Quality Control Summary Report - Second Quarter Groundwater Sampling Event		04/01/1993
DCF	Draft	Remedial Investigation/Feasibility Study Planning Documents - Vol I Work Plan Appendices		04/12/1993

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft	RI/FS Planning Documents - Vol I, Work Plan		04/12/1993
DCF	Draft	Vol II - Sampling and Analysis Plan		04/12/1993
DCF	Draft	Vol III-Addendum to Site Safety and Health Plan		04/12/1993
DCF	QCSR	RI/FS Quality Control Summary Report Supplemental Initial Field Investigation		05/06/1993
DCF	Draft Final	RI/FS Planning Documents - Vol I		07/01/1993
DCF	Draft Final	Vol II - Sampling and Analysis Plan		07/01/1993
DCF	QCSR	PVSI Quality Control Summary Report - Third Quarter GW Sampling Event		07/01/1993

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft Final	Sampling & Analysis Plan	10/28/1993	11/01/1993
DCF	QCSR	RI/FS Quality Control Summary Report for DCF	01/06/1994	01/10/1994
DCF	QCSR	RI/FS Quality Control Summary Report - Analytical Data Reported for Soil Borings and Surface Soil Samples at DCF	01/13/1994	01/19/1994
DCF	Technical Mem	Assumptions and Methodology for Baseline Risk Assessment	02/16/1994	02/17/1994
DCF	QCSR	RI/FS Baseline Quality Control Summary Report - Analytical Data for Soil Borings, Surface Soils, Soils from Monitoring Wells Installation, Sediment and Surface Water Groundwater	04/12/1994	04/13/1994
DCF	QCSR	RI/FS First Quarterly Quality Control Summary Report - Analytical Data Reported for Groundwater from Monitoring Wells	04/22/1994	04/22/1994
DCF	Working Draft	Appendices for Work Draft, Volume II	05/06/1994	05/06/1994

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Working Draft	Remedial Investigation Report, Volume I	05/06/1994	05/06/1994
DCF	Draft	Final Report Environmental Source Control and Removal Actions (DCF Sewer Line Repair)	06/27/1994	06/28/1994
DCF	QCSR	RI/FS 2nd Quarterly Quality Control Summary Report, at DCF Analytical Data reported for GW from Monitoring Wells	07/22/1994	07/22/1994
DCF	Final	Report for the Rapid Response Replacement of Sanitary Sewer Line Building 180-183	09/08/1994	09/08/1994
DCF	Draft	Updated draft of RI Report	09/26/1994	09/27/1994
DCF	QCSR	RI/FS Third Quarterly Quality Control Summary Report - Analytical Data Report for Groundwater from Monitoring Wells	10/20/1994	10/21/1994
DCF	Draft	Remedial Investigation Report	11/14/1994	11/16/1994

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft	Remedial Investigation Appendices, Volume II	11/15/1994	11/16/1994
DCF	QCSR	RI/FS Fourth Quarter Quality Control Summary Report, Analytical Data reported for GW from Monitoring Wells	02/21/1995	02/22/1995
DCF	QCSR	RI/FS Quality Control Summary Report - Analytical Data Surface Water and Sediment Sampling	02/23/1995	02/24/1995
DCF	Draft Final	Army Review Draft - DCF Draft Final RI Chapters 1,2, and 5	03/09/1995	
DCF	Draft Final	Army Review Copy - Draft Final Remedial Investigation Report (Chapters 1-6)	03/16/1995	
DCF	Draft Final	DCF Draft Final RI and replacement appendices Vol I	03/29/1995	03/30/1995
DCF	Draft Final	DCF Draft Final RI and replacement Appendices, Vol II	03/29/1995	03/30/1995

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft Final	Remedial Investigation Report replacement pages	04/05/1995	04/06/1995
DCF	Draft	Feasibility Study DCF	04/18/1995	04/19/1995
DCF	QCSR	RI/FS Quality Control Summary Report Groundwater Monitoring High Groundwater Sampling & Quarterly GW sampling - Analytical Data reported for Groundwater from Monitoring Wells	08/18/1995	08/19/1995
DCF	QCSR	RI/FS Quality Control Summary Report High Groundwater Sampling	10/10/1995	10/17/1995
DCF	QCSR	RI/FS Quarterly Groundwater Monitoring DCF - Analytical Data reported for Groundwater from Monitoring Wells	12/11/1995	12/13/1995
DCF	Draft	Compendium of Comparative Data Summary Reports for Post Remedial Investigation GW Sampling at DCF	01/05/1996	01/08/1996
DCF	Final	Appendix A Drilling and Access Method Evaluation DCF	01/31/1996	02/01/1996

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Working Draft	Work Plan for Additional Characterization of the Island, Supplemental Remedial Investigation	01/31/1996	02/01/1996
DCF	Draft	Work Plan, Expanded Monitoring/Island Characterization	02/21/1996	02/22/1996
DCF	DSR	Data Summary Report for DCF	02/21/1996	02/22/1996
DCF	Final	Work Plan, Expanded Monitoring Network including Additional Characterization of the Island	05/06/1996	05/07/1996
DCF	QCSR	Periodic Groundwater Monitoring - Analytical Data reported for Groundwater from Monitoring Wells and Groundwater Screening Confirmation Samples	07/15/1996	07/18/1996
DCF	Draft	Data Summary Report Post Remedial Investigation Groundwater Sampling Section 5: 23-24 Oct 95 Sampling Event	07/18/1996	07/19/1996
DCF	Draft	Data Summary Report for Post RI Groundwater Sampling at DCF Section 6: 9 May to 14 Jun 96 Groundwater Screening and Periodic Sampling	08/08/1996	08/09/1996

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	DSR	Data Summary Reports for Groundwater Sampling, Sections 5 and 6	10/08/1996	10/08/1996
DCF	QCSR	RI/FS Quality Control Summary Report Periodic Groundwater Monitoring - Analytical Data Reported for Groundwater from Monitoring Wells	12/04/1996	12/05/1996
DCF	Draft	Data Summary Report for Groundwater Sampling, Section 7: 11 Oct to 18 Oct 96 Periodic Sampling	12/31/1996	01/02/1997
DCF	Working Draft	Revised Feasibility Study Report	01/14/1997	01/15/1997
DCF	QCSR	RI/FS Periodic Groundwater Monitoring Analytical Data reported for gw from monitoring wells	04/11/1997	04/15/1997
DCF	Final	Groundwater and Temperature Report	04/18/1997	04/21/1997
DCF	Draft	Data Summary Report for Groundwater Sampling at DCF Section 8: 20 to 24 Feb 97 Periodic Sampling 27 Mar 97 Groundwater Elevation	05/07/1997	05/08/1997

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft	2nd Working Draft Rvised FS	05/08/1997	05/09/1997
DCF	Working Draft	Monitoring Expansion Report & RI Addendum	05/19/1997	05/20/1997
DCF	QCSR	Quality Control Summary Report RI/FS Periodic Groundwater Monitoring Analytical Data Reported for Groundwater Monitoring Wells Collected May 1997	07/02/1997	07/07/1997
DCF	Draft	Remedial Investigation Addendum Monitoring Expansion Report DCF	07/11/1997	07/14/1997
DCF	Rev Draft	Feasibility Study DCF	07/11/1997	07/14/1997
DCF	Draft	Data Summary Report for Groundwater Sampling at the DCF Section 9: 5 to 10 May 1997 Periodic Sampling 15, 17, April and 12 June 1997 Groundwater Elevations	07/30/1997	08/01/1997
DCF	QCSR	RI/FS Periodic Groundwater Monitoring Analytical Data reported for Groundwater from Monitoring Wells collected September 1997	11/10/1997	11/11/1997

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	DSR	Data Summary Report for Grounwater Sampling at the DCFA Section 10 September 1997 Periodic Sampling, including Groundwater Evaluations 1 Jul and 26 Aug 97 Groundwater Elevations	12/12/1997	12/13/1997
DCF	QCSR	RI/FS Periodic Groundwater Monitoring DCF Analytical Data reported for Groundwater from Monitoring wells collected December 1997	02/09/1998	02/10/1998
DCF	Draft	Data Summary Report for Groundwater Sampling at the DCF Section 11: 3 to 9 Dec 1997 Periodic Sampling, including Groundwater Elevations 14-15 October and 17-18 November 1997 Groundwater Elevations	03/06/1998	03/09/1998
DCF	Draft Final	Remedial Investigation Addendum Monitoring Expansion Report DCFA	03/24/1998	03/27/1998
DCF	Draft Final	Revised Feasibility Study for DCF	03/24/1998	03/27/1998
DCF	QCSR	Quality Control Summary Report Periodic Groundwater Monitoring Analytical Data Reported for Groundwater from Monitoring wells collected March 1998	05/20/1998	06/10/1998
DCF	Working Draft	Proposed Plan DCF	06/05/1998	06/06/1998

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft	Data Summary Report for Groundwater Sampling at DCF Section 12: 16 to 21 May 1998 Periodic Sampling including GW Elevations 20 Jan and 16-17 Feb 98 GW Elevations	06/11/1998	06/12/1998
DCF	Draft	Proposed Plan	08/06/1998	08/07/1998
DCF	QCSR	RI/FS Quality Control Summary Report Periodic GW Monitoring June 1998 Analytical Data reported for GW from Monitoring Wells	08/06/1998	08/07/1998
DCF	Draft	Data Summary Report for Groundwater Sampling at the DCF Section 13 1 to 6 Jun 98 Periodic Sampling, including GW Elevations, 22 April, 17 May, 1-2 June and 1-2 July 98 Groundwater Elevations	08/28/1998	08/29/1998
DCF	QCSR	RI/FS Quality Control Summary Report October 1998 Groundwater Sampling Event at DCF	12/08/1998	12/09/1998
DCF	Draft Final	Proposed Plan	12/18/1998	12/19/1998
DCF	DSR	Data Summary Reports for October 1998	02/08/1999	02/09/1999

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	Draft	Proposed Plan Dispute Resolution	02/10/1999	
DCF	QCSR	Quality Control Summary Report May 1999 Groundwater Sampling Event	07/01/1999	07/02/1999
DCF	QCSR	Quality Control Summary Report July 1999 USGS River Sampling Event	09/09/1999	09/10/1999
DCF	DSR	Data Summary Report for May 1999	09/24/1999	09/25/1999
DCF	QCSR	Quality Control Summary Report August/September 1999 Groundwater Sampling Event at DCF	10/27/1999	10/28/1999
DCF	DSR	Data Summary Report	11/09/1999	11/10/1999
DCF	DSR	Data Summary Report for Aug/Sep 99 GW sampling event	12/21/1999	12/22/1999

<u>SITE</u>	<u>STATUS</u>	<u>TITLE</u>	<u>DOCUMENT DATE</u>	<u>DATE RECEIVED</u>
DCF	QCSR	Quality Control Technical Memorandum February 2000 Groundwater Sampling Event	04/20/2000	04/21/2000
DCF	QCSR	Quality Control Summary Report Technical Memorandum March 2000 USGS River Sampling Event DCF	05/12/2000	05/13/2000
DCF	DSR	Data Summary Report Report for February 2000	06/22/2000	06/23/2000

APPENDIX B
EPS ANALYTICAL DATA TABLES

Notes for Appendix B

1. Field screening samples from Location DCF-101 (collected on November 2, 2000) were incorrectly labeled as DCF-101B. Samples affected were DCF-101 3-7', DCF-101 3-7' Duplicate, and DCF-101 13-16'.
2. Samples from Location DCF-102B are listed twice for November 2, 2000. The samples for the first occurrence of DCF-102B (depth intervals 3-7', 7-11', 11-14', and 14.8') should have been labeled DCF-102. The correct sample depth for Sample DCF-102 SS4 is 14-15
3. Field screening Samples DCFB-113F 37.4-38.9' H2O and its field duplicate (collected on December 4, 2000) were incorrectly labeled as DCFB-114AW2 37.4-38.9' H2O and DCFB-114AW2 37.4-38.9' H2O Duplicate.
4. The missing location for the 11/13 9:39:15a – DCFB 27-28' soil chromatograph should be 102.
5. Results for the screening were recalculated when it was determined that EPS had used a linear regression equation with the intercept forced through the origin (0,0 point on a graph of concentration versus peak area). Although, this is very similar to the method presented in EPS' Statement of Procedures (SOP), in which the percent relative standard deviation (%RSD) is calculated based upon the assumption that the line of best fit passes through the origin, it was decided to recalculate the numbers using the exact method presented in the SOP. The recalculated numbers are presented in the table following this page. For further details, please see the *Quality Control Summary Report – Field Screening Samples, Potential Source Area Investigation, Dry Cleaning Facilities Area* (BMcD, 2002b).

**Recalculation of Field Screening Values
Dry Cleaning Facilities Area
Fort Riley, Kansas**

Boring	Depth	Date	Media	Reported PCE	PCE Recalc	Reported TCE	TCE Recalc	Reported DCE	DCE Recalc
DCFB1		10/10/00		Dry					
DCFB2	12-14	10/10/00	Groundwater	1U	1U	1U	1U	1U	1U
DCFB3	8-10	10/10/00	Groundwater	0.6J	0.3J	1U	1U	1U	1U
DCFB4	9-11	10/10/00	Groundwater	0.6J	0.5J	0.1J	0.1J	1U	1U
DCFB5	17.5-19.5	10/10/00	Groundwater	1.3	1.1	0.5J	0.5J	1.9	1.2
DCFB5Dup	17.5-19.5	10/10/00	Groundwater	1.0	0.9J	0.4J	0.4J	1.4	1.2
DCFB6	16.5-18.5	10/10/00	Groundwater	1.6	NRC	0.4J	NRC	0.2J	NRC
DCFB1	14-16	10/11/00	Groundwater	0.2J	0.2J	1U	1U	0.7J	0.7J
DCFB1	22-24	10/11/00	Groundwater	1.1	0.9J	1U	1U	0.8J	0.7J
DCFB1	34-36	10/11/00	Groundwater	4.6	3.9	0.4J	3J	0.5J	4J
DCFB7	22-24	10/11/00	Groundwater	1U	1U	1U	1U	2.1	1.9
DCFB7	32-34	10/11/00	Groundwater	1U	1U	1U	1U	1.5	1.3
DCFB8	18-20	10/11/00	Groundwater	2.9	2.5	0.4J	0.4J	2.8	2.4
DCFB8	28-30	10/11/00	Groundwater	10.6	9.1	0.9J	0.8J	1.0	0.9J
DCFB8Dup	28-30	10/11/00	Groundwater	3.8	3.2	0.5J	0.5J	0.5J	0.4J
DCFB9	23-25	10/11/00	Groundwater	14.6	12.4	1.4	1.3	4.0	3.5
DCFB9	31-33	10/11/00	Groundwater	39.9J	34.3J	3.3	3.1	13.0	11.5
DCFB9	41-43	10/11/00	Groundwater	22.8J	19.6	1.4	1.3	5.6	4.9
DCFB10	20-22	10/12/00	Groundwater	0.7J	0.7J	0.1J	0.1J	13.2	11.7
DCFB10	31-33	10/12/00	Groundwater	5.9	5.7	0.9J	0.8J	4.0	3.5J
DCFB10	45-47	10/12/00	Groundwater	10.9	10.4	1.6	1.6	3.2	2.9
DCFB11	23-25	10/12/00	Groundwater	2.2	2.1	0.2J	0.2J	0.6J	0.6J
DCFB12	31-33	10/12/00	Groundwater	2U	2U	2U	2U	3.6	3.2
DCFB13	23-25	10/12/00	Groundwater	11.2	10.8	6.4	6.2	19.5	17.4
DCFB13	36-38	10/12/00	Groundwater	7.7	7.4	1.3	1.3	1.2	1.0
DCFB13Dup	36-38	10/12/00	Groundwater	8.9	8.6	1.3	1.2	1.0	0.9
DCFB14	19-21	10/13/00	Groundwater	26.3	25.2	2.0	1.9	3.0	2.7
DCFB14Dup	19-21	10/13/00	Groundwater	23.6J	22.7J	1.6	1.6	3.2	2.8
DCFB15	21.5-23.5	10/13/00	Groundwater	5.7	5.4	1.2	1.2	10.8	7.6
DCFB16	19-21	10/13/00	Groundwater	6.3	6.1	0.8J	0.8J	2.3	2.0
DCFB17	21-23	10/13/00	Groundwater	0.5J	0.5J	1U	1U	30.8	27.4
DCFB18	23-25	10/13/00	Groundwater	14.2	13.6	1.7	1.7	3.0	2.7
DCFB19		10/13/00		Dry					
DCFB17	32-34	10/16/00	Groundwater	3.3	3.4	0.6J	0.7J	1.9	2.1
DCFB20	61-63	10/16/00	Groundwater	1.0	1.0	4.4	5.1	4.6	5.0
DCFB20	81-83	10/16/00	Groundwater	3.0	3.0	0.7J	0.8J	2.5	2.8
DCFB21	30-34	10/17/00	Groundwater	1.8	2.2	0.3J	0.3J	0.4J	0.4J
DCFB21	42-46	10/17/00	Groundwater	0.9J	1.1	0.8J	1.0	2.1	2.6
DCFB22	32-36	10/17/00	Groundwater	0.4J	0.5J	0.2J	0.2J	0.2J	0.2J
DCFB22	45-49	10/17/00	Groundwater	2.0	2.5	3.4	4.0	3.0	3.7
DCFB23	30-34	10/17/00	Groundwater	1.7	2.1	0.2J	0.3J	0.2J	0.2J
DCFB23	42-46	10/17/00	Groundwater	2.3	2.8	1.3	1.5	0.6J	0.7J
DCFB24	32-36	10/17/00	Groundwater	4.2	5.0	0.3J	0.3J	2U	2U
DCFB24	42-46	10/17/00	Groundwater	0.9J	1.0	2U	2U	2U	2U
DCFB25	32-36	10/17/00	Groundwater	3.6	4.4	0.1J	0.2J	0.2J	0.2J

**Recalculation of Field Screening Values
Dry Cleaning Facilities Area
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Boring	Depth	Date	Media	Reported PCE	PCE Recalc	Reported TCE	TCE Recalc	Reported DCE	DCE Recalc
DCFB25	40.5-44.5	10/17/00	Groundwater	1.0	1.2	2U	2U	1.2	1.5
DCFB26	10-14	10/17/00	Soil	5U	5U	5U	5U	5U	5U
DCFB26	22-26	10/18/00	Groundwater	0.5J	0.6J	0.1J	0.1J	2U	2U
DCFB26	29-33	10/18/00	Groundwater	2.9	3.5	0.6J	0.7J	0.3J	0.4J
DCFB26	39-43	10/18/00	Groundwater	1.9	2.2	1.7	2.0	1.6	2.0
DCFB26Dup	29-33	10/18/00	Groundwater	3.0	3.7	0.6J	0.7J	0.3J	0.4J
DCFB27	10-14	10/18/00	Soil	2U	2U	2U	2U	2U	2U
DCFB27	34-38	10/18/00	Groundwater	2U	2U	0.5J	0.6J	1.3	1.7
DCFB28	10-14	10/18/00	Soil	2U	2U	2U	2U	2U	2U
DCFB28	38-42	10/18/00	Groundwater	2U	2U	1.8	2.2	6.0	7.4
DCFB29	10-14	10/18/00	Soil	2U	2U	2U	2U	2U	2U
DCFB29	24-28	10/18/00	Groundwater	0.2J	0.2J	2U	2U	0.1J	0.1J
DCFB29	36-40	10/18/00	Groundwater	6.2	7.4	2.2	2.6	1.0	1.2
DCFB30	10-14	10/18/00	Soil	2U	2U	2U	2U	2U	2U
DCFB30	23-27	10/18/00	Groundwater	0.5J	0.7J	0.2J	0.2J	0.2J	0.3J
DCFB30	32-36	10/18/00	Groundwater	5.4	6.5	1.1	1.3	0.5J	0.6J
DCFB30	40-44	10/18/00	Groundwater	4.0	4.8	1.4	1.6	0.6J	0.7J
DCFB31	10-14	10/19/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB31	24-28	10/19/00	Groundwater	0.7J	0.8J	0.2J	0.3J	0.1J	0.2J
DCFB31	31-35	10/19/00	Groundwater	4.1J	4.9J	1.0J	1.2J	0.4J	0.5J
DCFB31	39-43	10/19/00	Groundwater	3.4J	4.1J	2.2J	2.6J	1.6J	1.9J
DCFB32	10-14	10/19/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB32	23-27	10/19/00	Groundwater	0.4J	0.5J	0.2J	0.3J	0.7J	0.8J
DCFB32	31-35	10/19/00	Groundwater	5.0	6.0	0.4J	0.5J	0.5J	0.6J
DCFB32	39-43	10/19/00	Groundwater	6.0	7.2	0.9J	1.1	0.9J	1.1
DCFB33	10-14	10/19/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB33	21-24	10/19/00	Groundwater	0.2J	0.3J	0.3J	0.4J	0.9J	1.1J
DCFB33	29-33	10/19/00	Groundwater	4.8J	5.7J	0.5J	0.6J	2UJ	2UJ
DCFB33	38-42	10/19/00	Groundwater	4.8J	5.8J	0.5J	0.5J	0.2J	0.3J
DCFB33Dup	10-14	10/19/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB33Dup	38-42	10/19/00	Groundwater	3.8J	4.5J	0.3J	0.4J	0.2J	0.2J
DCFB34	10-14	10/19/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB34	30-34	10/20/00	Groundwater	10.0	11.9	2.2	2.6	0.7J	0.9J
DCFB34	37-41	10/20/00	Groundwater	5.1	6.1	5.0	5.9	3.1	3.8
DCFB35	10-14	10/20/00	Soil	2U	2U	2U	2U	2U	2U
DCFB35	19-22	10/20/00	Groundwater	1.1	1.4	0.3J	0.4J	1.7	2.1
DCFB35	27-31	10/20/00	Groundwater	9.7	11.7	0.7J	0.9J	0.1J	0.2J
DCFB35	37-41	10/20/00	Groundwater	3.1	3.7	0.5J	0.6J	0.5J	0.6J
DCFB35Dup	37-41	10/20/00	Groundwater	3.7	4.4	0.6J	0.7J	0.6J	0.7J
DCFB36	10-14	10/20/00	Soil	2U	2U	2U	2U	2U	2U
DCFB36	19-23	10/20/00	Groundwater	4.0	4.8	0.4J	0.5J	0.8J	1.0
DCFB36	29-32	10/20/00	Groundwater	10.4	12.5	0.7J	0.8J	2U	2U
DCFB36	37-41	10/20/00	Groundwater	2U	2U	0.5J	0.6J	8.7	10.6
DCFB37	10-14	10/20/00	Soil	2U	2U	2U	2U	2U	2U

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Boring	Depth	Date	Media	Reported PCE	PCE Recalc	Reported TCE	TCE Recalc	Reported DCE	DCE Recalc
DCFB37	21-25	10/23/00	Groundwater	10.0	12.0	0.6J	0.7J	0.7J	0.9J
DCFB37	28-32	10/23/00	Groundwater	10.9	13.0	1.1	1.3	2.5	3.0
DCFB37	36-40	10/23/00	Groundwater	7.0	8.5	1.5	1.8	17.3	21.2
DCFB38	10-14	10/23/00	Soil	2U	2U	2U	2U	2U	2U
DCFB38	20-24	10/23/00	Groundwater	4.5	5.4	0.4J	0.4J	2U	2U
DCFB38	27-31	10/23/00	Groundwater	5.5	6.6	0.7J	0.8J	0.4J	0.6J
DCFB38	37.5-41.5	10/23/00	Groundwater	1.0	1.2	0.4J	0.4J	1.0	1.2
DCFB39	10-14	10/24/00	Soil	2U	2U	2U	2U	2U	2U
DCFB39	20-24	10/24/00	Groundwater	4.0	4.6	0.4J	0.4J	2U	2U
DCFB39	28-32	10/24/00	Groundwater	5.6	6.3	0.8J	1.0J	0.3J	0.3J
DCFB39	36-40	10/24/00	Groundwater	5.5	6.3	8.9	10.4	7.6	8.6
DCFB39Dup	28-32	10/24/00	Groundwater	7.3	8.3	0.9J	1.1J	0.3J	0.4J
DCFB40	10-14	10/24/00	Soil	2U	2U	2U	2U	2U	2U
DCFB40	28-32	10/24/00	Groundwater	7.7	8.8	0.6J	0.7J	2U	2U
DCFB40	37-41	10/24/00	Groundwater	8.9	10.1	1.1	1.3	0.9J	1.0J
DCFB40Dup	10-14	10/24/00	Soil	2U	2U	2U	2U	2U	2U
DCFB41	10-14	10/25/00	Soil	2U	2U	2U	2U	2U	2U
DCFB41	28-32	10/25/00	Groundwater	5.9	6.7	0.6J	0.7J	2U	2U
DCFB41	39-43	10/25/00	Groundwater	8.1	9.2	1.9	2.2	0.6J	0.7J
DCFB42	10-14	10/25/00	Soil	2U	2U	2U	2U	2U	2U
DCFB42	22-26	10/25/00	Groundwater	4.2	4.7	0.5J	0.6J	2U	2U
DCFB42	29-33	10/25/00	Groundwater	8.5	9.7	1.0	1.2	0.1J	0.1J
DCFB42	39-43	10/25/00	Groundwater	2.4	2.7	3.0	3.6	2.6	3.0
DCFB42Dup	39-43	10/25/00	Groundwater	1.8	2.1	3.0	3.6	2.9	3.3
DCFB43	22	10/25/00	Dry	Dry					
DCFB44	21.5	10/25/00	Dry	Dry					
DCFB114	3-4	11/07/00	Soil	0.3J	0.4J	2UJ	2UJ	2UJ	2UJ
DCFB114	9-10	11/07/00	Soil	2.1J	1.9J	2UJ	2UJ	2UJ	2UJ
DCFB114	9-10	11/07/00	Soil	1.9J	1.7J	2UJ	2UJ	2UJ	2UJ
DCFB114	15-16	11/07/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB114	21-22	11/07/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB114	27-28	11/07/00	Soil	1.4J	1.8J	2UJ	2UJ	2UJ	2UJ
DCFB114	33-34	11/07/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB114	36-38	11/07/00	Groundwater	2.1J	1.8J	2UJ	2UJ	2UJ	2UJ
DCFB115	3-4	11/08/00	Soil	19.6	19.7	2U	2U	2U	2U
DCFB115	9-10	11/08/00	Soil	2.7	2.7	1U	1U	1U	1U
DCFB115	9-10	11/08/00	Soil	2.1	2.1	1U	1U	1U	1U
DCFB115	15-16	11/08/00	Soil	2U	2U	2U	2U	2U	2U
DCFB115	21-22	11/08/00	Soil	2U	2U	2U	2U	2U	2U
DCFB115	27-28	11/08/00	Soil	0.9J	0.9J	2U	2U	2U	2U
DCFB115	32-33	11/08/00	Soil	1.5	1.5	2U	2U	2U	2U
DCFB115	37-39	11/08/00	Groundwater	103J	104J	2U	2U	2U	2U
DCFB116	3-4	11/08/00	Soil	5.5	5.6	2U	2U	2U	2U
DCFB116	9-10	11/08/00	Soil	50.9J	51.1J	2U	2U	2U	2U
DCFB116	15-16	11/08/00	Soil	1.0	1.0	2U	2U	2U	2U
DCFB116	21-22	11/08/00	Soil	3.8	3.8	2U	2U	2U	2U

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Boring	Depth	Date	Media	Reported PCE	PCE Recalc	Reported TCE	TCE Recalc	Reported DCE	DCE Recalc
DCFB116	27-28	11/09/00	Soil	4.2	5.1	2U	2U	2U	2U
DCFB116	32-33	11/09/00	Soil	2.8	3.4	2U	2U	2U	2U
DCFB116	40.3-42.3	11/09/00	Groundwater	25.0	30.4	2U	2U	2U	2U
DCFB117	3-4	11/09/00	Soil	5.3	6.4	2U	2U	2U	2U
DCFB117	9-10	11/09/00	Soil	25.2	30.7	2U	2U	2U	2U
DCFB117	15-16	11/09/00	Soil	4.0	4.9	2U	2U	2U	2U
DCFB117	15-16	11/09/00	Soil	3.5	4.3	2U	2U	2U	2U
DCFB117	21-22	11/09/00	Soil	3.2	3.9	2U	2U	2U	2U
DCFB117	27-28	11/09/00	Soil	2U	2U	2U	2U	2U	2U
DCFB117	33-34	11/10/00	Soil	2U	2U	2U	2U	2U	2U
DCFB117	41.6-43.6	11/10/00	Groundwater	10.4	9.0	2U	2U	2U	2U
DCFB120	3-4	11/10/00	Soil	10.2	8.8	2U	2U	2U	2U
DCFB120	9-10	11/10/00	Soil	0.8J	0.7J	2U	2U	2U	2U
DCFB120	9-10	11/10/00	Soil	0.4J	0.3J	2U	2U	2U	2U
DCFB120	15-16	11/10/00	Soil	0.7J	0.6J	2U	2U	2U	2U
DCFB121	3-4	11/10/00	Soil	5.2	4.5	2U	2U	2U	2U
DCFB121	9-10	11/10/00	Soil	4.6	3.9	2U	2U	2U	2U
DCFB121	9-10	11/10/00	Soil	5.6	4.9	2U	2U	2U	2U
DCFB121	15-16	11/10/00	Soil	6.7	5.8	2U	2U	2U	2U
DCFB121	21-22	11/10/00	Soil	2U	2U	2U	2U	2U	2U
DCFB121	27-28	11/10/00	Soil	2U	2U	2U	2U	2U	2U
DCFB121	33-34	11/10/00	Soil	2U	2U	2U	2U	2U	2U
DCFB121	37-39	11/10/00	Groundwater	26.5	22.8	6.6	6.5	28.5	29.4
DCFB115A	3-4	11/13/00	Soil	1.3	1.1	2U	2U	2U	2U
DCFB115A	9-10	11/13/00	Soil	0.8J	0.7J	2U	2U	2U	2U
DCFB115A	15-16	11/13/00	Soil	1.2	1.0	2U	2U	2U	2U
DCFB115A	21-22	11/13/00	Soil	0.3J	0.3J	2U	2U	2U	2U
DCFB115A	27-28	11/13/00	Soil	1.0	0.9	2U	2U	2U	2U
DCFB115A	33-34	11/13/00	Soil	0.2J	0.2J	2U	2U	2U	2U
DCFB115A	33-34	11/13/00	Soil	0.1J	0.1J	2U	2U	2U	2U
DCFB119	3-4	11/13/00	Soil	31.2	26.9	2U	2U	2U	2U
DCFB119	9-10	11/13/00	Soil	2U	2U	2U	2U	2U	2U
DCFB120	21-22	11/13/00	Soil	3.0	2.6	2U	2U	2U	2U
DCFB120	27-28	11/13/00	Soil	2U	2U	2U	2U	2U	2U
DCFB120	33-34	11/13/00	Soil	2U	2U	2U	2U	2U	2U
DCFB120	40-42	11/13/00	Groundwater	20.4	17.6	5.1	5.0	6.9	7.1
DCFB118	3-4	11/14/00	Soil	0.2J	0.6J	2U	2U	2U	2U
DCFB118	9-10	11/14/00	Soil	2U	2U	2U	2U	2U	2U
DCFB118	15-16	11/14/00	Soil	2U	2U	2U	2U	2U	2U
DCFB118	21-22	11/14/00	Soil	2U	2U	2U	2U	2U	2U
DCFB118	27-28	11/14/00	Soil	2U	2U	2U	2U	2U	2U
DCFB118	27-28	11/14/00	Soil	2U	2U	2U	2U	2U	2U
DCFB119	15-16	11/14/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB119	15-16	11/14/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB119	21-22	11/14/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ

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Boring	Depth	Date	Media	Reported PCE	PCE Recalc	Reported TCE	TCE Recalc	Reported DCE	DCE Recalc
DCFB119	27-28	11/14/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB119	33-34	11/14/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB119	38-39	11/14/00	Soil	1.1	3.2	2UJ	2UJ	2UJ	2UJ
DCFB119	43-45	11/14/00	Groundwater	21.5J	60.7J	8.5	28.9	2U	2U
DCFB118	33-34	11/15/00	Soil	2U	2U	2U	2U	2U	2U
DCFB118	38-39	11/15/00	Soil	0.1J	0.1J	2U	2U	2U	2U
DCFB118	43-45	11/15/00	Groundwater	3.3	3.1	1.0	0.9J	1.0	0.9J
DCFB123	3-4	11/16/00	Soil	0.2J	0.2J	2U	2U	2U	2U
DCFB123	9-10	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB123	15-16	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB123	21-22	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB123	21-22	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB123	27-28	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB123	33-34	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB123	43-45	11/16/00	Groundwater	26.8	20.1	141	132	31.2	23.4
DCFB124	3-4	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB124	9-10	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB124	15-16	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB124	21-22	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB124	27-28	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB124	32-33	11/17/00	Soil	0.2J	0.2J	2U	2U	2U	2U
DCFB124	36-37	11/17/00	Soil	57.1J	48.9J	2U	2U	2U	2U
DCFB124	37-38	11/17/00	Groundwater	16.3	14.0	2.7	2.8	6.4	6.4
DCFB125	3-4	11/17/00	Soil	0.3J	0.3J	2U	2U	2U	2U
DCFB125	9-10	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB125	15-16	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB125	15-16	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB125	21-22	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB125	27-28	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB125	33-34	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB126	3-4	11/17/00	Soil	0.1J	0.1J	2U	2U	2U	2U
DCFB126	9-10	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB126	15-16	11/17/00	Soil	2U	2U	2U	2U	2U	2U
DCFB122	3-4	11/20/00	Soil	0.2J	0.2J	2U	2U	2U	2U
DCFB122	9-10	11/20/00	Soil	0.3J	0.3J	2U	2U	2U	2U
DCFB122	15-16	11/20/00	Soil	2.8	2.6	1U	1U	1U	1U
DCFB122	21-22	11/20/00	Soil	2U	2U	2U	2U	2U	2U
DCFB122	27-28	11/20/00	Soil	2U	2U	2U	2U	2U	2U
DCFB122	33-34	11/20/00	Soil	3.1	2.7	2U	2U	2U	2U
DCFB122*	39-40	11/20/00	Soil	2.9	2.4	2U	2U	2U	2U
DCFB122*	39-40	11/20/00	Soil	3.2	2.8	2U	2U	2U	2U
DCFB126	21-22	11/20/00	Soil	2U	2U	2U	2U	2U	2U
DCFB126	21-22	11/20/00	Soil	2U	2U	2U	2U	2U	2U
DCFB126	27-28	11/20/00	Soil	2U	2U	2U	2U	2U	2U
DCFB126	31-32	11/20/00	Soil	2U	2U	2U	2U	2U	2U

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Boring	Depth	Date	Media	Reported PCE	PCE Recalc	Reported TCE	TCE Recalc	Reported DCE	DCE Recalc
DCFB122	38.5-40.5	11/21/00	Groundwater	10.9	9.4	5U	5U	5U	5U
DCFB113F	9-10	11/22/00	Soil	4.5	3.9	2U	2U	2U	2U
DCFB113F	15-16	11/22/00	Soil	0.4J	0.3J	2U	2U	2U	2U
DCFB113F	21-22	11/22/00	Soil	1U	1U	1U	1U	1U	1U
DCFB113F	27-28	11/22/00	Soil	1.1	1.0	2U	2U	2U	2U
DCFB113F	33-34	11/22/00	Soil	0.4J	0.3J	2U	2U	2U	2U
DCFB113F	37-38	11/22/00	Soil	0.3J	0.2J	2U	2U	2U	2U
DCFB114A	3-4	11/29/00	Soil	29.2	25.0	2U	2U	2U	2U
DCFB114A	9-10	11/29/00	Soil	24.9	21.4	2U	2U	2U	2U
DCFB114A	9-10	11/29/00	Soil	25.1	21.6	2U	2U	2U	2U
DCFB114A	15-16	11/29/00	Soil	2.7	2.3	2U	2U	2U	2U
DCFB114A	21-22	11/29/00	Soil	1.2	1.0	2U	2U	2U	2U
DCFB114A	27-28	11/29/00	Soil	2U	2U	2U	2U	2U	2U
DCFB114A	32-33	11/29/00	Soil	0.5J	0.4J	2U	2U	2U	2U
DCFB114A	40-42	11/29/00	Groundwater	236J	202J	5U	5U	5U	5U
DCFB115B	3-4	11/29/00	Soil	9.2	7.9	2U	2U	2U	2U
DCFB115B	9-10	11/29/00	Soil	9.4	8.1	2U	2U	2U	2U
DCFB115B	15-16	11/29/00	Soil	1.2	1.0	2U	2U	2U	2U
DCFB115B	21-22	11/29/00	Soil	1.2	1.0	2U	2U	2U	2U
DCFB115B	27-28	11/29/00	Soil	0.6J	0.5J	2U	2U	2U	2U
DCFB115B	27-28	11/29/00	Soil	0.3J	0.2J	2U	2U	2U	2U
DCFB115B	33-34	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB115B	38-40	11/30/00	Groundwater	6.4	5.0	5U	5U	5U	5U
DCFB201	3-4	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB201	3-4	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB201	9-10	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB202	3-4	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB203	3-4	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB203A	3-4	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB203A	7-8	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB204	3-4	11/30/00	Soil	2U	2U	2U	2U	2U	2U
DCFB114aW1	3-4	12/01/00	Soil	32.4	27.5	2U	2U	2U	2U
DCFB114aW1	9-10	12/01/00	Soil	16.5	14.0	2U	2U	2U	2U
DCFB114aW1	15-16	12/01/00	Soil	1.6	1.3	2U	2U	2U	2U
DCFB114aW1	21-22	12/01/00	Soil	3.0	2.5	2U	2U	2U	2U
DCFB114aW1	27-28	12/01/00	Soil	2U	2U	2U	2U	2U	2U
DCFB113F	37.4-38.9	12/04/00	Groundwater	88.1**	66.4**	20U	20U	20U	20U
DCFB113F	37.4-38.9Dup	12/04/00	Groundwater	78.3**	59**	20U	20U	20U	20U
DCFB114aW1	33-34	12/04/00	Soil	0.7J	0.5J	2U	2U	2U	2U
DCFB114aW1	39-40	12/04/00	Soil	10.3	7.8	2U	2U	2U	2U
DCFB114aW1	40.8-41.8	12/04/00	Groundwater	61.7	46.5	5U	5U	5U	5U
DCFB114aW2	3-4	12/04/00	Soil	12.0	9.1	2U	2U	2U	2U
DCFB114aW2	9-10	12/04/00	Soil	31.2	11.8	2U	2U	2U	2U
DCFB114aW2	9-10	12/04/00	Soil	31.8	24.0	2U	2U	2U	2U
DCFB114aW2	15-16	12/04/00	Soil	0.7J	0.7	1U	1U	1U	1U
DCFB114aW2	21-22	12/04/00	Soil	5.9	4.5	2U	2U	2U	2U
DCFB114aW2	21-22	12/04/00	Soil	7.1	5.4	2U	2U	2U	2U
DCFB114aW2	27-28	12/04/00	Soil	0.3J	0.2J	2U	2U	2U	2U
DCFB114aW2	33-34	12/04/00	Soil	1.2	0.9J	2U	2U	2U	2U

**Recalculation of Field Screening Values
Dry Cleaning Facilities Area
Fort Riley, Kansas**

Boring	Depth	Date	Media	Reported PCE	PCE Recalc	Reported TCE	TCE Recalc	Reported DCE	DCE Recalc
DCFB114aE1	3-4	12/05/00	Soil	2.1	1.6	2U	2U	2U	2U
DCFB114aE1	9-10	12/05/00	Soil	1.6	1.2	2U	2U	2U	2U
DCFB114aE1	15-16	12/05/00	Soil	1.3	0.9J	2U	2U	2U	2U
DCFB114aE1	21-22	12/05/00	Soil	0.1J	0.1J	2U	2U	2U	2U
DCFB114aE1	21-22	12/05/00	Soil	0.1J	0.1J	2U	2U	2U	2U
DCFB114aE1	27-28	12/05/00	Soil	2U	2U	2U	2U	2U	2U
DCFB114aE1	33-34	12/05/00	Soil	2U	2U	2U	2U	2U	2U
DCFB114aE1	39-40	12/05/00	Soil	1.8	0.7J	2U	2U	2U	2U
DCFB114aE1	40.5-42.5	12/05/00	Groundwater	45.6	84	10U	10U	10U	10U
DCFB114aE2	3-4	12/05/00	Soil	18.2	13.7	2U	2U	2U	2U
DCFB114aE2	9-10	12/05/00	Soil	7.3	5.5	2U	2U	2U	2U
DCFB114aE2	15-16	12/05/00	Soil	2.5	1.9	2U	2U	2U	2U
DCFB114aW2	39-40 ^(a)	12/05/00	Soil	1.0	0.8J	2U	2U	2U	2U
DCFB114aW2	42-44	12/05/00	Groundwater	100	76	10U	10U	10U	10U
DCFB114aE2	21-22	12/06/00	Soil	1.4	1.0	2U	2U	2U	2U
DCFB114aE2	27-28	12/06/00	Soil	2U	2U	2U	2U	2U	2U
DCFB114aE2	33-34	12/06/00	Soil	0.5J	2U	2U	2U	2U	2U
DCFB114aE2	37-38	12/06/00	Soil	2.6	1.9	2U	2U	2U	2U
DCFB114aE2	38-40	12/06/00	Groundwater	15.4	11.1	10U	10U	10U	10U
DCFB114B	3-4	12/06/00	Soil	53.1J	38.4J	2U	2U	2U	2U
DCFB114B	9-10	12/06/00	Soil	4.0	2.9	2U	2U	2U	2U
DCFB114B	15-16	12/06/00	Soil	0.5J	0.4J	2U	2U	2U	2U
DCFB114B	15-16	12/06/00	Soil	0.3J	0.2J	2U	2U	2U	2U
DCFB114B	21-22	12/06/00	Soil	0.7J	0.5J	2U	2U	2U	2U
DCFB114B	27-28	12/06/00	Soil	1.3	0.9J	2U	2U	2U	2U
DCFB114B	33-34	12/06/00	Soil	0.7J	0.5J	2U	2U	2U	2U
DCFB114B	39-39.5	12/06/00	Groundwater	20.8	15.1	10U	10U	10U	10U
DCFB301	3-4	12/08/00	Soil	2U	2U	2U	2U	2U	2U
DCFB301	7-8	12/08/00	Soil	2U	2U	2U	2U	2U	2U
DCFB302	2.5-3.5	12/08/00	Soil	2U	2U	2U	2U	2U	2U

DCE = cis-1,2-Dichloroethene

Dup = Duplicate

J = Qualified as estimated

PCE = Tetrachloroethene

Recalc = Recalculations using equation in EPS Field Procedures Manual

TCE = Trichloroethene

U = Qualified as undetected

NRC = Not Recalculated - No chromatograph.

