

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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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 dropscreen to the desired sampling depth and obtaining the groundwater sample using a stainless-steel, balland-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:

Probeholes DCFB1 through DCFB6 were situated immediately south of the sanitary sewer line and the UPRR grade on "The Island." The probehole line began south of Manhole 341 and continued eastward at 50-foot intervals for approximately 350 feet. These probeholes 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 stormwater 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 Easly 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 Easly 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 Easly 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 mediumto 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 aguifer in Area 1 and the Kansas River alluvial aguifer 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 x 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 x 10⁻⁴ cm/sec, 1.32 x 10⁻³ cm/sec, and 3.46 x 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 preformed by contractors to both private entities and the USACE for the purpose of constructing water supply wells. An aquifer-pumping test was also performed at 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 descrepancy. 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 DCFB1	124
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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 0.2J 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 0.1J 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 Probeholes 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 Buildings180/181 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 Buildings180/181, 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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TABLES

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	Change from Stoddard to Tetrachloroethylene (PCE) as dry cleaning fluid. (Report & Interview differ on date.)	USATHAMA, 1984
(1971?)	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.)	PA/SI (Law, 1993a) Appendix - Interview of Former Dry Cleaning Manager (1940-1971)
	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.	
	Manager also recalled 3 tanks on north side of Bldg. 180 – held Stoddard but not PCE.	
1974	Building 180 re-designated from Laundry/Steam Plant to Warehouse (but Dry Cleaning operations apparently continued)	Real Property Records
1979-	PCE delivered by tanker truck. Pumped through window north side of 181 into barrels near machines.	PA/SI (Law, 1993a) Appendix H - Interview of Former Manager (1971 - mid 1980's)
mid 80's	Initially filter cartridges & sludge (1-2 gallons every 3 months) disposed of in dumpster - later (approx. 1983) disposed (off- post) through Property Disposal Office.	RI/FS Work Plan (Law, 1993c) Appendix – Interview (same person)

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)

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	
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)
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)

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)	
	Installation of soil vapor and groundwater extraction wells.		
June 1994	(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)	

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	And the second s
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	

Date	Activity	Reports/References
October 2001	Groundwater Sampling Event, 21st Round.	DSR (BMcD, 2002a)

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

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

Volatile Organic Compounds

1,1,1-TrichloroethaneChlorobenzene1,1,2,2-TetrachloroethaneChloroethane1,1,2-Trichloroethanecis-1,2-Dichloroethene

1,1,2-Trichloroethanecis-1,2-Dichloroethene1,1-Dichloroethanecis-1,3-Dichloropropene1,1-DichloroetheneDibromochloromethane

1,2-DichloroethaneEthylbenzene1,2-Dichloropropanem,p-Xylene1,4-DichlorobenzeneMethyl Chloride2-ButanoneMethylene 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 2-2.xls

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	
rea 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	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	1083.32	42 *	1042.03	UN	
DCFB120	14192986.09	2267448.83	1084.45	35.6	1042.03	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	<u> </u>				
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	1	}			ł
DOPDZ9	14191004.91	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)

NA = Not Applicable

SH = Shale

LS = Limestone

UN = Unknown

^{**} Refusal met on Fill

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			<u> </u>
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)	_	,	1
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	17 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 ∪	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

PCE = Tetrachloroethylene

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

TCE = Trichloroethylene

U = Qualified as undetected by the laboratory

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

R = Qualified as unusable

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

⁼ Minor discrepancy, lab and field screening seamples 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.

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 ∪	5.6 U
Field Screen	2 U	2 U	2 U
DCFB40 (10-14 feet bgs)			
Confirmation	5.6 U	5.6 ∪	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

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

Page 2 of 2

⁼ Minor discrepancy, lab and field screening seamples 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.

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
			İ
DCFB16 (19-21 feet bgs) Confirmation	16.5	2.6	8.4

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 ∪	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

ug/L = micrograms per Liter

TCE = Trichloroethylene

bgs = below ground surface

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

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 seamples 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.

Dat Sample D Sampl	imple Point: te Sampled: Depth From: e Depth To: ory Number:	DCF27/S 10/18/20 10 14 001017	000	DCF33/5 10/19/20 10 14 001018	000	DCF35/S 10/20/20 10 14 001019	000	DCF35/S 10/20/20 10 14 001019 Duplica	32	DCF40/3 10/24/2 10 14 001020	000	DCFB100 12/08/2 7 8 00121	000	DCFB102 11/02/2 15 16.9 00110	2000 5
Volatiles	UNITS														
Acetone Tetrachloroethylene	ug/kg ug/kg	100 5.1	U	100 5.1	U	110 5.5	U	110 5.6	U	110 5.6	U	120 5.4	υ	22,000 1,100	U
Total Petroleum Hydrocarbons	UNITS														
Calculated as Kerosene	mg/kg	NA		NA		NA		NA	ĺ	NA		NA		953	J

Di Sample Samp	ample Point: ate Sampled: Depth From: ole Depth To: tory Number:	DCFB102E 11/02/20 15 16.5 0011024 Reanaly	6R	DCFB104 11/03/20 9 10 001103	000	DCFB107 11/06/20 9 10 001104	000	DCFB10 11/06/2 19 20 00110	2000	DCFB108, 11/21/2 9 10 001117	000	DCFB110 12/01/2 15 16 001201	000	DCFB117 12/01/2 15 16 001201	000
Volatiles	UNITS														
Acetone Tetrachloroethylene	ug/kg ug/kg	5,500 280	U	110 5.6	U	110 5.3	U	580 29	U	110 5.4	Ų	110 5.4	U	110 5.7	U
Total Petroleum Hydrocarbons	UNITS														
Calculated as Kerosene	mg/kg	NA		NA		NA		260	J	NA		NA		NA NA	

E Sample Sam	Sample Point: Pate Sampled: Depth From: ple Depth To: atory Number:		15 9 16 10		11/15/2000 11/07/2000 9 21 10 22		DCFB113E 11/22/20 15 16 001118	000	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 Tetrachloroethylene	ug/kg ug/kg	110 5.6	U	110 5.7	U	100 5.1	U U	110 5.4	U	120 <i>18.5</i>	U	120 9999,999	U <i>OVER</i>	240 C 188	U
Total Petroleum Hydrocarbons	UNITS														
Calculated as Kerosene	mg/kg	NA		NA		NA		NA		NA.		NA NA			NA

Sample Point: Date Sampled: Sample Depth From: Sample Depth To: Laboratory Number:		27		DCFB114B/SS4 12/06/2000 15 16 00120623		DCFB114AW2/SS3 12/04/2000 9 10 00120222		12/04/2 21 22	DCFB114AW2/SS6 12/04/2000 21 22 00120223		12/04/2000 12/04/2000 21 22 00120224 Duplicate		DCFB115/SS2 11/08/2000 9 10 00110924		5/SS21 2000 925 ate		
Volatiles	UNITS																
Acetone Tetrachloroethylene	ug/kg ug/kg	110 5.5	U	110 5.7	U	120 120	U	100 5.2	U U	110 5.4	U	120 15.4	U	120 19.3	U		
Total Petroleum Hydrocarbons	UNITS		-														
Calculated as Kerosene	mg/kg	NA		NA		NA		NA		NA		NA		NA		NA	١