All soil results are in micrograms per kilogram (ug/Kg).

All groundwater results are in micrograms per Liter (ug/L).

(a) Sample collected below saturated zone

* = Taken from below top of groundwater

** = Estimated based on maximum dilution / fuel interference

DATE: October 9-10, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample H2O Type	H2O Level	Vinyl Chloride	DCE	TCE	PCE	Comments
M	NA	H2O	NA	ND	ND	ND	ND	method blank
DCF-1	NA	NA	NA	NA	NA	NA	NA	dry hole, no H2O
DCF-2A	12-14'	H2O	NA	ND	ND	ND	ND	Purged 1 quart
DCF-3A	8-10'	H2O	NA	1.6	ND	ND	0.6J	Purged 1 pint
DCF-4A	9-11'	H2O	NA	1.0	ND	0.1J	0.6J	Purged 1 quart
DCF-5A	17.5-19.5'	H2O	NA	7.6	2.0	0.5J	1.3	Purged 1 quart
DCF-5A	17.5-19.5'	H2O	NA	6.9	1.4	0.4J	1.0	Duplicate
DCF-6A	16.5-18.5'	H2O	NA	5.4	0.2J	0.4J	1.6	Purged 1 quart

NA = not available
 ND = non detect
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 11, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-1C	34-36'	H2O	13.9'	0.5J	0.4J	4.6	Purged 1 quart
DCF-1B	22-24'	H2O	13.9'	0.8J	ND	1.1	Purged 2 quarts
DCF-1A	14-16'	H2O	13.9'	0.7J	ND	0.2J	Purged 3 quarts
DCF-7B	32-34'	H2O	22.3'	1.5	ND	ND	Purged 1 pint
DCF-7A	22-24'	H2O	22.3'	2.1	ND	ND	Purged 1 pint
DCF-8B	28-30'	H2O	16.3'	1.0	0.9J	10.6	Purged 1 quart
DCF-8B	28-30'	H2O	16.3'	0.5J	0.5J	3.8	Duplicate
DCF-8A	18-20'	H2O	16.3'	2.8	0.4J	2.9	Purged 2 quarts
DCF-9C	41-43'	H2O	21.5'	5.6	1.4	22.8	Purged 1 quart
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-9B	31-33'	H2O	21.5'	13.0	3.3	39.9	Purged 2 quarts
DCF-9A	23-25'	H2O	21.5'	2.0	0.7J	7.3	Purged 3 quarts

NA = not available
 ND = non detect
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 12, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-10C	45-47'	H2O	18.5'	3.2	1.6	10.9	Purged 1 quart
DCF-10B	31-33'	H2O	18.5'	4.0	0.9J	5.9	Purged 2 quarts
DCF-10A	20-22'	H2O	18.5'	13.2	0.1J	0.7J	Purged 3 quarts
DCF-11A	23-25'	H2O	21.2'	0.6J	0.2J	2.2	Purged 3 quarts
DCF-12A	31-33'	H2O	28.2'	3.6	ND	ND	Purged 3 quarts
DCF-13B	36-38'	H2O	21.2'	1.2	1.3	7.7	Purged 2 quarts
DCF-13B	36-38'	H2O	21.2'	1.0	1.3	8.9	Duplicate
DCF-13A	23-25'	H2O	21.2'	19.5	6.4	11.2	Purged 3 quarts
M	NA	H2O	NA	ND	ND	ND	method blank

NA = not available
 ND = non detect
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 13, 2000
PROJECT: FORT RILEY
PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
DCF-14A	19-21'	H2O	NA	5.9	3.9	52.6	Purged 2 quarts
DCF-14A	19-21'	H2O	NA	6.3	3.2	56.8	Duplicate
DCF-15A	21.5-23.5'	H2O	NA	21.6	2.4	11.4	Purged 2 quarts
DCF-17A	21-23'	H2O	19.3'	30.8	ND	0.5J	Purged 2 quarts
DCF-18A	23-25'	H2O	NA	3.0	1.7	14.2	Purged 2 quarts
DCF-16A	19-21'	H2O	18.1'	2.3	0.8J	6.3	Purged 2 quarts

NA = not available
ND = non detect
J = estimated value below reporting limit
Results are given in parts per billion (ug/l)

DATE: October 16, 2000
PROJECT: FORT RILEY
PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-17B	32-34'	H2O	NA	1.9	0.6J	3.3	Purged 1 quart
DCF-20B	81-83'	H2O	NA	2.5	0.7J	3.0	Purged 1 quart
DCF-20A	61-63'	H2O	NA	4.6	4.4	1.0	Purged 1 quart

NA = not available

ND = non detect

J = estimated value below reporting limit

Results are given in parts per billion (ug/l)

DATE: October 17, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
DCF-21B	42-46'	H2O	28.9'	2.1	0.8J	0.9J	Purged 1 quart
DCF-21A	30-34'	H2O	28.9'	0.4J	0.3J	1.8	Purged 2 quarts
DCF-22B	45-49'	H2O	31.7'	3.0	3.4	2.0	Purged 1 quart
DCF-22A	32-36'	H2O	31.7'	0.2J	0.2J	0.4J	Purged 2 quarts
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-23B	42-46'	H2O	29.1'	0.6J	1.3	2.3	Purged 1 quart
DCF-23A	30-34'	H2O	29.1'	0.2J	0.2J	1.7	Purged 2 quarts
DCF-24B	42-46'	H2O	30.4'	ND	ND	0.9J	Purged 1 quart
DCF-24A	32-36'	H2O	30.4'	ND	0.3J	4.2	Purged 2 quarts
DCF-25B	40.5-44.5'	H2O	31.4'	1.2	ND	1.0	Purged 1 quart
DCF-25A	32-36'	H2O	31.4'	0.2J	0.1J	3.6	Purged 2 quarts
DCF-26	10-14'	SOIL	NA	ND	ND	ND	

NA = not available
 ND = non detect
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 18, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
DCF-26C	39-43'	H2O	21.6'	1.6	1.7	1.9	Purged 1 quart
DCF-26B	29-33'	H2O	21.6'	0.3J	0.6J	2.9	Purged 2 quarts
DCF-26B	29-33'	H2O	21.6'	0.3J	0.6J	3.0	Duplicate
DCF-26A	22-26'	H2O	21.6'	ND	0.1J	0.5J	Purged 3 quarts
DCF-27	10-14'	SOIL	NA	ND	ND	ND	
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-27A	34-38'	H2O	35.6'	1.3	0.5J	ND	Purged 3 quarts
DCF-28	10-14'	SOIL	NA	ND	ND	ND	
DCF-28A	38-42'	H2O	35.6'	6.0	1.8	ND	Purged 3 quarts
DCF-29	10-14'	SOIL	NA	ND	ND	ND	
DCF-29B	36-40'	H2O	22.0'	1.0	2.2	6.2	Purged 2 quarts
DCF-29A	24-28'	H2O	22.0'	0.1J	ND	0.2J	Purged 3 quarts
DCF-30	10-14'	H2O	NA	ND	ND	ND	
DCF-30C	40-44'	H2O	24.0'	0.6J	1.4	4.0	Purged 1 quart
DCF-30B	32-36'	H2O	24.0'	0.5J	1.1	5.4	Purged 2 quarts
DCF-30A	23-27'	H2O	24.0'	0.2J	0.2J	0.5J	Purged 3 quarts

NA = not available
 ND = non detect
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 19, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-31	10-14'	SOIL	NA	ND	ND	ND	
DCF-31C	39-43'	H2O	24.5'	1.6	2.2	3.4	Purged 1 quart
DCF-31B	31-35'	H2O	24.5'	0.4J	1.0	4.1	Purged 2 quarts
DCF-31A	24-28'	H2O	24.5'	0.1J	0.2J	0.7J	Purged 3 quarts
DCF-32	10-14'	SOIL	NA	ND	ND	ND	
DCF-32C	39-43'	H2O	23.0'	0.9J	0.9J	6.0	Purged 1 quart
DCF-32B	31-35'	H2O	23.0'	0.5J	0.4J	5.0	Purged 2 quarts
DCF-32A	23-27'	H2O	23.0'	0.7J	0.2J	0.4J	Purged 3 quarts
DCF-33	10-14'	SOIL	NA	ND	ND	ND	
DCF-33	10-14'	SOIL	NA	ND	ND	ND	Duplicate
DCF-33C	38-42'	H2O	21.3'	0.2J	0.5J	4.8	Purged 1 quart
DCF-33C	38-42'	H2O	21.3'	0.2J	0.3J	3.8	Duplicate
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-33B	29-33'	H2O	21.3'	ND	0.5J	4.8	Purged 2 quarts
DCF-33A	21-24'	H2O	21.3'	0.9J	0.3J	0.2	Purged 3 quarts
DCF-34	10-14'	SOIL	NA	ND	ND	ND	

NA = not available
 ND = non detect
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 20, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
DCF-34B	37-41'	H2O	30.2'	3.1	5.0	5.1	Purged 1 quart
DCF-34A	30-34'	H2O	30.2'	0.7J	2.2	10.0	Purged 2 quarts
DCF-35	10-14'	SOIL	NA	ND	ND	ND	
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-35C	37-41'	H2O	19.1'	0.5J	0.5J	3.1	Purged 1 quart
DCF-35C	37-41'	H2O	19.1'	0.6J	0.6J	3.7	Duplicate
DCF-35B	27-31'	H2O	19.1'	0.1J	0.7J	9.7	Purged 2 quarts
DCF-35A	19-22'	H2O	19.1'	1.7	0.3J	1.1	Purged 3 quarts
DCF-36	10-14'	SOIL	NA	ND	ND	ND	
DCF-36C	37-41'	H2O	19.5'	8.7	0.5J	ND	Purged 1 quart
DCF-36B	29-32'	H2O	19.5'	ND	0.7J	10.4	Purged 2 quarts
DCF-36A	19-23'	H2O	19.5'	0.8J	0.4J	4.0	Purged 3 quarts
DCF-37	10-14'	SOIL	NA	ND	ND	ND	

NA = not available
 ND = non detect
 M = method blank
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 23, 2000
PROJECT: FORT RILEY
PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
DCF-37C	36-40'	H2O	21.5'	17.3	1.5	7.0	Purged 1 quart
DCF-37B	28-32'	H2O	21.5'	2.5	1.1	10.9	Purged 2 quarts
DCF-37A	21-25'	H2O	21.5'	0.7J	0.6J	10.0	Purged 1 quart
DCF-38	10-14'	SOIL	NA	ND	ND	ND	
DCF-38C	37-41'	H2O	20.6'	1.0	0.4J	1.0	Purged 1 quart
DCF-38B	27-31'	H2O	20.6'	0.4J	0.7J	5.5	Purged 2 quarts
DCF-38A	20-24'	H2O	20.6'	ND	0.4J	4.5	Purged 3 quarts

NA = not available

ND = non detect

M = method blank

J = estimated value below reporting limit

Results are given in parts per billion (ug/l)

DATE: October 24, 2000
 PROJECT: FORT RILEY
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-39	10-14'	SOIL	NA	ND	ND	ND	
DCF-39C	36-40'	H2O	20.3'	7.6	8.9	5.5	Purged 1 quart
DCF-39B	28-32'	H2O	20.3'	0.3J	0.8J	5.6	Purged 2 quarts
DCF-39B	28-32'	H2O	20.3'	0.3J	0.9J	7.3	Duplicate
DCF-39A	20-24'	H2O	20.3'	ND	0.4J	4.0	Purged 3 quarts
DCF-40	10-14'	SOIL	NA	ND	ND	ND	
DCF-40	10-14'	SOIL	NA	ND	ND	ND	Duplicate
DCF-40C	37-41'	H2O	19.7'	0.9J	1.1	8.9	Purged 1 quart
DCF-40B	28-32'	H2O	19.7'	ND	0.6J	7.7	Purged 2 quarts

NA = not available
 ND = non detect
 M = method blank
 J = estimated value below reporting limit
 Results are given in parts per billion (ug/l)

DATE: October 25, 2000
PROJECT: FORT RILEY
PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
M	NA	H2O	NA	ND	ND	ND	method blank
DCF-41	10-14'	SOIL	NA	ND	ND	ND	
DCF-41B	39-43'	H2O	25.8'	0.6J	1.9	8.1	Purged 2 quarts
DCF-41A	28-32'	H2O	25.8'	ND	0.6J	5.9	Purged 3 quarts
DCF-42	10-14'	SOIL	NA	ND	ND	ND	
DCF-42C	39-43'	H2O	23.5'	2.6	3.0	2.4	Purged 1 quart
DCF-42C	39-43'	H2O	23.5'	2.9	3.0	1.8	Duplicate
DCF-42B	29-33'	H2O	23.5'	0.1J	1.0	8.5	Purged 2 quarts
DCF-42A	22-26'	H2O	23.5'	ND	0.5J	4.2	Purged 2 quarts

NA = not available

ND = non detect

M = method blank

J = estimated value below reporting limit

Results are given in parts per billion (ug/l)

DATE: November 2, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCF-101B	3-7'	SOIL	NA	ND	ND	ND	
DCF-101B	3-7'	SOIL	NA	ND	ND	ND	Duplicate
DCF-101B	13-16'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal=16.2'
DCF-102B	3-7'	SOIL	NA	ND	ND	ND	
DCF-102B	7-11'	SOIL	NA	ND	ND	ND	
DCF-102B	11-14'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal=15.4'
DCF-102B	14.8'	SOIL	NA	ND	ND	3.0(est)	Strong Fuel Odor
DCF-102A	3-7'	SOIL	NA	ND	ND	ND	
DCF-102A	7-11'	SOIL	NA	ND	ND	ND	
DCF-102A	11-15'	SOIL	NA	ND	ND	ND	Dry, Refusal=17'
Method Blank	NA	H2O	NA	ND	ND	ND	
DCF-102B	3-7'	SOIL	NA	ND	ND	ND	
DCF-102B	7-11'	SOIL	NA	ND	ND	ND	
DCF-102B	11-15'	SOIL	NA	ND	ND	ND	
DCF-102B	15-16.5'	SOIL	NA	ND	ND	ND	Str Fuel Odor,Ref=16.5'

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 3, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-103	3-4'	SOIL	NA	ND	ND	0.1J	
DCFB-103	9-10'	SOIL	NA	ND	ND	ND	
DCFB-103	12-13'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal=13'
DCFB-104	3-4'	SOIL	NA	ND	ND	0.1J	
DCFB-104	9-10'	SOIL	NA	ND	ND	ND	
DCFB-104	9-10'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-104	12.2-12.8'	SOIL	NA	ND	ND	ND	Dry, Refusal=13.5'
DCFB-109	3-4'	SOIL	NA	ND	ND	0.1J	
DCFB-109	9-10'	SOIL	NA	ND	ND	ND	
DCFB-109	15-16'	SOIL	NA	ND	ND	0.1J	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-109	21-22'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal=22'
DCFB-108	3-4'	SOIL	NA	ND	ND	1.0	
DCFB-108	9-10'	SOIL	NA	ND	ND	ND	
DCFB-108	15-16'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal=18.2'

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 6, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-107	3-4'	SOIL	NA	ND	ND	ND	
DCFB-107	9-10'	SOIL	NA	ND	ND	ND	
DCFB-107	9-10'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-107	15-16'	SOIL	NA	ND	ND	ND	Refusal= 22.4', Dry Hole
DCFB-107	19-20'	SOIL	NA	ND	ND	ND	Strong Fuel Odor
DCFB-107A	3-4'	SOIL	NA	ND	ND	ND	
DCFB-107A	9-10'	SOIL	NA	ND	ND	ND	
DCFB-107A	14-15'	SOIL	NA	ND	ND	ND	Refusal= 15', Dry Hole
DCFB-113A	3-4'	SOIL	NA	ND	ND	0.4J	
DCFB-113A	9-10'	SOIL	NA	ND	ND	0.3J	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113A	15-16'	SOIL	NA	ND	ND	0.8J	
DCFB-113A	21-22'	SOIL	NA	ND	ND	0.2J	Refusal= 26'
DCFB-113A	25-26'	SOIL	NA	ND	ND	ND	Strong Fuel Odor

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 7, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113C	3-4'	SOIL	NA	ND	ND	25.1	
DCFB-113C	8-9'	SOIL	NA	ND	ND	43.2	Dry Hole, Refusal= 9'
DCFB-114	3-4'	SOIL	NA	ND	ND	0.3J	
DCFB-114	9-10'	SOIL	NA	ND	ND	2.1	
DCFB-114	9-10'	SOIL	NA	ND	ND	1.9	Duplicate
DCFB-114	15-16'	SOIL	NA	ND	ND	ND	
DCFB-114	21-22'	SOIL	NA	ND	ND	ND	
DCFB-114	27-28'	SOIL	NA	ND	ND	1.4	
DCFB-114	33-34'	SOIL	NA	ND	ND	ND	Refusal= 38'
DCFB-114	36-38'	H2O	NA	ND	ND	2.1	Strong Fuel Odor, PFVV
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113B	3-4'	SOIL	NA	ND	ND	0.6J	
DCFB-113B	9-10'	SOIL	NA	ND	ND	2.0	
DCFB-113B	15-16'	SOIL	NA	ND	ND	0.5J	Strong Fuel Odor
DCFB-113B	21-22'	SOIL	NA	ND	ND	ND	
DCFB-113B	21-22'	SOIL	NA	ND	ND	ND	Duplicate

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 PFVV = Partially Full Voa Vail
 J = estimated value below reporting limit

DATE: November 8, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113B	27-28'	SOIL	NA	ND	ND	ND	
DCFB-113B	31-32'	SOIL	NA	ND	ND	ND	Refusal= 32'
DCFB-115	3-4'	SOIL	NA	ND	ND	19.6	
DCFB-115	9-10'	SOIL	NA	ND	ND	5.5	
DCFB-115	9-10'	SOIL	NA	ND	ND	4.2	Duplicate
DCFB-115	15-16'	SOIL	NA	ND	ND	ND	
DCFB-115	21-22'	SOIL	NA	ND	ND	ND	
DCFB-115	27-28'	SOIL	NA	ND	ND	0.9J	
DCFB-115	32-33'	SOIL	NA	ND	ND	1.5	
DCFB-115	37-39'	H2O	36'	ND	ND	51.6	Refusal= 39'
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-116	3-4'	SOIL	NA	ND	ND	5.5	
DCFB-116	9-10'	SOIL	NA	ND	ND	25.5	
DCFB-116	15-16'	SOIL	NA	ND	ND	1.0	
DCFB-116	21-22'	SOIL	NA	ND	ND	3.8	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 9, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-116	27-28'	SOIL	NA	ND	ND	4.2	
DCFB-116	32-33'	SOIL	NA	ND	ND	2.8	
DCFB-116	40.3-42.3'	H2O	34.3'	ND	ND	25.0	Refusal= 42.5'
DCFB-117	3-4'	SOIL	NA	ND	ND	5.3	
DCFB-117	9-10'	SOIL	NA	ND	ND	25.2	
DCFB-117	15-16'	SOIL	NA	ND	ND	4.0	
DCFB-117	15-16'	SOIL	NA	ND	ND	3.5	Duplicate
DCFB-117	21-22'	SOIL	NA	ND	ND	3.2	
DCFB-117	27-28'	SOIL	NA	ND	ND	ND	
Method Blank	NA	H2O	NA	ND	ND	ND	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 10, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-117	33-34'	SOIL	NA	ND	ND	4.2	
DCFB-117	41.6-43.6'	H2O	38.6'	ND	ND	10.4	Refusal= 44'
DCFB-121	3-4'	SOIL	NA	ND	ND	5.2	
DCFB-121	9-10'	SOIL	NA	ND	ND	4.6	
DCFB-121	9-10'	SOIL	NA	ND	ND	5.6	Duplicate
DCFB-121	15-16'	SOIL	NA	ND	ND	6.7	
DCFB-121	21-22'	SOIL	NA	ND	ND	ND	
DCFB-121	27-28'	SOIL	NA	ND	ND	ND	
DCFB-121	33-34'	SOIL	NA	ND	ND	ND	
DCFB-121	37-39'	H2O	35.6'	28.5	6.6	26.5	Refusal= 39'
DCFB-120	3-4'	SOIL	NA	ND	ND	10.2	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-120	9-10'	SOIL	NA	ND	ND	0.8J	
DCFB-120	9-10'	SOIL	NA'	ND	ND	0.4J	Duplicate
DCFB-120	15-16'	SOIL	NA	ND	ND	0.7J	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 13, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-120	21-22'	SOIL	NA	ND	ND	3.0	
DCFB-120	27-28'	SOIL	NA	ND	ND	ND	
DCFB-120	33-34'	SOIL	NA	ND	ND	ND	
DCFB-120	40-42'	H2O	38'	6.9	5.1	20.4	Refusal= 42'
DCFB-115A	3-4'	SOIL	NA	ND	ND	1.3	
DCFB-115A	9-10'	SOIL	NA	ND	ND	0.8J	
DCFB-115A	15-16'	SOIL	NA	ND	ND	1.2	
DCFB-115A	21-22'	SOIL	NA	ND	ND	0.3J	
DCFB-115A	27-28'	SOIL	NA	ND	ND	1.0	
DCFB-115A	33-34'	SOIL	NA	ND	ND	0.2J	Dry Hole, Refusal= 35'
DCFB-115A	33-34'	SOIL	NA	ND	ND	0.1J	Duplicate
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-119	3-4'	SOIL	NA	ND	ND	31.2	
DCFB-119	9-10'	SOIL	NA	ND	ND	ND	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 14, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-119	15-16'	SOIL	NA	ND	ND	ND	
DCFB-119	15-16'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-119	21-22'	SOIL	NA	ND	ND	ND	
DCFB-119	27-28'	SOIL	NA	ND	ND	ND	
DCFB-119	33-34'	SOIL	NA	ND	ND	ND	
DCFB-119	38-39'	SOIL	NA	ND	ND	1.1	
DCFB-119	43-45'	H2O	40.8'	ND	8.5	21.5	Half full voa vial
DCFB-118	3-4'	SOIL	NA	ND	ND	0.2J	
DCFB-118	9-10'	SOIL	NA	ND	ND	ND	
DCFB-118	15-16'	SOIL	NA	ND	ND	ND	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-118	21-22'	SOIL	NA	ND	ND	ND	
DCFB-118	27-28'	SOIL	NA	ND	ND	ND	
DCFB-118	27-28'	SOIL	NA	ND	ND	ND	Duplicate

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 15, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-118	33-34'	SOIL	NA	ND	ND	ND	
DCFB-118	38-39'	SOIL	NA	ND	ND	0.1J	Refusal= 45'
DCFB-118	43-45'	H2O	NA	1.0	1.0	3.3	1/3 full vov vial
DCFB-112	3-4'	SOIL	NA	ND	ND	ND	
DCFB-112	9-10'	SOIL	NA	ND	ND	ND	
DCFB-112	9-10'	SOIL	NA	ND	ND	ND	Duplicate
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-112	15-16'	SOIL	NA	ND	ND	ND	
DCFB-112	21-22'	SOIL	NA	ND	ND	ND	
DCFB-112	27-28'	SOIL	NA	ND	ND	ND	
DCFB-112	33-34'	SOIL	NA	ND	ND	ND	Refusal= 34', Dry Hole
DCFB-113	3-4'	SOIL	NA	ND	ND	0.2J	
DCFB-113	9-10'	SOIL	NA	ND	ND	1.9	
DCFB-113	15-16'	SOIL	NA	ND	ND	0.3J	
DCFB-113	21-22'	SOIL	NA	ND	ND	0.1J	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 16, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113	27-28'	SOIL	NA	ND	ND	0.4J	
DCFB-113	32-33'	SOIL	NA	ND	ND	0.2J	
DCFB-123	3-4'	H2O	NA	ND	ND	0.2J	
DCFB-123	9-10'	SOIL	NA	ND	ND	ND	
DCFB-123	15-16'	SOIL	NA	ND	ND	ND	
DCFB-123	21-22'	SOIL	NA	ND	ND	ND	
DCFB-123	21-22'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-123	27-28'	SOIL	NA	ND	ND	ND	
DCFB-123	33-34'	SOIL	NA	ND	ND	ND	
DCFB-123	43-45'	H2O	NA	31.2	141	26.8	Refusal= 45'
DCFB-124	3-4'	SOIL	NA	ND	ND	ND	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-124	9-10'	SOIL	NA	ND	ND	ND	
DCFB-124	15-16'	SOIL	NA	ND	ND	ND	
DCFB-124	21-22'	SOIL	NA	ND	ND	ND	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 17, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-124	27-28'	SOIL	NA	ND	ND	ND	
DCFB-124	33-34'	SOIL	NA	ND	ND	0.2J	
DCFB-124	37-38'	SOIL	NA	ND	ND	57.1	
DCFB-124	37-38'	H2O	37.4'	6.4	2.7	16.3	Refusal= 38'
DCFB-125	3-4'	SOIL	NA	ND	ND	0.3J	
DCFB-125	9-10'	SOIL	NA	ND	ND	ND	
DCFB-125	15-16'	SOIL	NA	ND	ND	ND	
DCFB-125	15-16'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-125	21-22'	SOIL	NA	ND	ND	ND	
DCFB-125	27-28'	SOIL	NA	ND	ND	ND	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-125	33-34'	SOIL	NA	ND	ND	ND	Refusal= 36', Dry Hole
DCFB-126	3-4'	SOIL	NA	ND	ND	0.1J	
DCFB-126	9-10'	SOIL	NA	ND	ND	ND	
DCFB-126	15-16'	SOIL	NA	ND	ND	ND	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 20, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-126	21-22'	SOIL	NA	ND	ND	ND	
DCFB-126	21-22'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-126	27-28'	SOIL	NA	ND	ND	ND	
DCFB-126	31-32'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 32'
DCFB-122	3-4'	SOIL	NA	ND	ND	0.2J	
DCFB-122	9-10'	SOIL	NA	ND	ND	0.3J	
DCFB-122	15-16'	SOIL	NA	ND	ND	6.0	
DCFB-122	21-22'	SOIL	NA	ND	ND	ND	
DCFB-122	27-28'	SOIL	NA	ND	ND	ND	
DCFB-122	33-34'	SOIL	NA	ND	ND	3.1	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-122	39-40'	SOIL	NA	ND	ND	2.9	
DCFB-122	39-40'	SOIL	NA	ND	ND	3.2	Duplicate

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 21, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-122	38.5-40.5'	H2O	38.1'	ND	ND	10.9	IP, PFVV, Ref= 40.5'
DCFB-108A	3-4'	SOIL	NA	ND	ND	0.5J	
DCFB-108A	9-10'	SOIL	NA	ND	ND	ND	
DCFB-108A	9-10'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-108A	14-15'	SOIL	NA	ND	ND	ND	Dry Hole, Ref= 15.5'
DCFB-113D	3-4'	SOIL	NA	ND	ND	11.2	
DCFB-113D	9-10'	SOIL	NA	ND	ND	3.0	
DCFB-113D	15-16'	SOIL	NA	ND	ND	0.2J	
DCFB-113D	21-22'	SOIL	NA	ND	ND	ND	
DCFB-113D	27-28'	SOIL	NA	ND	ND	ND	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113D	33-34'	SOIL	NA	ND	ND	0.5J	
DCFB-113D	40-42'	H2O	37.7'	ND	ND	33.4	Refusal= 42'
Decon Water #1	NA	H2O	NA	ND	ND	ND	
Decon Water #2	NA	H2O	NA	ND	ND	ND	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 PFVV = Partially Full Voa Vail
 IP = Install Piezometer
 J = estimated value below reporting limit

DATE: November 22, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113E	3-4'	SOIL	NA	ND	ND	12.3	
DCFB-113E	9-10'	SOIL	NA	ND	ND	2.6	
DCFB-113E	15-16'	SOIL	NA	ND	ND	ND	
DCFB-113E	15-16'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-113E	21-22'	SOIL	NA	ND	ND	ND	
DCFB-113E	27-28'	SOIL	NA	ND	ND	0.3J	
DCFB-113E	33-34'	SOIL	NA	ND	ND	0.3J	Dry Hole, Ref= 35'
DCFB-113F	3-4'	SOIL	NA	ND	ND	64.2	
DCFB-113F	9-10'	SOIL	NA	ND	ND	4.5	
DCFB-113F	15-16'	SOIL	NA	ND	ND	0.4J	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-113F	21-22'	SOIL	NA	ND	ND	ND	
DCFB-113F	27-28'	SOIL	NA	ND	ND	1.1	
DCFB-113F	33-34'	SOIL	NA	ND	ND	0.4J	Refusal= 38.9'
DCFB-113F	37-38'	SOIL	37'	ND	ND	0.3J	Install Piezometer

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 27, 2000
PROJECT: Fort Riley
PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	*

ND = Not Detected

NA = Not Available

*Client not able to come out to field, sent back to shop.

DATE: November 29, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114A	3-4'	SOIL	NA	ND	ND	29.2	
DCFB-114A	9-10'	SOIL	NA	ND	ND	24.9	
DCFB-114A	9-10'	SOIL	NA	ND	ND	25.1	Duplicate
DCFB-114A	15-16'	SOIL	NA	ND	ND	2.7	
DCFB-114A	21-22'	SOIL	NA	ND	ND	1.2	
DCFB-114A	27-28'	SOIL	NA	ND	ND	ND	
DCFB-114A	32-33'	SOIL	NA	ND	ND	0.5J	
DCFB-114A	40-42'	H2O	40.2	ND	ND	236	Refusal= 42'
DCFB-115B	3-4'	SOIL	NA	ND	ND	9.2	
DCFB-115B	9-10'	SOIL	NA	ND	ND	9.4	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-115B	15-16'	SOIL	NA	ND	ND	1.2	
DCFB-115B	21-22'	SOIL	NA	ND	ND	1.2	
DCFB-115B	27-28'	SOIL	NA	ND	ND	0.6J	
DCFB-115B	27-28'	SOIL	NA	ND	ND	0.3J	Duplicate

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: November 30, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-115B	33-34'	SOIL	NA	ND	ND	ND	
DCFB-115B	38-40'	H2O	NA	ND	ND	6.4	Ref= 40', 1/3 full voa vail
DCFB-202	3-4'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 7'
DCFB-203	3-4'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 7'
DCFB-204	3-4'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 3.5'
DCFB-203A	3-4'	SOIL	NA	ND	ND	ND	
DCFB-203A	7-8'	SOIL	NA	ND	ND	ND	Dry Hloe, Refusal= 8'
DCFB-201	3-4'	SOIL	NA	ND	ND	ND	
DCFB-201	3-4'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-201	9-10'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 10'
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-111	3-4'	SOIL	NA	ND	ND	3.6	
DCFB-111	9-10'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 10'
DCFB-110	3-4'	SOIL	NA	ND	ND	1.3	
DCFB-110	9-10'	SOIL	NA	ND	ND	ND	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: December 1, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-111	15-16'	SOIL	NA	ND	ND	1.3	
DCFB-111	15-16'	SOIL	NA	ND	ND	1.0	Duplicate
DCFB-111	21-22'	SOIL	NA	ND	ND	0.2J	
DCFB-111	27-28'	SOIL	NA	ND	ND	0.3J	
DCFB-111	33-34'	SOIL	NA	ND	ND	1.9	Dry Hole, Refusal= 34'
DCFB-110	15-16'	SOIL	NA	ND	ND	ND	
DCFB-110	15-16'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-110	21-22'	SOIL	NA	ND	ND	0.5J	
DCFB-110	27-28'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 30'
DCFB-114AW1	3-4'	SOIL	NA	ND	ND	32.4	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114AW1	9-10'	SOIL	NA	ND	ND	16.5	
DCFB-114AW1	15-16'	SOIL	NA	ND	ND	1.6	
DCFB-114AW1	21-22'	SOIL	NA	ND	ND	3.0	
DCFB-114AW1	27-28'	SOIL	NA	ND	ND	ND	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: December 4, 2000

PROJECT: Fort Riley

PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114AW1	33-34'	SOIL	NA	ND	ND	0.7J	
DCFB-114AW1	39-40'	SOIL	NA	ND	ND	10.3	Duplicate
DCFB-114AW1	39.8-41.8'	H2O	40.8'	ND	ND	61.7	Refusal= 41.8'
DCFB-114AW2	3-4'	SOIL	NA	ND	ND	12.0	
DCFB-114AW2	9-10'	SOIL	NA	ND	ND	31.2	
DCFB-114AW2	9-10'	SOIL	NA	ND	ND	31.8	Duplicate
DCFB-114AW2	15-16'	SOIL	NA	ND	ND	1.7	
DCFB-114AW2	21-22'	SOIL	NA	ND	ND	5.9	
DCFB-114AW2	21-22'	SOIL	NA	ND	ND	7.1	Duplicate
DCFB-114AW2	27-28'	SOIL	NA	ND	ND	0.3J	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114AW2	33-34'	SOIL	NA	ND	ND	1.2	
DCFB-114AW2	37.4-38.9'	H2O	37.4'	ND	ND	88.1*	Ref=38.9', Str Fuel Odor
DCFB-114AW2	37.4-38.9'	H2O	NA	ND	ND	78.3*	Duplicate, Str Fuel Odor

Results are given in ug/l (ppb)

ND = Not Detected

NA = Not Available

J = estimated value below reporting limit

* = estimated value due to heavy fuel in sample, causing detector saturation

DATE: December 5, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114AW2	39-40'	SOIL	NA	ND	ND	1.0	
DCFB-114AW2	42-44'	H2O	38.4'	ND	ND	100	Refusal= 44'
DCFB-114AE1	3-4'	SOIL	NA	ND	ND	2.1	
DCFB-114AE1	9-10'	SOIL	NA	ND	ND	1.6	
DCFB-114AE1	15-16'	SOIL	NA	ND	ND	1.3	
DCFB-114AE1	21-22'	SOIL	NA	ND	ND	0.1J	
DCFB-114AE1	21-22'	SOIL	NA	ND	ND	0.1J	Duplicate
DCFB-114AE1	27-28'	SOIL	NA	ND	ND	ND	
DCFB-114AE1	33-34'	SOIL	NA	ND	ND	ND	
DCFB-114AE1	39-40'	SOIL	NA	ND	ND	1.8	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114AE1	40.5-42.5'	H2O	38.3'	ND	ND	111	Refusal= 42.5'
DCFB-114AE2	3-4'	SOIL	NA	ND	ND	18.2	
DCFB-114AE2	9-10'	SOIL	NA	ND	ND	7.3	
DCFB-114AE2	15-16'	SOIL	NA	ND	ND	2.5	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: December 6, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114AE2	21-22'	SOIL	NA	ND	ND	1.4	
DCFB-114AE2	27-28'	SOIL	NA	ND	ND	ND	
DCFB-114AE2	33-34'	SOIL	NA	ND	ND	0.5J	
DCFB-114AE2	37-38'	SOIL	38.9'	ND	ND	2.6	Refusal= 41'
DCFB-114AE2	38-40'	H2O	NA	ND	ND	15.4	3/4 full voa vial
DCFB-114B	3-4'	SOIL	NA	ND	ND	53.1	
DCFB-114B	9-10'	SOIL	NA	ND	ND	4.0	
DCFB-114B	15-16'	SOIL	NA	ND	ND	0.5J	
DCFB-114B	15-16'	SOIL	NA	ND	ND	0.3J	Duplicate
DCFB-114B	21-22'	SOIL	NA	ND	ND	0.7J	
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-114B	27-28'	SOIL	NA	ND	ND	1.3	
DCFB-114B	33-34'	SOIL	NA	ND	ND	0.7J	Refusal= 39.5'
DCFB-114B	39-39.5'	H2O	39'	ND	ND	20.8	1/3 full voa vial
DCFB-111A	3-4'	SOIL	NA	ND	ND	3.6	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: December 7, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-111A	9-10'	SOIL	NA	ND	ND	0.9J	
DCFB-111A	15-16'	SOIL	NA	ND	ND	0.5J	
DCFB-111A	15-16'	SOIL	NA	ND	ND	0.3J	Duplicate
DCFB-111A	21-22'	SOIL	NA	ND	ND	1.8	
DCFB-114A	27-28'	SOIL	NA	ND	ND	ND	
DCFB-114A	33-34'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 39'
DCFB-105	3-4'	SOIL	NA	ND	ND	2.2	
DCFB-105	9-10'	SOIL	NA	ND	ND	0.3J	
DCFB-105	15-16'	SOIL	NA	ND	ND	1.6	
DCFB-105	21-22'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 24'
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-106	3-4'	SOIL	NA	ND	ND	1.4	
DCFB-106	9-10'	SOIL	NA	ND	ND	ND	
DCFB-106	15-16'	SOIL	NA	ND	ND	ND	
DCFB-106	20-21'	SOIL	NA	ND	ND	0.2J	Dry Hole, Refusal= 24'

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

DATE: December 8, 2000
 PROJECT: Fort Riley
 PROJECT #: 001025

Sample	Sample Depth	Sample Type	H2O Level	DCE	TCE	PCE	Comments
Method Blank	NA	H2O	NA	ND	ND	ND	
DCFB-100	3-4'	SOIL	NA	ND	ND	0.1J	
DCFB-100	8-9'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 9'
DCFB-100A	3-4'	SOIL	NA	ND	ND	0.2J	
DCFB-100A	7-8'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 8'
DCFB-100A	7-8'	SOIL	NA	ND	ND	ND	Duplicate
DCFB-302	2.5-3.5'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 4'
DCFB-301	3-4'	SOIL	NA	ND	ND	ND	
DCFB-301	7-8'	SOIL	NA	ND	ND	ND	Dry Hole, Refusal= 8'
Decon Water #3		H2O	NA	ND	0.3J	0.1J	

Results are given in ug/l (ppb)
 ND = Not Detected
 NA = Not Available
 J = estimated value below reporting limit

**APPENDIX C
SURVEY DATA**

BORING LOCATIONS ARE LOCATED ON THE ISLAND AND THE HORSE CORRAL.
 THESE COORDINATES ARE NAD83 UTM ZONE 0014 & NAVD 88

NORTHING	EASTING	ELEV	DESC
14192639.55	2267473.39	1057.76	DCF18
14192607.29	2267515.62	1056.51	DCF17
14192591.25	2267559.82	1057.04	DCF16
14192567.17	2267608.39	1056.88	DCF15
14192534.40	2267654.67	1056.39	DCF14
14192502.49	2267695.10	1057.12	DCF13
14192461.47	2267742.61	1056.86	DCF12
14192705.76	2267445.59	1058.04	DCF-19
14192436.14	2267786.67	1057.44	DCF-11
14192307.06	2267802.29	1052.81	DCF-10
14192313.67	2267856.94	1052.65	DCF-9
14192319.68	2267908.99	1052.03	DCF-08
14192292.00	2267980.25	1052.66	DCF-07
14192262.81	2268037.81	1050.43	DCF-1
14192251.06	2268098.18	1049.79	DCF-2
14192233.23	2268150.51	1049.71	DCF-3
14192203.41	2268192.56	1049.52	DCF-4
14192174.28	2268234.42	1050.10	DCF-5
14192147.83	2268282.11	1051.62	DCF-6
14191770.22	2269767.17	1061.84	DCF20
14191776.09	2269832.62	1061.28	DCF21
14191790.99	2269929.61	1061.49	DCF23
14191798.99	2269980.32	1061.22	DCF24
14191810.74	2270028.90	1059.76	DCF25
14191781.23	2269883.13	1060.72	DCF22
14191836.39	2270133.13	1058.26	DCF26
14191857.36	2270178.18	1056.79	DCF27
14191864.98	2270228.67	1058.03	DCF28
14191884.91	2270270.97	1059.21	DCF29
14191900.53	2270321.29	1060.92	DCF30
14191923.98	2270366.11	1060.29	DCF31
14191944.64	2270410.78	1060.12	DCF32
14191962.26	2270453.49	1059.09	DCF33
14191982.12	2270497.20	1057.96	DCF34
14192006.05	2270540.06	1060.26	DCF35
14192028.00	2270569.89	1061.19	DCF36
14192036.39	2270579.67	1060.80	DCF38
14192061.58	2270620.57	1061.19	DCF37
14192084.82	2270660.23	1061.11	DCF39
14192109.89	2270702.42	1057.01	DCF40
14192134.24	2270745.69	1059.55	DCF41
14192159.04	2270780.01	1060.92	DCF42
14192274.89	2270719.99	1063.32	DCF43
14192315.36	2270785.76	1063.45	DCF44



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PAGE 1 OF 1

CFN: 7486\7486EXBA
 DATE: NOV. 8, 2000

BORING LOCATIONS ON THE FORMER DRY CLEANING FACILITY
 THESE COORDINATES ARE NAD83 UTM ZONE 0014 & NAVD 88

NORTHING	EASTING	ELEV	DESC
14192947.31	2267153.88	1085.19	DCF-100
14192985.39	2267164.89	1085.75	DCF-100A
14192979.70	2267196.99	1085.54	DCF-101
14193013.34	2267213.35	1086.26	DCF-101A
14193015.52	2267242.89	1085.80	DCF-102
14193025.83	2267256.91	1086.14	DCF-102A
14193042.99	2267265.26	1086.71	DCF-102B
14193051.29	2267288.09	1086.82	DCF-103
14193081.72	2267334.52	1087.75	DCF-104
14193101.51	2267397.57	1087.83	DCF-105
14192933.63	2267218.84	1083.71	DCF-106
14192965.02	2267217.45	1084.89	DCF-106A
14192958.98	2267249.99	1083.82	DCF-107
14192997.55	2267258.29	1084.82	DCF-107A
14192994.66	2267296.86	1084.88	DCF-108
14193025.49	2267302.51	1085.73	DCF-108A
14193029.46	2267341.22	1085.74	DCF-109
14193057.17	2267391.63	1085.70	DCF-110
14193088.07	2267437.79	1086.18	DCF-111
14193108.01	2267475.17	1086.96	DCF-111A
14192920.20	2267274.00	1084.00	DCF-112
14192936.19	2267303.80	1083.39	DCF-113
14192924.31	2267330.14	1083.88	DCF-113
14192968.66	2267315.33	1083.50	DCF-113A
14192953.37	2267325.25	1083.94	DCF-113B
14192936.06	2267340.16	1083.94	DCF-113C
14192934.64	2267322.97	1083.77	DCF-113E
14192954.62	2267344.10	1083.96	DCF-113F
14192971.96	2267349.56	1084.44	DCF-114
14192936.60	2267356.59	1084.10	DCF-114AW2
14192949.30	2267372.06	1084.16	DCF-114AW1
14192957.02	2267389.37	1084.03	DCF-114A
14192970.75	2267398.53	1084.21	DCF-114AE1
14192983.12	2267412.02	1084.47	DCF-114AE2
14192991.09	2267374.19	1084.63	DCF-114B
14193008.39	2267395.75	1084.55	DCF-115
14193041.73	2267407.92	1085.00	DCF-115A
14192996.42	2267423.96	1084.51	DCF-115B
14193042.72	2267440.95	1084.94	DCF-116
14193076.70	2267485.61	1086.03	DCF-117
14192889.91	2267323.90	1083.37	DCF-118
14192914.43	2267358.06	1083.52	DCF-119
14192949.47	2267404.27	1084.03	DCF-120
14192986.09	2267448.83	1084.45	DCF-121
14193024.99	2267474.03	1084.58	DCF-122
14192879.24	2267355.50	1082.68	DCF-123
14192909.46	2267403.00	1082.46	DCF-124
14192949.93	2267449.76	1082.70	DCF-125
14192973.37	2267477.49	1082.82	DCF-126
14193033.38	2267202.84	1087.52	DCF-201
14193013.34	2267147.14	1086.83	DCF-202
14193006.15	2267087.90	1087.02	DCF-203
14192964.25	2267094.31	1085.38	DCF-203A
14192979.91	2267028.91	1084.82	DCF-204
14193088.31	2267179.55	1089.84	DCF-301
14193119.90	2266549.10	1070.2048	DCF-302



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**APPENDIX D
PROBEHOLE LOGS**

HTW DRILLING LOG

HOLE NO.
DCF-20

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions		SHEET 1 OF SHEETS	
PROJECT USFR DcFA 25724		4. LOCATION West Corner of Horse Corral, South of Tracks			
5. NAME OF DRILLER Brett		6. MANUFACTURER'S DESIGNATION OF DRILL GP-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4' macrocore sampler		8. HOLE LOCATION N14191770.22 E 2269767.17 DCF-20 Geologic Profile		
	2' spoon sampler				
	Discrete, 10 foot centers to 55 feet, then 5 foot centers until refusal				
		9. SURFACE ELEVATION 1061.84		10. DATE STARTED 10/23/2000	
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED			
14. TOTAL DEPTH OF HOLE 92.0 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)			

18. GEOTECHNICAL SAMPLES bagged samples		DISTURBED		UNDISTURBED NA		19. TOTAL NUMBER OF CORE BOXES NA - bag samples	
20. SAMPLES FOR CHEMICAL ANALYSIS NA		VOC NA	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE Subsurface Profile Bentonite		BACKFILLED	MONITORING WELL	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR Walter B. McClendon		

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time 0740 Discrete
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						↓

HTW DRILLING LOG

HOLE NO.
DCF-20

PROJECT
USFRDCFA 25724

INSPECTOR
Walter B. McClendon

SHEET **2**
OF SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. Time	BLOW COUNTS SS#	REMARKS h
	11	Silty Sand, 7.5yr silty, light brown, dry to damp, fine grained, well sorted, rounded					
	12						
	13						
	14	Sand, 7.5yr silty, light brown, dry, fine to medium, well sorted	0	SS1 19/14	0801	SS1	4/4 Discrete
	15						
	16						
	17						
	18						
	19						
	20	Sand, 7.5yr silty, light brown, damp to moist, fine to medium, well sorted					
	21						
	22	Sand, 7.5yr silty, light brown, moist to wet, fine to coarse, medium sorted, 0% Feldspar					
	23						
	24	same as above	0.6	20/24	0826	SS2	4/4 Discrete
	25						
	26						
	27						
	28						

HTW DRILLING LOG

HOLE NO.
DCF20

PROJECT USFRDCEFA 25724

INSPECTOR Walter B. Mc Clendon

SHEET 3 OF SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. Time	BLOW COUNTS CSH	REMARKS h
	29						Discrete ↓ Caving in at 25 feet
	30						
	31	Sand, 7.5yr sly, brown, wet, medium to coarse grained, poorly sorted, subangular; Qt, Feldspar; cherty Limestone					
	32						
	33						
	34	same as above	-	30/34	5844	SS3	3/4 Discrete ↓
	35						
	36						
	37						
	38						
	39						
	40	Sand, 7.5yr (1), grey, wet medium to coarse grained, poorly sorted, subangular to angular; Qt Feldspar, chert (Ls)					
	41						
	42						
	43						
	44	Sand, 7.5yr (1), grey, wet, fine grained, well sorted, rounded		40/44	0910	SS4	4/4 Discrete ↓
	45						
	46	Sand, 7.5yr (1), grey, wet, fine grained, well sorted, rounded					

HTW DRILLING LOG

HOLE NO.
DUF 20

PROJECT **USFRDCFA 25724**

INSPECTOR **Walter B. m³ clenden** SHEET **4** OF SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. Time	BLOW COUNTS SSS	REMARKS h
	47	sand, 7.5% s/s, grey, wet, fine grained, well sorted, --- <u>Weathered Sandy limestone</u>	R---	45/47	1045	SSS	14
	48						
	49						
	50						
	51						
	52						
	53						
	54						
	55						
	56						
		Bottom of Hole					TD=92.0 feet

HTW DRILLING LOG

HOLE NO.
DCF26

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions			SHEET 1 OF 2 SHEETS	
3. PROJECT USFRDCFA 25724			4. LOCATION Between Horse Canal Fence and Sewer Line			
5. NAME OF DRILLER DAN			6. MANUFACTURER'S DESIGNATION OF DRILL Geoprobe G-N-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4 foot macro core sampler		8. HOLE LOCATION N 14191830.39 E 2270133.13 300 feet east of West Canal Corner Post		
		4 foot acetate liner				
		discrete sampling interval				
9. SURFACE ELEVATION 1058.26			10. DATE STARTED 10/17/2000		11. DATE COMPLETED 10/17/2000	
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 43.0 ^{ft} NA feet			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NONE		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
		TCE, PCE, DCE	NA	NA	NA	NA
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR Walter B. McClendon	
		Bentonite				

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Discrete ↓
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF26

PROJECT **USFR DCFA 25724**

INSPECTOR **WALTER B. McCLendon**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	SAND, 7.5 yr old, light brown, clay to damp, fine grained, well sorted, rounded; Quartz and Feldspar	0				Discrete Sample Interval 10-14
	12		0				
	13		0				
	14		0	NA	4/4	SS1	
		Bottom of Hole - logged					T.D. = 14 feet (logged) Sample Interval to 5 feet below measured Sewer Line invert
		Bottom of Hole					T.D. = 43.0 feet

HTW DRILLING LOG

HOLE NO.
DCF 27

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions		SHEET 1 OF 2 SHEETS	
3. PROJECT USFRDCFA 25724		4. LOCATION Between Horse CORRAL Fence and Sewer Line			
5. NAME OF DRILLER DAN		6. MANUFACTURER'S DESIGNATION OF DRILL Geoprobe GA-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N 14191857.36 E 2270178.18 Approximately 350 feet east of West Corral Post		
	4-foot acetate liner				
	Discard sampling interval				
12. OVERBURDEN THICKNESS NA		9. SURFACE ELEVATION 1056.79		11. DATE COMPLETED 10/18/2000	
13. DEPTH DRILLED INTO ROCK NA		10. DATE STARTED 10/18/2000		11. DATE COMPLETED 10/18/2000	
14. TOTAL DEPTH OF HOLE 41.0 ^{80'} feet		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		18. GEOTECHNICAL SAMPLES		19. TOTAL NUMBER OF CORE BOXES	
NA		DISTURBED NA	UNDISTURBED NA	NA	
20. SAMPLES FOR CHEMICAL ANALYSIS On-site Analytical Lab Confirmation		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		TCE, PCE, DCE	NA	NA	NA
21. TOTAL CORE RECOVERY NA %		22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR	
NA		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	Walter B. McClendon
Bentonite		NA	NA	NA	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						START Time 0855 Discard
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 27

PROJECT **USFR DCFA 25724**

INSPECTOR **WALTER B.**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Sand, 7.5yr 5/4 light brown, dry, fine to medium, well sorted, rounded to subangular; Quartz, Feldspar	0				Discrete sample interval 10-14 End Time = 0905
	12		0				
	13		0				
	14		0.7	NA	4/4	551	
		Bottom of hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 41.0 feet

HTW DRILLING LOG

HOLE NO.
DCF28

1. COMPANY NAME BURNS + McDowell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions			SHEET 1 OF 2 SHEETS	
3. PROJECT USFROUFA 25724			4. LOCATION Approximately 400 feet east of West Coral Post			
5. NAME OF DRILLER DAN			6. MANUFACTURER'S DESIGNATION OF DRILL ATV - Geoprobe G-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N 14191864.98 E 2270228.67 Between Coral Fence and Sewer Line			
	4-foot Acetate Sleeve					
	discrete sampling interval					
9. SURFACE ELEVATION 1058.03			10. DATE STARTED 10/18/2000		11. DATE COMPLETED 10/18/2000	
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 42.0 gal 14 feet			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
		PCE, TCE, DCE	NA	NA	NA	NA
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR Walter B. McClendon	
		Bentonite	NA	NA		

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time = 1005 Discrete
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 28

PROJECT **USFRDCFA 25724**

INSPECTOR **Walter B. McCendon**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Sand, 7.5 yr SH, light brown, clay, fine to medium grained, well sorted, rounded to subangular; Quartz, Feldspar	○				Discrete Sample Interval 10/14
	12		○				
	13		○				
	14		0.7	NA	4/4 SSI	NA	
		Bottom of Hole - logged					TD = 14.0 feet (logged)
		Bottom of Hole					TD = 42.0 feet

HTW DRILLING LOG

HOLE NO.
DCF29

1. COMPANY NAME
Burns & McDonnell

2. DRILLING SUBCONTRACTOR
Innovative Probing Solutions

SHEET 1
OF 2 SHEETS

PROJECT
USFR DCFA 25724

4. LOCATION
Between Horse Corral Fence and Sewer Line

5. NAME OF DRILLER
DAN

6. MANUFACTURER'S DESIGNATION OF DRILL
ATV- Geoprobe GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
**4-foot maccore sampler
4-foot acetate sleeve
Discrete Sampling Interval**

8. HOLE LOCATION **N 14191884.91 E 2270270.97**
Approximately 450 feet east of Corral Corner Post

9. SURFACE ELEVATION
1059.21

10. DATE STARTED
10/18/2000

11. DATE COMPLETED
10/18/2000

12. OVERBURDEN THICKNESS
NA

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
NA

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
420 ^{yard} 4 feet

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES
NA

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC
PCE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE
Bentonite

BACKFILLED
NA

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
Walter B. McClendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						START Time = 1152 Discrete sampling interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF29

PROJECT **USFRDFA**

25724

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Sand, 7.5-1/4", light brown, dry to damp, fine to medium GRAINED, well sorted, rounded to subangular; Quartz, Feldspar	0				Discrete sampling Interval 10/14 End Time = 1206
	12		0				
	13		0				
	14		0.5	NA	4/4 SSI	NA	
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 42.0 feet

HTW DRILLING LOG

HOLE NO.
DCF 30

1. COMPANY NAME **Burns + McDonnell** 2. DRILLING SUBCONTRACTOR **Innovative Probing Solutions** SHEET 1 OF 2 SHEETS

PROJECT **USFRDCFA 25724** 4. LOCATION **Between Horse Corral Fence and Levee Line**

5. NAME OF DRILLER **DAN** 6. MANUFACTURER'S DESIGNATION OF DRILL **ATV Geoprobe G-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot macrocone sampler
4-foot acetate sleeve
discrete sampling interval

8. HOLE LOCATION **N 14191900.53 E 2270321.29**
500 feet east of west corral corner post

9. SURFACE ELEVATION **1060.92**

10. DATE STARTED **10/18/2000** 11. DATE COMPLETED **10/18/2000**

12. OVERBURDEN THICKNESS **NA** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **NA** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **44.0 ^{yd} 44 feet** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES
NA DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
PE, TCE, DCE	NA	NA	NA	NA	

22. DISPOSITION OF HOLE
Bentonite BACKFILLED MONITORING WELL OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **WALTER B. McCLENDON**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						START Time = 1410 Discrete Sampling Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 30

PROJECT **USFR DCFA 25724**

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Sand, 7.5yr 5/4, light brown, dry, fine to medium, well sorted, rounded; Quartz, Feldspar.	0				Discrete Sampling Interval 10/14
	12		0				
	13		0				
	14	Silt, 7.5yr 5/4, light brown, dry, trace plastic, soft consistency	0	NA	44 551	NA	End Time = 1418
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 44.0 feet

HTW DRILLING LOG

HOLE NO.
DCF 31

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions			SHEET 1 OF 2 SHEETS	
PROJECT USFROCA 25724		4. LOCATION Between horse corral fence and sewer line				
5. NAME OF DRILLER DAN		6. MANUFACTURER'S DESIGNATION OF DRILL ATV- Geoprobe GH-40				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N 14191933.98 E 2270366.11			
	4-foot acetate sleeve		550 feet east of west corral corner post			
	discrete sampling interval		9. SURFACE ELEVATION 1060.29			
			10. DATE STARTED 10/19/2000	11. DATE COMPLETED 10/19/2000		
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA				
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA				
14. TOTAL DEPTH OF HOLE 43.0 ^{0.0} _{0.0} feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA				
18. GEOTECHNICAL SAMPLES NA	DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA			
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %	
	PCE, TCE, DCE	NA	NA	NA		
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR Walter B. McClendon		
	Bentonite	NA	NA			

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time = 0720 Discrete Sampling Interval <div style="text-align: center;">↓</div>
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 31

PROJECT **USFRDCFA 25724**

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF **2** SHEETS

ELEV. <small>a</small>	DEPTH <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING RESULTS <small>d</small>	GEOTECH SAMPLE OR CORE BOX NO. <small>e</small>	ANALYTICAL SAMPLE NO. <small>f</small>	BLOW COUNTS <small>g</small>	REMARKS <small>h</small>
	11	Silty Sand, 7.5% silt, light brown, dry, fine grained, well sorted, rounded	0				Discrete Sampling Interval 10/14
	12		0				
	13		0				
	14		0	NA	4/4	NA	
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 43.0 feet

HTW DRILLING LOG

HOLE NO.
DCF32

1. COMPANY NAME Burns and McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions		SHEET 1 OF 2 SHEETS		
PROJECT USFRDLFA 25724		4. LOCATION Between horse corral fence and sewer line				
5. NAME OF DRILLER DAI		6. MANUFACTURER'S DESIGNATION OF DRILL ATV-Corprobe GN-40				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N 141919 44.64 E 2270410.78 600 feet east of west corral corner post			
	4-foot acetate sleeve					
	discrete sampling interval					
9. SURFACE ELEVATION 1060.12		10. DATE STARTED 10/19/2000		11. DATE COMPLETED 10/19/2000		
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA				
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA				
14. TOTAL DEPTH OF HOLE 43.0 JAR feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA				
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite analytical		VOC PCB, TCL, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY % NA
		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR Walter B. McClendon	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Discrete Sampling Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 32

PROJECT
BURNS and McDONNELL 25724

INSPECTOR
Innovative Probing Solutions

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h	
	11	Silty Sand, 7.5% silt, light brown, dry, well sorted, fine grained, rounded	0				Discrete Sampling Interval 10/14	
	12		0					
	13		0	4/4				End Time = 0854
	14		0	SS1	NA	NA		
		Bottom of Hole - logged					TD = 14 feet (logged)	
		Bottom of Hole					TD = 43.0 feet	

HTW DRILLING LOG

HOLE NO.
DCF 33

1. COMPANY NAME
Burns + McDonnell

2. DRILLING SUBCONTRACTOR
Innovative Probing Solutions

SHEET 1
OF 2 SHEETS

PROJECT
USFRDCFA 25724

4. LOCATION
Between House Canal Fence and Sewer

5. NAME OF DRILLER
DAN

6. MANUFACTURER'S DESIGNATION OF DRILL
ATV GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
**4-foot macrocore sampler
4-foot acetate liner
discrete sampling intervals**

8. HOLE LOCATION **N 4191962.26 E 2270453.49**
650 feet east of western corner post

9. SURFACE ELEVATION
1059.09

10. DATE STARTED
10/19/2000

11. DATE COMPLETED
10/19/2000

12. OVERBURDEN THICKNESS
NA

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
NA

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
42.0 ^{30'} feet

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES
NA

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
**Onsite Analytical
Offsite Lab Analysis**

VOC
ACE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE
Bentonite

BACKFILLED
NA

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
Walter B. McClendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time = 1240 Discrete Sampling Intervals
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 33

PROJECT **USFRDCFA 25724**

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silty sand, 7.5% S ₄ , light brown, dry, fine grained, well sorted.	0				
	12		0				
	13		0				
	14		0	NA	4/4 SSI	NA	End Time = 1311
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 42.0 feet

HTW DRILLING LOG

HOLE NO.
DCF34

1. COMPANY NAME **Burns + McDonnell** 2. DRILLING SUBCONTRACTOR **Innovative Probing Solutions** SHEET 1 OF 2 SHEETS

3. PROJECT **USFRDCFA 25724** 4. LOCATION **Between horse corral fence and sewer line**

5. NAME OF DRILLER **DAN** 6. MANUFACTURER'S DESIGNATION OF DRILL **Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot acetate sleeve
4-foot macrocore sampler
discrete sampling interval

8. HOLE LOCATION **N 14191982.12 E 2270497.20**
700 feet from western corral corner post

9. SURFACE ELEVATION **1057.96**

10. DATE STARTED **10/19/2000** 11. DATE COMPLETED **10/19/2000**

12. OVERBURDEN THICKNESS **NA** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **NA** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **41.0 ^{gals} feet** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES **NA** DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS **Onsite Analytical**

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
ACE, TCE, DCE	NA	NA	NA	NA	

22. DISPOSITION OF HOLE

BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Bentonite	NA	NA	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						START Time = 1445 Discrete Sampling Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF34

PROJECT **USFRDCFA** **25724**

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	<i>Silty Sand, 7.5% SL, dry to damp, fine grained, well sorted.</i>	0				<i>Discrete Sampling Interval 10/14</i>
	12		0				
	13		0				
	14		0	NA	414	651	
		<i>Bottom of Hole - logged</i>					<i>TD = 14 feet (logged)</i>
		<i>Bottom of Hole</i>					<i>TD = 41.0 feet</i>

HTW DRILLING LOG

HOLE NO.
Dcf35

1. COMPANY NAME **Buans + McDonnell** 2. DRILLING SUBCONTRACTOR **Innovative Probing Solutions** SHEET 1 OF 2 SHEETS

PROJECT **USFRDcFA 25724** 4. LOCATION **Between horse corral fence and sewer line**

5. NAME OF DRILLER **DAN** 6. MANUFACTURER'S DESIGNATION OF DRILL **ATV - Geoprobe GN-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot macro cone sampler
4-foot acetate sleeve
Discrete Sampling Interval

8. HOLE LOCATION **N14192006.05 E 2270540.06**
300 feet west of eastern corral fence post

9. SURFACE ELEVATION **1060.26**

10. DATE STARTED **10/20/2000** 11. DATE COMPLETED **10/20/2000**

12. OVERBURDEN THICKNESS **NA** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **NA** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **H.O. 30' 1/4 feet** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES
 DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical
Offsite Lab Analysis

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
PCE, TCE, DCE	NA	NA	NA	NA	

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **Walter B. McClendon**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						START Time = 0820 Discrete Sampling Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 35

PROJECT **USFRDCFA** **25724**

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silty sand, 7.5% silt, light brown, dry to damp, well sorted, fine grained	0				Discrete Sampling Interval 10/14
	12		0				
	13	Sandy silt, 7.5% silt, light brown, dry to damp, well sorted, fine grained	0				
	14	Clayey silt, 7.5% silt, dark brown, damp to moist, med. plastic, soft consistency	0	NA	4/4 SSI	NA	End Time = 0829
		Bottom of hole - logged					TD = 14 feet (logged)
		Bottom of hole					TD = 41.0 feet

HTW DRILLING LOG

HOLE NO.
DCF 36

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solution		SHEET 1 OF 2 SHEETS	
3. PROJECT USFRDCFA 25724			4. LOCATION Between horse corral fence and sewer line		
5. NAME OF DRILLER DAN			6. MANUFACTURER'S DESIGNATION OF DRILL ATV Geoprobe GH-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N 141920 28.00 E 22705 69.89 250 feet west of eastern corral corner post	
		4-foot acetate sleeve			
		discrete sampling interval			
12. OVERBURDEN THICKNESS NA		9. SURFACE ELEVATION 1061.19		10. DATE STARTED 10/20/2000	
13. DEPTH DRILLED INTO ROCK NA		15. DEPTH GROUNDWATER ENCOUNTERED NA		11. DATE COMPLETED 10/20/2000	
14. TOTAL DEPTH OF HOLE 41.0 ^{JOB} NA feet		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite analytical		VOC ACE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
		OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR Walter B. McClendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time = 1020 Discrete Sampling Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 36

PROJECT **USFR DcFA 25724**

INSPECTOR **Walter B. Mc Clendon**

SHEET **2**
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silty sand, 7.5% silt, light brown, dry, fine grained, well sorted	0				Discrete Sampling Interval 10/14
	12		0				
	13		0			4/4	
	14		0	NA	SS1	NA	
		Bottom of hole - logged					TD = 14 feet (logged)
		Bottom of hole					TD = 41.0 feet

HTW DRILLING LOG

HOLE NO.
DCF37

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions		SHEET 1 OF 2 SHEETS	
PROJECT USFR DcFA 25724		4. LOCATION Between horse corral and fence corner			
5. NAME OF DRILLER Dan		6. MANUFACTURER'S DESIGNATION OF DRILL ATV - Geoprobe G1-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot acetate sleeve		8. HOLE LOCATION N 1492061.58 E 2270620.57		
	4-foot macrocore sampler		200 feet west of eastern corral corner post		
	discrete sampling interval		9. SURFACE ELEVATION 1061.19		
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 40.0 ^{30R} 74 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA	DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical	VOC PCE, TCE, ACE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA %
	BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR Waite B. McElendon	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						START Time = 1335 Discrete Sampling Interval <div style="text-align: center;">↓</div>
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF 37

PROJECT **USFR DCFA 25724**

INSPECTOR **Waite B. McClendon**

SHEET **2**
OF **2** SHEETS

ELEV. <small>a</small>	DEPTH <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING RESULTS <small>d</small>	GEOTECH SAMPLE OR CORE BOX NO. <small>e</small>	ANALYTICAL SAMPLE NO. <small>f</small>	BLOW COUNTS <small>g</small>	REMARKS <small>h</small>
	11	<i>Silty sand, 7.5% S_u, dry to damp, fine grained well sorted</i>	0				<i>Discrete Sampling Interval</i>
	12		0				
	13		0				
	14		0	NA	4/4 551	NA	
		<i>Bottom of Hole - logged</i>					<i>TD = 14 feet (logged)</i>
		<i>Bottom of Hole</i>					<i>TD = 40.0 feet</i>

HTW DRILLING LOG

HOLE NO.
DCF38

1. COMPANY NAME Burns + McDowell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions		SHEET 1 OF 2 SHEETS	
3. PROJECT USFROcFA 25724			4. LOCATION Between horse corral fence and sewer line		
5. NAME OF DRILLER Brett			6. MANUFACTURER'S DESIGNATION OF DRILL ATV-Geoprobe G-11-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N 14192036.39 E 2270579.67	
		4-foot acetate sleeve		150 feet west of eastern corral corner post	
		Discrete Sampling Interval		9. SURFACE ELEVATION 1060.80	
				10. DATE STARTED 10/23/2000	
				11. DATE COMPLETED 10/23/2000	
12. OVERBURDEN THICKNESS NA			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE 41.5 feet			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC ACE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
					21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR Walter B. McClendon
		Bentonite	NA	NA	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time = 1525 Discrete Sample Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF38

PROJECT **USFR DCFA 25724**

INSPECTOR **Walter B. Mcclendon**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silt, 7.5 yr silty, brown, clay, trace plastic, soft consistency	○				Discrete Sample Interval 10/14
	12		○				
	13		○				
	14	Sand, 7.5 yr silty light brown, dry to damp fine grained, well sorted	○	NA	4/1 SS1	NA	End Time = 1545
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 41.5 feet

HTW DRILLING LOG

HOLE NO.
DCF39

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR Innovative Probing Solutions		SHEET 1 OF 2 SHEETS	
PROJECT USFRALFA 25724		4. LOCATION Between horse corral fence and sewer line			
5. NAME OF DRILLER Brett		6. MANUFACTURER'S DESIGNATION OF DRILL ATV- Geoprobe GH-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocone sampler		8. HOLE LOCATION N 14192084.82 E 2270660.23		
	4 foot Acetate Sleeve		50 feet west of eastern corral corner post		
	discrete sample interval		9. SURFACE ELEVATION 1061.11		
			10. DATE STARTED 10/24/2000		
		11. DATE COMPLETED 10/24/2000			
12. OVERBURDEN THICKNESS NA		15. DEPTH GROUNDwater ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE H.O.D 20 3/4 feet		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC ACE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
					21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR Walter B. McClendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time = 0720 - Discrete Sampling Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF39

PROJECT **USFR DCFA 25724**

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Sandy silt, 7.5% SW, light brown, dry, trace plastic, soft consistency	0				Discrete Sampling Interval
	12		0				
	13		0				
	14	Sand, 7.5% SW, light brown, clay fine, graded, well sorted, rounded to angular	0	NA	44 SSI	NA	End Time = 0745
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 40.0 feet

HTW DRILLING LOG

HOLE NO.
DCFA

1. COMPANY NAME **Buans And McDonnell** 2. DRILLING SUBCONTRACTOR **Innovative Probing Solutions** SHEET 1 OF 2 SHEETS

PROJECT **USFR DCFA 25724** 4. LOCATION **Between horse CORRAL fence and sewer line**

5. NAME OF DRILLER **Brett** 6. MANUFACTURER'S DESIGNATION OF DRILL **ATV Geoprobe GA-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot macrocone sampler
4-foot acetate sleeve
discrete sample interval

8. HOLE LOCATION **N1492109.89 E2270708.42**
EASTERN CORRAL FENCE CORNER

9. SURFACE ELEVATION **1057.01**

10. DATE STARTED **10/24/2000** 11. DATE COMPLETED **10/29/2000**

12. OVERBURDEN THICKNESS **NA** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **NA** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **41.0 feet** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES **NA** DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical
Offsite Lab Analysis

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
PCE, TCE, OCE	NA	NA	NA	NA	

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA**

23. SIGNATURE OF INSPECTOR **Walter B. McElendon**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						Start Time = 0900 Discrete Sample Interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF40

PROJECT **USFRDCFA 25724**

INSPECTOR **Waite B. McClendon**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silty sand, 7.5% clay, light brown, clay to clump, fine grained, well sorted	0				Discrete Sample Interval 10/14
	12		0				
	13		0				
	14		0	NA	4/4 551	NA	
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 41.0 feet

HTW DRILLING LOG

HOLE NO.
DCF41

1. COMPANY NAME
Burns and McDonnell

2. DRILLING SUBCONTRACTOR
Innovative Probing Solutions

SHEET 1
OF 2 SHEETS

PROJECT
USFR DcFA 25724

4. LOCATION
East of CORRAL eastern fence corner

5. NAME OF DRILLER
Brett

6. MANUFACTURER'S DESIGNATION OF DRILL
ATV-Geoprobe GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT

*4-foot macro core sampler
4-foot acetate sleeve
discute sample interval*

8. HOLE LOCATION N14192134.24 E 2370745.69
50 feet east of CORRAL eastern fence corner

9. SURFACE ELEVATION
1059.55

12. OVERBURDEN THICKNESS
NA

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
NA

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
43.0 ~~ft~~ feet

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES
NA

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC
PCE, TCE, ACE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY %
NA

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
Walter B. McClendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						<i>START Time = 0937 Discute Sample Interval</i>
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF41

PROJECT **USFR DCFA 25724**

INSPECTOR **Walter B. McCendon**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silt, 7.5 to 5/4, light brown, dry to damp, trace plastic soft consistency	0				Discrete Sample Interval 10/14
	12		0				
	13		0				End Time = 1000
	14		0	NA	10/14 SSI	NA	
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 43.0 feet

HTW DRILLING LOG

HOLE NO.
DCF42

1. COMPANY NAME **Burns + McDonnell** 2. DRILLING SUBCONTRACTOR **Innovative Probing Solutions** SHEET 1 OF 2 SHEETS

PROJECT **USFRDCA 25724** 4. LOCATION **east of eastern coral fence corner**

5. NAME OF DRILLER **Brett** 6. MANUFACTURER'S DESIGNATION OF DRILL **ATV - Geoprobe GN-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot macrocore sampler
4-foot acetate sleeve
discrete sample interval

8. HOLE LOCATION **N 14192159.04 E 2270780.01**
100 feet east of eastern coral fence corner

9. SURFACE ELEVATION **1060.92**

10. DATE STARTED **10/25/2000** 11. DATE COMPLETED **10/25/2000**

12. OVERBURDEN THICKNESS **NA** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **NA** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **43.0 ¹⁰⁰ feet** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES
 NA DISTURBED NA UNDISTURBED NA 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY % NA
PCE, TCE, DCE	NA	NA	NA	NA	