D: Sample Samp	sample Point: ate Sampled: Depth From: ble Depth To: tory Number:	DCF117/S 11/09/200 15 16 0011110	00	DCFB118. 11/14/20 27 28 001113	000	DCFB119 11/14/2 15 16 001113	000	DCFB120 11/10/20 9 10 001111	000	DCFB121 - 11/10/20 9 - 10 - 001111	000	DCFB122/ 11/20/20 39 40 001117	000	DCFB123 11/16/2 21 22 001115	000
Volatiles	UNITS			1											
Acetone Tetrachloroethylene	ug/kg ug/kg	110 5.6	U	130 6.4	U	120 6	U	110 5.4	U	120 6.1	U	120 12.4	U	100 5.2	U
Total Petroleum Hydrocarbons	UNITS														
Calculated as Kerosene	mg/kg	NA		NA		NA		NA		NA		NA		NA NA	

Sample Point: Date Sampled: Sample Depth From: Sample Depth To: Laboratory Number:		DCFB123/ 11/16/20 21 22 001115 Duplica	89	DCFB126 11/20/20 21 22 001117	000	DCFB201/SS1 11/30/2000 3 4 00112287		
Volatiles	UNITS							
Acetone	ug/kg	100	U	100	U	100	U	
Tetrachloroethylene	ug/kg	5.2	U	5.1	U	5.2	U	
Total Petroleum Hydrocarbons	UNITS							
Calculated as Kerosene	mg/kg	NA		NA		NA		

mple Point: e Sampled: nple Matrix: epth From: e Depth To: ry Number:	DCF5A/GW 10/10/2000 LIQUID 11 13 00101256	DCF8B/GW 10/11/2000 LIQUID 0 0 00101281	DCF14A/GW 10/13/2000 LIQUID 19 21 00101496	DCF14A/GW11 10/13/2000 LIQUID 19 21 00101497 Duplicate	DCF16A/GW 10/13/2000 LIQUID 19 21 00101498	DCF26B/GW 10/18/2000 LIQUID 29 33 00101706	DCF33C/GW 10/19/2000 LIQUID 38 42 00101815
UNITS	, , , , , , , , , , , , , , , , , , , ,						
ug/L ug/L ug/L ug/L ug/L	1.2 1.1 U 0.5 0.5 U 0.8	0.7 10.6 0.4 0.5 U 1	3.1 23.6 0.4 U 0.5 U 1.5	3.1 25.5 0.4 U 0.5 U 1.5	8.4 16.5 0.4 U 0.5 U 2.6	0.5 U 3 0.4 U 0.5 U 0.7	0.5 UR 2.3 R 0.4 UR 0.5 UR 0.6 UR
UNITS				NA NA	NA.	NA I	NA .
	e Sampled: nple Matrix: epth From: Depth To: ry Number: UNITS ug/L ug/L ug/L ug/L ug/L	e Sampled: 10/10/2000 LIQUID 11 12 13 15 15 15 15 15 15 15	e Sampled: 10/10/2000 10/11/2000	e Sampled: 10/10/2000 10/11/2000 10/13/2000 10/13/2000 10/15/2000	e Sampled: 10/10/2000	## Sampled: 10/10/2000	e Sampled: 10/10/2000 10/11/2000 10/13/2000

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

Dat Sar Sample D Sample Sample	mple Point: e Sampled: nple Matrix: Depth From: e Depth To: ory Number:	DCF35C/ 10/20/20 LIQUIE 37 41 0010192	00	DCF35C/G 10/20/20 LIQUIC 37 41 0010193 Duplica	30	DCF36B/0 10/20/20 LIQUID 29 32 0010193	000	DCF39B/ 10/24/20 LIQUII 28 32 001020	000 D	DCF41B/ 10/25/20 LIQUII 39 43 001022)000 D	DCF42C 10/25/2 LIQUI 39 43 001022	000 D	DCFB113 11/21/2 LIQUI 40 42 001118	000 ID
Volatiles	UNITS													<u> </u>	
cis-1,2-Dichloroethylene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene Trichloroethylene	ug/L ug/L ug/L ug/L ug/L	0.5 8.7 0.4 0.5 0.9	U U U	0.5 7.7 0.4 0.5 0.9	U	0.5 6 0.4 0.5 0.6	U U U	0.6 7.3 0.4 0.5 1.2	UU	0.8 9 0.4 0.5 2.1	U U	2.8 1.8 0.4 0.5 3.2	U	0.9 31.5 0.4 0.5 0.9	U
Total Petroleum Hydrocarbons	UNITS														
		NA		NA		NA		NA		NA		NA		NA	

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

Dai Sar Sample I Sampl	ample Point: te Sampled: mple Matrix: Depth From: e Depth To: ory Number:	DCFB113f/ 12/04/200 LIQUID 37.4 38.9 0012022	00	DCFB113f/c 12/04/20 LIQUIE 37.4 38.9 0012022 Duplica	26	DCFB113f/C 12/04/20 LIQUIE 37.4 38.9 0012022 Reanalys	6R	DCFB114/ 11/29/20 LIQUII 40 42 001121	000 D	DCFB114. 11/29/20 LIQUI 40 42 0011215 Dilutio	000 D 59R	DCFB115 11/08/20 LIQUII 37 39 001109	000	DCFB123 11/16/2 LIQUI 43 45 001115	000 ID
Volatiles	UNITS							1							
cis-1,2-Dichloroethylene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene Trichloroethylene	ug/L ug/L ug/L ug/L ug/L	1.6 29.2 0.4 0.5 0.9	U U	1.8 46.3 0.4 0.5 1.1	7 N1 7	2.1 95.2 0.4 0.5 1.4	7 01 7	0.5 9999,999 0.4 0.5 0.6	U OVERU U U	1 255 0.8 1 1	U U U	0.9 19 0.4 0.5 0.6	U U U	28.6 21 0.4 1.5 126	U
Total Petroleum Hydrocarbons	UNITS	NA		NA		NA		NA NA		NA		NA		NA.	