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA**

23. SIGNATURE OF INSPECTOR **Walter B. McClendon**

DEPTH a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1						START Time = 1105 Discrete sampling interval
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF42

PROJECT
USFRDCFA

INSPECTOR
Walter B. McClendon

SHEET **2**
OF **2** SHEETS

ELEV. <small>a</small>	DEPTH <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING RESULTS <small>d</small>	GEOTECH SAMPLE OR CORE BOX NO. <small>e</small>	ANALYTICAL SAMPLE NO. <small>f</small>	BLOW COUNTS <small>g</small>	REMARKS <small>h</small>
	11	Silty clay, 7.5 to 5/4, brown, dry medium plastic, medium consistency	0				Discrete Sample Interval 10/14
	12		0				
	13	Silt, 7.5 to 5/4, light brown, dry to damp, trace plastic, soft consistency with sand, fine grained, well sorted	0				End Time = 1115
	14		0	NA	4/4 SS)	NA	
		Bottom of Hole - logged					TD = 14 feet (logged)
		Bottom of Hole					TD = 43.0 feet

HTW DRILLING LOG

HOLE NO.
DCFB100

1. COMPANY NAME: **Burns & Mc Donnell** 2. DRILLING SUBCONTRACTOR: **Environmental Priority Service** SHEET 1 OF 1 SHEETS

PROJECT: **USER DCEA 25724** 4. LOCATION: **Former Dry Cleaning Facility Building Location**

5. NAME OF DRILLER: **Pat Martin** 6. MANUFACTURER'S DESIGNATION OF DRILL: **Truck-mounted Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: **4-foot macrocore sampler**
4-foot acetate sleeve
Continuous 8. HOLE LOCATION: **N 14192947.31 E 2267153.88**
9. SURFACE ELEVATION: **1085.19**

10. DATE STARTED: **12/08/2000** 11. DATE COMPLETED: **12/08/2000**

12. OVERBURDEN THICKNESS: **9.0'** 15. DEPTH GROUNDWATER ENCOUNTERED: **NA**

13. DEPTH DRILLED INTO ROCK: **0.0'** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: **NA**

14. TOTAL DEPTH OF HOLE: **9.0'** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): **NA**

18. GEOTECHNICAL SAMPLES: DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES: **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS: VOC: **PE, TCE, DCE** METALS: **NA** OTHER (SPECIFY): **NA** OTHER (SPECIFY): **NA** OTHER (SPECIFY): **NA** 21. TOTAL CORE RECOVERY: **NA** %

22. DISPOSITION OF HOLE: BACKFILLED: **Bentonite** MONITORING WELL: **NA** OTHER (SPECIFY): **NA** 23. SIGNATURE OF INSPECTOR: *J. Kidwell*

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h	
	1	Silt and clay: dark brown 7.5YR 3/2 damp, medium plasticity, medium consistency	0.0				Start time 0731	
	2	Silt: light brown 7.5YR 6/3 dry, nonplastic, soft	0.0					
	3		0.0					
	4	Silt and very fine sand: light brown 7.5YR 6/3, dry to damp, nonplastic, soft to medium consistency	0.0	3/4	SS1	0735		SS1 (3/4)
	5		0.0					
	6		0.0					
	7		0.0					
	8		0.0	4/4	SS2	0739		
	9		0.0	1/1	SS3	0744		SS3 (1/1) End time
	10	Bottom of hole						TD = 9.0' bgs VWL = DRY Refusal in shale

HTW DRILLING LOG

HOLE NO.
DCFB100A

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service			SHEET 1 OF 1 SHEETS	
3. PROJECT USFRDCFA 25724			4. LOCATION Former Dry Cleaning Facility Building Locat			
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Truck-mounted Geoprobe			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		A-foot macrocore sampler		8. HOLE LOCATION N 192985.39 E 2267164.89		
		4-foot acetate sleeve		9. SURFACE ELEVATION 1085.75		
		Continuous		10. DATE STARTED 12/08/2000		11. DATE COMPLETED 12/08/2000
12. OVERBURDEN THICKNESS 8.0'			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 0.0'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 8.0'			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Offsite Confirmation Onsite Analytical		VOC PE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
						21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR JX Kidwell	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Silt and clay: dark brown 7.5YR ² / ₂ , damp, medium plasticity, medium to stiff consistency	0.0				Start time 0751
	2		0.0				
	3		0.0				
	4		0.0		3/4	SS1	
	5	Silt and sand, trace clay: light brown 7.5YR ⁶ / ₃ , damp, nonplastic, soft consistency	0.0				SS2 (7/8)* End time
	6		0.0				
	7		0.0				
	8		0.0		4/4	SS2	
	9	Bottom of hole					Refusal in shale TD=8.0' bgs WL= DRY
	10						

HTW DRILLING LOG

HOLE NO.
DLFB 101

1. COMPANY NAME <i>Burns + McDowell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 2 SHEETS		
3. PROJECT <i>USF20CFA 25724</i>			4. LOCATION <i>Former OCF building location</i>			
5. NAME OF DRILLER <i>Doug and Paul</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>Van mounted Geoprobe G-40</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macerore sampler		8. HOLE LOCATION <i>N14192979.7 E2267196.99</i> <i>Ort cleaning Building location, Grid point 101</i>		
		4-foot acetate sleeve				
		discrete sampling interval				
		9. SURFACE ELEVATION <i>1085.715' dth</i>		10. DATE STARTED <i>10/02/2000</i>		
				11. DATE COMPLETED <i>10/02/2000</i>		
12. OVERBURDEN THICKNESS <i>14.4</i>			15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>			
13. DEPTH DRILLED INTO ROCK <i>1.8</i>			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>			
14. TOTAL DEPTH OF HOLE <i>16.2</i>			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>		DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite Analytical</i> <i>Offsite lab confirmation</i>		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY <i>NA</i> %
		<i>PCE, TCE, DCE</i> <i>V.C.</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>Walter B. McClendon</i>	
		<i>Bentonite</i>	<i>NA</i>	<i>NA</i>		

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. <i>Recovery</i>	BLOW COUNTS Time	REMARKS h
	1						<i>Start Time = 0705</i> <i>Discrete</i> <div style="text-align: center;">↓</div>
	2						
	3						
	4	<i>Sand, with fines, 7.5 grs/SL, strong Brown, fine grained well coated damp</i>	0				
	5		0				
	6		0				
	7	<i>same as above</i>	0	<i>NA</i>	<i>4/4</i> <i>551</i>	<i>0715</i> <i>NA</i>	<i>3/7</i> <div style="text-align: center;">↓</div>
	8						<i>Discrete</i> <div style="text-align: center;">↓</div>
	9						
	10						

HTW DRILLING LOG

HOLE NO.

DLFR101

PROJECT

USFR DCFA

25724

INSPECTOR

Walter B. McClendon

 SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11						Discrete ↓
	12						
	13						
	14	Sandy clay, 7.5 yr, light sand, damp to moist, medium plastic soft consistency	0				
	15	Sand, 7.5 yr 5H, brown, damp to moist fine to medium, poorly sorted; or kaol. weathered limestone, wet, clay, 7.5 yr light brown, medium plastic medium to hard consistency	0				
	16	Weathered Limestone, 7.5 yr light brown dry to damp, trace plastic, hard core. Fossils	0	NA	3/4 652	0745	End Time = 0755
	17	Bottom of Hole					TD = 16.2 feet
	18						
	19						
	20						
	21						
	22						
	23						
	24						
	25						
	26						
	27						
	28						

HTW DRILLING LOG

HOLE NO.
DcFB 102

1. COMPANY NAME <i>BURNS + McDONNELL</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 2 SHEETS	
3. PROJECT <i>USFR DcFA 25724</i>			4. LOCATION <i>Former DcF Building Facility</i>		
5. NAME OF DRILLER <i>Doug And Paul</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>Van Mounted Geoprobe G-H-40</i>		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	<i>4-macrocore sampler</i>		8. HOLE LOCATION <i>N 14193015.52 E 2267242.89</i>		
	<i>4-foot acetate sleeve</i>		<i>Former Dry cleaning Building Location</i>		
	<i>discrete sampling interval</i>		9. SURFACE ELEVATION 1085.738 <i>1085.8 D/A</i>		
12. OVERBURDEN THICKNESS <i>14.4</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>14</i>		10. DATE STARTED <i>11/02/2000</i>	
13. DEPTH DRILLED INTO ROCK <i>1.0</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>		11. DATE COMPLETED <i>11/02/2000</i>	
14. TOTAL DEPTH OF HOLE <i>15.4</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>		DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>	
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite analytical</i>		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		<i>ACE, TCE, DCE U.C.</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR. <i>Walter B. McClendon</i>
		<i>Benoxide</i>	<i>NA</i>	<i>NA</i>	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	1						<i>Start Time - 0826</i> <i>Discrete sample interval</i> <div style="text-align: center;">↓</div> <i>3/7</i>
	2						
	3	<i>Clay, sand, 7.5 yr sil, dark brown, damp, trace plastic, soft consistency</i>	<i>0.5</i>				
	4	<i>sand, 7.5 yr sil, light brown, damp, fine grained, well coated,</i>	<i>0.7</i>				
	5		<i>0.7</i>				
	6		<i>0.7</i>				
	7		<i>0.5</i>	<i>NA</i>	<i>4/4</i> <i>561</i>	<i>0830</i>	
	8		<i>0.5</i>				
	9		<i>0.5</i>				
	10	<i>SAME AS ABOVE</i>	<i>0.5</i>				

HTW DRILLING LOG

HOLE NO.
DCF102

PROJECT
USFRDCFA 25724

INSPECTOR
Walter B. McClendon

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. Recovery	BLOW COUNTS Time	REMARKS h
	11	sand, 7.54 r/w, brown, damp, fine grained, well sorted	0.5	NA	414 652	0837	7/11
	12		0.9				
	13		1.2				
	14	clay 7.54 r/w, brown, wet, high plastic, soft consistency Weathered Limestone, wet, with sand & clay, odor	0.9		414		
	15		282	NA	653	0845	11/15 VLLV strong solvent 0002
			184	NA	-	0904	15/15.4
	16	Bottom of Hole					TO = 15.4 feet End Time = 0907
	17						
	18						
	19						
	20						
	21						
	22						
	23						
	24						
	25						
	26						
	27						
	28						

HTW DRILLING LOG

HOLE NO.
DCF102A

1. COMPANY NAME **Burns + McDonnell** 2. DRILLING SUBCONTRACTOR **Environmental Priority Service** SHEET 1 OF 2 SHEETS

PROJECT **USFRODCA 25724** 4. LOCATION **Former DCF building location**

5. NAME OF DRILLER **DOUS** 6. MANUFACTURER'S DESIGNATION OF DRILL **VAN Mounted Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot acetate sleeve
4-foot macrolone sampler
discrete sample interval

8. HOLE LOCATION **N14193025.B3 E 2267256.91**
29 Feet NE of DCF102 along line

9. SURFACE ELEVATION **1086.14**

10. DATE STARTED **11/02/2000** 11. DATE COMPLETED **11/02/2000**

12. OVERBURDEN THICKNESS **14.8 14.0** 15. DEPTH GROUNDWATER ENCOUNTERED **15**

13. DEPTH DRILLED INTO ROCK **2.5 3.0** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **17.0** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES **NA** DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS **Onsite Analytical**

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
<i>PCB, PCB, PCB U.C.</i>	NA	NA	NA	NA	NA

22. DISPOSITION OF HOLE

BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
<i>Bentonite</i>	NA	NA	<i>Walter B. McClendon</i>

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. <i>Recovery</i>	BLOW COUNTS Time	REMARKS h
	1						Start Time = 0943 Discrete
	2						
	3						
	4	<i>Sand, 7.5 grs/4, brown, damp, fine grained, well coated</i>	0.9				
	5		0.9				
	6		1.5				SS1
	7		0.9	NA	414 SS1	0946	3/7
	8	<i>Clay, 7.5 grs/4, brown, damp, medium plastic, medium consistency</i>	1.2				SS2
	9	<i>Sand, 7.5 grs/4, brown, damp, fine grained, well coated</i>	0.9				
	10		0.9				

HTW DRILLING LOG

HOLE NO.
DF102A

PROJECT
USFRDCFA

25724

INSPECTOR
Walter B. McClendon

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. Recovery	BLOW COUNTS Time	REMARKS h
	11	Sand, 7.5% silt, brown, damp, fine grained, well sorted	0.5	NA	414 SS2	8953	7/11
	12		2.5				
	13	Clay, olive green, damp, medium to highly plastic, medium to hard consistency	2.3				
	14	Weathered limestone with limonite odor, dry	102				SS3
	15	Weathered limestone, wet	243	NA	414 SS3	1003	11/15
	16		153				End Time = 1015
	17			NA	414 SS4	1010	
	18	Bottom of Hole					TA = 17.0 feet
	19						
	20						
	21						
	22						
	23						
	24						
	25						
	26						
	27						
	28						

HTW DRILLING LOG

HOLE NO.
DCF 102B

1. COMPANY NAME: **Burns + McDonnell** 2. DRILLING SUBCONTRACTOR: **Environmental Priority Service** SHEET 1 OF 2 SHEETS

PROJECT: **USFRA DCPA 25724** 4. LOCATION: **Former Dry Cleaning Facility**

5. NAME OF DRILLER: **Paul** 6. MANUFACTURER'S DESIGNATION OF DRILL: **Van mounted Geoprobe Gnt-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: **4-foot macrocore sampler**
4-foot acetate sleeve 8. HOLE LOCATION: **N1419304Z.99 E226726S.26**
38 Feet east of DCFB102

9. SURFACE ELEVATION: **1086.71**

10. DATE STARTED: **11/02/2000** 11. DATE COMPLETED: **11/02/2000**

12. OVERBURDEN THICKNESS: **16.0** 15. DEPTH GROUNDWATER ENCOUNTERED: **NA**

13. DEPTH DRILLED INTO ROCK: **0.4** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: **NA**

14. TOTAL DEPTH OF HOLE: **16.4** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): **NA**

18. GEOTECHNICAL SAMPLES: DISTURBED **NA**, UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES: **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS: **On-site Analytical**
VOC: **PCE, TCE, OCE** METALS: **NA** OTHER (SPECIFY): **NA** OTHER (SPECIFY): **NA** OTHER (SPECIFY): **NA** 21. TOTAL CORE RECOVERY: **NA** %

22. DISPOSITION OF HOLE: BACKFILLED **Bentonite**, MONITORING WELL **NA**, OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR: **Walter B. McClendon**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. <i>Recovery</i>	BLOW COUNTS <i>Time</i>	REMARKS h
	1						Start Time = 1030 Discrete
	2						
	3						
	4	clayey sand, 7.5-11, strong brown damp, trace to medium plastic, both consistent	0				
	5		0				
	6	clayey sand, 7.5-11, strong brown, fine to coarse, poorly sorted, with concrete bits and TILPIONS (Fill)	0	NA	44 551	1045	
	7		0			3/7	
	8		0.5				
	9		0.5				
	10		0.9				

HTW DRILLING LOG

HOLE NO.
DLFB102B

PROJECT *USFR DCPA 25724*

INSPECTOR *Walter B. McClendon*

SHEET *2*
OF *2* SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	11	<i>clayey sand, 7.5 gr 94, strong brown, fine to coarse, with fines, poorly sorted, pieces of concrete and tile</i>	<i>0.9</i>	<i>ND</i>	<i>44</i> <i>552</i>	<i>1056</i>	<i>7/11</i>
	12		<i>0</i>				
	13			<i>0</i>			
	14			<i>0</i>			
	15	<i>same as above, no tile.</i>	<i>0</i>	<i>ND</i>	<i>114</i> <i>553</i>	<i>1100</i>	<i>11/15</i>
	16	<i>weathered limestone, dry</i>	<i>240</i> <i>5</i>	<i>NA</i>	<i>554</i>	<i>1115</i>	<i>End Time = 1120</i> <i>17/16.5</i>
	17	<i>Bottom of 1616</i>					<i>TO = 16.5</i>
	18						

HTW DRILLING LOG

HOLE NO.
D/FB103

1. COMPANY NAME <i>Burns + McDonnell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 2 SHEETS	
PROJECT <i>USFRDLFA 25724</i>		4. LOCATION <i>Former Dry Cleaning Building Area</i>			
5. NAME OF DRILLER <i>PAUL</i>		6. MANUFACTURER'S DESIGNATION OF DRILL <i>Truck mounted Geoprobe G-H-40</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	<i>4 foot macerator sampler</i>		8. HOLE LOCATION <i>N14193051.29 E2267286.09</i> <i>Former Dry cleaning Building AREA</i>		
	<i>4 foot acetate sieve</i>		9. SURFACE ELEVATION <i>1087.85</i> ^{CHH} <i>1086.82</i>		
			10. DATE STARTED <i>11/03/2000</i>		
			11. DATE COMPLETED <i>11/03/2000</i>		
12. OVERBURDEN THICKNESS <i>11</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>			
13. DEPTH DRILLED INTO ROCK <i>2</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>			
14. TOTAL DEPTH OF HOLE <i>13</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>	DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite Analytical</i>	VOC <i>PCE, TCE, DCE</i>	METALS <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>
	21. TOTAL CORE RECOVERY <i>NA</i> %				
22. DISPOSITION OF HOLE	BACKFILLED <i>Bentonite</i>	MONITORING WELL <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	23. SIGNATURE OF INSPECTOR <i>Walter B. McClendon</i>	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. <i>Recovery</i>	BLOW COUNTS <i>Time</i>	REMARKS h
	1	<i>Silt clay, 7.5-10% SW, stains brown, damp, trace plastic, soft to medium consistency; with fill material, concrete, tile</i>					<i>START Time = 0656</i>
	2		0				
	3		0				
	4		0	<i>NA</i>	<i>314</i>	<i>0657</i>	<i>SS1 3/4</i>
	5	<i>Sand, 7.5-10% SW, brown, damp fine grained, well sorted</i>	0				
	6		0				
	7		0				
	8		0	<i>NA</i>	<i>552</i>	<i>0701</i>	<i>552</i>
	9		0				
	10		0				<i>653 9/10</i>

HTW DRILLING LOG

HOLE NO.
DCFB103

PROJECT
USFRDCFA 25724

INSPECTOR
Walter B. McClendon

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS T ₉₉	REMARKS h
	11	Sand, 7 5-yr ^{5/4} , brown, moist fine grained, well sorted	○				
	12	Weathered limestone with clay, Olive green, medium plastic medium to weakly, shale	○	NA	653	0700	
	13	Weathered limestone with silty sand, moist to wet,			654	0710	12/13 End Time
	14	Bottom of hole					TD = 13.0 feet
	15						
	16						
	17						

HTW DRILLING LOG

HOLE NO.
DCFB104

1. COMPANY NAME Burns And McDonnell		2. DRILLING SUBCONTRACTOR PES			SHEET 1 OF 2 SHEETS	
PROJECT USFRDCFA 25724			4. LOCATION Former Dry Cleaning Building Location			
5. NAME OF DRILLER PA+ MARTIN			6. MANUFACTURER'S DESIGNATION OF DRILL TRUCK mounted Geoprobe G17-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot MACROCORE sampler		8. HOLE LOCATION N 1419 3081.72 E 2267334.52			
	4-foot Acetate sleeve		9. SURFACE ELEVATION 1087.75			
	Continuous		10. DATE STARTED 11/03/2000		11. DATE COMPLETED 11/03/2000	
12. OVERBURDEN THICKNESS 11.8			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 1.7			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 13.5			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Lab		VOC PCE, DCE, TCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA %	
				23. SIGNATURE OF INSPECTOR W. B. McClendon		

ELEV. i	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g Time	REMARKS h
	1	CLAY, strong brown, damp, medium plastic, medium consistency	-				START Time 0730
	2		0				
	3	Silty Sand, strong brown, fine grained, well sorted, with fines	0				
	4		0	3/4	SS1	0732	SS1 (3/4)
	5		0				
	6		0				
	7	Sand, brown, fine grained, well sorted	0				
	8		0	4/4	SS2	0740	
	9						
	10	CLAY brown, damp, medium plastic, medium consistency					SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB104

PROJECT *USFRDCFA 25724*

INSPECTOR *W.B. McClendon*

SHEET *2*
OF *2* SHEETS

ELEV. <small>a</small>	DEPTH <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING RESULTS <small>d</small>	GEOTECH SAMPLE OR CORE BOX NO. <small>e</small>	ANALYTICAL SAMPLE NO. <small>f</small>	BLOW COUNTS <small>g</small> <i>Time</i>	REMARKS <small>h</small>
	11	<i>Sand, brown, damp, fine grained, well sorted</i>	0				
	12	<i>Weathered L.S.</i>	0	<i>4/4</i>	<i>553</i>	<i>0745</i>	
	13	<i>Shale, Olive Green</i>	0				<i>554 (12.2/12.8)</i>
	14	<i>Bottom of Hole</i>					<i>TD = 13.5</i>

HTW DRILLING LOG

HOLE NO.
DCFBI05

1. COMPANY NAME
Burns & McDonnell

2. DRILLING SUBCONTRACTOR
Environmental Priority Service

SHEET 1
OF 2 SHEETS

PROJECT
USFRDCEA 25724

4. LOCATION
Former Dry Cleaning Building Location

5. NAME OF DRILLER
Pat Martin

6. MANUFACTURER'S DESIGNATION OF DRILL
Truck-mounted Geoprobe GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
**4-foot macrocore sampler
4-foot acetate sleeve
Continuous**

8. HOLE LOCATION
N14193101.51 E2267397.57

9. SURFACE ELEVATION
1087.83

10. DATE STARTED
12/07/2000

11. DATE COMPLETED
12/07/2000

12. OVERBURDEN THICKNESS
23.0'

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
1.0'

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
24.0' bgs

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC
TCE, PCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
J. L. Kidwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h	
	1	Topsoil Silt, dark brown dry, non plastic, medium consistency	0.0				Start time 0911	
	2	Silt and sand, light brown dry, non plastic,	0.0					
	3	soft	0.0					
	4	Silt, some clay, brown damp, medium plasticity, medium consistency	0.0	4/4	SS1	0915		SS1 (3/4)
	5	Silt, trace clay, trace very fine sand, brown damp, trace to non plastic, medium consistency	0.0					
	6		0.0					
	7		0.0					
	8		0.0	4/4	SS2	0920		
	9		0.0					
	10		0.0					SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB105

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEO TECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. i	BLOW COUNTS TIME	REMARKS h
	11	Silt, some clay: brown 7.5YR ^{5/3} , damp, medium plasticity, medium consistency	0.0				
	12		0.0	4/4	SS3	0925	
	13		0.0				
	14		0.0				
	15	Silt, trace clay: brown 7.5YR ^{5/3} , damp, trace plasticity, medium consistency	0.0	4/4	SS4	0930	SS4 (15/16)
	16		0.0				
	17	Silt, trace clay, trace very fine sand: light brown 7.5YR ^{6/3} , damp, trace plasticity, medium consistency	0.0				
	18		0.0				
	19		0.0				
	20		0.0	4/4	SS5	0937	
	21		0.0				
	22	Sand, fine to med. grain, moderately well sorted, light brown 7.5YR ^{6/3} , damp to moist, nonplastic, soft	0.0				SS5 (21/22)
	23		0.0				
	24	Shale, Helive gray 5Y ^{6/2} , damp	0.0	4/4	SS6	0946	End time
	25	Bottom of hole					Refusal in shale TD=24.0' bgs WL= DRY
	26						
	27						
	28						

HTW DRILLING LOG

HOLE NO.
DCFB106

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Systems		SHEET 1 OF 2 SHEETS		
PROJECT USFRDCFA 25724			4. LOCATION Former Dry Cleaning Building Location			
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Truck-mounted geoprobe GH-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N 1419 2933.63 E 226721.335 MH		
		4-foot acetate sleeve		9. SURFACE ELEVATION 1084.96 1083.73		
		Continuous		10. DATE STARTED 12/07/2000		
				11. DATE COMPLETED 12/07/2000		
12. OVERBURDEN THICKNESS 21.5'			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 2.5'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 24.0' bgs			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC PCE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
		21. TOTAL CORE RECOVERY NA %				
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR JL Kidwell	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	1	Silt, trace clay: dark brown 7.5YR 3/2, dry to damp, trace plasticity, medium consistency	0.0				Start time 0955
	2	_____	0.0				
	3	Fill: brick, limestone gravel.	0.0				
	4	_____	0.0	3/4	SS1	0958	
	5	Silt, some sand: brown 7.5YR 3/4, damp, non plastic, soft to medium consistency	0.0				
	6	_____	0.0				
	7	_____	0.0				
	8	_____	0.0	4/9	SS2	1002	
	9	Silt, some clay: light brown 7.5YR 6/3, damp, trace to medium plastic, medium consistency	0.0				
	10	_____	0.0				

HTW DRILLING LOG

HOLE NO.
DCFBI06

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME	REMARKS h
	11	Silt, some clay: light brown 7.5YR ⁶ / ₄ , damp, trace to medium plasticity, medium consistency	0.0				
	12		0.0	4/4	SS3	1007	
	13		0.0				
	14	Silt and sand: light brown 7.5YR ⁶ / ₄ , damp, nonplastic, soft consistency	0.0				
	15		0.0				
	16		0.0	4/4	SS4	1012	SS4 (15/16)
	17		0.0				
	18		0.0				
	19		0.0				
	20	Sand, some silt: light brown 7.5YR ⁶ / ₄ , damp, non plastic, soft	0.0	4/4	SS5	1017	
	21		0.0				SS6 (20/21)
	22	Shale, lt. olive gray 5Y ⁶ / ₂ , damp	0.0				SS6 (21/22) gr
	23		0.0				
	24		0.0		SS6	1024	End time
	25	Bottom of hole					Refusal in shale TD = 24.0' bgs WL = Dry
	26						
	27						
	28						

HTW DRILLING LOG

HOLE NO.
DLF107

1. COMPANY NAME <i>Burns + mcdonnell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 2 SHEETS		
3. PROJECT <i>USFROCA 25724</i>		4. LOCATION <i>Former Dry Cleaning Facility Area</i>				
5. NAME OF DRILLER <i>PAUL</i>		6. MANUFACTURER'S DESIGNATION OF DRILL <i>Geoprobe GH-40</i>				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	<i>Continuous</i>		8. HOLE LOCATION <i>N1A R2958.98 E 2267249.99</i>			
	<i>4-foot macrolore</i>		9. SURFACE ELEVATION 1082.83 <i>1083.82</i>			
	<i>4-foot Acetate Sleeve</i>		10. DATE STARTED <i>11/06/2000</i>			
			11. DATE COMPLETED <i>11/06/2000</i>			
12. OVERBURDEN THICKNESS <i>22.4 18.0</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>				
13. DEPTH DRILLED INTO ROCK <i>NA 4.4</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>				
14. TOTAL DEPTH OF HOLE <i>NA 22.4</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>				
18. GEOTECHNICAL SAMPLES <i>NA</i>		DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite Analytical Offsite Lab</i>		VOC <i>PCE, TCE, OEE</i>	METALS <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	21. TOTAL CORE RECOVERY <i>NA</i> %
		OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	
22. DISPOSITION OF HOLE		BACKFILLED <i>Bentonite</i>	MONITORING WELL <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	23. SIGNATURE OF INSPECTOR <i>Walter B. Mcclendon</i>	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	1	<i>CLAY, 7.5yr SH, strong brown, damp, medium plastic and consistency</i>	0				<i>START TIME 0752</i>
	2	<i>Sandy silt, brown, damp, trace plastic, soft consistency</i>	0				
	3		0				
	4	<i>clayey silt, strong brown, damp, medium plastic, soft consistency</i>	0	<i>NA</i>	<i>44 551</i>	<i>0754</i>	<i>SS 34</i>
	5	<i>Sandy clay, brown, damp, trace to medium plastic, medium consistency</i>	0				
	6		0				
	7		0				
	8		0	<i>NA</i>	<i>44 552</i>	<i>0805</i>	
	9	<i>Silty sand, brown, fine to medium grained, well sorted, rounded to angular</i>	0				
	10		0				

HTW DRILLING LOG

HOLE NO.
DLFB107

PROJECT **USFRDCFA 25724**

INSPECTOR **WALTER B McClendon**

SHEET **2**
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	11	Silt Sand, brown, fine to medium grained, well sorted, rounded to angular	0				SS3 9/10
	12	Sand, brown, damp, fine to medium grained, well sorted	0	NA	SS3	0813	
	13		0				
	14		0				SS4 (15/16)
	15		0				
	16		0	NA	SS4	0822	
	17		0				SS5 (19/20)
	18	Clay, olive green, to black, moist to wet, medium to highly plastic, medium to hard consistency	187 17.2				
	19		18 189	NA	SS5	0835	
	20	Clay, olive green, clay to damp, medium plastic, hard consistency	33				End Time = 0852
	21		3.7				
	22	Clay, olive green, clay to damp, medium plastic, hard consistency					
	23	Bottom of Hole					TO = 22.5

HTW DRILLING LOG

HOLE NO.
DCF107A

1. COMPANY NAME Burns + McDome II		2. DRILLING SUBCONTRACTOR Environmental Priority Service			SHEET 1 OF 2 SHEETS	
3. PROJECT USFRDCFA 25724		4. LOCATION Former Dry Cleaning Location				
5. NAME OF DRILLER PAUL		6. MANUFACTURER'S DESIGNATION OF DRILL Geoprobe GH-40				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore		8. HOLE LOCATION N 14192997.55 E 2267258.29			
	4-foot Acetate sleeve		9. SURFACE ELEVATION 1084.82			
	Continuous		10. DATE STARTED 11/06/2000		11. DATE COMPLETED 11/06/2000	
12. OVERBURDEN THICKNESS 12		15. DEPTH GROUNDWATER ENCOUNTERED NA				
13. DEPTH DRILLED INTO ROCK 3		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA				
14. TOTAL DEPTH OF HOLE 15		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA				
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analysis		VOC PCE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
						21. TOTAL CORE RECOVERY % NA
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR Waeter B. McClendon	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Total</i>	REMARKS h
	1	CLAY, 7.5-yr 5/4, DARK BROWN, damp, medium plastic, medium consistency; pieces concrete, tile	0				START TIME = 0850 SSI 3/4
	2	Silty Sand, 7.5-yr 5/4 brown, damp, fine grained, well sorted	1.5				
	3						
	4		0	NA	4/4 651	0903	
	5	Sand, 7.5-yr 5/4, BROWN, damp, fine grained, well sorted	0.5				
	6		0.5				
	7		0.5				
	8		0.5	NA	652	0908	
	9		0.5				
	10		0.5				

HTW DRILLING LOG

HOLE NO.
DLFB107A

PROJECT *USFR DCFA 25724*

INSPECTOR *Walter B. McClendon*

SHEET *2*
OF *2* SHEETS

ELEV. <small>a</small>	DEPTH <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING RESULTS <small>d</small>	GEOTECH SAMPLE OR CORE BOX NO. <small>e</small>	ANALYTICAL SAMPLE NO. <small>f</small>	BLOW COUNTS <small>g</small> <i>Time</i>	REMARKS <small>h</small>
	11	<i>SAND, 7.5-12.5/4, Brown, damp fine grained, well sorted</i>	<i>0.5</i>				
	12	<i>Weathered Limestone, yellowish, orange, with fines</i>	<i>0.5</i>	<i>NA</i>	<i>SS3</i>	<i>0917</i>	<i>SS3 9/10</i>
	13	<i>Silty clay with Limestone frags, medium plastic, medium consistency</i>	<i>0</i>				
	14	<i>Weathered Limestone, grey</i>	<i>0</i>				
	15		<i>0</i>	<i>NA</i>	<i>SS4</i>	<i>0931</i>	<i>SS4 (14/15) EDI TIME = 0931</i>
		<i>Bottom of Hole</i>					<i>TD = 15 feet</i>

HTW DRILLING LOG

HOLE NO.
DCF B108
SHEET 1
OF 2 SHEETS

1. COMPANY NAME
Burns + McDonnell

2. DRILLING SUBCONTRACTOR
Environmental Priority Service

PROJECT
USFRDCFA 25724

4. LOCATION
Former Dry cleaning Facility location

5. NAME OF DRILLER
Paul

6. MANUFACTURER'S DESIGNATION OF DRILL
Truck mounted Geoprobe GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot macrocore sampler
4-foot acetate sleeve

8. HOLE LOCATION
N 14192994.66 E 2267296.86

9. SURFACE ELEVATION
1285.03 ^{at 11} 1084.88

10. DATE STARTED
11/03/2000

11. DATE COMPLETED
11/03/2000

12. OVERBURDEN THICKNESS
15

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
3.2

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
18.2

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES
NA

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite analytical

VOC
PCE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE
Bentonite

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
Walter B. McClendon

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	<i>clay, 7.5 gr 5/4, strong brown, damp, medium plastic, medium consistency</i>	0				<i>Start Time = 0917</i>
	2	<i>Fill sand, light brown, damp fine grained, well sorted</i>	0				
	3	<i>Silty sand, with P. rec, 7.5 gr 5/4 strong brown, damp, fine grained well sorted</i>	0				
	4		0	<i>NA</i>	<i>SS1</i>	<i>0919</i>	<i>SS 3/4</i>
	5		0.2				
	6		0.3				
	7	<i>Sand, 7.5 gr 5/4, brown, damp, fine grained, well sorted</i>	0.2				
	8		0.2	<i>NA</i>	<i>SS2</i>	<i>0926</i>	
	9		0.3				
	10		0.2				<i>SS 9/10</i>

HTW DRILLING LOG

HOLE NO.
15CFB108

PROJECT USFRDCFA 25724

INSPECTOR Walter B. McClendon

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>7.92</i>	REMARKS h
	11	Sand, 7.57-516, brown, damp fine grained, well sorted	0.2				
	12		0.2	NA	SS3	0932	
	13		0				
	14		0				
	15		0				
	16	Weathered L.S. with clay damp to dry, trace to reddish plastic medium consistency, sand/silt	0	NA	SS4	0938	SS4 15/10
	17	Clay, 7.57-516 , Olive green, dry to damp, medium plastic, hard consistency; with limestone strands	0				
	18		0	NA	SS5	0954	
	19	Bottom of Hole					TD = 18.2
	20						
	21						
	22						

HTW DRILLING LOG

HOLE NO.
DCFB108A

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 2 SHEETS		
PROJECT USER DCFA			4. LOCATION Former Dry Cleaning Building Location			
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N 1193025.49 E 2267302.51		
		4-foot acetate sleeve		9. SURFACE ELEVATION 1085.73		
		Continuous		10. DATE STARTED 11/21/2000		11. DATE COMPLETED 11/21/2000
12. OVERBURDEN THICKNESS 15.0'			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 0.5'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED Dry			
14. TOTAL DEPTH OF HOLE 15.5'			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
		TCE, PCE, DCE	NA	NA	NA	NA
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR J. Kidwell	
		Bentonite	NA	NA		

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME	REMARKS h
	1	clay, dark brown 7.5YR 3/2, damp, med. plasticity, med. consistency	0.3				
	2	Silty clay, some gravel, brown 7.5YR 5/4, dry, trace plasticity, soft consistency	0.7				
	3	Silty clay, dark brown 7.5YR 3/2, dry, medium plasticity, medium consistency	1.1				
	4	Silt, trace clay, dark brown 7.5YR 3/2, damp, trace plasticity, soft consistency	0.7	NA	SS1	0745	SS1 (3/4)
	5		0.0				
	6		0.0				
	7		0.0				
	8		0.0	NA	SS2	0752	
	9		0.0				
	10		0.0				*SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB108A

PROJECT
USFR DCFA

INSPECTOR
J. Kidwell

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	11	Silt, trace clay, dark brown 7.5YR 3/2, damp, trace plasticity, soft consistency	0.0				
	12		0.0	NA	SS3	0755	
	13	Silt and clay, brown 7.5YR 5/4, damp, medium plasticity, medium consistency	0.0				
	14		0.0				
	15	Shale, olive grey 5Y 5/2	0.0	NA	SS4	0803	SS4 (14.5/15.5)
	16	Bottom of hole					End time 0810 TD = 15.5' bgs WL = Dry
	17						
	18						
	19						
	20						
	21						
	22						
	23						
	24						
	25						
	26						
	27						
	28						

HTW DRILLING LOG

HOLE NO.
DCFB109

1. COMPANY NAME
Buens + McDonnell

2. DRILLING SUBCONTRACTOR
EPS

SHEET 1
OF 2 SHEETS

PROJECT
USFRDCFA 25724

4. LOCATION
FORMER DRY CLEANING BUILDING AREA

5. NAME OF DRILLER
PAT MARTIN

6. MANUFACTURER'S DESIGNATION OF DRILL
TRUCK MOUNTED GEOPROBE GA-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
*4-foot MACROLOGE sampler
4-foot Acetate sleeve
Continuous*

8. HOLE LOCATION
N 14193029.46 2267341.22

9. SURFACE ELEVATION
1085.74

10. DATE STARTED
11/03/2000

11. DATE COMPLETED
11/03/2000

12. OVERBURDEN THICKNESS
18

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
4

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
22

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC
PE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
WB Mc Clendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time g	REMARKS h
	1	Fill clay, dark brown, damp, med plastic and consistency	0				Start Time 0806 SSI (3/4)
	2	Fill sand, light brown, damp, fine grained, well sorted	0				
	3	Fill material, concrete clay tile or brick, sand	0				
	4	Silty clay, dark brown, trace plastic, soft consistency	0	4/4	SS1	0808	
	5	Silty sand, dark brown, damp, fine grained, well sorted	0.4				
	6		0.6				
	7		0.4				
	8		0.4	4/4	SS2	0813	
	9		0.4				
	10		0.4				

HTW DRILLING LOG

HOLE NO.
DLFB109

PROJECT USFRODFA 25724

INSPECTOR WB McClendon

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recovery	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Type	REMARKS h
	11	Silty sand, brown, damp, fine grained, well sorted	0.6				
	12		0.6	4/4	SS3	0822	
	13		0				
	14		0				
	15		0.6				
	16		0	4/4	SS4	0827	SS4 (15/16)
	17	Clay, brown, damp, trace plastic, medium consistency	0				
	18	Sand, brown, damp, fine to medium grained, well sorted,	0				
	19	Weathered Limestone with clay, light brown to olive green, damp to dry, med plastic and consistency	0				
	20	Clay, olive green, dry, trace plastic, med to hard consistency	0	4/4	SS5	0836	
	21		0				
	22	shale, olive green	0	2/2	SS6	0848	SS6 (21/22) E.T. = 0910
		Bottom of Hole					TD = 22 ft