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

					T	1	
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	Sall	20	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	50	5U
DCFB102	SS4	14-15	11/02/00	Soil	3.0J	5U	5U
DCFB102A	SS1	3-7	11/02/00	Soil	5∪	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	50	5U	5U
DCFB102B	882	7-11	11/02/00	Soil	20	20	2U
DCFB102B	SS3	11-15	11/02/00	Soil	20	20	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	2∪	2U	2U
DCFB104	SS1	3-4	11/03/00	Soil	0.1J	20	2U
DCFB104	SS3	9-10	11/03/00	Soil	2U	20	2U
DCFB104	SS3-Dup	9-10	11/03/00	Soil	2U	2Ú	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 DCFB105	SS4 SS6	15-16	12/07/00	Soil	1.1	2U	2U
DCFB105	SS1	21-22 3-4	12/07/00 12/07/00	Soil Soil	2U 1.0	2U 2U	2U
DCFB106	SS3	9-10	12/07/00	Soil	7.0 2U	20 2U	2U
DCFB106	SS4	15-16	12/07/00	Soil	2U 2U	2U 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	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	583	9-10	11/06/00	Soil	2U	20	2U
DCFB107A	SS4	14-15	11/06/00	Soil	2U	2U	2U
DCFB108	SS1	3-4	11/03/00	Soil	0.9	2∪	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	2Ú	2U	20
DCFB108A	SS4	14-15	11/21/00	Soll	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	881	3-4	11/30/00	Soil	1.0	2U	2U
DCFB110	SS3	9-10	11/30/00	Soil	2U	2U	20
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	2∪
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	0.43	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	2∪	2U	2∪
DCFB112	SS3	9-10	11/15/00	Soil	2U	2U	2∪
DCFB112	SS3-Dup	9-10	11/15/00	Soil	2U	2U	2∪
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
DGFB113	SS3	9-10	11/15/00	Soil	1.7	20	2U
DCFB113	SS4	15-16	11/15/00	Soil	0.3J	2U	2U
DCFB113	556	21-22	11/15/00	Soil	0.13	2U	2U
DCFB113	SS7	27-28	11/16/00	Soil	0.3J	2U	2U
DCFB113 DCFB113A	SS9 SS1	32-33 3-4	11/16/00	Soil	0.2J	2U	2U
			11/06/00	Soil	0.5J	2U	2U
DCFB113A DCFB113A	SS3 SS4	9-10 15-16	11/06/00 11/06/00	Soil	0.4J	2U	2U
DCFB113A	SS5	15-16		Soil	1.3	2U	2U
DCFB113A	SS7	21-22 25-26	11/06/00	Soil	<i>0.3J</i> 10U	2U 10U	2U
DCFB113B	SS1	25-26 3-4	11/06/00 11/07/00	Soil Soil	0.8J	10U 2UJ	10U 2U J
DCFB113B	553	9-10	11/07/00	Soil	2.7J	203 203	
DCFB113B	SS4	15-16	11/07/00	Soil	0.6J		2UJ 2UJ
DCFB113B	SS6	21-22	11/07/00	Soil	2UJ	2UJ 2UJ	2UJ
DCFB113B	SS6-Dup	21-22	11/07/00		2UJ	2UJ 9111	2UJ 9UJ
DCFB113B	SS7	27-28	11/08/00	Soil Soil	2U	2UJ 911	2UJ 3U
DCFB113B	SS8 SS8	31-32	11/08/00	Soil	2U 2U	2U 2U	2U 2U
DCFB113C	SS1	3-4	11/07/00	Soil	20 33.0J		
DCFB113C	SS3	8-9	11/07/00	Soil	56.9J	2UJ 2UJ	2UJ
טפוומוטט	L 333	0.9	11/0//00	J 30II	50.93	200	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	2 U
DCFB113D	SS6	21-22	11/21/00	Soil	20	2U	2U
DCFB113D	SS7	27-28	11/21/00	Soil	2U	20	2U
DCFB113D	SS9	33-34	11/21/00	Soil	0.4J	20	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	10	1U
DCFB113F	\$87	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	لـ0.2	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	20	2U
DCFB114A	SS3	9-10	11/29/00	Soil	21.4	2U	2U
DCFB114A	SS3-Dup	9-10	11/29/00	Soil	21.6	2Ú	2U
DCFB114A	SS4	15-16	11/29/00	Soil	2.3	2U	2U
DCFB114A	SS6	21-22	11/29/00	Soil	1.0	20	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	20	2U
DCFB114aE2	SS4	15-16	12/05/00	Soil	1.9	20	2U
DCFB114aE2	SS6	21-22	12/06/00	Soil	1.0	20	2U
DCFB114aE2	587	27-28	12/06/00	Soil	2U	2U	2U
DCFB114aE2	SS9	33-34	12/06/00	Soil	20	2U	2U
DCFB114aE2	SS10	37-38	12/06/00	Soil	1.9	20	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	20	2U
DCFB114aW2	SS3-Dup	9-10	12/04/00	Soil	24.0	2U	2U
DCFB114aW2	SS4	15-16	12/04/00	Soil	0.7	10	10
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	20	2U
DCFB114aW2	GW	42-44	12/05/00	Groundwater	76	10U	100
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	2∪	2U
DCFB114B	SS4-Dup	15-16	12/06/00	Soil	0.2J	2∪	2∪
DCFB114B	SS6	21-22	12/06/00	Soil	0.5J	2∪	2U
DCFB114B	SS7	27-28	12/06/00	Soil	0.9J	2U	2∪
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	2Ú	2U
DCFB115	883	9-10	11/08/00	Soil	2.7	10	10
DCFB115	SS3-Dup	9-10	11/08/00	Soil	2.1	1U	10
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	0.93	2U	2U
DCFB115	589	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
50.51104		1 00-04	11/10/00	1 001	0.70		

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	\$83	9-10	11/29/00	Soil	8.1	2U	2U
DCFB115B	SS4	15-16	11/29/00	Soil	1.0	20	2U
DCFB115B	SS6	21-22	11/29/00	Soil	1.0	2Ü	2U
DCFB115B	587	27-28	11/29/00	Soil	0.53	20	2U
DCFB115B	SS7-Dup	27-28	11/29/00	Soil	0.2J	20	2U
DCFB115B	SS9	33-34	11/30/00	Soil	2U	20	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	2∪
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	20	2 U
DCFB117	\$53	9-10	11/09/00	Soil	30,7	2U	2U
DCFB117	SS4	15-16	11/09/00	Soil	4.9	20	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	2 U	20	2U
DCFB117	889	33-34	11/10/00	Soil	2U	20	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	2∪ -	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	20	2U
DCFB119	SS3	9-10	11/13/00	Soil	2U	2U	2U
DCFB119	\$\$4	15-16	11/14/00	Soil	2UJ	2UJ	20J
DCFB119	SS4-Dup	15-16	11/14/00	Soil	200	2UJ	2UJ
DCFB119	SS6	21-22	11/14/00	Soil	2UJ	2UJ	2UJ
DCFB119	587	27-28	11/14/00	Soil	200	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	2∪	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

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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	20	20
DCFB121	SS3-Dup	9-10	11/10/00	Sall	4.9	2U	2U
DCFB121	SS4	15-16	11/10/00	Sail	5.8	2U	20
DCFB121	SS6	21-22	11/10/00	Soil	2U	2U	2U
DCFB121	887	27-28	11/10/00	Sail	2U	20	2U
DGFB121	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	10	20 1U
DCFB122	SS6	21-22	11/20/00	Soil	2.U	2U	2U
DCFB122	SS7	27-28	11/20/00	Soil	2U	2U	2U 2U
DCFB122	SS9	33-34	11/20/00	Soil	2.7	2U 2U	2U 2U
DCFB122	GW	38.5-40.5	11/21/00	Groundwater	9.4		
DCFB122*	SS10	39-40	11/21/00	Soil	9.4 2.4	5U 2U	5U 2U
DCFB122*	SS10-Dup	39-40	11/20/00	Soil	2.4 2.8	2U 2U	
DCFB123	SS1	3-40	11/16/00	Soil	0.2J	20 2U	2U
DCFB123	SS3	9-10	11/16/00	Soil	2U	2U 2U	2U
DGFB123	SS4	15-16	11/16/00	Soil	2U		2U
DCFB123	SS6	21-22	11/16/00	Soil		20	2U
DCFB123	SS6-Dup				2U	2U	2U
DCFB123	530-Dup SS7	21-22	11/16/00	Soil	2U	20	2U
		27-28	11/16/00	Soil	2U	20	2U
DCFB123 DCFB123	SS9 GW	33-34 43-45	11/16/00	Soil	2U	2U	2U
DCFB123	SS1	43-45 3-4	11/16/00 11/16/00	Groundwater Soil	20.1	132	23.4
DCFB124	S\$3	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	2U
DCFB124	SS7	27-28	11/17/00	Soil	i	2U	2U
DCFB124	SS9	32-33		1	2U	2U	2U
DCFB124	SS10	36-37	11/17/00	Soil	0.2J	2U	2U
DCFB124	GW .	i i	11/17/00	Soil	48.9J	2U	2U
	SSI	37-38	11/17/00	Groundwater	14.0	2.8	6.4
DCFB125	551 SS3	3-4	11/17/00	Soil	0.3J	2U	20
DCFB125	584 SS4	9-10	11/17/00	Soil	2U	2U	2U
DCFB125		15-16	11/17/00	Soil	2U	2U	2U
DOFB125	SS4-Dup	15-16	11/17/00	Soil	20	20	20
DCFB125	SS6 7	21-22	11/17/00	Soil	2U	20	2U
DOFB125	SS7	27-28	11/17/00	Soil	2U	20	20
DGFB125 DCFB126	SS9 SS1	33-34 3-4	11/17/00	Soil	2U	20	2U
DCFB126	SS3	3-4 9-10	11/17/00	Soil	0.1J	2U	2U
DCFB126	SS4	9-10 15-16	11/17/00	Soil	2U	2U	2U
DCFB126	SS6		11/17/00	Soil	2U	2U	2U ·
		21-22	11/20/00	Soil	2 U	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	20
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	2∪	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	581	2.5-3.5	12/08/00	Soil	2U	20	2U

Bold, italics = Compound was detected.

PCE = Tetrachloroethylene

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	0.2J	10	0.7J
DCFB1	GW .	22-24	10/11/00	Groundwater	0.9J	10	0.7J
DCFB1	GW	34-36	10/11/00	Groundwater	3.9	0.3J	0.4J
DCFB2	GW	12-14	10/10/00	Groundwater	1U	1U	1U
DCFB3	GW	8-10	10/10/00	Groundwater	0.3J	1U	1U
DGFB4	GW	9-11	10/10/00	Groundwater	0.5J	0.1J	1U
DCFB5	GW	17.5-19.5	10/10/00	Groundwater	1.1	0.5J	1.2
DCFB5Dup	GW	17.5-19.5	10/10/00	Groundwater	0.9J	0.4J	1.2
DCFB6	GW	16.5-18.5	10/10/00	Groundwater	1.6	0.4J	0.23
DCFB7	GW	22-24	10/11/00	Groundwater	1U	1U	1.9
DCFB7	GW	32-34	10/11/00	Groundwater	1U	10	1.3
DCFB8	GW	18-20	10/11/00	Groundwater	2.5	0.4J	2.4
DCFB8	GW	28-30	10/11/00	Groundwater	9.1	0.83	0.9J
DCFB8Dup	GW	28-30	10/11/00	Groundwater	3.2	0.53	0.43
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	0.7J	0.1J	11.7
DCFB10	GW	31-33	10/12/00	Groundwater	5.7	0.8J	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	0.2J	0.6J
DCFB12	GW	31-33	10/12/00	Groundwater	20	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
DGFB14	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	0.83	2.0
DCFB17	GW	21-23	10/13/00	Groundwater	0.5J	1U	27.4
DCFB17	GW	32-34	10/16/00	Groundwater	3.4	0.7J	2.1
DCFB18	GW	23-25	10/13/00	Groundwater	13.6	1.7	2.7
DCFB19	GW	24	10/13/00	Dry	1	,	

PCE = Tetrachloroethylene

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).

Bold, italics = Compound was detected.

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	0.33	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	0.33	0.23
DCFB23	GW GW	42-46 32-36	10/17/00 10/17/00	Groundwater Groundwater	2.8 5.0	1.5 0.3J	0.7J 2U
DCFB24 DCFB24	GW GW	32-36 42-46	10/17/00	Groundwater	1.0	<i>0.33</i> 2U	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	20	20
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 DCFB29	GW SS-1	38-42 10-14	10/18/00 10/18/00	Groundwater Soil	2U 2 U	2.2 2U	7.4 2U
DCFB29 DCFB29	GW GW	24-28	10/18/00	Groundwater	2U 0.2J	2U 2U	20 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	Soit	203	2UJ	2UJ
DCFB31	GW	24-28	10/19/00	Groundwater	0.8J	0.33	0.23
DCFB31	GW	31-35	10/19/00	Groundwater	4,9J	1.23	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 DCFB32	GW GW	31-35 39-43	10/19/00 10/19/00	Groundwater Groundwater	6.0 7.2	0.5J 1.1	0.6J 1.1
DCFB32 DCFB33	SS-1	10-14	10/19/00	Soil	7.2 2UJ	2UJ	7.7 2UJ
DOFB33Dup	SS-1 Dup	10-14	10/19/00	Soil	2UJ	2UJ	2UJ
DCFB33	GW	21-24	10/19/00	Groundwater	0.3J	0.43	1.13
DCFB33	GW	29-33	10/19/00	Groundwater	5.7J	0.6J	2UJ
DCFB33	GW	38-42	10/19/00	Groundwater	5.8J	0.53	0.33
DCFB33Dup	GW	38-42	10/19/00	Groundwater	4.5J	0.43	0.23
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