HTW DRILLING LOG

HOLE NO.
DCFB110
SHEET 1
OF 3 SHEETS

1. COMPANY NAME BURNS & Mc Donnell		2. DRILLING SUBCONTRACTOR P&S		4. LOCATION Former Day Cleaning Building Location			
PROJECT USFRDCFA 25724		5. NAME OF DRILLER PAT MARTIN		6. MANUFACTURER'S DESIGNATION OF DRILL Tauk mounted Geoprobe G4-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 4-foot macrolene sampler 4-foot Autate sleeve Continuous		8. HOLE LOCATION N14193057.17 E 2267391.63		9. SURFACE ELEVATION 1085.70			
		10. DATE STARTED 11/30/00		11. DATE COMPLETED 12/01/00			
		12. OVERBURDEN THICKNESS 28		15. DEPTH GROUNDWATER ENCOUNTERED NA		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
		13. DEPTH DRILLED INTO ROCK 2		14. TOTAL DEPTH OF HOLE 30		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
18. GEOTECHNICAL SAMPLES		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA			
20. SAMPLES FOR CHEMICAL ANALYSIS ORNL Analytical		VOC PC, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA		
21. TOTAL CORE RECOVERY NA %		22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR WB in = Clenden			
BACKFILLED Bentonite		MONITORING WELL NA	OTHER (SPECIFY) NA				

"EV.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g Time	REMARKS h
		Fill					
	1	clay with silt, concrete and brick pieces, mud plaster medium consistency	0				START TIME 1021
	2	silt, light brown, damp, non plastic, soft consistency	0				
	3		0				
	4		0	4/4	SS1	1023	SS1 (3/4)
	5	Sandy silt, dark brown, damp, non plastic, soft consistency	0				
	6	Sandy clay, dark brown, damp, trace to mud plaster, soft to med consistency	0				
	7		0				
	8		0	4/4	SS2	1030	
	9		0				
	10		6				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB 110

PROJECT USFRDFA 25724

INSPECTOR WB Mc Clendon

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Tipe g	REMARKS h
	11	Sandy clay, dark reddish brown, damp, trace plastic soft to medium consistency	0				
	12		0	4/4	SS3	1037	
	13	Silty sand, brown, damp, fine gravel, med plastic	0				12/04/00
	14		0				
	15		0				*SS4(15/14)
	16		0	4/4	SS4	0913	
	17		0				
	18		0				
	19		0				
	20		0	4/4	SS5	0920	
	21		0				SS6(21/22)
	22		0				
	23	Sandy silt, brown, damp, moist, med plastic, soft to med consistency	0				
	24	Clay, brown, damp, med plastic, med consist. trace of sand, L.S. frags	0	4/4	SS6	0929	
	25	L.S.	0				
	26	Sand, orange brown, damp to moist, fine gravel well sorted	0				
	27		0				
	28		0	4/4	SS7	0937	SS7(27/28)

HTW DRILLING LOG

HOLE NO.
DLF B110

PROJECT *USF RDLFA 25724*

INSPECTOR *WB Mcclenden*

SHEET *3*
OF *3* SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	<i>29</i>	<i>weathered shale</i>	<i>0</i>				
	<i>30</i>	<i>shale</i>	<i>0</i>	<i>2/2</i>	<i>SSB</i>	<i>0945</i>	<i>End of core 0946</i>
	<i>31</i>	<i>Bottom of Hole</i>					<i>TD 30</i>
	<i>32</i>						

HTW DRILLING LOG

HOLE NO.
DCF311
SHEET 1
OF 3 SHEETS

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR PES	
PROJECT USFRDCFA 25724		4. LOCATION Former DCF Building Location	
5. NAME OF DRILLER Pat Martin		6. MANUFACTURER'S DESIGNATION OF DRILL Truck Mounted Geoprobe GH-40	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macro core sampler		8. HOLE LOCATION N14193088.07 E 2267437.79
	4-foot plastic sleeve		
	Continuous		
12. OVERBURDEN THICKNESS 33		9. SURFACE ELEVATION 1086.18	
13. DEPTH DRILLED INTO ROCK 1		10. DATE STARTED 11/30/00	
14. TOTAL DEPTH OF HOLE 34		11. DATE COMPLETED 12/01/00	
18. GEOTECHNICAL SAMPLES		15. DEPTH GROUNDWATER ENCOUNTERED NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
22. DISPOSITION OF HOLE		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
DISTURBED NA		19. TOTAL NUMBER OF CORE BOXES NA	
UNDISTURBED NA		21. TOTAL CORE RECOVERY NA %	
VOC PCE, TCE, DCE		OTHER (SPECIFY) NA	
METALS NA		OTHER (SPECIFY) NA	
BACKFILLED Bentonite		23. SIGNATURE OF INSPECTOR WB Mc Clendon	
MONITORING WELL NA		OTHER (SPECIFY) NA	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	clay, dark brown, damp, firm, mild plastic and consistency	0				Start Time 1002
	2	---	0				
	3	Silt, light brown, damp, non plastic, soft consistency	0.3				
	4		0	4/4	SS1	1005 1005	SS1 (3/4)
	5	---	0.3				
	6	Silt, sand, reddish brown, damp, fine grained, well sorted	0.3				
	7		0.3				
	8		0.3	4/4	SS2	1011 1011	
	9						
	10						SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCF3111

PROJECT
USFRDCFA 25724

INSPECTOR
W B Mc Clendon

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silt, sand, reddish brown, damp, fine grained, well sorted, with fines	0				
	12	Sandy clay, reddish brown, damp, med plastic and consistency	0	4/4	SS3	1015	
	13	Sand, w/ fines, brown, damp fine grained well sorted	0				12/01/2000
	14		0				
	15		0				
	16		0	4/4	SS4	0800	SS4(15/16) ★
	17	Silt, brown, damp, med plastic, med consist	0				
	18	Sand, brown, damp, fine grained, well sorted	0				
	19	Sandy silt, damp to moist brown, med. plastic, soft consistency	0	4/4	SS5	0808	
	20		0				
	21	Sand, brown, damp, fine grained, well sorted	0				SS6(21/22)
	22	Clay, brown, damp med. plastic med consist	0				
	23	Sandy silt, brown, damp, fine plastic to med, soft to med. consist.	0	4/4	SS6	0817	
	24		0				
	25						
	26						
	27	Sand, light brown, clay, fine grained, well sorted		4/4	SS7	0820	SS7(27/28)
	28						

HTW DRILLING LOG

HOLE NO.
DLF-211

PROJECT *US-RDBA 25724*

INSPECTOR *W.B. McClellan*

SHEET *3*
OF *3* SHEETS

ELEV. <small>a</small>	DEPTH <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING RESULTS <small>d</small>	GEOTECH SAMPLE OR CORE BOX NO. <small>e</small>	ANALYTICAL SAMPLE NO. <small>f</small>	BLOW COUNTS <small>g</small>	REMARKS <small>h</small>
	29	<i>Sand, light brown, clay, fine grained, well sorted</i>	0				
	30		0				
	31		0				
	32		0	44	558	0841	
	32	<i>Sand, brown, with fine moist fine grained, well sorted</i>	0				559(323)
	33	<i>Shale, Red</i>	0	2/2	559	0850	End of hole
	34	<i>Bottom of Losted Hole</i>					TD = 211 feet

HTW DRILLING LOG						HOLE NO.
1. COMPANY NAME Burns & Mc Donnell			2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS	
3. PROJECT USFRDCFA			4. LOCATION Former Dry Cleaning Building Location			
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Truck-mounted Geoprobe GH-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION		
		4-foot acetate sleeve		N14193108.01 E 2267475.17		
		Continuous		9. SURFACE ELEVATION		
				1086.96		
12. OVERBURDEN THICKNESS 49.0' bgs			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 0.0'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 49.0' bgs			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Offsite Confirmation Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
		PCE TCE DCE	NA	NA	NA	NA
21. TOTAL CORE RECOVERY NA %		22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR		
		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	JX Kidwell	
		Bentonite	NA	NA		

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH-SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME g	REMARKS h
	1	Clay, silt: dark brown 7.5YR ^{3/2} , damp, medium plasticity, medium consistency					Start time 1040
	2						
	3			0.0			
	4	Silt, some clay: dark brown 7.5YR ^{3/2} , damp, medium plasticity, soft to med. consistency	0.0	1/4	SS1	1043	SS1 (3/4) 12/07/2000
	5		0.0				
	6	Silt and clay: brown 7.5YR ^{5/3} , damp, medium plasticity, medium consistency	0.0				
	7		0.0				
	8		0.0	3/4	SS2	0738	
	9		0.0				SS3 (9/10)
	10		0.0				

HTW DRILLING LOG

 HOLE NO.
DCFB11A

 PROJECT
USFRDCFA

 INSPECTOR
J. Kidwell

 SHEET **2**
 OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEO TECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME g	REMARKS h
	11	Silt, some clay: brown 7.5YR 5/3, damp, medium plasticity, medium consistency	0.0				
	12		0.0	4/4	SS3	0743	
	13		0.0				
	14		0.0				
	15		0.0				
	16	Silt and sand, some clay: brown 7.5YR 5/3, damp, trace plasticity, soft to med. consistency	0.0	4/4	SS4	0751	SS4 (15/16) *
	17	Sand, fine, med. well sorted, damp, nonplastic, soft;	0.0				
	18	Silt, some clay in lenses (2') from 17', 18', 18.5', and 19' bgs; all are light brown with trace oxidized (reddish) zones	0.0				
	19		0.0				
	20		0.0	4/4	SS5	0800	
	21	Silt, some clay: light brown 7.5YR 6/3, damp, medium plasticity, medium to soft consistency; trace sand lenses and oxidized zones	0.0				
	22		0.0				SS6 (21/22)
	23		0.0				
	24	Sand, fine, well sorted, light brown 7.5YR 6/3, damp, nonplastic, soft consistency; trace silt lenses and oxidized ribbons	0.0	4/4	SS6	0810	
	25		0.0				
	26		0.0				
	27	Silt, light brown, damp, trace to nonplastic, soft consistency	0.0				
	28	Sand, fine, well sorted, light brown 7.5YR 6/3, damp, nonplastic, soft consistency	0.0	4/4	SS7	0822	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFBIIA

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	29	Sand, fine, well sorted, light brown 7.5YR 6/3, damp, nonplastic, soft consistency, trace silt lenses and oxidized ribbons	0.0				
	30		0.0				
	31		0.0				
	32		0.0	3/4	SS8	0839	Hard drilling
	33		0.0				
	34		0.0				SS9 (33/34)
	35		0.0				
	36	Sand, some silt: light brown 7.5YR 6/3 moist to wet, nonplastic, soft consistency	0.0	4/4	SS9	0849	End time
	37	Bottom of logged hole					TD = 49.0' bgs WL = DRY
	38						
	39						
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB112

1. COMPANY NAME **BURNS + McDonnell** 2. DRILLING SUBCONTRACTOR **EPS** SHEET 1 OF 3 SHEETS

3. PROJECT **USFRDCFA 25724** 4. LOCATION **Former Dry Cleaning Facility**

5. NAME OF DRILLER **PAT MARTIN** 6. MANUFACTURER'S DESIGNATION OF DRILL **VAN Mounted Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot MACROCORE
4-foot Rotate Sleeve
Continuous

8. HOLE LOCATION
N14192930.20 E 2267274.00

9. SURFACE ELEVATION
1084.00

10. DATE STARTED **11/15/00** 11. DATE COMPLETED **11/15/00**

12. OVERBURDEN THICKNESS **33** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **1** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **34** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
- On Site Lab
- Confirmation

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
PCE, TCE, DCE	NA	NA	NA	NA	NA

22. DISPOSITION OF HOLE BACKFILLED MONITORING WELL OTHER (SPECIFY) 23. SIGNATURE OF INSPECTOR

Bentonite **NA** **NA** **Walter B. Mc Clendon**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recovery	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Fill material, clay, dark brown, with concrete bits and brick/clay tile	0				Start Time 0748
	2		0				
	3		0				
	4	Sandy silt, brown, damp, trace plastic, soft consistency	0	3/4	551	0752	551 (3/4)
	5		0				
	6	silty clay, brown, damp, medium plasticity, medium consistency	0				
	7		0				
	8		0	4/4	552	0759	
	9	Sandy clay, dark brown, damp, trace to med. plastic, med. to hard consistency	0				
	10		0				553 (9/10)★

HTW DRILLING LOG

 HOLE NO.
DCFB112

 PROJECT **USFRDCFA 25724**

 INSPECTOR **Walter B. McClendon**

 SHEET **2**
 OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. <i>Recovery</i>	ANALYTICAL SAMPLE NO. f	BLOW COUNTS <i>Time</i>	REMARKS h
	11	<i>Sandy clay, dark brown, damp, trace to med. plastic, med. to hard consistency</i>	0				
	12		0	4/4	553	0801	
	13	<i>Sand, with fines, brown, damp, fine grained, poorly sorted</i>	0.3				
	14		0.3				
	15		0.3				
	16		0.3	4/4	554	0810	554(15/16)
	17		0.3				
	18		0.3				
	19		0.3				
	20	<i>Silt, brown, damp, trace to med. plastic, soft consistency</i>	0.3	3/4	555	0815	
	21		0				556(21/22)
	22		0				
	23		0				
	24	<i>moist</i>	0	4/4	556	0822	
	25		0				
	26		0				
	27		0				
	28		0	3/4	557	0824	557(27/28)

HTW DRILLING LOG

HOLE NO. **DCFB112**

PROJECT **USFRDCFA 25724**

INSPECTOR **Walter B. McClendon**

SHEET **3**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	29	Silt, brown, moist, med. to highly plastic, soft consistency	0				
	30		0				
	31		0				
	32	Sandy silt, brown, medium plastic, medium consistency	0	4/4	558	0830	
	33	Shale	3.6				559 (33/34)
	34		173	2/2	559	0837	PHC ODR
		Bottom of Hole					End Time 0840 TD=34

HTW DRILLING LOG

HOLE NO.
DCFB113

1. COMPANY NAME **Burns & McDonnell** 2. DRILLING SUBCONTRACTOR **Environmental Priority Service** SHEET 1 OF 3 SHEETS

PROJECT **USFRDCFA** 4. LOCATION **Former Dry Cleaning Building Location**

5. NAME OF DRILLER **Pat Martin** 6. MANUFACTURER'S DESIGNATION OF DRILL **Van-mounted Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
 4-foot macrocore sampler
 4-foot acetate sleeve
 Continuous

8. HOLE LOCATION **N 14192936.19 E 2267303.80**
 9. SURFACE ELEVATION **1083.39**

10. DATE STARTED **11/15/2000** 11. DATE COMPLETED **11/16/2000**

12. OVERBURDEN THICKNESS **33'** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **0'** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **33'** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES **NA** DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical
 VOC **PCE, TCE, DCE** METALS **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** 21. TOTAL CORE RECOVERY **NA** %

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **J. Kidwell**

SLEV. 1	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	SLOW-COUNTS TIME	REMARKS h
		Fill					Start Time = 0850
1			0.9				
2		Silt, brown 7.5YR 4/3 damp, trace plasticity, soft consistency	0.5				
3			0.0				
4			0.0	NA	SS1	0854	SS1 (3/4)
5		Sandy silt, brown 7.5YR 4/3 damp, trace plasticity, soft to medium consistency	0.9				
6			0.9				
7			0.6				
8			0.4	NA	SS2	0856	
9		Sandy clay, dark brown 7.5YR 3/2, damp, trace plasticity, soft to medium consistency	0.6				
10			0.6				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB113

PROJECT
USFR DCFA

INSPECTOR
J. Kidwell, W.B. McClendon

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME	REMARKS h
	11	Silty sand, dark brown 7.5YR 3/2, damp, non plastic, soft consistency	0.6				
	12		0.6	NA	SS3	0858	
	13		0.6				
	14		0.6				
	15		0.6				
	16		0.6		NA	SS4	0903
	17	Sandy silt, brown 7.5YR 5/4, damp, trace plasticity, soft consistency	0.6				
	18		0.3				
	19		0.6				
	20		0.3	NA	SS5	0907	
	21	Silt, light brown 7.5YR 6/4, damp, trace plasticity, soft consistency	0.3				
	22		0.3				SS6 (21/22)
	23		0.3				
	24		0.3	NA	SS6	0915	11/16/2000
	25		0.0				
	26		0.0				
	27		0.0				
	28		0.0	NA	SS7	0705	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCF8113

PROJECT **USFRDCFA**

INSPECTOR **J. Kidwell, W.B. McClendon**

SHEET **3**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	29	Silty clay, brown 7.5YR 5/4, moist, med. to high plasticity, soft to med. consistency	0.0				
	30	Sand lens	0.0				
	31		0.0				
	32	Sand lens	0.0	NA	SS8	0715	
	33	sand lens Shale, olive gray 5Y 5/2	0.0	NA	SS9	0723	SS9 (32/33)
	34	Bottom of hole					End time = 0728 TD = 33' bgs
	35						
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB 113A

1. COMPANY NAME **Burns + McDonnell** 2. DRILLING SUBCONTRACTOR **Environmental Priority Service** SHEET 1 OF 2 SHEETS

PROJECT **USFR DFA 25724** 4. LOCATION **Former Dry Cleaning Facility**

5. NAME OF DRILLER **Paul** 6. MANUFACTURER'S DESIGNATION OF DRILL **Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
 4-foot macrocore
 4-foot Acetate Sleeve
 Continuous

8. HOLE LOCATION **N14192968.66 E2267315.33**

9. SURFACE ELEVATION **1083.50**

10. DATE STARTED **11/06/2000** 11. DATE COMPLETED **11/06/2000**

12. OVERBURDEN THICKNESS **24** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **NA 2** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **NA 26** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES
 NA DISTURBED NA UNDISTURBED NA 19. TOTAL NUMBER OF CORE BOXES NA

20. SAMPLES FOR CHEMICAL ANALYSIS
On-site Analysis

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY % NA
PCB, TCE, DCE	NA	NA	NA	NA	

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **Walter B. McClendon**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	1	Clay, 7.5yr old brown damp, medium plastic, medium consistency, with concrete pieces	0.5				Start Time = 0940
	2	Silty silt, light brown, damp, trace plastic, soft consistency	0.5				
	3	Silt, dark brown damp, trace to med. plastic, soft to med. consist., with silt	0.5				
	4	Silty sand, brown, damp, fine to medium grained, poorly sorted	2.3	NA	SS1	0945	SS1 34
	5	Silty sand, brown, damp, fine to medium grained, poorly sorted	0.2				
	6		0.2				
	7		0.2				
	8	Silty sand grading to sand, brown, damp, fine to medium grained, poorly sorted	0.2	NA	SS2	0952	
	9		0.2				
	10		0.2				

HTW DRILLING LOG

HOLE NO.
DCF113A

PROJECT **USFR DCF 25724**

INSPECTOR **Walter B. McClendon**

SHEET **2**
OF **2** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	11	Sand, brown, damp, fine to medium grained, poorly sorted	0.2				
	12	Silty sand, brown, damp, fine to medium grained, poorly sorted	0.2	NA	SS3	1000	SS2 (9/10)
	13		0				
	14		0				
	15		0				
	16	Silt, brown, damp to moist, medium to highly plastic, soft consistency	0	NA	SS4	1007	SS4 (15/14)
	17	Sandy silt, brown, damp to moist, medium plastic and consistency	0				
	18	Clay, brown, damp, med. plast soft to med cons. Silty sand, brown, moist fine grained, well sorted	0				
	19		0				
	20	Sand, brown, moist, fine grained, well sorted	0	NA	SS5	1015	
	21	Silty sand, 7.5-15% brown, damp fine grained, well sorted	0				SS5 (21/22)
	22		0				
	23	Sand, 7.5-15% brown, damp, fine to coarse, poorly sorted	0				
	24		0	NA	SS6	1045	
	25	Clay, olive green, dry, non plastic hard consistency, odor (shale)	12.2				Petroleum
	26			NA	SS7	1100	SS7 (25/26)
		Bottom of Hole					TD = 26 feet

HTW DRILLING LOG

HOLE NO.
DFB113B

1. COMPANY NAME <i>Biras + McDowell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental priority service</i>		SHEET 1 OF 2 SHEETS		
3. PROJECT <i>UAFRCEA 25724</i>			4. LOCATION <i>FORMER Dry Cleaning Facility Location</i>			
5. NAME OF DRILLER <i>Dous</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>Geoprobe GT-40</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION <i>N14192953.37 E2267325.25</i>		
		4-foot acetate		9. SURFACE ELEVATION <i>1083.94</i>		
		Continuous		10. DATE STARTED <i>11/07/2000</i>		
				11. DATE COMPLETED <i>11/08/2000</i>		
12. OVERBURDEN THICKNESS <i>31</i>			15. DEPTH GROUNDWATER ENCOUNTERED <i>NA</i>			
13. DEPTH DRILLED INTO ROCK <i>1</i>			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>			
14. TOTAL DEPTH OF HOLE <i>32</i>			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>		DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite Analysis Offsite Lab</i>		VOC <i>PCE, TCE, OCE</i>	METALS <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	21. TOTAL CORE RECOVERY % <i>NA</i>
22. DISPOSITION OF HOLE		BACKFILLED <i>Bentonite</i>	MONITORING WELL <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	23. SIGNATURE OF INSPECTOR <i>Walter B. McDowell</i>	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time g	REMARKS h
	1	Clay, blue, clay damp, med. plastic, medium consistency fill, concrete, brick, tile	0.8				Start Time 0905
	2	Silt, dark brown, damp, non plastic, soft consistency	0.8				
	3	Silt, light brown, damp, non plastic, soft consistency	1.0				
	4	Silt, light brown, damp, non plastic, soft consistency	1.1	NA	SS1	0910	SS1 (3/10)
	5	Silt, dark brown, dry to damp, non plastic, soft consistency	0.8				
	6		0.8				
	7		1.1				
	8		1.1	NA	SS2	0910	
	9	Silty sand, brown, damp, fine to medium grained, poorly sorted	0.8				SS3 (4/10)
	10		0.8				

HTW DRILLING LOG

HOLE NO.
DCFR 113B

PROJECT
USFRDCFB 25724

INSPECTOR
Walter B. McClelland

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	11	Silty sand, brown, damp, fine to medium grained, poorly sorted	0.8				
	12		1.1	NA	SS3	0922	
	13		0.8				
	14		0.8				
	15		0.8				
	16	Sandy silt, brown, damp, medium plastic, soft consistency	0.8	NA	SS4	0927	
	17		0.8				
	18		0.8				
	19		0.8				
	20		0.8	NA	SS5	0934	
	21	Sand, 7.5-5/16, light brown, clean, fine to medium grained, well sorted	0.8				SS4 (2/22) *
	22		1.1				
	23		0.8				
	24		1.1	NA	SS6	0942	11/08/2000
	25		0.1				
	26		0.1				
	27		0.5				
	28		0.1	NA	SS7	0710	SS7 (2/28)

HTW DRILLING LOG

HOLE NO.
OLFB1313

PROJECT *USF ROLFA 25724*

INSPECTOR *Walter B. Mcclendon*

SHEET 3
OF 3 SHEETS

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	29	<i>Sand, 7.5-φ 5/4, brown, clays, fine to medium grained, well sorted.</i>	0.1				
	30		0.1				
	31	<i>Clay, brown, olive green, clay, non plastic, hard consistency, shale</i>	0.1				<i>SS8/B.132</i>
	32		0.1	NA	SS8	0732	<i>End time = 073.1</i>
	33	<i>Bottom of Hole</i>					<i>T = 32</i>
	34						
	35						
	36						
	37						
	38						

HTW DRILLING LOG

HOLE NO.
DCFB113C

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 2 SHEETS		
3. PROJECT USFROcFA 25724			4. LOCATION Former Dry Cleaning Facility Location			
5. NAME OF DRILLER DOUS			6. MANUFACTURER'S DESIGNATION OF DRILL TRUCK MOUNTED GEOPROBE G-H-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macro core		8. HOLE LOCATION N14192936.06 E 2267340.16		
		4-foot acetate				
		continuous		9. SURFACE ELEVATION 1083.94		
				10. DATE STARTED 11/07/00	11. DATE COMPLETED 11/07/00	
12. OVERBURDEN THICKNESS 9			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 0			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 9			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analysis		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
		PCE, TCE, DCE	NA	NA	NA	
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR Walter B. McDonnell	
		Bentonite	NA	NA		

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIAL	REMARKS h
	1	clay, black, damp, medium plasticity, med consistency, fill materials brick, concrete, stone	0				Start Time = 0653
	2		0.1				
	3		0.1		3/4		
	4	same as above	0.1	NA	551	0659	551 3/4
	5		0				
	6		0				
	7		0				
	8	same as above	0	NA	552	0702	
	9			NA	553	0707	553 (19) End Time = 0710
	10	Bottom of hole					T0 = 9 feet

HTW DRILLING LOG

HOLE NO.
DCF8113D

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS	
PROJECT USFR DCEA			4. LOCATION Former Dry Cleaning Building Location		
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N14192924.31 E2267330.14	
		4-foot acetate sleeve		9. SURFACE ELEVATION 1083.88	
		Continuous		10. DATE STARTED 11/21/2000	
				11. DATE COMPLETED 11/21/2000	
12. OVERBURDEN THICKNESS 42'			15. DEPTH GROUNDWATER ENCOUNTERED 36' bgs		
13. DEPTH DRILLED INTO ROCK 0'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 37.71' bgs ~10min		
14. TOTAL DEPTH OF HOLE 42' (36' logged)			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		TCE, PCE, DCE	NA	NA	NA
21. TOTAL CORE RECOVERY NA %		22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)
		Bentonite	NA	NA	23. SIGNATURE OF INSPECTOR J Kidwell

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	SLOW COUNTS TIME	REMARKS h
1		Clay, dark brown 7.5YR ^{3/2} , damp, medium plasticity, medium consistency	0.0				
2		Sandy silt, light brown 7.5YR ^{6/4} , damp, nonplastic, soft consistency	0.3				
3		Silt, trace clay, light brown 7.5YR ^{6/4} , damp, trace plasticity, medium consistency	0.0				
4			0.0	NA	SS1	0815	SS1 (3/4)
5			0.0				
6			0.0				
7			0.0				
8			0.0	NA	SS2	0827	
9		Silt and clay, dark brown 7.5YR ^{3/2} , damp, medium plasticity, medium consistency	0.0				
10			0.3				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB 113D

PROJECT
USFR DCEA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	11	Silt and clay, dark brown damp, medium plasticity, medium consistency	0.0				
	12	Silt, trace clay; brown damp, trace plasticity, medium consistency	0.0	NA	SS3	0833	
	13		0.0				
	14		0.0				
	15	Sand and silt; brown damp, non plastic, soft consistency	0.3				
	16		0.7	NA	SS4	0838	SS4 (15/16)
	17		0.3				
	18		0.0				
	19		0.7				
	20		0.3	NA	SS5	0844	
	21	Silt, trace sand; light brown damp, non plastic, soft	1.1				
	22		0.7				SS6 (21/22)
	23	Sand, mod. well sorted, light brown, damp, non plastic, soft	1.1				
	24	Sand, some silt, light brown damp, non plastic, soft	0.7	NA	SS6	0849	
	25	Silt, light brown damp, non plastic, medium to soft consistency	0.7				
	26		0.3				
	27		0.7				
	28		0.3	NA	SS7	0900	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB113D

PROJECT
USER DCFA

INSPECTOR
J Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	29	Silt, light brown 7.5YR6/4 damp, nonplastic, soft consistency	1.3				
	30	Silt, light brown 7.5YR6/4 moist, trace plasticity, soft consistency	0.5				
	31		0.3				
	32		0.3	NA	SS8	0912	
	33	Sand and silt, lens from 32.3' to 32.5' bgs; Clayey silt lens from 32.5' to 32.8' bgs	1.1				
	34		0.7				SS.9 (33/34)
	35	clayey silt lens from 35' to 35.3' bgs	0.3				
	36		0.5	NA	SS9	0923	
	37	Bottom of logged hole					Bottom of logged hole at 36' bgs; Slot refusal at 42' bgs WL = 37.71'
	38						
	39						
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCEB113e

1. COMPANY NAME Burns & McDunnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS	
PROJECT USER DCEA			4. LOCATION Former Dry Clearing Building Location		
5. NAME OF DRILLER Paul Vogelsberg			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macro core sampler		8. HOLE LOCATION N14192934.6A E2267322.97	
		4-foot acetate sleeve		9. SURFACE ELEVATION 1083.77	
		continuous		10. DATE STARTED 11/22/00	
				11. DATE COMPLETED 11/22/00	
12. OVERBURDEN THICKNESS 34'			15. DEPTH GROUNDWATER ENCOUNTERED NA		
13. DEPTH DRILLED INTO ROCK 1'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA		
14. TOTAL DEPTH OF HOLE 35'			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		PCE, TCE, DCE	NA	NA	NA
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
		Bentonite	NA	NA	J. Kidwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME g	REMARKS h
		Topsoil					Start time 0720
	1	Sand and silt, poorly sorted, reddish brown 2.5YR 5/4, dry to damp, non plastic, soft	0.0				
	2		0.0				
	3	Silt, dark brown 7.5YR 3/2 grading to light brown 7.5YR 6/4 dry, non plastic, soft	0.0				
	4		0.0	NA	SS1	0725	SS1 (3/4)
	5		0.0				
	6	Silt, trace clay, dark brown 7.5YR 3/2, damp, trace plasticity, silt to med. consistency	0.0				
	7		0.0				
	8		0.0	NA	SS2	0732	
	9		0.0				
	10		0.0				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DFOB 113e

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	11	Silt, trace clay and sand: dark brown 7.5YR3/2, damp, nonplastic, medium to soft consistency	0.0				
	12		0.0	NA	SS3	0740	
	13	Sand with silt, poorly sorted, brown 7.5YR4/3, damp, nonplastic, soft	0.0				
	14		0.0				
	15		0.0				
	16		0.0	NA	SS4	0748	* SS4 (15/16)
	17		0.0				
	18		0.0				
	19		0.0				
	20	Sand, moderately well sorted, light brown 7.5YR6/3, damp, nonplastic, soft	0.0	NA	SS5	0758	
	21		0.0				
	22	Silt, light brown 7.5YR6/4, damp, non to trace plasticity, soft to med. consistency	0.0				SS6 (21/22)
	23	Sand, moderately well sorted, light brown 7.5YR6/4, damp, non plastic, soft;	0.0				
	24	Trace chert gravel, very coarse and weathered	0.0	NA	SS6	0807	
	25	Silt, trace clay, light brown 7.5YR6/4, damp to moist, trace plasticity,	0.0				
	26	Soft to medium consistency	0.0				
	27		0.0				
	28	sandy lens from 27.3' to 27.5' bgs	0.0	NA	SS7	0816	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB113e

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	29	Silt, trace clay, light brown 7.5%R ₄ , moist, trace plasticity, soft to medium consistency	0.0				
	30		0.0				
	31		0.0				
	32		0.0	NA	SS8	0829	
	33		0.0				
	34	Shale, olive green grey 5% ₂ moist, med. plasticity, stiff	0.0				SS9 (33/34)
	35		0.0	NA	SS9	0840	
	36	Bottom of hole					TD = 35' bgs WL = DRY
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB113f

1. COMPANY NAME **Burns & McDonnell** 2. DRILLING SUBCONTRACTOR **Environmental Priority Service** SHEET 1 OF 3 SHEETS

PROJECT **USFRDCFA** 4. LOCATION **Former Dry Cleaning Building Location**

5. NAME OF DRILLER **Paul Vogelsberg** 6. MANUFACTURER'S DESIGNATION OF DRILL **Van-mounted Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
 4-foot macrocore sampler
 4-foot acetate sleeve
 continuous

8. HOLE LOCATION
N 14192954.62 E 2267344.1

9. SURFACE ELEVATION
1083.96

10. DATE STARTED **11/22/00** 11. DATE COMPLETED

12. OVERBURDEN THICKNESS **38.5'** 15. DEPTH GROUNDWATER ENCOUNTERED **37.0'**

13. DEPTH DRILLED INTO ROCK **0.4'** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **37.0' ~10min**

14. TOTAL DEPTH OF HOLE **38.9'** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES
 DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
 VOC **NA** METALS **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** 21. TOTAL CORE RECOVERY **NA** %

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **J Kidwell**

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
		Top soil					Start time 0849
1		Sand and silt, light brown 7.5YR 6/4, damp, nonplastic, soft	0.3				
2		Silt, trace clay, dark brown 7.5YR 3/2, dry, nonplastic, soft	0.0				
3		Silt, light brown 7.5YR 6/4, dry, nonplastic, soft	0.3				
4			0.3	NA	SS1	0852	SS1 (3/4)
5			0.3				
6			0.0				
7		Silt, trace clay, dark brown 7.5YR 3/2, damp, trace plasticity, soft to med. consistency	0.0				
8			0.3	NA	SS2	0857	
9			0.0				
10			0.0				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFBI13f

PROJECT
USFR DCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME g	REMARKS h
	11	Silt, trace fine sand: brown 7.5YR ⁴ / ₃ , damp, nonplastic, medium consistency	0.3				
	12		0.0	NA	SS3	0903	
	13	Silt and fine sand: light brown 7.5YR ⁶ / ₄ , damp, nonplastic, soft	0.0				
	14		0.3				
	15		0.0				
	16		0.3	NA	SS4	0909	SS4 (15/16)
	17		0.0				
	18		0.3				
	19		0.0				
	20		0.3	NA	SS5	0915	
	21		0.0				
	22	Sand, coarse and poorly sorted, light brown 7.5YR ⁶ / ₄ , damp nonplastic, soft	0.3				SS6 (21/22)
	23	Silt and fine sand: light brown 7.5YR ⁶ / ₄ , damp nonplastic, soft	0.0				
	24		0.3	NA	SS6	0923	
	25	Silt, trace clay: 7.5YR ⁶ / ₄ light brown, moist to wet, medium plasticity, soft	0.3				
	26		0.0				
	27		0.0				
	28		0.3	NA	SS7	0932	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB113f

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	29	Silt, trace clay, light brown 7.5YR6/4, moist to wet, medium plasticity, soft	0.0				
	30	Sand, trace silt, moderate sorting, light brown 7.5YR6/4, damp, non plastic, soft	0.3				
	31	Silt, light brown 7.5YR6/4, moist to wet, trace plasticity, soft, clay lens from 30' to 30.2' ⁶⁵⁵	0.0				
	32	Sand, trace silt, moderate sorting, light brown 7.5YR6/4, damp, non plastic, soft	0.3	NA	SS8	0944	
	33	Silt, trace clay, light brown 7.5YR6/4, moist to wet, medium plasticity, soft	0.0				
	34	Sand and silt, some chert & shale gravel, poorly sorted, light brown 7.5YR6/4, moist, non plastic, soft	0.0				SS9 (33/34)
	35	Silt with sand lenses, light brown 7.5YR6/4, moist,	0.3				
	36	trace plasticity, soft to medium consistency	0.0	NA	SS9	0959	
	37		0.3				
	38	Silty clay, light grey 5Y7/1, moist to wet, medium plasticity, soft to medium consistency	0.3				SS10 (37/38)
	39	Shale, olive grey 5Y5/2	0.3	NA	SS10	1019	
	40	Bottom of hole					End time 1027 TD=38.9 WL=37.0
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
D.F.B.114

1. COMPANY NAME <i>Burns + McDonnell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>			SHEET 1 OF 3 SHEETS	
PROJECT <i>USFROcFA</i>			4. LOCATION <i>Former Dry Cleaning Location</i>			
5. NAME OF DRILLER <i>Doug</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>TRUCK MOUNTED Geoprobe GH-40</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore		8. HOLE LOCATION <i>N 14192971.96 E 2267349.56</i>		
		4-foot Acetate		9. SURFACE ELEVATION <i>1084.44</i>		
		Continuous				
10. DATE STARTED <i>11/07/00</i>		11. DATE COMPLETED <i>11/07/00</i>				
12. OVERBURDEN THICKNESS <i>38</i>			15. DEPTH GROUNDWATER ENCOUNTERED <i>36</i>			
13. DEPTH DRILLED INTO ROCK <i>NA</i>			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>			
14. TOTAL DEPTH OF HOLE <i>38</i>			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>		DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite Analysis</i> <i>Offsite Lab</i>		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
		<i>PCE, TCE, DCE</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>Walter B. Mcclenden</i>	
		<i>Bentonite</i>	<i>NA</i>	<i>NA</i>		

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	1	<i>Clay, dark brown, damp, medium plastic, medium consistency</i>					<i>Start Time = 0712</i>
	2	<i>Sand, brown, damp, fine grained well sorted</i>	0				
	3	<i>Sandy silt, dark brown, damp, trace plastic, soft consistency</i>	0				
	4		0	<i>NA</i>	<i>SS1</i>	<i>0715</i>	<i>SS1 (314)</i>
	5		0				
	6	<i>Silt, light brown, damp, trace plastic, soft consistency</i>	0				
	7		0				
	8	<i>Silty dark brown, damp to moist, trace to medium plastic soft consistency</i>	0	<i>NA</i>	<i>SS2</i>	<i>0720</i>	
	9		0				
	10		0				<i>SS3 (613) *</i>

HTW DRILLING LOG

HOLE NO.
DCEB 114

PROJECT USF R DCEA 25724

INSPECTOR Walter B. McClendon

SHEET 2
OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silty silt, dark brown, clay to moist, with fines, trace to medium plastic, soft consistency	0			0725	
	12		0	NA	SS3	0725	
	13	Sand, 7.5-1.5 μ , brown, damp, fine grained, medium to coarse, with fines	0				
	14		0				
	15		0				
	16		0	NA	SS4	0730	SS4 (1710)
	17	Silt, 7.5-1.5 μ , brown, damp to moist, trace to med. plastic, soft consistency	0				
	18		0				
	19	Sand, 7.5-1.5 μ , brown, damp fine grained, well sorted.	0				
	20		0	NA	SS5	0737	
	21		0				SS6 (2122)
	22		0				
	23		0				
	24		0	NA	SS6	0747	SS
	25		0.8				
	26		0.8				
	27	Silt, 7.5-1.5 μ , brown, moist medium plastic, medium consistency	0.8				
	28		0.8	NA	SS7	0756	SS7 (27128)