Γ								
I	Boring	Sample No.	Depth	Date	Media	PCE	TCE	DCE
	DCFB35	SS-1	10-14	10/20/00	Soll	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
ľ	DCFB36	SS-1	10-14	10/20/00	Soil	2U	2U	2U
١	DCFB36	GW	19-23	10/20/00	Groundwater	4.8	0.5J	1.0
ı	DCFB36	GW	29-32	10/20/00	Groundwater	12.5	0.8J	2U
ı	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	0.93
	DCFB37	GW	28-32	10/23/00	Groundwater	13.0	1.3	3.0
	DGFB37	GW	36-40	10/23/00	Groundwater	8.5	1.8	21.2
ľ	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
1	DCFB38	GW	27-31	10/23/00	Groundwater	6.6	0.8J	0.6J
ı	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	20
	DCFB39	GW	28-32	10/24/00	Groundwater	6.3	1.0J	0.33
	DCFB39Dup	GW	28-32	10/24/00	Groundwater	8.3	1.13	0.43
	DCFB39	GW	36-40	10/24/00	Groundwater	6.3	10.4	8.6
ľ	DCFB40	SS-1	10-14	10/24/00	Soil	2U	2U	2U
1	DCFB40Dup	SS-1 Dup	10-14	10/24/00	Soil	2U	2U -	2U
ı	DCFB40	GW	28-32	10/24/00	Groundwater	8.8	0.7J	2U
ı	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
ľ	DCFB42	SS-1	10-14	10/25/00	Soil	2U	2U	2U
ļ	DCFB42	GW	22-26	10/25/00	Groundwater	4.7	0.6J	2U
1	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			
_	DCE Tetrachie					Dold Holico	Compound was d	_ A A

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 Area 1 – Former Building		Range of Detections	USEPA MCL or RSK Value	Exceeds Standards?	Location of Detections
Area 1 - Former	Building	\$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
	TCE	FS: 0.1J – 6.2 ug/L CS: 0.8 – 2.6 ug/L	5 ug/L	FS - Yes (1 sample) CS: No	DCFB13, DCFB14,
	DCE	FS: 0.2J – 27.4 ug/L CS: 0.7 – 8.4 ug/L	70 ug/L	FS – No CS: - No	DCFB15, DCFB16, DCFB8, DCFB9, and DCFB10
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
	TCE	FS: Yes (3 samples) CS: No	5 ug/L	FS: 0.1J – 10.4 ug/L CS: 0.7 – 3.2 ug/L	a slight increase in levels in the vicinity of Probeholes DCFB34, DCFB35, DCFB36, and DCFB37
	DCE	FS – No CS – No	70 ug/L	FS: 0.1J – 21.2 ug/L CS: 0.5 – 2.8 ug/L	

Notes:

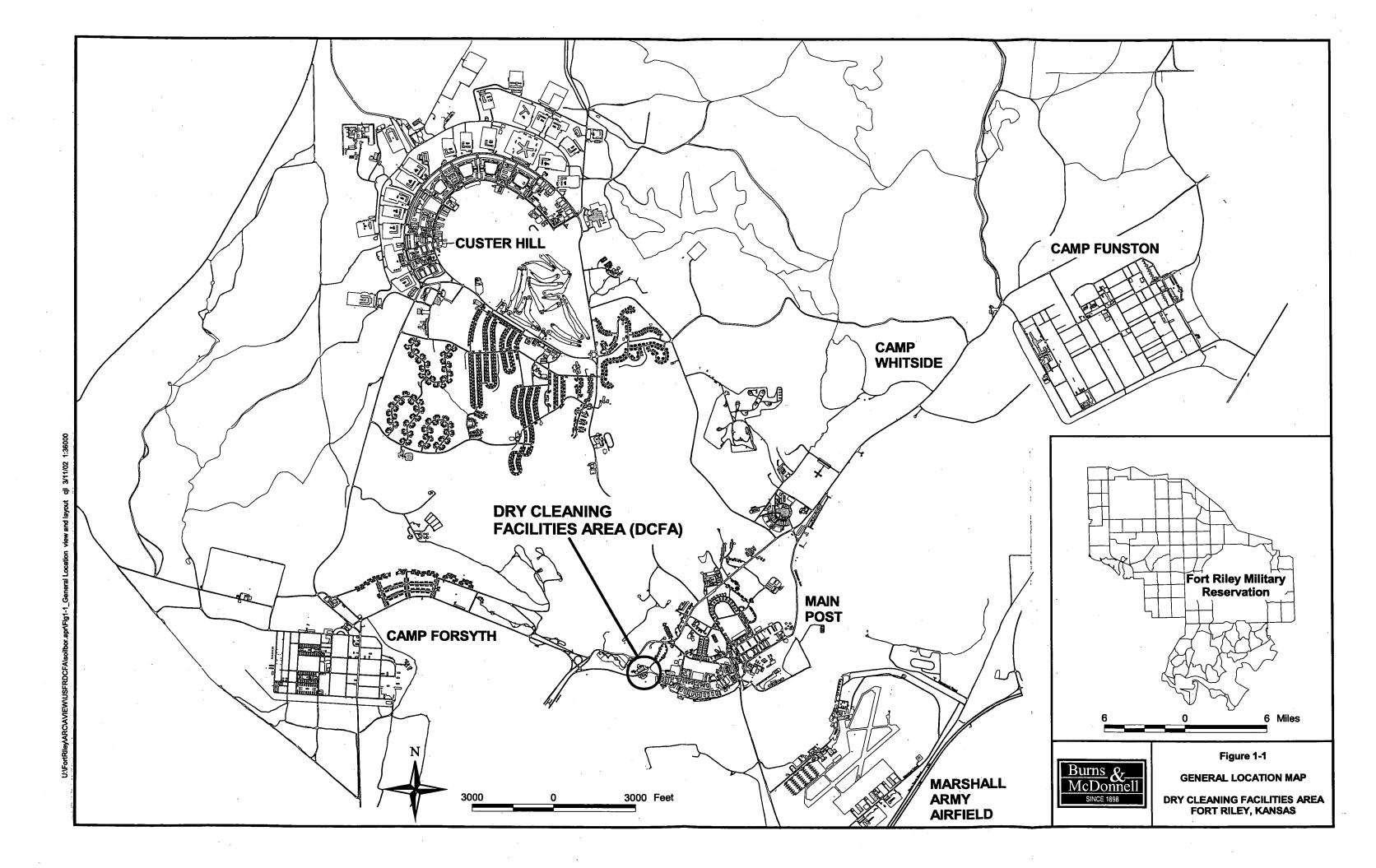
CS = Confirmation Sample
DCE = cis-1,2-Dichloroethene
FS = Field Screening Sample
MCL = Maximum Contaminant Level
ug/kg = micrograms per kilogram
USEPA = U.S. Environmental Protection Agency