HTW DRILLING LOG

HOLE NO.
DCFB 114

PROJECT USFR DCFA 25724

INSPECTOR Walter B. McClendon

SHEET 3
OF 3 SHEETS

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS T.OL	REMARKS h
	29	Silt, 7.5-10% silt, brown, moist medium plastic, medium consistency	0.3				
	30	Sand, with silt, 7.5-10% silt, brown, damp, fine to medium grained, loosely sorted	0.8				
	31	Silt, 7.5-10% silt, brown, moist medium plastic, medium to soft consistency	0.8				
	32	Sand, 7.5-10% silt, brown, damp, fine to medium grained, well sorted	0.8	NA	458	0810	
	33						SSS (33/34)
	34						
	35						
	36		NA	NA	SSS	0824	▼
		Bottom of Lossed Hole					TO of Lossed Hole 36 Net at 35.8

HTW DRILLING LOG

HOLE NO.
DLFB114A

1. COMPANY NAME **BURNS + McDONNELL** 2. DRILLING SUBCONTRACTOR **Environmental Priority Service** SHEET 1 OF 3 SHEETS

PROJECT **USFR DCFA** 4. LOCATION **Former DRY Cleanings Building Location**

5. NAME OF DRILLER **PAT MARTIN** 6. MANUFACTURER'S DESIGNATION OF DRILL **Van Mounted Geoprobe G-H-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot macrocore
4-foot acetate
Continuous

8. HOLE LOCATION **N14192957.02 E2267389.37**

9. SURFACE ELEVATION **1084.03**

10. DATE STARTED **11/24/2000** 11. DATE COMPLETED **11/29/2000**

12. OVERBURDEN THICKNESS **36/42** 15. DEPTH GROUNDWATER ENCOUNTERED **35.6**

13. DEPTH DRILLED INTO ROCK **0** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **41.2 Ten Min.**

14. TOTAL DEPTH OF HOLE **36/42** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **None**

18. GEOTECHNICAL SAMPLES
 DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
On-site Analytical
 VOC **PEE, TCE, DCE** METALS **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** 21. TOTAL CORE RECOVERY **NA** %

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **WALTER B McCLendon**

FLEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		<i>Topsoil</i>					
	1	<i>Fill clay, dark brown, damp, medium plastic, med. consist with hair, sand, etc</i>	0.2				<i>Start Time = 0740</i>
	2		0.2				
	3		0.2				
	4		0.2	<i>414</i>	<i>SS1</i>	<i>0746</i>	
	5		0.2				<i>SS1 314</i>
	6	<i>Sandy silt, light brown, damp, med to trace plastic, silt consistency</i>	0.2				
	7		0.2				
	8		0.2	<i>314</i>	<i>SS2</i>	<i>0750</i>	
	9	<i>Silt, dark brown, damp, med to trace plastic, soft to med. consist</i>	0				
	10		0				<i>SS3 (5/10) *</i>

HTW DRILLING LOG

HOLE NO.
DCF3114A

PROJECT
USEROCFA

INSPECTOR
W. B. McClenon

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recovered	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TTL	REMARKS h
	11	5 ft, dark brown, damp, non to trace plastic, soft to med consist.	0				
	12		0	4/4	553	0803	
	13		0.2				
	14		0.2				
	15		0.2				
	16		0.2	4/4	554	0801	554 (15/16)
	17		0				
	18		0				
	19		0.2				
	20	Silty clay, 7.5-1.5/4 brown, damp, med. plastic, med. consistency	0.2	4/4	555	0815	
	21		0				556 (2/22)
	22		0				
	23	Sandy clay, brown, damp, med. plastic, med. consist	0.2				
	24	Sand, light brown, damp, fine grain, well sorted	0	3.5/4	556	0824	
	25		0				
	26		0				
	27		0				
	28		0	4/4	557	0830	557 (27/28)


HTW DRILLING LOG

HOLE NO. **DLFB114A**

PROJECT **USFRCFA**

INSPECTOR **WB McClendon**

SHEET **3**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h	
	29	Sand, Light brown, clamp, fine grained, well sorted	0					
	30		0					
	31	Silt, Light brown, moist, fine to med plastic, soft consistency	0					
	32	Clay, Light brown, clamp, med plastic, med. consistency	0	414	558	0842		
	33	Sandy silt, 7.5% M, damp, clamp to moist, fine to med plastic, soft consistency					6 59 (3 233)	
	34							
	35	Sand, reddish orange, dry to damp, fine grained, well sorted						
	36	Sand, wet			559	0851	End Time = 0856	
	37	Bottom of Lossed Hole					TD = 36	
	38							
	39							
	40							
	41							26m
	42	Bottom of Hole					TD = 42.0 feet	

HTW DRILLING LOG

HOLE NO.
DCFB114AE1

1. COMPANY NAME Burns & M^cDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS	
PROJECT USFRDCFA			4. LOCATION Farmer Dry Cleaning Building Location		
5. NAME OF DRILLER Doug Roy			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		1-1/2" 4-foot macro core sampler		8. HOLE LOCATION N14192970.75 E2267398.53	
		4-foot acetate sleeve		9. SURFACE ELEVATION 1084.21	
		Continuous		10. DATE STARTED 12/05/2000	
				11. DATE COMPLETED 12/05/2000	
12. OVERBURDEN THICKNESS 42.5'		15. DEPTH GROUNDWATER ENCOUNTERED 38'			
13. DEPTH DRILLED INTO ROCK 0'		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 38.3' 10.min			
14. TOTAL DEPTH OF HOLE 42.5'		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
Offsite Confirmation					
Onsite Analytical		PCE, TCE, DCE	NA	NA	NA
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		Bentonite	NA	NA	JL Kirlwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	1	Fill: clay, brick, limestone gravel	0.0				Start time 0807
	2		0.0				
	3		0.0				
	4	Silt, trace clay, brown 7.5YR 6/4 damp, trace to nonplastic, soft consistency	0.0		SS1	0810	
	5	Silt, light brown 7.5YR 6/3, dry, nonplastic, soft consistency	0.0				
	6		0.0				
	7		0.0				
	8		0.0		SS2	0814	
	9	Silt, trace clay, dark brown 7.5YR 3/3, dry to damp, trace to nonplastic, medium consistency	0.0				
	10		0.0				

HTW DRILLING LOG

HOLE NO. **DCFBI14A E1**
 SHEET **2**
 OF **3** SHEETS

PROJECT **USFRDCFA**

INSPECTOR **J. Kidwell**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	11	Silt, trace clay, dark brown 7.5YR 3/3, damp, trace to non plastic, medium consistency	0.0				
	12		0.0		SS3	0823	
	13	Silt, some clay, strong brown 7.5YR 4/6, damp, trace to medium plasticity, medium consistency	0.0				
	14		0.0				
	15		0.0				
	16		0.0		SS4	0830	SS4 (15/16)
	17		0.0				
	18		0.0				
	19		0.0				
	20		0.0		SS5	0838	
	21	Silt, light brown 7.5YR 6/3, damp, trace to non plastic, soft consistency	0.0				
	22	Silt and sand, light brown 7.5YR 4/3, damp, non plastic, soft	0.0				SS6 (21/22)*
	23	Silt, trace sand lenses, light brown 7.5YR 6/3, damp, non plastic, soft	0.0				
	24		0.0		SS6	0845	
	25	Sand, very fine to medium grain, moderate sorting, light brown 7.5YR 6/3, damp, non plastic, soft	0.0				
	26	Silt, some sand lenses, light brown 7.5YR 6/3, damp, trace to non plastic, soft	0.0				
	27		0.0				
	28		0.0		SS7	1852	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB114AE1

PROJECT
USFR DCEA

INSPECTOR
J. Kidwell

SHEET
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	21	Sand, fine, med well sorted, damp, light brown 7.5YR6/3, non plastic, soft	0.0				
	30		0.0				
	31	clay lens from 31.0' to 31.2' bgs	0.0		SS3	1900	
	33	clay lens from 33.0' to 33.2' bgs	0.0				
	34		0.0				SS9 (33/34)
	35	Sand, fine to gravel, poorly sorted, light brown 7.5YR6/3 damp, non plastic, soft	0.0		SS9	0910	
	37	Silt, some clay, light grey 7.5YR7/1, moist to wet, medium plasticity, soft to medium consistency	0.0				
	38		0.0				
	39	Silt, some sand, light grey 7.5YR7/1, wet, trace to nonplastic, soft	0.0				
	40	Sand, some silt, light grey 7.5YR7/1, wet, nonplastic, soft	0.0		SS10	0920	SS10 (39/40)
	41						WL=38.3 TD=42.5 GW (40.5/42.5)
	42						End time
	43						
	44						
	45						

HTW DRILLING LOG

HOLE NO.
DCFBI14AE2

1. COMPANY NAME: Burns & McDonnell 2. DRILLING SUBCONTRACTOR: Environmental Priority Service
 SHEET 1 OF 3 SHEETS

PROJECT: USFRDCFA 25724 4. LOCATION: Former Dry Cleaning Building Location

5. NAME OF DRILLER: Doug Roy / Pat Martin 6. MANUFACTURER'S DESIGNATION OF DRILL: Van-mounted Geoprobe GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT:
4-foot macrocore sampler 8. HOLE LOCATION: N14192983.12 E2267412.02
4-foot acetate sleeve
Continuous 9. SURFACE ELEVATION: 1084.47

10. DATE STARTED: 12/05/2000 11. DATE COMPLETED: 12/06/2000

12. OVERBURDEN THICKNESS: 41.0' 15. DEPTH GROUNDWATER ENCOUNTERED: 38.6' bgs

13. DEPTH DRILLED INTO ROCK: 0.0' 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 38.9' bgs; 10 min

14. TOTAL DEPTH OF HOLE: 41.0' 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES: NA DISTURBED: NA UNDISTURBED: NA 19. TOTAL NUMBER OF CORE BOXES: NA

20. SAMPLES FOR CHEMICAL ANALYSIS:
Onsite Analytical VOC: PCE, TCE, DCE METALS: NA OTHER (SPECIFY): NA OTHER (SPECIFY): NA OTHER (SPECIFY): NA 21. TOTAL CORE RECOVERY: NA %

22. DISPOSITION OF HOLE: Bentonite BACKFILLED: NA MONITORING WELL: NA OTHER (SPECIFY): NA 23. SIGNATURE OF INSPECTOR: QZ Kidwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME g	REMARKS h
	1	Clay, dark brown 7.5YR 3/3, damp, medium plasticity, medium consistency	0.0				Start time 1012
	2	Fill	0.0				
	3		0.0				
	4		0.0	3/4	SS1	1014	SS1 (3/4)
	5		0.0				
	6	Silt, light brown 7.5YR 4/3, dry, nonplastic, soft	0.0				
	7		0.0				
	8		0.0	4/4	SS2	1018	
	9	Silt, trace clay, dark brown 7.5YR 3/3, dry to damp, trace plasticity, medium to soft consistency	0.0				
	10		0.0				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB114AE2

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEO TECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIMEg	REMARKS h
	11	Silt, trace clay, dark brown 7.5YR ^{3/3} , dry to damp, trace plasticity, medium to stiff consistency	0.0				
	12	Silt and clay, dark brown	0.0	4/4	SS3	1022	
	13	7.5YR ^{3/3} , grading to strong brown 7.5YR ^{4/6} , damp,	0.0				
	14	medium plasticity, medium consistency	0.0				
	15		0.0				
	16		0.0	4/4	SS4	1027	SS 4 (15/16) 12/66/2000
	17		0.0				
	18		0.0				
	19		0.0				
	20		0.0	4/4	SS5	0945	
	21		0.0				
	22	Silt, brown 7.5YR ^{4/4} , damp, trace to nonplastic, medium consistency	0.0				SS6 (21/22)
	23	Silt and sand, light brown 7.5YR ^{6/3} , damp, nonplastic, Soft to medium consistency	0.0				
	24		0.0	4/4	SS6	0753	
	25		0.0				
	26	Sand, fine, well-sorted, light brown 7.5YR ^{4/6} , damp, nonplastic, soft	0.0				
	27	Silt, trace clay, light brown 7.5YR ^{6/3} , damp, trace plastic, soft	0.0				
	28	Silt and sand, light brown 7.5YR ^{6/3} , damp, nonplastic, soft	0.0	4/4	SS7	0802	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB114AE2

PROJECT
USFR DCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH-SAMPLE OR-CORE-BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	29	Silt and sand, poorly sorted, light brown 7.5YR ^{6/3} , damp, nonplastic, soft	0.0				
	30	Silt, trace sand, some clay, light brown 7.5YR ^{6/3} , damp, trace to medium plasticity, medium consistency	0.0				
	31	Silt and sand, trace clay lenses, light brown 7.5YR ^{6/3} , damp, nonplastic, soft	0.0				
	32			4/4	SS3	0313	
	33		0.0				
	34	Silt, some clay, trace poorly sorted sand lenses, light grey 7.5YR ^{7/1} , damp to moist, medium plasticity, medium to soft consistency	0.0				SS9 (33/34)
	35		0.0				
	36		0.0	4/4	SS9	0330	
	37	Sand, with silt, light brown 7.5YR ^{6/3} , moist, nonplastic, soft to medium consistency	0.0				
	38		0.0				SS10 (37/38)
	39	Sand, fine, moderately well sorted, light brown 7.5YR ^{6/3} wet, nonplastic, soft					
	40			4/4	SS10	0347	End time
	41	Bottom of logged hole					WL = 38.9' bgs TD = 41.0' bgs 0900 GW (38/40) Ht preprobe
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO. **114AW1**
~~DCFB 114AW1~~
SHEET 1
OF 3 SHEETS

1. COMPANY NAME **Burns & McDonnell**

2. DRILLING SUBCONTRACTOR **PLS**

PROJECT **USEPDCFA 25724**

4. LOCATION **Former Dry Wearing Building Location**

5. NAME OF DRILLER **Pat Martin**

6. MANUFACTURER'S DESIGNATION OF DRILL **Truck Mounted (Explosive Gun) 40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4 1/2 foot ABSOLUTE sampler
4 foot PLUTATE
Continuous

8. HOLE LOCATION **N 14192949.3 E 2267372.06**

9. SURFACE ELEVATION **1084.16**

10. DATE STARTED **12/1/00**

11. DATE COMPLETED **12/04/00**

12. OVERBURDEN THICKNESS **41.5'**

15. DEPTH GROUNDWATER ENCOUNTERED **40'**

13. DEPTH DRILLED INTO ROCK **NA**

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **40.3' - 10 min.**

14. TOTAL DEPTH OF HOLE **41.5'**

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES **NA**

DISTURBED **NA**

UNDISTURBED **NA**

19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS **Onsite Analytical**

VOC **PCB, TCE, DCE**

METALS **NA**

OTHER (SPECIFY) **NA**

OTHER (SPECIFY) **NA**

OTHER (SPECIFY) **NA**

21. TOTAL CORE RECOVERY % **NA**

22. DISPOSITION OF HOLE

BACKFILLED **Bentonite**

MONITORING WELL **NA**

OTHER (SPECIFY) **NA**

23. SIGNATURE OF INSPECTOR **WB McClelland**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Fill sand + clay with concrete and brick bats	0				Start line 106
	2		0				
	3		0				
	4	Silt, dark brown, damp, trace plastic, soft consistency	0	414	551	1007	CS1(314)
	5		0				
	6	Silt, light brown, damp, non plastic, soft consistency	0				
	7		0				
	8	Silt, dark brown, damp, trace plastic, soft consistency	0	414	552	1011	
	9		0				
	10		0				553(9)10

HTW DRILLING LOG

HOLE NO. **14AW1**
~~DLFB 11111~~
 SHEET **2**
 OF **3** SHEETS

PROJECT **USFROFA 25724**

INSPECTOR **WB McClouden**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO. i	BLOW COUNTS j	REMARKS h
	11	Silt, dark brown, damp, trace plastic, soft consist	0				
	12	Silty clay, dark brown, damp, trace plastic, soft consist.	0	4/4	SS3	1015 1075	
	13		0				
	14		0				
	15	Sandy silt, dark brown, damp, trace plastic, soft consist	0.4				
	16		0	4/4	SS4	1020	SS4(15/16)
	17	Silty sand, light brown, damp, nonplastic, soft consist; fine grained, well sorted	0				
	18		0				
	19		0				
	20		0	4/4	SS5	1026	
	21		0				SS6(21/22)
	22		0				
	23	Sand, brown, damp, fine grained, well sorted	0.4				
	24		0	4/4	SS6	1034	
	25		0				
	26		0				
	27		0				
	28		0	4/4	SS7	1041	SS7(27/28)

HTW DRILLING LOG

 HOLE NO.
 DCFB114AW1

 PROJECT
 USFR DCFA

 INSPECTOR
 J. Kidwell

 SHEET 3
 OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	29	Sand, light brown 7.5YR 6/4, damp, fine grained, well sorted, nonplastic, soft	0.0				12/04/2000
	30	— — — — —	0.0				
	31	Sand, light brown 7.5YR 6/4, damp, fine to gravel, poorly sorted, nonplastic, soft; some clay lenses	0.0				
	32	— — — — —	0.0	4/4	SS8	0730	
	33	Silty clay, light brown 7.5YR 6/4, moist, high plasticity, soft	0.0				
	34	Sand, light brown 7.5YR 6/4, damp, fine, well sorted, nonplastic, soft	0.0				SS9 (33/34)
	35	— — — — —	0.0				
	36	Sand, light brown 7.5YR 6/4, damp, fine to gravel, poorly sorted, nonplastic, soft; some clay lenses	0.0	4/4	SS9	0743	
	37	— — — — —	0.0				
	38	Sand and silt, light brown, wet, fine, mod. sorted, trace plasticity, soft	0.0				
	39	— — — — —	0.0				
	40	— — — — —	0.0	4/4	SS10	0757	SS10 (39/40)
		Bottom of logged hole					End time 0805 WL=40.8 TD=41.8 GW(40.8-41.8)

HTW DRILLING LOG

HOLE NO.
DCF8114AW2

1. COMPANY NAME: Burns & McDennell 2. DRILLING SUBCONTRACTOR: PES SHEET 1 OF 3 SHEETS

PROJECT: USERDCFA 25724 4. LOCATION: Former Dry Cleaning Building Location

5. NAME OF DRILLER: Doug Roy 6. MANUFACTURER'S DESIGNATION OF DRILL: Van-mounted Geoprobe GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 4-foot macrocore sampler
4-foot acetate sleeve
Continuous 8. HOLE LOCATION: N 14192936.6 E 2267356.59
9. SURFACE ELEVATION: 1084.10

10. DATE STARTED: 12/04/00 11. DATE COMPLETED: 12/05/00

12. OVERBURDEN THICKNESS: 44' 15. DEPTH GROUNDWATER ENCOUNTERED: 40' bgs

13. DEPTH DRILLED INTO ROCK: 0' 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: 38.4' bgs 10 min

14. TOTAL DEPTH OF HOLE: 44' 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): NA

18. GEOTECHNICAL SAMPLES: NA DISTURBED: NA UNDISTURBED: NA 19. TOTAL NUMBER OF CORE BOXES: NA

20. SAMPLES FOR CHEMICAL ANALYSIS: Offsite Confirmation
Onsite Analytical VOC: PCE, TCE, DCE METALS: NA OTHER (SPECIFY): NA OTHER (SPECIFY): NA OTHER (SPECIFY): NA 21. TOTAL CORE RECOVERY: NA %

22. DISPOSITION OF HOLE: Bentonite BACKFILLED: Bentonite MONITORING WELL: NA OTHER (SPECIFY): NA 23. SIGNATURE OF INSPECTOR: J. Kidwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	<u>Topsoil</u>	<u>0.0</u>				<u>Start time 0825</u>
	2	<u>Fill, limestone gravel and brick</u>	<u>0.0</u>				
	3		<u>0.0</u>				
	4		<u>0.0</u>	<u>4/4</u>	<u>SS1</u>	<u>0530</u>	
	5	<u>Silt, dark brown 7.5YR^{3/3}, dry to damp, trace plasticity, soft to med. consistency</u>	<u>0.0</u>				
	6		<u>0.0</u>				
	7	<u>Sand lens from 7.0 to 7.1' bgs</u>	<u>0.0</u>				
	8		<u>0.0</u>	<u>4/4</u>	<u>SS2</u>	<u>0535</u>	
	9		<u>0.0</u>				
	10		<u>0.0</u>				

SS3 (9/10)*

HTW DRILLING LOG

HOLE NO.
DCFB114AW2

PROJECT
USFR DCFA

INSPECTOR

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silt, and clay, dark brown 7.5YR ³ / ₅ , damp, medium plasticity, stiff	0.0				
	12		0.0		SS3	0845	
	13		0.0				
	14	Silt, trace clay, brown 7.5YR ² / ₅ , damp, trace plasticity, medium to soft consistency	0.0				
	15		0.0		SS4	0848	SS4 (15/16)
	16		0.0				
	17	Silt and very fine sand, med. to well sorted, light brown 7.5YR ⁶ / ₄ , damp, nonplastic, soft	0.0				
	18		0.0				
	19		0.0				
	20		0.0		SS5	0853	
	21		0.0				
	22		0.0				SS6 (2/22) ↑
	23		0.0				
	24		0.0		SS6	0859	
	25	Sand, fine, well sorted, light brown 7.5YR ⁶ / ₄ , damp, nonplastic, soft	0.0				
	26		0.0				
	27		0.0				
	28		0.0		SS7	0906	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCF B114AW2

PROJECT
USFR DCEA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	29	Sand, fine, well sorted, light brown 7.5YR 6/4, damp, non plastic, soft	0.0				
	30	clay and silt lenses from 30.0' to 30.3' bgs and from 31.8' to 32' bgs	0.0				
	31		0.0				
	32	Sand and silt, light brown 7.5YR 6/4, damp trace to nonplastic, soft	0.0		SS8	0913	
	33		0.0				
	34	Silt and clay, brown 7.5YR 5/4, damp, medium plasticity, medium to soft consistency	0.0				SS9(33/34)
	35		0.0		SS9	0922	
	36		0.0				12/05/2000
	37		0.0				
	38	Sand, fine to med. grain, med. sorting, light brown 7.5YR 6/4, moist to wet, nonplastic, soft	0.0				
	39		0.0				
	40	Silt and clay, brown 7.5YR 5/4, moist to wet, medium plasticity, medium consistency	0.0		SS10	0727	SS10(39/40)
	41	Bottom of logged hole					WL = 38.4' bgs TD = 44.0' bgs C/W (42/44) Est. time 0753
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB 114B

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS	
PROJECT USFR DCEA 25724			4. LOCATION Former Dry Cleaning Building Location		
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Truck-mounted Geoprobe GH-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N14192991.09 E2267374.19	
		4-foot acetate sleeve		9. SURFACE ELEVATION 1084.63	
		Continuous		10. DATE STARTED 12/06/2000	
				11. DATE COMPLETED 12/06/2000	
12. OVERBURDEN THICKNESS 39.5'			15. DEPTH GROUNDWATER ENCOUNTERED 35.6'		
13. DEPTH DRILLED INTO ROCK 0'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 39.0' 10 min		
14. TOTAL DEPTH OF HOLE 39.5'			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Offsite Confirmation Onsite Analytical		VOC PCE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
					21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR JL Kidwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEO TECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME g	REMARKS h
		Topsoil					Start time
	1	Silt, trace sand, trace clay, light brown 7.5YR6/3, dry, trace plasticity, soft	0.0				0913
	2		0.0				
	3		0.0				
	4	Silt, dark brown 7.5YR3/3, dry, non plastic, soft	0.0	4/4	SS1	0916	SS1 (3/4)
	5	Silt and very fine sand, well sorted, light brown 7.5YR 6/3, dry to damp, non plastic, soft	0.0				
	6		0.0				
	7		0.0				
	8		0.0	4/4	SS2	0919	
	9		0.0				
	10	Silt, some clay, dark brown 7.5YR3/3, damp, medium plasticity, medium consistency	0.0				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB114B

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	11	Silt, some clay, dark brown 7.5YR 3/3, damp, medium plasticity, medium consistency	0.0				
	12		0.0	4/4	SS3	0928	
	13	Silt, trace clay, brown 7.5YR 5/3, damp, trace to nonplastic, medium consistency	0.0				
	14		0.0				
	15		0.0				
	16		0.0	4/4	SS4	0930	SS4 (15/16) *
	17		0.0				
	18		0.0				
	19		0.0				
	20		0.0	4/4	SS5	0938	
	21		0.0				
	22		0.0				SS6 (21/22)
	23	Silt and sand, light brown 7.5YR 6/3, damp, non- plastic, soft consistency	0.0				
	24		0.0	4/4	SS6	0945	
	25	Sand, fine to gravel, poorly sorted, light brown, damp, non plastic, soft	0.0				
	26		0.0				
	27	Silt and clay, light brown 7.5YR 6/3, damp to moist, medium plasticity, medium consistency	0.0				
	28		0.0	4/4	SS7	0951	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFBI14B

PROJECT
USFR DCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	29	Silt and clay, light brown 7.5YR6/3, damp, medium plasticity, medium consistency; trace sand lenses	0.0				
	30		0.0				
	31	Sand, fine, moderately sorted, some silty clay lenses, light brown 7.5YR 4/3, damp, nonplastic, soft	0.0	4/4	SS8	1000	
	32		0.0				
	33	Clay, trace silt, brown 7.5YR5/3, damp to moist, medium plasticity, stiff consistency;	0.0				
	34	Coarse, poorly sorted sand lenses from 32.5 to 32.7 and 34.0 to 34.3' bgs	0.0				SS9 (33/34)
	35	Silt and clay, light grey 7.5YR7/1, moist, medium plasticity, soft to med. consistency	0.0				
	36	Silt and sand, light brown 7.5YR4/3, wet, nonplastic, soft	0.0	4/4	SS9	1010	End time
	37	Bottom of logged hole					WL = 39.0' TD = 39.5' GW (39/39.5)
	38						
	39						
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
D.F.B. 115

1. COMPANY NAME <i>Burns + McDonnell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 3 SHEETS	
3. PROJECT <i>USF DIA 25724</i>		4. LOCATION <i>Former Dry Cleaning Building Location</i>			
5. NAME OF DRILLER <i>Paul</i>		6. MANUFACTURER'S DESIGNATION OF DRILL <i>Truck mounted GeoProbe (14-40)</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macro core		8. HOLE LOCATION <i>N 14193008.39 E 2267395.75</i>		
	1/2 foot Accurate		9. SURFACE ELEVATION <i>1084.55</i>		
	Continuous		10. DATE STARTED <i>11/03/2000</i>		11. DATE COMPLETED <i>11/05/2000</i>
12. OVERBURDEN THICKNESS <i>38</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>35.8</i>			
13. DEPTH DRILLED INTO ROCK <i>NA 0.4 m</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>			
14. TOTAL DEPTH OF HOLE <i>39.4</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>		DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>	
20. SAMPLES FOR CHEMICAL ANALYSIS <i>On-site Analysis</i>	VOC <i>KE, TEL, DCE</i>	METALS <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>
	21. TOTAL CORE RECOVERY <i>NA %</i>				
22. DISPOSITION OF HOLE		BACKFILLED <i>Bentonite</i>	MONITORING WELL <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	23. SIGNATURE OF INSPECTOR <i>Walter B. McDonnell</i>

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Clay, light brown, damp, med. plast. medium consistency	0				START Time = 0740
	2	Sandy, 7.5-1.5% brown, damp, fine sandstone well sorted	0				
	3	Sandy silt, 7.5-1.0% grey, damp, trace plastic, soft consistency	0-1				CS (3/4)
	4	Silt, black, 7.5-4% black, damp, trace plastic, soft consistency	0	NA	SS1	0744	
	5	Silt, light brown damp, trace plastic, soft consistency	0				SS3 (9/10) #
	6		0				
	7		0				
	8	Silt black, damp, trace plastic soft consistency	0	NA	SS2	0743	
	9		0				
	10		0				

HTW DRILLING LOG

HOLE NO.
DCFB115

PROJECT USF RCTFA 25724

INSPECTOR Walter B. McDonald

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	6:14, Dark brown, damp, fine plastic, soft consistency	0				
	12		0	NA	SS3	0800	
	13		0.1				
	14	Silty sand, 7.5-1.5/4, brown, damp fine to medium grain, well sorted	0				
	15		0.1				SS4 (18710)
	16		0.1	NA	SS4	0805	
	17		0				
	18		0				
	19	Clay, 7.5-1.5/4, brown, damp, highly plastic, medium consistency	0				
	20	Silty sand, 7.5-1.5/4, brown, damp fine to coarse, poorly sorted	0	NA	SS5	0816	
	21		0				SS6 (2122)
	22	Sand, 7.5-1.5/4, brown, damp, fine to coarse, poorly sorted	0				
	23		0				
	24		0	NA	SS6	0827	
	25		0				
	26	Silt, light tan, moist, highly plastic soft consistency	0				
	27		0				SS7 (2728)
	28	Sand, 7.5-1.5/4, brown, damp, fine to coarse, well sorted	0	NA	SS7	0837	

HTW DRILLING LOG

HOLE NO.
DCFB115

PROJECT USEZDFB 25724

INSPECTOR Walter B. McClendon

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time g	REMARKS h
		Silt, 7.5-10% clay, brown, moist, highly plastic, soft consistency	0				
	29	Clay, 7.5-10% silt, brown, clayey, highly plastic, med. to hard consistency	0				
	30	Sand, 7.5-10% silt, brown, clayey, fine to medium, well sorted	0				
	31						
	32	Sandy silt, 7.5-10% silt, brown, clayey, fine grained, poorly sorted	0	NA	SSB	0850	
	33		0				SSC(32/33)
	34	Sand, 7.5-10% silt, brown, clayey to medium, fine to medium grained, well sorted	0				
	35	Sandy silt, 7.5-10% silt, brown, moist, highly plastic, soft consistency	0				
	36	Sandy clay, moist	0				
	36	Sandy silt with clay nodules, wet, fine plastic, soft consistency, some fine gravel	0	NA	SSC	0703	▼
	37						
	38						
	39	Bottom of Unseal Hole					GW 37/39
	40	Bottom of Hole					TD = 39.4

HTW DRILLING LOG

HOLE NO. **DCFBI15B A**
 SHEET 1 OF 3 SHEETS

1. COMPANY NAME **Burns + McDannell** 2. DRILLING SUBCONTRACTOR **PES**

PROJECT **USFRDCFA** 4. LOCATION **Former Dry Cleaning Building Location**

5. NAME OF DRILLER **Pat Martin** 6. MANUFACTURER'S DESIGNATION OF DRILL **Van Mounted Geoprobe GH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
4-foot macro core sampler
4-foot Acetate
Continuous

8. HOLE LOCATION
N14193041.73 E2267407.92

9. SURFACE ELEVATION
1085.00

10. DATE STARTED **11/13/00** 11. DATE COMPLETED **11/13/00**

12. OVERBURDEN THICKNESS
35

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
0

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
35

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES: DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS: VOC **PCE, TCE, DCE** METALS **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** 21. TOTAL CORE RECOVERY **NA** %

22. DISPOSITION OF HOLE: BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **W. B. McClendon**

T. EV.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g Time	REMARKS h
	1	Topsoil, clay, damp, medium plastic, med. consistency	0				Start Time 0910
	2	Clay fill, black, damp, med. plastic and consistency, with concrete fragment	0				
	3		0				
	4		0	44	551	0914	
	5		1				SS1(3/4)
	6	Sandy Silt, black to brown, damp, non to trace plastic, soft consistency, fill mat. with concrete + L.S. frags	0				
	7		0				
	8		0	3/4	552	0918	
	9	Sandy Silt, brown, damp, trace to med. plastic	0				
	10		0				

HTW DRILLING LOG

HOLE NO.
DCF B 115A

PROJECT **USFR DCFA 25724**

INSPECTOR **WB McClendon**
SHEET **2**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recovery	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	11	Sandy silt, brown, damp, trace to med. plastic, med. consistency	0				
	12		0	4/4	553	0923	
	13		0				
	14		0				
	15		0				
	16	Silt, brown, damp, med. plastic and consistency	0	4/4	554	0930	SS4 (15/16)
	17		0				
	18		0				
	19	Sandy silt, light tan to grey, damp to moist, medium plastic, soft to medium consistency	0				
	20		0	4/4	555	0935	
	21		0				
	22		0				SS6 (21/22)
	23	Sand, light to tan grey, damp, fine to medium, well sorted	0				
	24	Sandy silt, light tan to grey, damp, med plastic and consistency with sand lenses	0	4/4	556	0947	
	25		0				
	26		0				
	27		0				
	28		0	4/4	557	0955	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DLFB115A

PROJECT **USFROCF 25724**

INSPECTOR **WB McClendon**
SHEET **3**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	29	Sandy silt, tan, damp to moist, med plastic and consistency, with sand lenses	0				
	30	_____	0				
	31	Sand, brown, damp to moist fine grained, well sorted, trace of fines	0.1				
	32		0.4	4/4	558	1002	
	33		0				559(33/34)
	34		0				
	35	moist	0	3/3	559	1015	END TIME 1020
		Bottom of logged hole					TD=35

HTW DRILLING LOG

HOLE NO. **DCFB 115A B** MH

1. COMPANY NAME Burns + McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS			
PROJECT USFR DCFA			4. LOCATION Former Dry cleaning Facility location				
5. NAME OF DRILLER			6. MANUFACTURER'S DESIGNATION OF DRILL Truck Mounted Repube G-H-40				
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot sampler		8. HOLE LOCATION N 14192996.42 E 2267423.96			
		4-foot Acetate					
		Continuous		9. SURFACE ELEVATION 1084.51			
				10. DATE STARTED 11/29/2000		11. DATE COMPLETED 11/29/2000 <i>dlb</i>	
12. OVERBURDEN THICKNESS 33		15. DEPTH GROUNDWATER ENCOUNTERED 36					
13. DEPTH DRILLED INTO ROCK 0		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 39 @ 5 min					
14. TOTAL DEPTH OF HOLE 33 40		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA					
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA			
20. SAMPLES FOR CHEMICAL ANALYSIS On site Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY % NA
		PLE, TCE, DCE	NA	NA	NA	NA	
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR W. B. Mc Clendon		
		Bentonite					

T. EV.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Top soil					
	1	clayey silt, with fill material, dark brown, damp, med. plastic, med. consistency	0.2				Start Time = 0935
	2		0.2				
	3	silt, dark brown to light, damp, trace plastic, soft consistency	0.2				
	4		0.2	4/4	551	0936	
	5		0.2				551 (314)
	6	silt, light brown, damp, non plastic, soft consistency	0.2				
	7		0.2				
	8		0.2	3/4	552	0940	
	9		0				
	10	silt, dark brown, damp, trace plastic, soft consistency	0				

HTW DRILLING LOG

HOLE NO. **DCF B 115 # B**

PROJECT **USER DCFA**

INSPECTOR **WB McClendon**

SHEET **2**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silt, dark brown, damp, trace plastic, soft to med consist.	0				
	12	clayey silt, dark brown, damp, med plastic, med. consist.	0	4/4	553	0947	
	13		0.2				
	14		0				
	15		0				554 (15/16)
	16		0	4/4	554	0951	
	17		0.2				
	18	Sandy silt, dark brown, damp, trace plastic, soft consistency	0.6				
	19		0.2				
	20		0.6	4/4	555	1000	
	21		0.6				556 (21/22)
	22		0.2				
	23		0.2				
	24		0.6	4/4	556	1006	
	25	Sand, Light Brown, damp, fine grained, well sorted	0.2				
	26	Silt, Light Brown, damp, trace to med plastic, soft to med consistency	0.2				
	27	clay, damp, med plastic consistency	0.6				
	28	Silty clay, Light Brown, damp med plastic consistency	0.2	4/4	557	1015	557 (27/28)

HTW DRILLING LOG

HOLE NO.
DLFB115B

PROJECT USFROCA 25724

INSPECTOR WB-McClendon

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recovery	ANALYTICAL SAMPLE NO. f	BLOW COUNTS T.96	REMARKS h
	29	Clayey silt, brown, damp trace to med plastic, soft to med. consist.	0				11/30/00
	30	Sand, brown, damp, fine grained, well sorted	0				
	31	Clay, brown, damp, med plastic and consist	0				
	32		0	414	558	0658	
	33	Silty sand, brown, damp, fine grained, well sorted	0				559 (33/34)
	34	Sandy silt, gray, moist, med. plastic, soft consist	0				
	35		0	44			
	36		0		559	0715	▼
	37	Sand, brown, wet, fine grained, well sorted	-				
	38		-	2/4	5510	0730	End Time 0735
		Bottom of hole					T0 = 38 feet

HTW DRILLING LOG

HOLE NO.
DCEB116

1. COMPANY NAME <i>Burns & McDonnell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 3 SHEETS	
PROJECT <i>USE RDEFA 25724</i>		4. LOCATION <i>Former Dry Cleaning Facility</i>			
5. NAME OF DRILLER <i>Paul</i>		6. MANUFACTURER'S DESIGNATION OF DRILL <i>Geoprobe GH-40</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	<i>4-foot macrocore</i>		8. HOLE LOCATION <i>N/A 1930AZ.72 E2267440.95</i>		
	<i>4-foot acetate steel</i>		9. SURFACE ELEVATION <i>1084.94</i>		
	<i>Continuous</i>		10. DATE STARTED <i>11/03/2000</i>		
			11. DATE COMPLETED <i>11/09/2000</i>		
12. OVERBURDEN THICKNESS <i>40</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>37</i>			
13. DEPTH DRILLED INTO ROCK <i>NA</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>34.3</i>			
14. TOTAL DEPTH OF HOLE <i>Logged 40 feet 42.3</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>	DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>On-site Analytical</i>	VOC <i>see TCE, etc</i>	METALS <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	21. TOTAL CORE RECOVERY <i>NA %</i>
	BACKFILLED <i>Bentonite</i>	MONITORING WELL <i>NA</i>	OTHER (SPECIFY) <i>NA</i>	23. SIGNATURE OF INSPECTOR <i>Walter B. McDonnell</i>	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	1	<i>Clay, dark brown, damp, med. plast. med. consistency</i>	0				<i>Start Time 1005</i>
	2	<i>Fill, sand, concrete, L-10, clay</i>	0				
	3		0				
	4		0	<i>NA</i>	<i>SS1</i>	<i>1010</i>	<i>SS (3/4)</i>
	5		0				
	6	<i>Sandy silt, dark brown, damp, trace plastic, soft consistency</i>	0				
	7		0				
	8		0	<i>NA</i>	<i>SS2</i>	<i>1012</i>	
	9		0				
	10		0				<i>SS3 (5/12)</i>