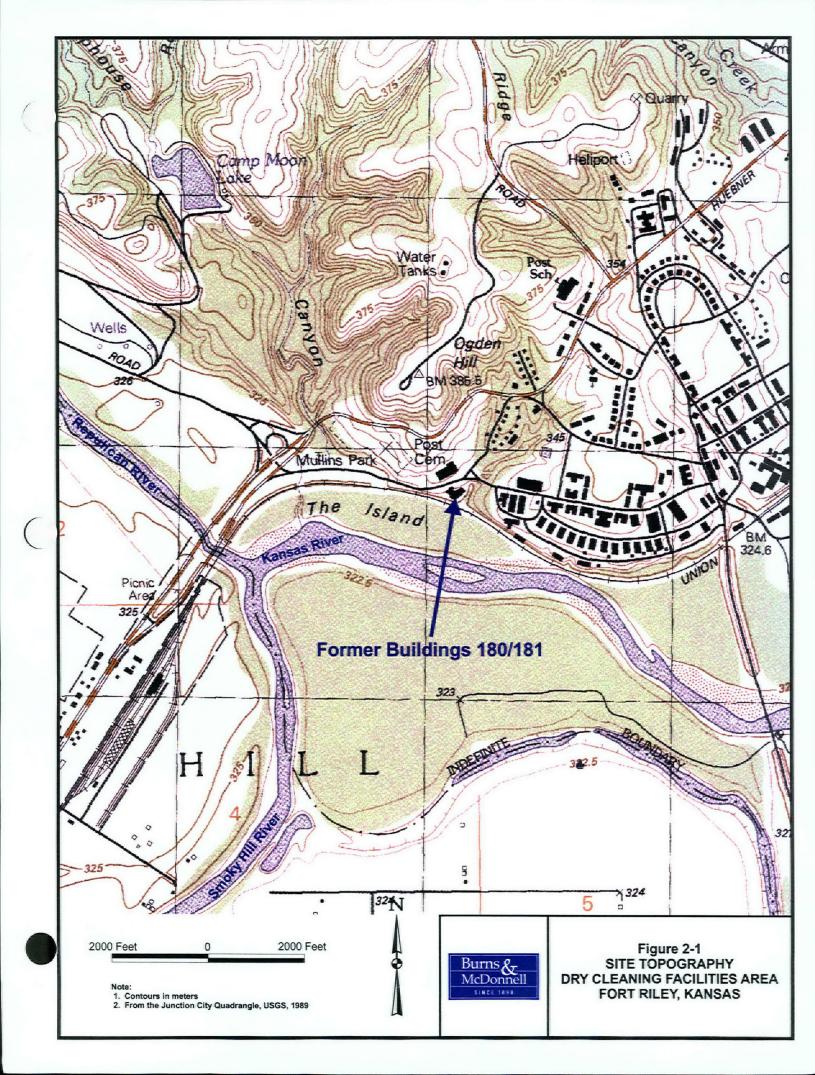
NA = Not applicable

PCE = Tetrachloroethene RSK = KDHE Tier 2 Risk-Based Standards

TCE = Trichloroethene ug/L = micrograms per Liter

FIGURES







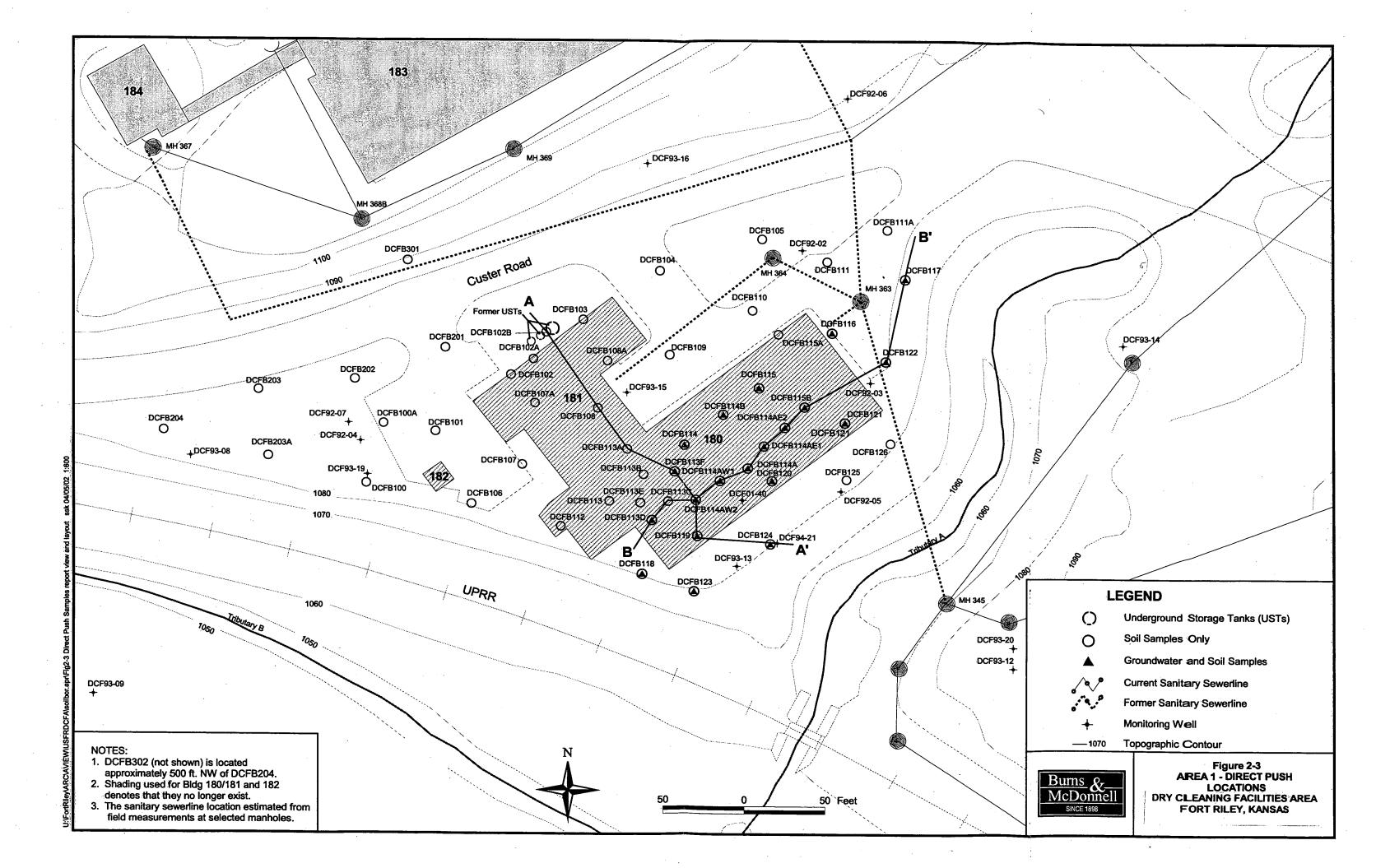