HTW DRILLING LOG

HOLE NO.
A = B116

PROJECT
USF R D C FA 25724

INSPECTOR
Walter B. Mc Clendon

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>7 inch</i>	REMARKS h
	11	Sandy silt, dark brown, damp trace plastic, soft consistency	0				
	12		0	NA	553	1022	
	13	Silty sand, 7.5-10% silt, brown, damp, fine grained, poorly sorted	0				
	14		0				
	15		0				
	16		0	NA	554	1031	554 (5/16)
	17	Silt, 7.5-10% silt, brown, damp, trace to med. plastic, soft consistency	0				
	18		0				
	19		0				
	20		0	NA	555	1041	
	21	Silty sand, 7.5-10% silt, brown, damp, fine grained, well sorted	0				556 (21/22)
	22	Silt, 7.5-10% silt, damp to moist brown, medium plastic, soft consistency	0				
	23	Sand, 7.5-10% silt, brown, clay, fine to med. grained, poorly sorted	0				
	24	Silt, 7.5-10% silt, brown, damp to moist, trace to med. plastic, soft consistency	0	NA	556	1051	110900
	25		0				
	26	Sand, light brown, damp, fine grained, well sorted	0.2				
	27	Sandy silt, light brown, damp to moist, highly plastic soft consistency	0				557 (27/28)
	28		0	NA	557	0805	

HTW DRILLING LOG

HOLE NO.
DCEB 116

PROJECT
USFR OCEA 25724

INSPECTOR
Walter B. McClendon

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Total	REMARKS h
	29	Silt, Light Brown, damp, med-plastic, med. to soft consistency	0				
	30	Sand, Light brown, damp, fine grained well sorted	0				
	31	Sandy silt, light brown, damp to med + medium plastic and consistency; with sand lenses; damp, fine grained, well sorted	0				
	32		0	NA	SS8	0814	
	33		0				SS9 (32/33)
	34		0				
	35		0				
	36	SAME AS ABOVE, EXCEPT MOIST TO WET CHERT LENSES	0	NA	SS9	0835	
	37		0				▼
	38	Sand, 7.5-15% clay, brown, wet, fine grained, well sorted	-				
	39		-				
	40		-	NA	SS10	0850	
		Bottom of Cased Hole					logged TO = 40 feet

HTW DRILLING LOG

HOLE NO.
DCF B117

1. COMPANY NAME <i>Burns + McDonnell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 3 SHEETS		
3. PROJECT <i>USFR DCEA 25724</i>			4. LOCATION <i>Former Dry cleaning Facility location</i>			
5. NAME OF DRILLER <i>Paul</i>			6. MANUFACTURER'S DESIGNATION OF DRILL <i>Truck mounted Octoprobe G-H-40</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot MACRO CORE		8. HOLE LOCATION <i>N 14193076.7 E 2267485.61</i>			
	4-foot Acetate sleeve					
	Continuous					
12. OVERBURDEN THICKNESS <i>40</i>			9. SURFACE ELEVATION <i>1086.03</i>			
13. DEPTH DRILLED INTO ROCK <i>NA</i>			10. DATE STARTED <i>11/09/2000</i>			
14. TOTAL DEPTH OF HOLE <i>40-43.6</i>			11. DATE COMPLETED <i>11/09/2000</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>		DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite Analytical</i>		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)
		<i>PCE, TCE, DCE</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>WALTER B. McCLendon</i>	
		<i>Bentonite</i>	<i>NA</i>	<i>NA</i>		

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	1	Topsoil Fill, dry, concrete, clay tile	0				START Time = 1000
	2		0				
	3		0				
	4	Silt brown, dry, non plastic, hard consistency	0	<i>NA</i>	<i>SS1</i>	<i>1003</i>	<i>SS1 (314)</i>
	5		0				
	6	Clay tile, fill material Buried soil horizon	0				
	7	Silt, dark brown, dry, non plastic soft consistency	0				
	8		0	<i>NA</i>	<i>652</i>	<i>1008</i>	
	9	Fill material	0				<i>652 (912)</i>
	10		0				

HTW DRILLING LOG

HOLE NO.
DCEB117

PROJECT
USFR DCEFA 25724

INSPECTOR
Walter B. McClouden

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Fill material, tile, concrete	0				
	11	-----					
	12	Clay, brown, dry non plastic hard consistency	0	NA	SS3	1015	
	13		0				
	14	-----					
	15	Silt, 7.5-9.5 brown, damp fine plastic, soft consistency	0				
	16		0	NA	SS4	1031	*SS4(15116)
	17		0				
	18		0				
	19		0				
	20		0	NA	SS5	1040	
	21		0				SS6(2122)
	22		0				
	23		0				
	24	Sandy silt, 7.5-9.5 brown, damp plastic med, med. consistency	0	NA	SS6	1057	
	25	-----					
	26	Sand, light brown, dry, well sorted	0				
	27	Sandy silt, light brown, dry, non plastic, hard consistency	0				
	28	-----					
	28	Sand lens	0	NA	SS7	1105	SS7(2728)

HTW DRILLING LOG

HOLE NO.
DFB 117

PROJECT
USFRDCEA 25724

INSPECTOR
W.B. Mc Clendon

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time g	REMARKS h
	29	Sandy silt, 7.5-10% clay, dry to damp, medium plastic, soft consistency, with sand lenses, brown, dry, fine to medium grained, well sorted	0				Lost macro sampler down hole. After repeated attempts to retrieve, offset 2 feet and pre-probed down to 28 feet.
	30		0				
	31		0				
	32	Sand 7.5-10% clay, brown, clay, fine to medium grained, well sorted	0	NA	SS8	1420	
	33	Silt, light grey to cream, moist, fine to medium plastic, soft to medium consistency	0				11/14/2000
	34	Sand, light brown, dry, fine to medium grained well sorted	0				SS9 (3 3/4)
	35	Sandy silt, with chest lens, brown medium plastic, red. consist. moist	0				
	36	Sand, light brown, moist, fine grained, well sorted	0	NA	SS9	0825	
	37		0				
	38	sand, wet	0				▼
	39		-				
	40		-		SS10	0833	End Time = 0935
		Bottom of logged hole					TD = 40 feet logged TL = 42.6

HTW DRILLING LOG

HOLE NO.
DCFB118

1. COMPANY NAME
BURNS + McDONNELL

2. DRILLING SUBCONTRACTOR
EPS

SHEET 1
OF 3 SHEETS

PROJECT
USFR DLFA 25724

4. LOCATION
FORMER DRY CLEANING FACILITY

5. NAME OF DRILLER
PAT MARTIN

6. MANUFACTURER'S DESIGNATION OF DRILL
VAN MOUNTED GEOPROBE G-H-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT

4-foot MACROLORE SAMPLER
4-foot Acetate Sleeve
CONTINUOUS

8. HOLE LOCATION
N 14192889.91 E 2267323.9

9. SURFACE ELEVATION
1083.37

10. DATE STARTED
11/14/2000

11. DATE COMPLETED
11/14/2000

12. OVERBURDEN THICKNESS
40 45

15. DEPTH GROUNDWATER ENCOUNTERED
40

13. DEPTH DRILLED INTO ROCK
0 0

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
43 @ 10 min.

14. TOTAL DEPTH OF HOLE
40 45

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
- Onsite Lab
- Offsite Confirmation

VOC
PCE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
Walter B. McClendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e <i>Recovery</i>	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	1	Fill clay, dark brown, damp medium plastic and consistency	0.1				Start Time 0910
	2	_____	0.1				
	3	fill, concrete, rock and brick, clay	0.1				
	4		0.1	3/4	551	0911	551 (3/4)
	5		0				
	6		0				
	7	_____	0				
	8	Silt, dark brown, damp, non plastic, soft consistency	0	4/4	552	0912	
	9		0				
	10		0.1				553 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB118

PROJECT **USFRDCFA 25724**

INSPECTOR **WB McClendon**

SHEET **2**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	11	Clay, brown, damp, highly plastic, med. to hard consist	0				
	12		0	3/4	553	0916	
	13		0				
	14	Silty clay, brown, damp, med. plastic + consistency	0				
	15		0.5				SS4(15/16)
	16		0.1	4/4	554	0929	
	17		0				
	18	Silt, brown, damp, trace plastic, med. to soft consistency	0				
	19		0				
	20		0	4/4	555	0935	
	21		0				SS6(21/22)
	22	0					
	23	Sand, brown, damp, fine to med. GRAINED, well sorted	0				
	24		0	4/4	556	0950	
	25	SANDY silt, brown, damp med. to trace plastic, soft to med consistency	0				
	26		0				
	27		0				
	28		0	3.5/4	557	0958	★ SS7(27/28)

HTW DRILLING LOG

HOLE NO.
DCFB118

PROJECT **USFRDCFA 25724**

INSPECTOR **W. B. McClendon**

SHEET **3**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e <i>Recovery</i>	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h	
	29	Sand, brown, damp to moist fine grained, well sorted	0					
	30	Silt, brown, moist, medium plastic, soft consistency	0					
	31	Sand, brown, damp, fine to med. grained, well sorted	0					
	32		0	4/4	558	1008	11/15/2000	
	33		0				559 (33/34)	
	34		0					
	35		0					
	36		0	4/4	559	0708		
	37		0					
	38		0					
	39		0				5510 (38/39)	
	40		0	3/4	5510	0719	▼	
	41	Bottom of Hole - Logged						TD = 40 ft End Time = 0720 Logged
	42							
	43							
	44							
	45	Bottom of Hole						TD = 45

HTW DRILLING LOG

HOLE NO.
DCFB119

1. COMPANY NAME
Burns + McDonnell

2. DRILLING SUBCONTRACTOR
PES

SHEET 1
OF 3 SHEETS

PROJECT
USFR DCFA

4. LOCATION
Former Dry Cleaning Location

5. NAME OF DRILLER
Pat Martin

6. MANUFACTURER'S DESIGNATION OF DRILL
Van Mounted Geoprobe GH-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT

4-foot MACROCORE
4-foot Acetate
Continuous

8. HOLE LOCATION
N14192914.43 E 2207 358.06

9. SURFACE ELEVATION
1083.52

10. DATE STARTED
11/13/2000

11. DATE COMPLETED
11/14/2000

12. OVERBURDEN THICKNESS
40 ^{ft} 45

15. DEPTH GROUNDWATER ENCOUNTERED
39

13. DEPTH DRILLED INTO ROCK
0 ^{ft}

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
40.8 @ 5 min

14. TOTAL DEPTH OF HOLE
46 ^{ft} 45

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
- Onsite Analytical
- Offsite confirmation

VOC
PCE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
W. B. McClendon

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recovery	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
1		Fill clay, black, damp, medium plastic, medium consistency, with concrete tile, and brick pieces	0				Start Time 1103
2			0.1				
3			0.1				
4			0	3/4	SS1	1107	SS1 (3/4)
5		Sandy clay, black to brown, damp, trace to med. plastic, medium consistency, with some fill material	0.1				
6			0.1				
7			0.4				
8		Silt, dark brown, damp, trace plastic, soft consistency	0.4	4/4	SS2	1110	
9		Clay, dark brown, damp, med plastic and consistency	0.1				
10			0.1				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB119

PROJECT **USFR DCFA 25724**

INSPECTOR **WB McClendon**

SHEET **2**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e <i>Recovery</i>	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g <i>Time</i>	REMARKS h
	11	CLAY, dark brown, medium plastic and consistency	0.4				
	12		0.4	3.5/4	SS3	1114	1114/00
	13						
	14		0.1				
	15		0				
	16		0	3/4	SS4	0710	* SS4 (15/16)
	17		0				
	18	Sand, brown, damp, fine grained, poorly sorted, with fines	0				
	19		0.1				
	20		0	4/4	SS5	0733	
	21		0				
	22		0				
	23		0.1				
	24	Limestone 1/2 inch PASS SAND, brown damp, fine to med. grained, well sorted	0	4/4	SS6	0742	
	25		0				
	26		0.1				
	27		0.1				
	28		0	4/4	SS7	0754	SS7 (27/28)

HTW DRILLING LOG

HOLE NO. **DCFB119**

PROJECT **USFRDLFA 25724**

INSPECTOR **WB Mc Clendon**

SHEET **3**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recovery	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	29	Sand, brown, damp, fine to med. grained, well sorted	0				
	30	Sandy silt, brown, damp to moist, med. plastic and consistency	0				
	31		0				
	32		0	4/4	SS8	0807	
	33	Sand, brown, damp to moist, fine to med. grained, well sorted	0				SS9(33/34)
	34	Silt, brown, moist, med. plastic med. consistency	0				
	35	Sand, brown, fine grained well sorted, damp to moist	0				
	36		0	4/4	SS9	0819	
	37	Silt, brown, moist, highly plastic, med to soft consist.	0				
	38	Sandy silt, brown, moist, med. plastic, med. consistency	0				SS10(38/39)
	39	Sand, brown, wet, fine to med grained, well sorted	-				End Time 0835
	40		-	4/4	SS10	0832	
	41	Bottom of Hole 45.0 Logged to 40.0'					TD = 40 feet Logged
	42						
	43						
	44						
	45						
		Bottom of Hole					TD = 45 feet

HTW DRILLING LOG

HOLE NO.
DCFB120

1. COMPANY NAME <i>Burns, McDonnell</i>		2. DRILLING SUBCONTRACTOR <i>Environmental Priority Service</i>		SHEET 1 OF 3 SHEETS	
PROJECT <i>USFRDCFB 25724</i>		4. LOCATION <i>Former Dry Cleaning Building location</i>			
5. NAME OF DRILLER <i>Paul and Paul</i>		6. MANUFACTURER'S DESIGNATION OF DRILL <i>Truck mounted Geoprobe OH-40</i>			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	<i>4-foot MALCOLM</i>		8. HOLE LOCATION <i>N14192949.47 E2267404.27</i>		
	<i>2-foot Aletate</i>		9. SURFACE ELEVATION <i>1084.03</i>		
	<i>Continuous</i>		10. DATE STARTED <i>11/14/2000</i>		11. DATE COMPLETED <i>11/13/2000</i>
12. OVERBURDEN THICKNESS <i>39</i>		15. DEPTH GROUNDWATER ENCOUNTERED <i>37</i>			
13. DEPTH DRILLED INTO ROCK <i>0 NA</i>		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED <i>NA</i>			
14. TOTAL DEPTH OF HOLE <i>39 42</i>		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) <i>NA</i>			
18. GEOTECHNICAL SAMPLES <i>NA</i>	DISTURBED <i>NA</i>	UNDISTURBED <i>NA</i>	19. TOTAL NUMBER OF CORE BOXES <i>NA</i>		
20. SAMPLES FOR CHEMICAL ANALYSIS <i>Onsite Analytical</i>	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY <i>NA %</i>
	<i>PCB, TCE, OCL</i>	<i>NA</i>	<i>NA</i>	<i>NA</i>	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR <i>W.B. Mcclender</i>	
	<i>Bentonite</i>	<i>NA</i>	<i>NA</i>		

EV. i	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS T ₉₀	REMARKS h
	1	<i>Fill material, clay, 7.5% black brown, damp, med. plastic, med. consistency; silt, coarse, fill sand</i>	0				<i>start time 1043</i>
	2		0				
	3		0				<i>SS1 (3/4)</i>
	4	<i>clay, dark brown, damp, trace plastic, soft consistency, with fill material</i>	0	<i>NA</i>	<i>SS1</i>	<i>1050</i>	
	5		0				
	6		0				
	7	<i>sand, light brown, damp, medium grained, well sorted, fill sand</i>	0				
	8		0	<i>NA</i>	<i>SS2</i>	<i>1055</i>	
	9		0				<i>SS3 9/10</i>
	10		0				

HTW DRILLING LOG

HOLE NO.
DCFB120
SHEET **2**
OF **3** SHEETS

PROJECT
USF2 DCFR 25724

INSPECTOR
W.B. Mc Clendon

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Silt, light brown, damp, trace plastic, soft consistency	0				
	11	Silty clay, dark, brown, clay to damp, non to trace plastic, soft to medium consistency	0	NA	SS3	1059	
	12						
	13	Silt, dark brown, damp, trace plastic soft to med. consistency	0				
	14		0				
	15		0				SS4 (15/10)
	16	Sand, with fines, dark brown, damp, fine to medium grained, poorly sorted	0	NA	SS4	1104	11/13/2000
	17	Clay, 7.5 to 5/4 brown, damp, med plastic, med. consistency, with small sand lenses less than .1 thick	0				
	18		0				
	19		0				
	20	Silt, 7.5 to 5/4, brown, damp, trace plastic, soft to med. consistency	0	NA	SS5	0732	
	21	Sandy clay, black to dark brown, damp, trace plastic, soft consistency	0				SS6 (21/22)
	22	Sand, light brown, clay to damp, medium grained, well sorted.	0				
	23	sandy gravelly to silty clay, brown, damp to moist, med plastic medium consistency	0				
	24		0	NA	SS6	0747	
	25		0				
	26		0				
	27	Sand, light brown, damp, fine grained well sorted	0				
	28		0	NA	SS7	0756	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB 120

PROJECT
USPROCPA 25724

INSPECTOR
WB Mcclendon

SHEET *3*
OF *3* SHEETS

ELEV. <small>a</small>	DEPTH <small>b</small>	DESCRIPTION OF MATERIALS <small>c</small>	FIELD SCREENING RESULTS <small>d</small>	GEOTECH SAMPLE OR CORE BOX NO. <small>e</small>	ANALYTICAL SAMPLE NO. <small>f</small>	BLOW COUNTS <small>Time</small>	REMARKS <small>h</small>
	29	<i>Sand, Light brown, damp, fine grained, well sorted</i>	0				
	30		0.1				
	31		0.1				
	32		0	NA	568	0804	
	33		0				<i>559 (33/34)</i>
	34	<i>GRAVELLY SAND, light to dark brown, moist, fine to coarse, poorly sorted, with L.S. and chert frags</i>	0				
	35		0				
	36	<i>Sand, fine light gray moist, fine grained, well sorted</i>	0	NA	559	0827	
	37						▼
	38						<i>End Time = 0840</i>
	39			NA	5510	0839	
	40	<i>Bottom of Losted Hole</i>					<i>TD = 39 feet</i>
	41	<i>Total Depth = 42'</i>					
	42	<i>Bottom of Hole</i>					<i>TD = 42 feet End Time = 0850</i>

HTW DRILLING LOG

HOLE NO.
DCFB 121

1. COMPANY NAME
Burns + McDonnell

2. DRILLING SUBCONTRACTOR
Environmental Priority Service

SHEET 1
OF 3 SHEETS

PROJECT
USFR DCFB 25724

4. LOCATION
FORMER DRY CLEANING FACILITY LOCATION

5. NAME OF DRILLER
Paul and Pat

6. MANUFACTURER'S DESIGNATION OF DRILL
TRUCK MOUNTED GEOPROBE G-4-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT

4-foot macro core sampler
4-foot acetate
Continuous

8. HOLE LOCATION
N14192986.09 E2267448.83

9. SURFACE ELEVATION
1084.45

10. DATE STARTED
11/10/2000

11. DATE COMPLETED
11/01/2000

12. OVERBURDEN THICKNESS
35.6

15. DEPTH GROUNDWATER ENCOUNTERED
35.6

13. DEPTH DRILLED INTO ROCK
0.4

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
N/A

14. TOTAL DEPTH OF HOLE
36.0 - 39.0

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
N/A

18. GEOTECHNICAL SAMPLES
NA

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
02

20. SAMPLES FOR CHEMICAL ANALYSIS
On-site analysis

VOC
PCE, ACE, TCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
W. B. McClendon

LEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time g	REMARKS h
	1	<i>clay, dark brown, damp, med. plastic, med consistency.</i>	<i>0.2</i>				<i>Start Time 0909</i>
	2	<i>Sandy clay, brown, damp, med plastic, med consistency</i>	<i>0.2</i>				
	3		<i>0.1</i>				<i>SS1 (3/4)</i>
	4	<i>fine sand, light brown, damp medium grained, well sorted</i>	<i>0.1</i>	<i>NA</i>	<i>SS1</i>	<i>0913</i>	
	5	<i>sandy silt, light brown, damp, trace plastic, soft consistency</i>	<i>0.2</i>				
	6		<i>0.2</i>				
	7	<i>Silt, light brown, damp trace plastic, soft consistency</i>	<i>0.1</i>				
	8		<i>0.1</i>	<i>NA</i>	<i>SS2</i>	<i>0919</i>	
	9	<i>silt, black, damp, nonplastic to trace, soft consistency. Drilled 30.1 hole 20.0</i>					<i>SS3 (9/10) #</i>
	10						

HTW DRILLING LOG

HOLE NO.
DCF B 121

PROJECT
USFROCA 25724

INSPECTOR
W B. McClendon

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	11	Silt, black, brown soil horizon, damp, trace plastic, soft consistency	0				
	12		0	NA	SS3	0930	
	13		0				
	14		0				
	15		0				SS4 (15/14)
	16		0	NA	SS4	0932	
	17	Silty clay, dark brown, damp, med plastic med consistency	0				
	18		0				
	19	Sand, with fines, 7.5-15% brown, damp, fine grained, poorly sorted	0				
	20		0	NA	SS5	0943	
	21	Sand, 7.5-15% brown, damp fine to med. grained, well sorted, with silt lenses, damp, trace plastic, med to soft consistency	6				SS6 (22/23)
	22		0				
	23		0				
	24		0	NA	SS6	0950	
	25						
	26	Silt, 7.5-15% moist, med plastic soft consistency					
	27						
	28	Sandy silt, 7.5-15% brown, moist nonplastic, soft consistency		NA	SS7	0959	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCF B 121

PROJECT USFRO CFA 25724

INSPECTOR WB Mcclendon

SHEET 3 OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS T ₉₀	REMARKS h
	29	Sandy Silt, 7.5-10% STU, brown, moist, trace plastic, soft consistency	0				
	30		0				
	31		0				
	32	same as above	0	NA	558	1009	
	33		0				559 (23/34)
	34		0				
	35	silty sand, 7.5-10% STU, moist to wet fine grained, well sorted	0				
	36	weathered shale, olive green, moist to wet, highly plastic hard consistency	0	NA	559	1020	End Time = 1025
	37	Bottom of logged hole					T ₉₀ = 36 feet Logged
	38						
	39						
	40	Bottom of Hole					T ₉₀ = 39.0 ft
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB 122

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS		
PROJECT USFRDCFA			4. LOCATION Former Dry Cleaning Facility			
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N1419 3024.99 E 2267474.03			
	4-foot acetate sleeve		9. SURFACE ELEVATION 1084.58			
	Continuous		10. DATE STARTED 11/20/2000	11. DATE COMPLETED 11/20/2000		
12. OVERBURDEN THICKNESS 40.0'			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 0.5'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 38.1' bgs ~10 min.			
14. TOTAL DEPTH OF HOLE 40.5'			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC PCE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR J. Kidwell	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
		Topsoil					
	1	Fill with limestone gravel	0.0				
	2		0.3				
	3		0.0				
	4		0.3	NA	SS1	0808	SS1 (3/4)
	5		0.0				Refusal in concrete at 4' bgs, offset 6' to north
	6	Silt and limestone gravel, light brown 7.5YR 6/4, dry, nonplastic, soft consistency	0.3				
	7	Silt and shala light grey 6Y 7/1, dry, nonplastic, soft	0.0				
	8	Silt and limestone gravel, light brown 7.5YR 6/4, dry, nonplastic, soft consistency	0.0	NA	SS2	0817	
	9		0.0				
	10		0.3				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCF8122

PROJECT
USFR DCF A

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	11	Silt and limestone gravel, light brown 7.5YR6/4, dry, nonplastic, soft consistency	0.0				
	12	Fill, brick	0.0	NA	SS3	0823	
	13	Silt and limestone gravel, light brown 7.5YR6/4, dry, nonplastic, soft consistency	0.0				
	14		0.3				
	15		0.0				
	16	Silty clay, dark brown 7.5YR3/2, dry, trace plasticity, med. consistency	0.0	NA	SS4	0834	SS4 (15/16)
	17	Fill, brick and limestone gravel	0.0				
	18		0.3				
	19	Clayey silt, very dark grayish brown 10YR3/2, dry, med. plasticity, medium consistency	0.0				
	20		0.3	NA	SS5	0840	
	21	Clayey silt, light brown 7.5YR6/4, dry, medium plasticity, medium consistency	0.0				
	22		0.0				SS6 (21/22)
	23		0.3				
	24	Sand, some silt, fine, mod. well sorted, dry, nonplastic soft, light brown 7.5YR6/4	0.0	NA	SS6	0848	
	25	Clayey silt, light brown 7.5YR6/4, damp, trace plasticity, medium consistency	0.0				
	26		0.0				
	27		0.0				
	28	Clayey silt, some sand, light brown 7.5YR6/4, damp, non- plastic, medium consistency	0.3	NA	SS7	0856	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCF B122

PROJECT
USFR DCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	29	Clayey silt, light brown 7.5YR 6/4, damp, medium plasticity, medium	0.0				
	30	consistency; Sand lenses from 30.0' to 30.2' bgs and	0.0				
	31	from 31.0' to 31.2' bgs	0.0				
	32	_____	0.3	NA	SS8	0910	
	33	Silt, with limestone sand and gravel, light brown, damp, 7.5YR 6/4, nonplastic, soft	0.0				
	34	Clayey silt, some sand, light brown 7.5YR 6/4,	0.0				SS9 (33/34)
	35	damp, no to trace plasticity, medium consistency	0.0				
	36	_____	0.0	NA	SS9	0922	
	37	_____	0.0				
	38	_____	0.3				▼
	39	Silty sand, light brown 7.5YR 6/4, damp, no to trace plasticity, soft;	0.0				
	40	trace clay stringers	0.0	NA	SS10	0933	SS10 (39/40)
	41	Shale, olive gray 5Y 7/1, damp	0.0	NA	SS11	0725	11/21/2000 GW (38.5/40.5)
	42	Bottom of hole					TD = 40.5' bgs WL = 38.1' bgs End time = 0730
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB123

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS	
PROJECT USFRDCFA			4. LOCATION Former Dry Cleaning Building Location		
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macro core sampler		8. HOLE LOCATION N14192879.24 E 2267355.5	
		4-foot acetate sleeve		9. SURFACE ELEVATION 1082.68	
		continuous		10. DATE STARTED 11/16/2000	
				11. DATE COMPLETED 11/16/2000	
12. OVERBURDEN THICKNESS 45'			15. DEPTH GROUNDWATER ENCOUNTERED 37.5' bgs		
13. DEPTH DRILLED INTO ROCK NA			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 37.7' bgs 10min		
14. TOTAL DEPTH OF HOLE 45', 40' logged			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA		
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analysis		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		PE, TCE, DCE	NA	NA	NA
21. TOTAL CORE RECOVERY NA %		22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)
		Bentonite	NA	NA	23. SIGNATURE OF INSPECTOR <i>J. Kidwell</i>

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME g	REMARKS h
		Topsoil				0738	Start Time
	1	_____	0.0				
	2	Fill	0.0				
	3	_____	0.0				
	4	_____	0.0	NA	SS1	0740	SS1 (3/4)
	5	Silt; light brown 7.5YR 6/4, dry to damp, nonplastic, soft consistency	0.0				
	6	_____	0.0				
	7	Silt, trace clay: brown 7.5YR 5/4, dry to damp, trace plasticity, medium consistency	0.0				
	8	_____	0.0	NA	SS2	0743	
	9	Clay: brown 7.5YR 5/4, dry to damp, trace plasticity, stiff consistency	0.0				
	10	_____	0.0				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCFB123

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	11	Clay: brown 7.5 YR 5/4, dry to damp, trace plasticity, stiff consistency	0.0				
	12		0.0	NA	SS3	0748	
	13		0.0				
	14		0.0				
	15		0.0				
	16	Clay, trace silt; brown 7.5 YR 5/4, dry to damp, trace plasticity, stiff consistency	0.0	NA	SS4	0800	SS4 (15/16)
	17		0.0				
	18	Silt: light brown 7.5 YR 6/4, dry, nonplastic, medium consistency	0.0				
	19		0.0				
	20		0.0	NA	SS5	0815	Due to sluff offset ~2'
	21	Sand: light brown 7.5 YR 6/4, damp, nonplastic, soft to very soft consistency	0.0				
	22		0.0				* SS6 (21/22)
	23		0.0				
	24		0.0	NA	SS6	0840	
	25		0.0				
	26	Silty seam from 26' to 26.25' bgs	0.0				
	27		0.0				
	28		0.0	NA	SS7	0847	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB123

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	29	Sand, poorly sorted, light brown 7.5 YR 6/4, damp, nonplastic, very soft consistency	0.0				
	30		0.0				
	31		0.0				
	31	Silty seam from 31.0' to 31.5' bgs	0.0	NA	SS8	0855	
	32						
	33	Clay: brown 7.5 YR 4/3, damp tomacist, high plasticity, med. consis.	0.0				
	34		0.0				SS9 (33/34)
	35	Sand, poorly sorted, light brown 7.5 YR 6/4, damp, nonplastic, very soft consistency	0.0				
	36		0.0	NA	SS9	0906	
	37	Silty clay: light brown 7.5 YR 6/4, damp, high plasticity to medium plasticity, medium consistency	0.0				
	38	Silt: light gray 5Y 7/1, wet, trace plasticity, stiff consistency; sandy seam from 37.4' to 37.6' bgs	0.0				
	39		0.0				
	40		0.0	NA	SS10	0920	
	41	Bottom of logged hole					Bottom of logged hole at 40' bgs; slot refusal at 45' bgs WL=37.7' bgs
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB124

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS		
PROJECT USFR DCFA			4. LOCATION Former Dry Cleaning Building Location			
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N14192909 AB E 2267403.00		
		4-foot acetate sleeve		9. SURFACE ELEVATION 1082.16		
		Continuous		10. DATE STARTED 11/16/2000		11. DATE COMPLETED 11/17/2000
12. OVERBURDEN THICKNESS 37.8'			15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 0.2'			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 37.4' bgs ~10 min.			
14. TOTAL DEPTH OF HOLE 38.0'			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA		
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
		PCE, TCE, DCE	NA	NA	NA	
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR J Kidwell	
		Bentonite	NA	NA		

ELEV.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	SLOW COUNTS TIME	REMARKS h	
		Topsoil	0.0				Start time = 0952	
	1	Fill	0.0					
	2	Silty clay, brown 7.5YR ^{4/3} , dry, medium plasticity, medium consistency	0.0					
	3		0.0					
	4	Sandy silt, light brown 7.5YR ^{6/4} , dry, no to trace plasticity, soft consistency	0.3	NA	SS1	0955		SS1 (3/4)
	5		0.0					
	6		0.0					
	7		0.0					
	8		0.0	NA	SS2	0959		
	9		0.0					
	10		0.0				SS3 (9/10)	

HTW DRILLING LOG

HOLE NO.
DCFB124

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	11	Silt, trace clay, brown 7.5YR ⁴ / ₃ dry, trace plasticity, medium consistency	0.0				
	12	Silt, trace sand, brown 7.5YR ⁴ / ₃ , dry, non plastic, soft to medium consistency	0.0	NA	SS3	1004	
	13	Silt, traces of sand and clay, dark brown 7.5YR ³ / ₂ , dry to damp, no to trace plasticity, medium consistency	0.0				
	14		0.0				
	15		0.0				
	16		0.0	NA	SS4	1009	SS4 (15/16)
	17		0.0				
	18		0.0				
	19		0.0				
	20		0.0	NA	SS5	1015	
	21	Silt, some clay, light brown 7.5YR ⁶ / ₄ , damp, trace to medium plasticity	0.3				
	22	medium consistency	0.0				SS6 (21/22)
	23		0.0				
	24		0.0	NA	SS6	1019	
	25	Clay, some silt, light brown 7.5YR ⁶ / ₄ , damp, high to medium plasticity, stiff consistency	0.0			0615	11/17/2000
	26	Sand lens from 26.0' to 26.3' ogs	0.1				
	27		0.0				
	28		0.1	NA	SS7	0623	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB124

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
	29	Clay, some silt, light brown 7.5YR6/4, damp, high to medium plasticity, stiff consistency	0.0				
	30	_____	0.1				
	31	Sand, some clay, some chert gravel: light brown 7.5YR6/4, damp, trace to no plasticity, medium consistency	0.0				
	32	_____	0.0	NA	SS8	0632	
	33	Silt: light brownish grey 10YR6/2, moist to wet, trace to medium plasticity, medium consistency	0.0				
	34	_____	0.0				
	35	_____	0.0				
	36	Sand, trace chert gravel: light brown 7.5YR6/4; moist, nonplastic, soft consistency	0.0	NA	SS9	0645	
	37	Sand, very fine, well sorted, with silt, light brown 7.5YR6/4, moist to wet, nonplastic, soft	0.0				
	38	Limey silt with clay, light brownish grey 10YR6/2, moist, high plasticity, soft Limestone, olive grey 5Y5/2	0.0	NA	SS10	0700	WBm 37 SS10 GW (36/38) SS10 (37/38)
	39	Bottom of hole				GW MH	TD=38' bgs WL=37.4' bgs End time = 0710
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCFB125

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 3 SHEETS	
PROJECT USFRDCFA			4. LOCATION Former Dry Cleaning Building Location		
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macro core sampler		8. HOLE LOCATION N 14192949. 93 E 2267449.76	
		4-foot acetate sleeve			
		Continuous		9. SURFACE ELEVATION 1082.70	
12. OVERBURDEN THICKNESS 34.0'		15. DEPTH GROUNDWATER ENCOUNTERED NA		10. DATE STARTED 11/17/2000	
13. DEPTH DRILLED INTO ROCK 2.0'		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED Dry		11. DATE COMPLETED 11/17/2000	
14. TOTAL DEPTH OF HOLE 36.0'		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES NA		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		PCE, TCE, DCE	NA	NA	NA
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
		Bentonite	NA	NA	J. Kidwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME g	REMARKS h
		Topsoil					
	1	clay, dark brown 7.5YR 3/2 damp, medium plasticity, stiff consistency	0.0				Start time = 0715
	2		0.0				
	3	clay, dark brown 7.5YR 3/2, dry, med. plasticity, stiff	0.0				
	4	Silt, light brown 7.5YR 6/4, dry, trace plasticity, soft soft consistency to medium consistency	0.0	NA	SS1	0720	SS1 (3/4)
	5		0.0				
	6		0.0				
	7	Silt, trace clay, dark brown 7.5YR 3/2, damp, trace to medium plasticity, stiff consistency	0.0				
	8		0.0	NA	SS2	0725	
	9		0.0				
	10		0.0				SS3 (9/10)

HTW DRILLING LOG

HOLE NO.
DCF B125

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNT TIME g	REMARKS h
	11	Silt, trace clay, dark brown 7.5YR3/2, damp, trace to medium plasticity, stiff consistency	0.0				
	12		0.0	NA	SS3	0735	
	13		0.0				
	14		0.0				
	15		0.0				
	16		0.0	NA	SS4	0742	SS4 (15/16)
	17	Silty sand, light brown 7.5YR6/4, damp, nonplastic, soft	0.5				
	18		0.1				
	19		0.1				
	20		0.5	NA	SS5	0752	
	21		0.1				
	22	Silt, trace clay, light brown 7.5YR6/4, damp, medium plasticity, medium consistency	0.5				SS6 (21/22)
	23		0.1				
	24	Silty sand, light brownish gray 10YR6/2, damp, trace plasticity, med. consistency	0.5	NA	SS6	0800	
	25	Sandy silt, light brown 7.5YR6/4, damp to moist, medium plasticity, soft consistency	0.5				
	26		0.5				
	27		0.5				
	28	Sand, well sorted, trace silt, light brown 7.5YR6/4, damp to moist, nonplastic, soft	0.5	NA	SS7	0810	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB125

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNT TIME	REMARKS h
	29	Silt, trace clay, light brownish gray 10YR6/2, damp, medium plasticity, medium consistency	0.5				
	30	Sand, well sorted, some silt lenses, light brown 7.5YR6/4, damp, nonplastic, soft consistency	0.1				
	31		0.5				
	32	Silt and fine sand, light brown 7.5YR6/4, damp, nonplastic, soft	0.5	NA	SS8	0825	
	33	Silt, light brownish grey 10YR6/2, damp to moist, medium to trace plasticity, medium consistency	0.5				
	34		0.1				
	35	Shale, olive grey 5Y5/2	0.5				
	36	Shale and chert gravel	0.5	NA	SS9	0838	SS9 (33/34)
	37	Bottom of hole					End time = 0843 TD = 36' bgs WL = Dry
	38						
	39						
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DCEB126
SHEET 1
OF 3 SHEETS

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service	
PROJECT USFRDCFA		4. LOCATION Former Dry Cleaning Building Location	
5. NAME OF DRILLER Pat Martin		6. MANUFACTURER'S DESIGNATION OF DRILL Van-mounted Geoprobe GH-40	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N14192973.37 E 2267477.49
	4-foot acetate sleeve		
	Continuous		
		9. SURFACE ELEVATION 1082.82	
12. OVERBURDEN THICKNESS 31.4'		10. DATE STARTED 11/17/2000	
13. DEPTH DRILLED INTO ROCK 0.6'		11. DATE COMPLETED 11/20/2000	
14. TOTAL DEPTH OF HOLE 82.0'		15. DEPTH GROUNDWATER ENCOUNTERED NA	
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED Dry		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA	
18. GEOTECHNICAL SAMPLES NA	DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA
20. SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical	VOC PCE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA
	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
21. TOTAL CORE RECOVERY NA %	22. DISPOSITION OF HOLE		
	BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA
			23. SIGNATURE OF INSPECTOR J Kidwell