Former Buildings 180/181

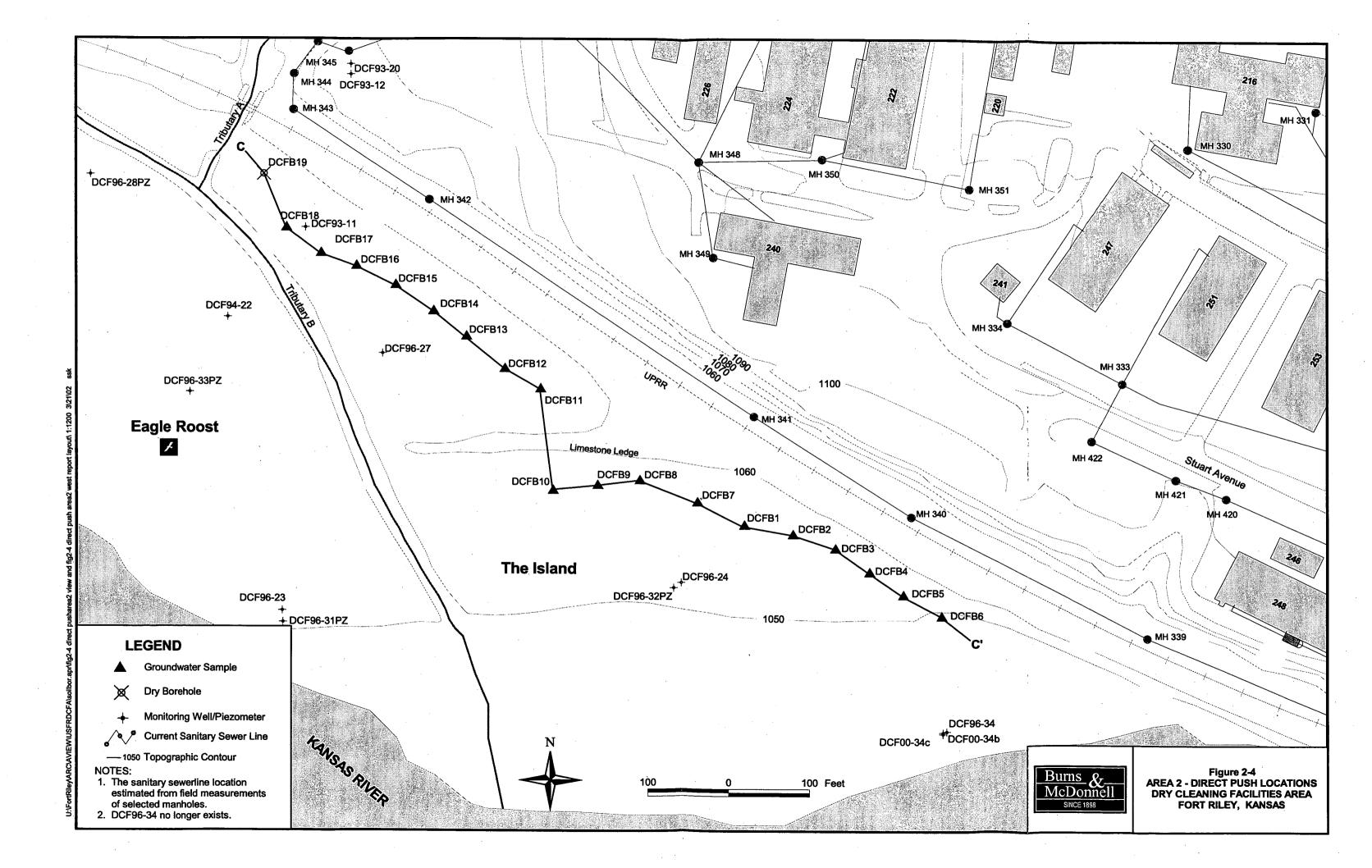
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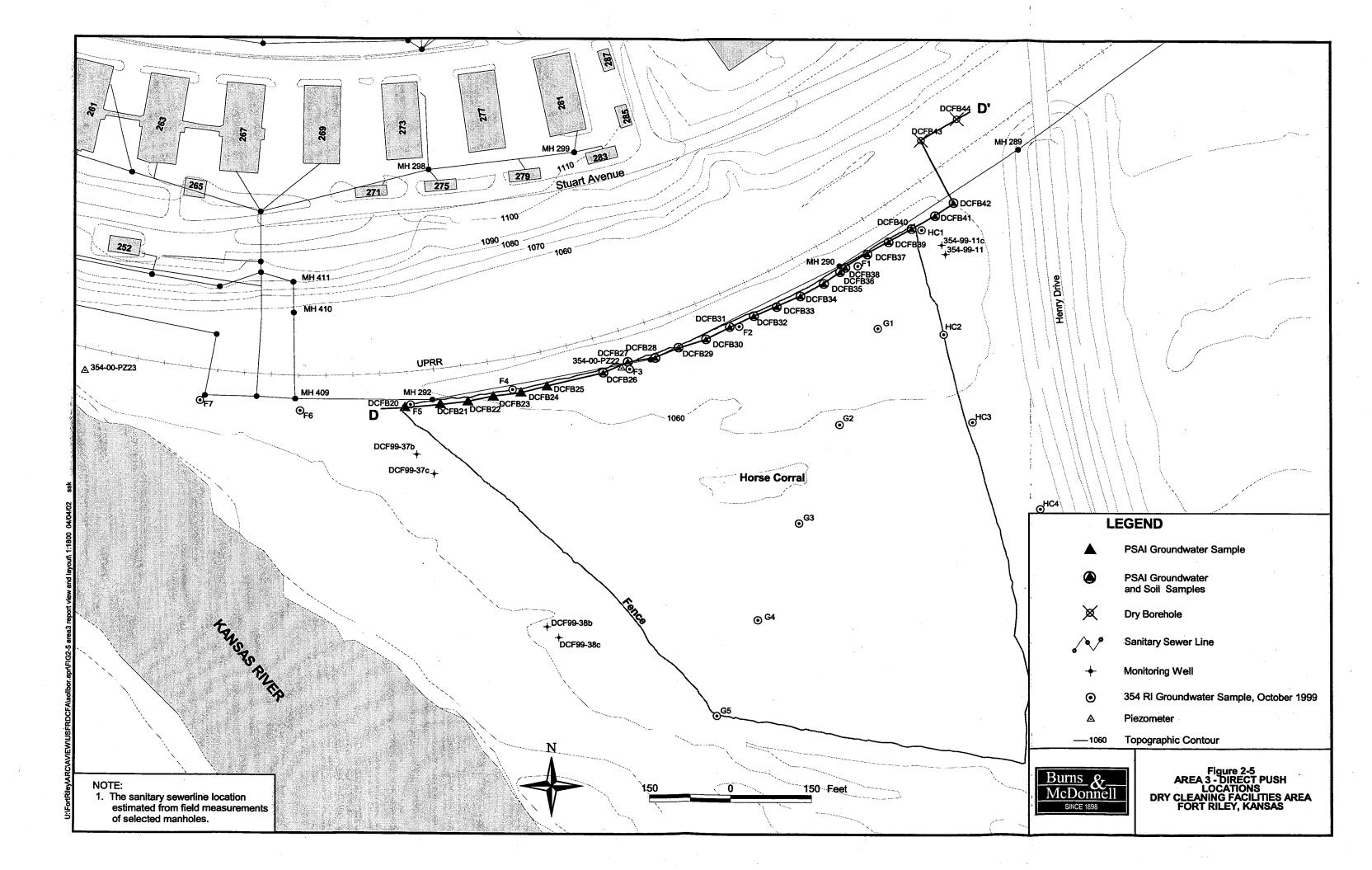
Arial photographs taken 2-8-98.
 Scale is approximately 800 feet per inch.