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	SLOW COUNTS TIME g	REMARKS h
		Topsoil					
	1	Clay, dark brown 7.5YR 3/2, damp, med. plasticity, <u>medium consistency</u>	0.1				Start time = 0950 SS1 (3/4) SS3 (9/10)
	2	Clay, dark brown 7.5YR 3/2, dry, medium plasticity, <u>medium consistency</u>	0.1				
	3	Clay and silt, brown 7.5YR 4/3, dry, medium plasticity, soft consistency	0.1				
	4		0.1	NA	SS1	0953	
	5		0.5				
	6		0.1				
	7		0.5				
	8		0.5	NA	SS2	0955	
	9		0.5				
	10		0.1				

HTW DRILLING LOG

HOLE NO.
DCFB 126

PROJECT
USFR DCFA

INSPECTOR
J. Kidwell

SHEET 2
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	11	Silt and clay, brown dark 7.5YR3/4, dry, medium plasticity, medium consistency	0.5				
	12		0.5	NA	SS3	1004	
	13		0.1				
	14		0.5				
	15		0.1				
	16		0.5	NA	SS4	1008	SS4 (15/16) 11/20/2000
	17	Sand and silt, light brown 7.5YR6/4, dry to damp, nonplastic, soft to medium consistency	0.0				
	18		0.3				
	19		0.3				
	20		0.3	NA	SS5	0728	
	21		0.0				
	22	Sand, well sorted, fine to medium grain, light brown 7.5YR6/4, damp, nonplastic, soft consistency; silty clay lenses from 21.0' to 21.3' bgs, from 25.0' to 25.3' bgs, and from 27.2' to 27.5' bgs	0.3				
	23		0.0				*SS6 (21/22)
	24		0.0	NA	SS6	0734	
	25		0.0				
	26		0.0				
	27		0.3				
	28		0.0	NA	SS7	0745	SS7 (27/28)

HTW DRILLING LOG

HOLE NO.
DCFB126

PROJECT
USFRDCFA

INSPECTOR
J. Kidwell

SHEET **3**
OF **3** SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW-COUNTS TIME	REMARKS h
	29	Sand, poorly sorted, trace shale gravel, light brown 7.5 YR 6/4, damp, nonplastic, soft; silty clay lens from 30.0' to 30.3' bgs	0.0				
	30		0.0				
	31		0.0				
	32		Shale, olive grey 5Y 5/2	0.0	NA	SS8	0753
	33	Bottom of hole					TD = 32' bgs WL = Dry
	34						
	35						
	36						
	37						
	38						
	39						
	40						
	41						
	42						
	43						
	44						
	45						
	46						

HTW DRILLING LOG

HOLE NO.
DC-FB 201

1. COMPANY NAME
Burns & McDonnell

2. DRILLING SUBCONTRACTOR
PEB

SHEET 1
OF 1 SHEETS

PROJECT
US-FRDCFA

4. LOCATION
Beginning of Grid B

5. NAME OF DRILLER
Pat Martin

6. MANUFACTURER'S DESIGNATION OF DRILL
Truck mounted Geoprobe G-11-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT

*4-foot macrolene sampler
4-foot acetate sieve
Continuous*

8. HOLE LOCATION
N14193033.38 E2267202.84

9. SURFACE ELEVATION
1087.52

10. DATE STARTED
11/30/2000

11. DATE COMPLETED
11/30/2000

12. OVERBURDEN THICKNESS
9.8

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
0.2

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
10.0

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
Op-site Analysis

VOC
PEE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY
NA %

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
WB McEldown

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	<i>Ts, ss:1 clay, dark brown, to olive green, clumpy, med plastic and consistency</i>	0				<i>Start Time 0935</i>
	2		0				
	3		0.3				
	4	<i>Sand, brown, with fines, fine grained, well sorted</i>	0	<i>414</i>	<i>SS1</i>	<i>0938</i>	
	5		0				
	6		0				
	7		0				
	8		0	<i>414</i>	<i>SS2</i>	<i>0943</i>	
	9						
	10	<i>Clay, brown, clumpy, med plastic and consistency</i>			<i>SS3</i>	<i>0947</i>	

HTW DRILLING LOG

HOLE NO.
DCFB 202

1. COMPANY NAME Buzas + McDermott		2. DRILLING SUBCONTRACTOR PEB		SHEET 1 OF 1 SHEETS	
PROJECT USFRDLFA 25724			4. LOCATION West of Former DCF Building Grid B		
5. NAME OF DRILLER Pat Martin			6. MANUFACTURER'S DESIGNATION OF DRILL Truck mounted (Geoprobe G-H-40)		
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		4-foot macrocore sampler		8. HOLE LOCATION N 14193013.34 E 2267147.14	
		4-foot Acetate slide		9. SURFACE ELEVATION 10816.83	
		Continuous		10. DATE STARTED 11/30/00	
				11. DATE COMPLETED 11/30/00	
12. OVERBURDEN THICKNESS 4.8			15. DEPTH GROUNDWATER ENCOUNTERED N/A		
13. DEPTH DRILLED INTO ROCK 2.2			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED N/A		
14. TOTAL DEPTH OF HOLE 7.0			17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) N/A		
18. GEOTECHNICAL SAMPLES		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS On site Analytical		VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)
		PEL, TCE, DCE	N/A	N/A	N/A
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR WB McClellan
		Bentonite	N/A	N/A	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Topsoil Clay, brown, clumpy, medium plastic, med. consistency	0	Recovery			Start Time = 0813
	2	Limestone + chert chips	0				
	3	Clay, with limestone chips, brown, clumpy, med. plastic and consistency	0				
	4		0	414	SS1	0804	SS1 (314)
	5	Shale, olive green	0				
	6	shale, Red	0				
	7		0	313	SS2	0810	End Time = 0812
	8	Bottom of Hole					TD = 7.0 ft
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DLFB202

1. COMPANY NAME **Burns & McDonnell** 2. DRILLING SUBCONTRACTOR **PLS** SHEET 1 OF 1 SHEETS

PROJECT **USFRDLFA 25724** 4. LOCATION **Grid B, west of DCF Building**

5. NAME OF DRILLER **Pat Martin** 6. MANUFACTURER'S DESIGNATION OF DRILL **TRUCK MOUNTED Geopose G-H-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
 4-foot aluminum sample
 4-foot A-STATE sleeve
 CONTINUOUS

8. HOLE LOCATION
N14193006.15 E2267087.90

9. SURFACE ELEVATION
1087.02

10. DATE STARTED **11/30/00** 11. DATE COMPLETED **11/30/00**

12. OVERBURDEN THICKNESS **6.6** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **0.4** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **7.0** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY NA %
PCB, TE, etc	NA	NA	NA	NA	

22. DISPOSITION OF HOLE BACKFILLED MONITORING WELL OTHER (SPECIFY) 23. SIGNATURE OF INSPECTOR **WB mcdonell**

Bentonite **NA** **NA**

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. PLS	ANALYTICAL SAMPLE NO. i	BLOW COUNTS TSR	REMARKS h
	1	Top soil clay, with limestone frags, med plastic and consistency clay down	-				Start Time = 0827
	2		-				
	3		0				
	4		0	2/4	SS1	0829	SS1 (3/4)
	5	clay, with limestone and chert frags, med. light, clay med plastic and consistency					
	6						
	7	Snak, olive green					End Time = 0832
	8	Bottom of Hole					TD = 7 feet
	9						
	10						

HTW DRILLING LOG

HOLE NO.
DCF B203A
SHEET 1
OF 1 SHEETS

1. COMPANY NAME **Burns + McDermott** 2. DRILLING SUBCONTRACTOR **PES**

PROJECT **USFRODA 25724** 4. LOCATION **Grid B, South of DCF B203, West of DCF**

5. NAME OF DRILLER **Pat Martin** 6. MANUFACTURER'S DESIGNATION OF DRILL **Truck mounted Geoprobe LH-40**

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
 4-foot macrolog
 4-foot Autate Sleeve
 Continues

8. HOLE LOCATION **N 14192964.25 E 2267094.31**

9. SURFACE ELEVATION **1085.38**

10. DATE STARTED **11/30/00** 11. DATE COMPLETED **11/30/00**

12. OVERBURDEN THICKNESS **3.4** 15. DEPTH GROUNDWATER ENCOUNTERED **NA**

13. DEPTH DRILLED INTO ROCK **4.6** 16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED **NA**

14. TOTAL DEPTH OF HOLE **8.0** 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) **NA**

18. GEOTECHNICAL SAMPLES
 DISTURBED **NA** UNDISTURBED **NA** 19. TOTAL NUMBER OF CORE BOXES **NA**

20. SAMPLES FOR CHEMICAL ANALYSIS
 VOC **PCB, TCE, DCE** METALS **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA** OTHER (SPECIFY) **NA**

21. TOTAL CORE RECOVERY **NA** %

22. DISPOSITION OF HOLE
 BACKFILLED **Bentonite** MONITORING WELL **NA** OTHER (SPECIFY) **NA** 23. SIGNATURE OF INSPECTOR **W B McClinton**

ELEV. 1	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Topsoil Chk. brown, damp, med plastic med consistency	0	Recovery			Start Time 0902
	2	Sandy silt, dark reddish brown, chk to damp, fine plastic med to med consistency	0				
	3		0				
	4	Shale, olive green	0	4/4	SS1	0900	SS1 (3/4)
	5		0				
	6		0				
	7		0				
	8		0.3	4/4	SS2	0910	SS2 (7/8)
	9	Bottom of Hole					TD = 8.0 ft
	10						

HTW DRILLING LOG

HOLE NO.
DCFB204

1. COMPANY NAME
Blums + McDermott

2. DRILLING SUBCONTRACTOR
RES

SHEET 1
OF 1 SHEETS

PROJECT
USF RALFA 25724

4. LOCATION
Grid B, West of DCP Building

5. NAME OF DRILLER
Pat Martin

6. MANUFACTURER'S DESIGNATION OF DRILL
Truck Mounted Geoprobe GHT-40

7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT
**4-foot Macrolow sampler
4-foot Bucket Sleeve
Continuous**

8. HOLE LOCATION
N 14192979.91 E 2267028.91

9. SURFACE ELEVATION
1084.82

10. DATE STARTED
11/30/00

11. DATE COMPLETED
11/30/00

12. OVERBURDEN THICKNESS
4

15. DEPTH GROUNDWATER ENCOUNTERED
NA

13. DEPTH DRILLED INTO ROCK
0

16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
NA

14. TOTAL DEPTH OF HOLE
4

17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)
NA

18. GEOTECHNICAL SAMPLES

DISTURBED
NA

UNDISTURBED
NA

19. TOTAL NUMBER OF CORE BOXES
NA

20. SAMPLES FOR CHEMICAL ANALYSIS
Onsite Analytical

VOC
PEE, TCE, DCE

METALS
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

OTHER (SPECIFY)
NA

21. TOTAL CORE RECOVERY %
NA

22. DISPOSITION OF HOLE

BACKFILLED
Bentonite

MONITORING WELL
NA

OTHER (SPECIFY)
NA

23. SIGNATURE OF INSPECTOR
WB McDermott

FLEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Topsoil Clay, with Limestone Fragments (Fill)		Recovery		1.92	Start Time = 0843
	2						
	3	Limestone Fill					End Time 0854
	4				SS1	0845	SS1 (3/4)
	5	Bottom of Hole					TD = 4 feet Hit fill Limestone at 3 feet. Offset 3 Times, same near each Time Utility Location, contacts movement
	6						
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO. **301**
DCFB ~~301~~
 SHEET 1
 OF 1 SHEETS

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service	
PROJECT USFRDCFA 25724		4. LOCATION Former Dry Cleaning Building Location	
5. NAME OF DRILLER Pat Martin		6. MANUFACTURER'S DESIGNATION OF DRILL Truck-mounted Geoprobe GH-40	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N 14193088.31 E 2267179.55
	4-foot acetate sleeve		
	Continuous		
12. OVERBURDEN THICKNESS 8.0'		9. SURFACE ELEVATION 1089.84	
13. DEPTH DRILLED INTO ROCK 0.0'		10. DATE STARTED 12/08/2000	
14. TOTAL DEPTH OF HOLE 8.0'		11. DATE COMPLETED 12/08/2000	
18. GEOTECHNICAL SAMPLES		19. TOTAL NUMBER OF CORE BOXES	
DISTURBED NA		UNDISTURBED NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		21. TOTAL CORE RECOVERY	
VOC Onsite Analytical PCE, TCE, DCE		METALS NA	
OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	
OTHER (SPECIFY) NA		OTHER (SPECIFY) NA	
22. DISPOSITION OF HOLE		23. SIGNATURE OF INSPECTOR	
BACKFILLED Bentonite		MONITORING WELL NA	
OTHER (SPECIFY) NA		JL Kidwell	

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
		Topsoil					Start time 0820
	1	Fill: limestone gravel and brown silty clay	0.0				
	2		0.0				
	3		0.0				
	4		0.0	4/4	SS1	0825	SS1 (3/4)
	5		0.0				
	6		0.0				
	7		0.0				
	8	Silt, some clay: light brown 75% damp, medium plasticity, soft to medium consistency	0.0	4/4	SS2	0829	SS2 (7/8) End time
		Bottom of hole					Refusal TD=8.0' bgs WL=DRY

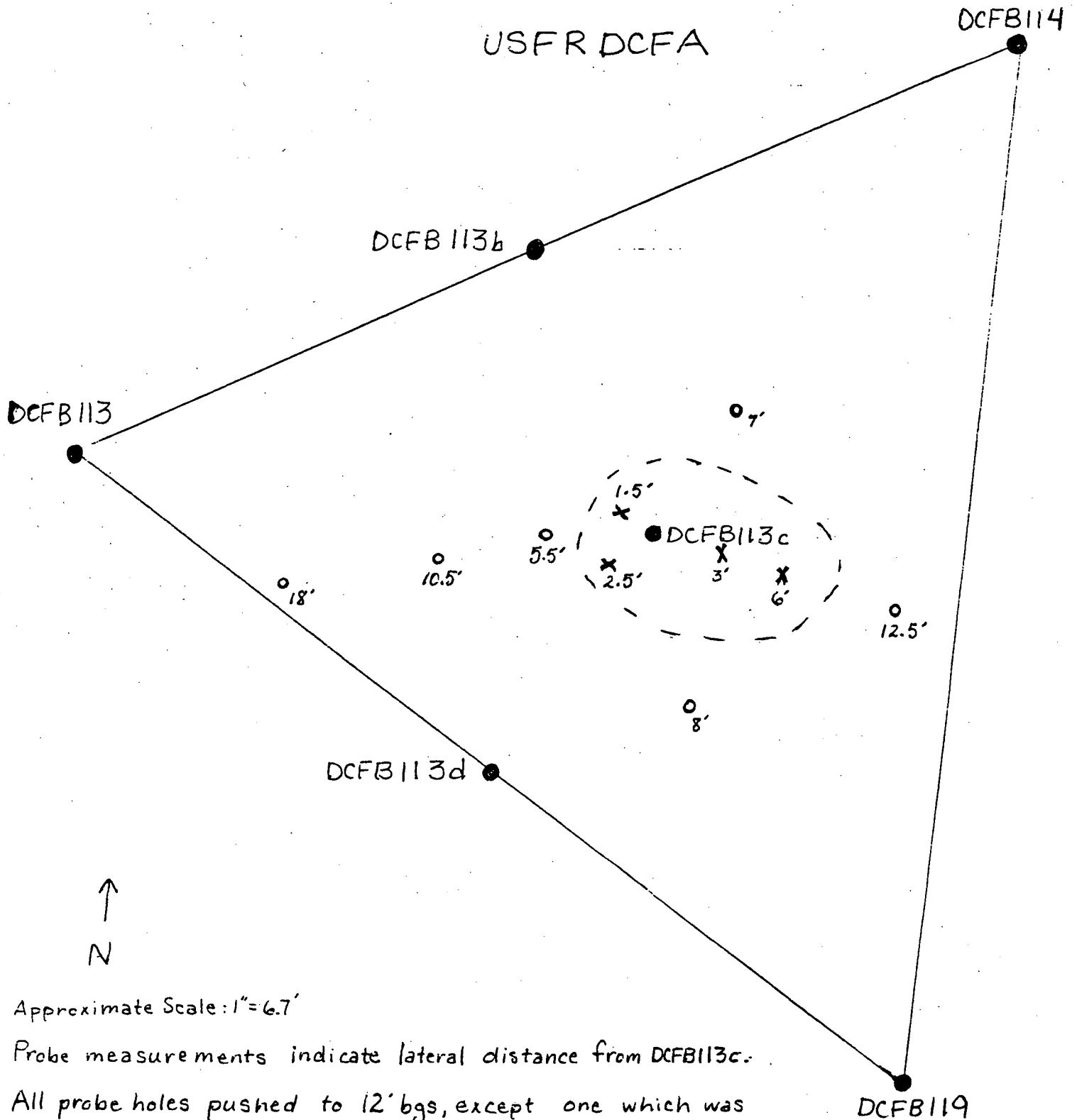
HTW DRILLING LOG

HOLE NO.
DCFB302

1. COMPANY NAME Burns & McDonnell		2. DRILLING SUBCONTRACTOR Environmental Priority Service		SHEET 1 OF 1 SHEETS	
PROJECT USFRDCFA 25724		4. LOCATION Former Dry Cleaning Facility Building			
5. NAME OF DRILLER Pat Martin		6. MANUFACTURER'S DESIGNATION OF DRILL Truck-mounted Geoprobe GH-40			
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	4-foot macrocore sampler		8. HOLE LOCATION N 14193119.90 E 2266549.10		
	4-foot acetate sleeve		9. SURFACE ELEVATION 1070.20		
	Continuous		10. DATE STARTED 12/08/2000		
			11. DATE COMPLETED 12/08/2000		
12. OVERBURDEN THICKNESS 3.5'		15. DEPTH GROUNDWATER ENCOUNTERED NA			
13. DEPTH DRILLED INTO ROCK 0.5'		16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA			
14. TOTAL DEPTH OF HOLE 4.0'		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA			
18. GEOTECHNICAL SAMPLES		DISTURBED NA	UNDISTURBED NA	19. TOTAL NUMBER OF CORE BOXES NA	
20. SAMPLES FOR CHEMICAL ANALYSIS		VOC PCE, TCE, DCE	METALS NA	OTHER (SPECIFY) NA	OTHER (SPECIFY) NA
Onsite Analytical		NA	NA	NA	21. TOTAL CORE RECOVERY NA %
22. DISPOSITION OF HOLE		BACKFILLED Bentonite	MONITORING WELL NA	OTHER (SPECIFY) NA	23. SIGNATURE OF INSPECTOR <i>J. Kidwell</i>

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	1	Fill: limestone gravel and dark brown silty clay, damp	0.0			0810	Start time
	2		0.0				
	3		0.0				SSI (2.5/3.5)
	4	Shale: lt. olive gray 5Y6/2	0.0	4/4	SSI	0814	End time
	5	Bottom of hole					Refusal in shale TD=4.0' bg S WL= DRY

USFR DCFA



Approximate Scale: 1" = 6.7'

Probe measurements indicate lateral distance from DCFB113c.

All probe holes pushed to 12' bgs, except one which was pushed to 16' to check a minor obstruction. Refusal concrete at DCFB113c was 9' bgs on 11/07/00.

All probeholes backfilled with bentonite.

- Logged hole
- Test hole, no obstruction
- ✕ Test hole, obstruction ~9' bgs
- Approximate boundary of obstruction

**APPENDIX E
OCTOBER 2000 GROUNDWATER SAMPLING RESULTS**

**Table 19-1
Table 19-4**

**Figure 19-1
Figure 19-2
Figure 19-3
Figure 19-4
Figure E-1**

Table 19-1
October 2000 Sampling Event
Groundwater Elevations
Dry Cleaning Facilities Area, Fort Riley, Kansas

Well ID	Formation Screened	Top of Casing Elevation ¹	Bottom of Screen Elevation ¹	Water Level Elevation ¹ October 23, 2000
DCF92-02	Upper Crouse	1088.98	1042.48	NM ²
DCF92-03	Unconsolidated	1086.53	1040.53	1048.02
DCF92-04	Upper Crouse	1087.33	1044.13	NM ²
DCF92-05	Unconsolidated	1082.73	1041.79	1047.78
DCF93-08	Upper Crouse	1086.49	1045.49	NM ²
DCF93-09	Alluvial	1059.93	1035.01	1038.78
DCF93-10	Alluvial	1060.37	1037.75	1038.63
DCF93-11	Alluvial	1060.18	1041.37	NM ²
DCF93-12	Upper Crouse	1088.97	1045.31	1044.29R
DCF93-13	Unconsolidated	1082.86	1042.73	1046.62
DCF93-15	Upper Crouse	1085.62	1047.55	1047.02 R
DCF93-16	Upper Crouse	1091.67	1048.37	1047.41 R
DCF93-17	Upper Crouse	1129.22	1048.82	1047.98 R
DCF93-18	Lower Crouse	1128.74	1028.82	1033.54 NC; R*
DCF93-19	Lower Crouse	1087.54	1026.80	1044.12 NC
DCF93-20	Lower Crouse	1088.98	1032.37	1044.28 NC
DCF94-22	Alluvial	1060.77	1032.02	1039.00
DCF96-23	Alluvial	1061.10	1010.03	1038.50
DCF96-24	Alluvial	1059.85	1011.01	1038.47
DCF96-25	Alluvial	1060.92	1030.80	1038.87
DCF96-26	Alluvial	1062.31	1029.23	1038.67
DCF96-27	Alluvial	1060.81	1027.91	1038.56
DCF96-28PZ	Alluvial	1061.42	1031.45	1038.78
DCF96-29PZ	Alluvial	1065.31	NA	NM ³
DCF96-30PZ	Alluvial	1062.33	NA	NM ³
DCF96-31PZ	Alluvial	1061.08	1030.24	1038.52
DCF96-32PZ	Alluvial	1060.31	1027.99	1038.41
DCF96-33PZ	Alluvial	1062.32	1030.15	1038.62
DCF00-34b	Alluvial	1049.80	1021.48	1038.39
DCF00-34c	Alluvial	1050.13	1009.92	1039.01
DCF96-35	Alluvial	1065.26	1009.56	1039.44
DCF96-36	Alluvial	1061.30	1010.28	1038.42
DCF99-37b	Alluvial	1065.46	1030.46	1037.83
DCF99-37c	Alluvial	1065.16	1015.16	1037.90
DCF99-38b	Alluvial	1064.39	1031.89	1038.03
DCF99-38c	Alluvial	1064.17	1016.67	1037.57

Notes:

¹ All results shown in feet above mean sea level unless otherwise indicated.

² Dry

³ Not measured because of obstruction in riser pipe.

R - Rejected. Water level was below the bottom of the screened interval.

NM - Not measured

NC - Not Contoured. Well is screened in the Lower Crouse Formation.

R* - Rejected. DCP hydrograph anomalous readings.

NA - Not Available

**Table 19-4
October 2000 Sampling Event
Summary of Detected Compounds
Dry Cleaning Facilities Area, Fort Riley, Kansas**

Sample Point: Date Sampled: Sample Matrix: Laboratory Number:		DCF93-19/33 10/25/00 LIQUID 00102208 DCF93-19 Duplicate	DCF93-20/03 10/27/00 LIQUID 00102466	DCF96-23/03 10/24/00 LIQUID 00102065	DCF96-23/33 10/24/00 LIQUID 00102070 DCF96-23 Duplicate	DCF96-24/03 10/24/00 LIQUID 00102067	DCF96-25/03 10/24/00 LIQUID 00102062	DCF96-26/03 10/24/00 LIQUID 00102069
Volatiles	UNITS							
Benzene	ug/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,2-Dichloroethylene	ug/L	5.9	15.1	3.1	3.1	10.9	4.9	36.2
Tetrachloroethylene	ug/L	1.1 U	1.1 U	4.9	4.7	7.6	56.4	1.9
Toluene	ug/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
trans-1,2-Dichloroethylene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	ug/L	0.6 U	4.5	1.7	1.6	1.9	4.3	10.9
Vinyl Chloride	ug/L	1.1	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Total Petroleum Hydrocarbons	UNITS							
		ND	NA	NA	NA	NA	NA	NA

LEGEND: Bold, italics - Compound was detected.
ND - Not Detected

MCL - Maximum Contaminant Level
U - Compound was not detected

ug/L - micrograms per liter

NA - Not Applicable

**Table 19-4
October 2000 Sampling Event
Summary of Detected Compounds
Dry Cleaning Facilities Area, Fort Riley, Kansas**

Sample Point: Date Sampled: Sample Matrix: Laboratory Number:		MCL//KSWQS 10/18/98 LIQUID VALUES	DCF92-02/03 10/25/00 LIQUID 00102209	DCF92-05/03 10/26/00 LIQUID 00102331	DCF93-09/03 10/24/00 LIQUID 00102064	DCF93-10/03 10/24/00 LIQUID 00102066	DCF93-13/03 10/27/00 LIQUID 00102468	DCF93-19/03 10/25/00 LIQUID 00102207
Volatiles	UNITS							
Benzene	ug/L	5	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,2-Dichloroethylene	ug/L	70	0.5 U	8.4	1.3	4.6	19.6	6.6
Tetrachloroethylene	ug/L	5	22.7	21.8	6.4	1.1 U	76.1	1.1 U
Toluene	ug/L	1,000	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
trans-1,2-Dichloroethylene	ug/L	100	0.5 U	0.5 U	0.5 U	0.5 U	1.5	0.5 U
Trichloroethylene	ug/L	5	0.6 U	3	0.8	0.9	54.5	0.6
Vinyl Chloride	ug/L	2	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	1.2
Total Petroleum Hydrocarbons	UNITS							
		NA	NA	NA	NA	NA	NA	ND

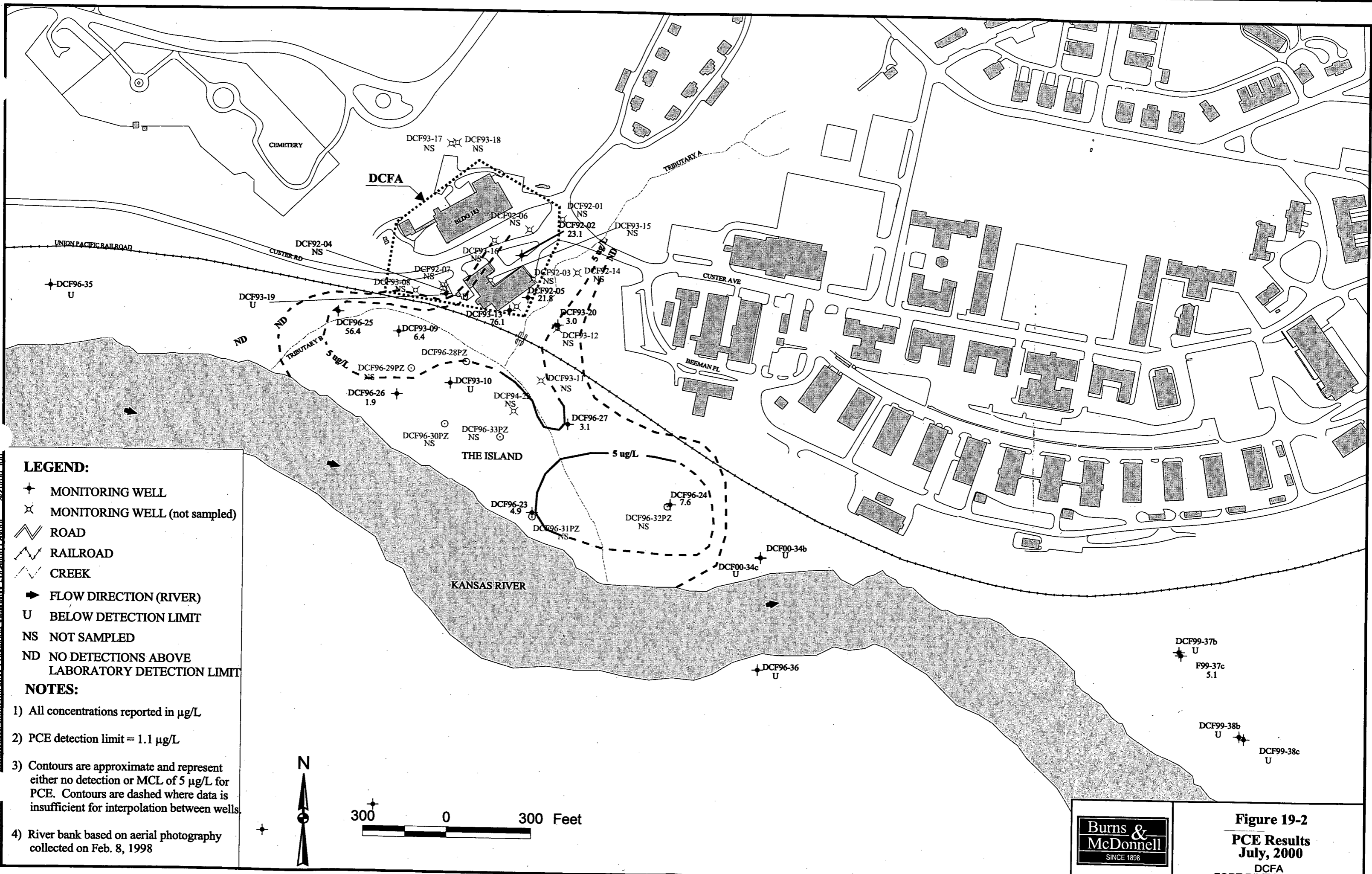
LEGEND: Bold, italics - Compound was detected.
ND - Not Detected

MCL - Maximum Contaminant Level
U - Compound was not detected

ug/L - micrograms per liter

NA - Not Applicable

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LEGEND:

- + MONITORING WELL
- ⊗ MONITORING WELL (not sampled)
- ROAD
- RAILROAD
- CREEK
- ➔ FLOW DIRECTION (RIVER)
- U BELOW DETECTION LIMIT
- NS NOT SAMPLED
- ND NO DETECTIONS ABOVE LABORATORY DETECTION LIMIT

NOTES:

- 1) All concentrations reported in $\mu\text{g/L}$
- 2) PCE detection limit = $1.1 \mu\text{g/L}$
- 3) Contours are approximate and represent either no detection or MCL of $5 \mu\text{g/L}$ for PCE. Contours are dashed where data is insufficient for interpolation between wells.
- 4) River bank based on aerial photography collected on Feb. 8, 1998

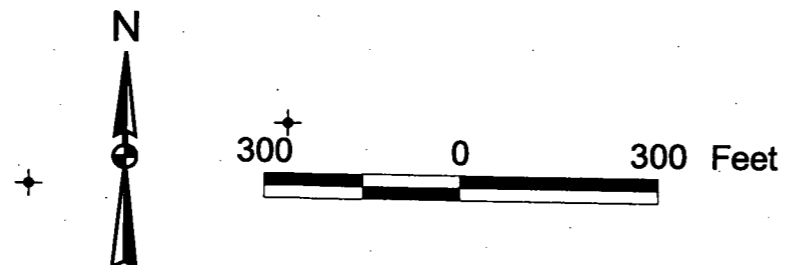


Figure 19-2
PCE Results
July, 2000
 DCFA
 FORT RILEY, KANSAS

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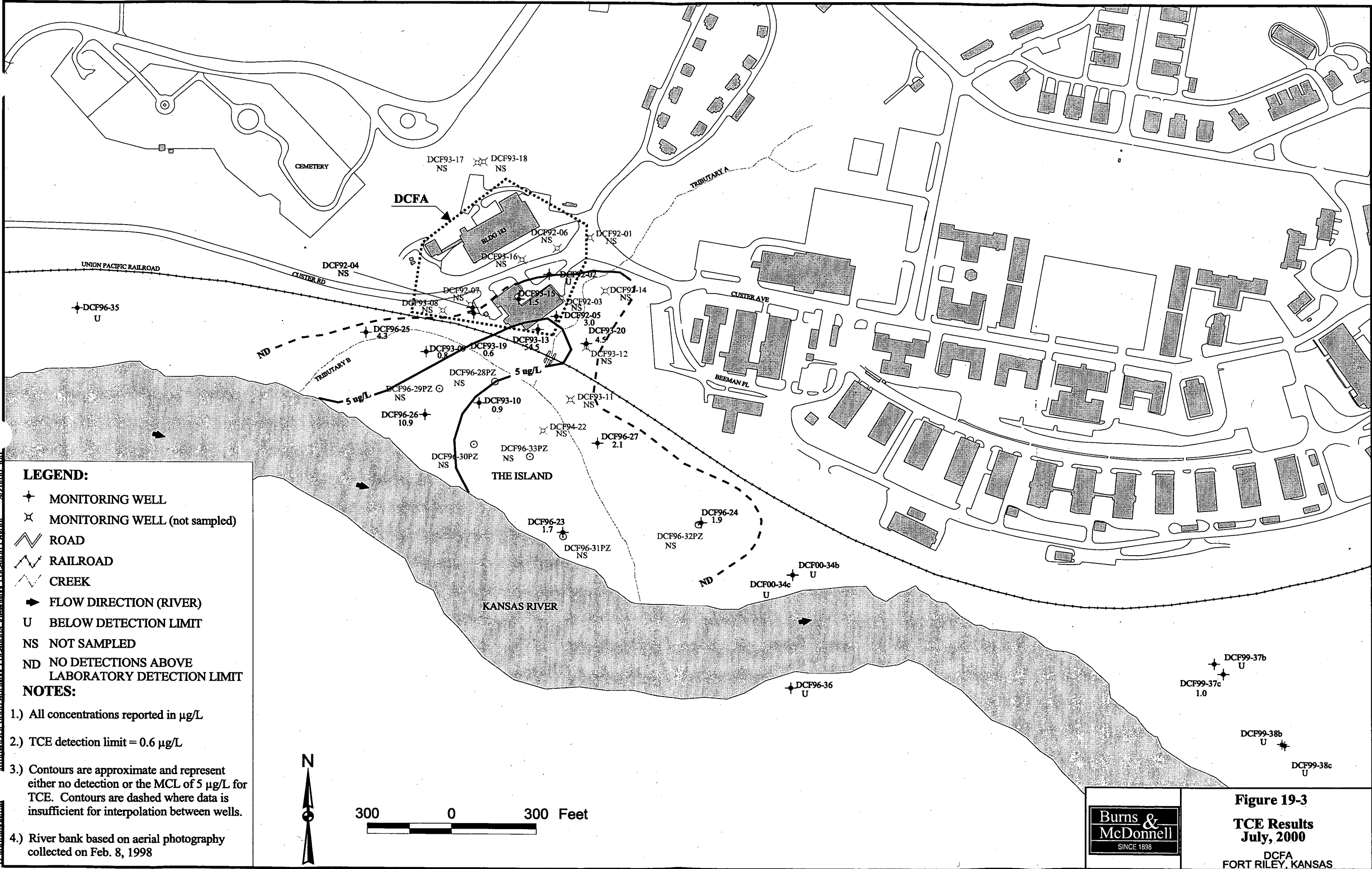


Figure 19-3
TCE Results
July, 2000
 DCFA
 FORT RILEY, KANSAS

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LEGEND

- ⊕ Monitoring Well
- Piezometer
- Road
- Railroad
- Creek
- ➔ Flow Direction (River)
- NM Not Measured

- NOTES:**
1. NC-- Not Contoured. Screened in Lower Crouse.
 2. R--Rejected. Water level below bottom of screen.
R*-DCP hydrograph anomalous readings.
 3. River bank based on aerial photography collected on Feb. 8, 1998.
 4. Kansas River stage height at Henry Drive Bridge: 1037.88.



Figure E-1
GROUNDWATER CONTOURS
OCTOBER 23, 2000
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

**Table 19-4
October 2000 Sampling Event
Summary of Detected Compounds
Dry Cleaning Facilities Area, Fort Riley, Kansas**

Sample Point: Date Sampled: Sample Matrix: Laboratory Number:		DCF96-27/03 10/24/00 LIQUID 00102068	DCF00-34B/03 10/24/00 LIQUID 00102061	DCF00-34C/03 10/24/00 LIQUID 00102063	DCF96-35/03 10/24/00 LIQUID 00102072	DCF96-36/03 10/24/00 LIQUID 00102071	DCF99-37b/03 10/27/00 LIQUID 00102464	DCF99-37c/03 10/27/00 LIQUID 00102465
Volatiles	UNITS							
Benzene	ug/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
cis-1,2-Dichloroethylene	ug/L	10.1	0.5 U	1	0.5 U	0.5 U	0.5 U	0.8
Tetrachloroethylene	ug/L	3.1	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	4.7
Toluene	ug/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
trans-1,2-Dichloroethylene	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	ug/L	2.1	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1
Vinyl Chloride	ug/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Total Petroleum Hydrocarbons	UNITS							
		NA	NA	NA	NA	NA	NA	NA

LEGEND: **Bold, italics** - Compound was detected.
 ND - Not Detected

MCL - Maximum Contaminant Level
U - Compound was not detected

ug/L - micrograms per liter

NA - Not Applicable

Table 19-4
October 2000 Sampling Event
Summary of Detected Compounds
Dry Cleaning Facilities Area, Fort Riley, Kansas

		DCF99-37c/33	DCF99-38b/03	DCF99-38c/03
Sample Point:		DCF99-37c/33	DCF99-38b/03	DCF99-38c/03
Date Sampled:		10/27/00	10/27/00	10/27/00
Sample Matrix:		LIQUID	LIQUID	LIQUID
Laboratory Number:		00102467	00102462	00102463
		DCF99-37c Duplicate		
Volatiles	UNITS			
Benzene	ug/L	0.4 U	0.4 U	0.4 U
cis-1,2-Dichloroethylene	ug/L	0.9	2	6.3
Tetrachloroethylene	ug/L	5.1	1.1 U	1.1 U
Toluene	ug/L	0.4 U	0.4 U	0.4 U
trans-1,2-Dichloroethylene	ug/L	0.5 U	0.5 U	0.5 U
Trichloroethylene	ug/L	1.1	0.6 U	0.6 U
Vinyl Chloride	ug/L	0.8 U	0.8 U	0.8 U
Total Petroleum Hydrocarbons	UNITS			
		NA	NA	NA

LEGEND:

Bold, italics - Compound was detected.
ND - Not Detected

MCL - Maximum Contaminant Level
U - Compound was not detected

ug/L - micrograms per liter

NA - Not Applicable