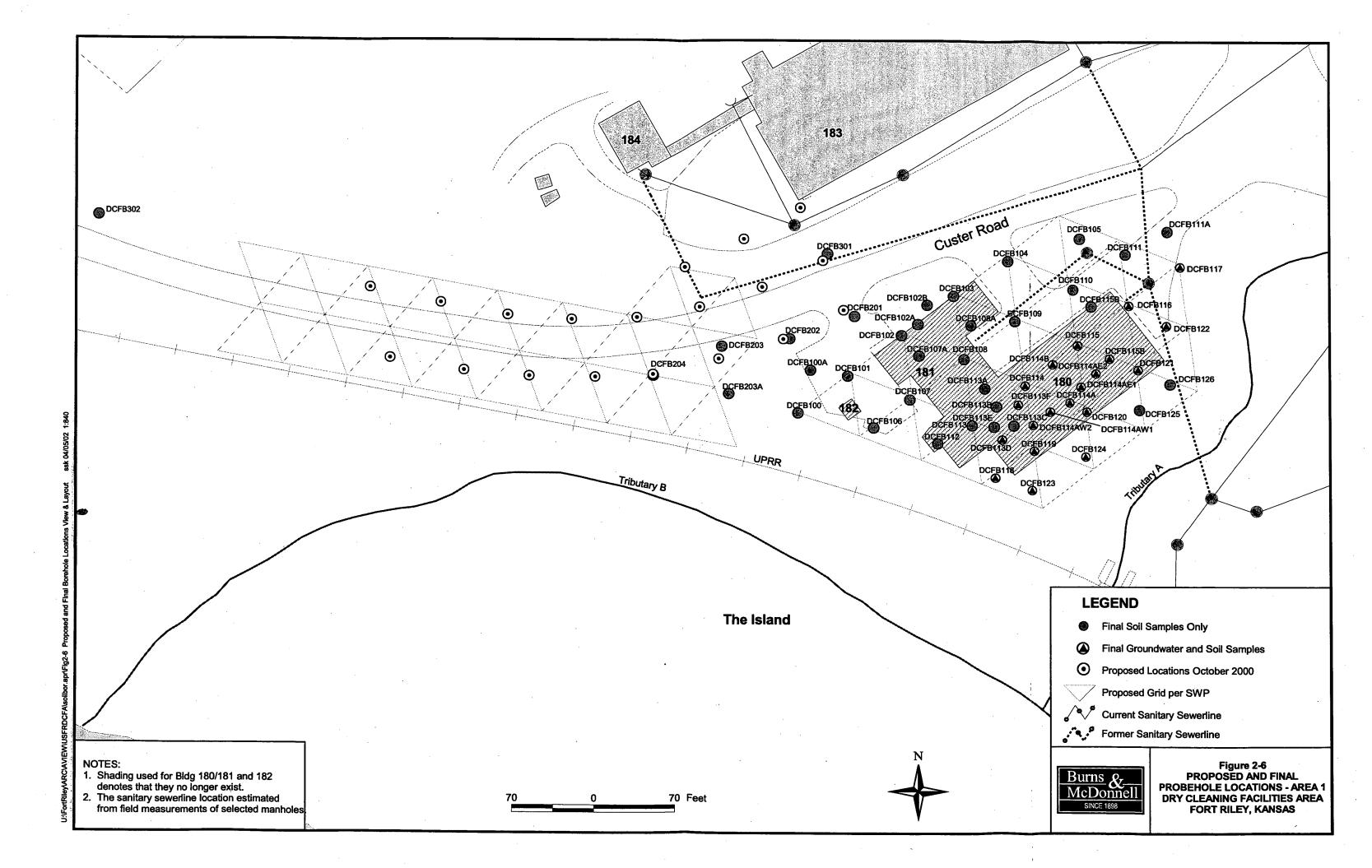


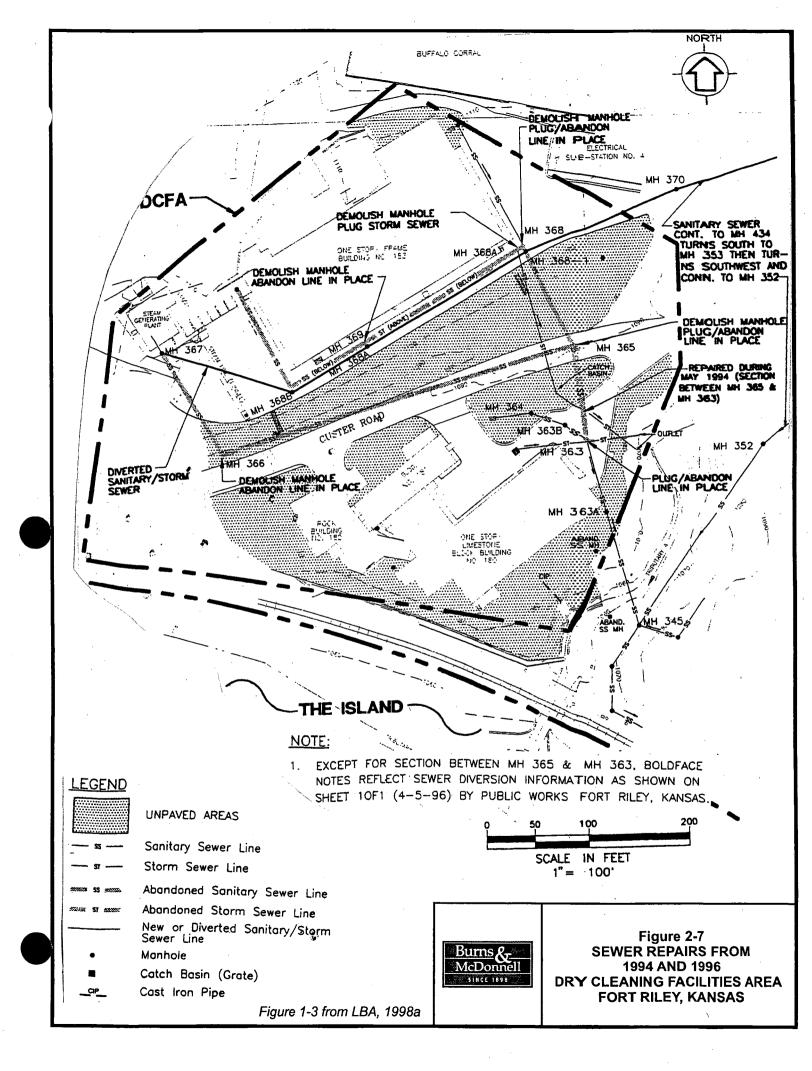
Figure 2-2 AERIAL PHOTOGRAAPH DRY CLEANING FACILITIES AREA FORT RILEY, KANSAS

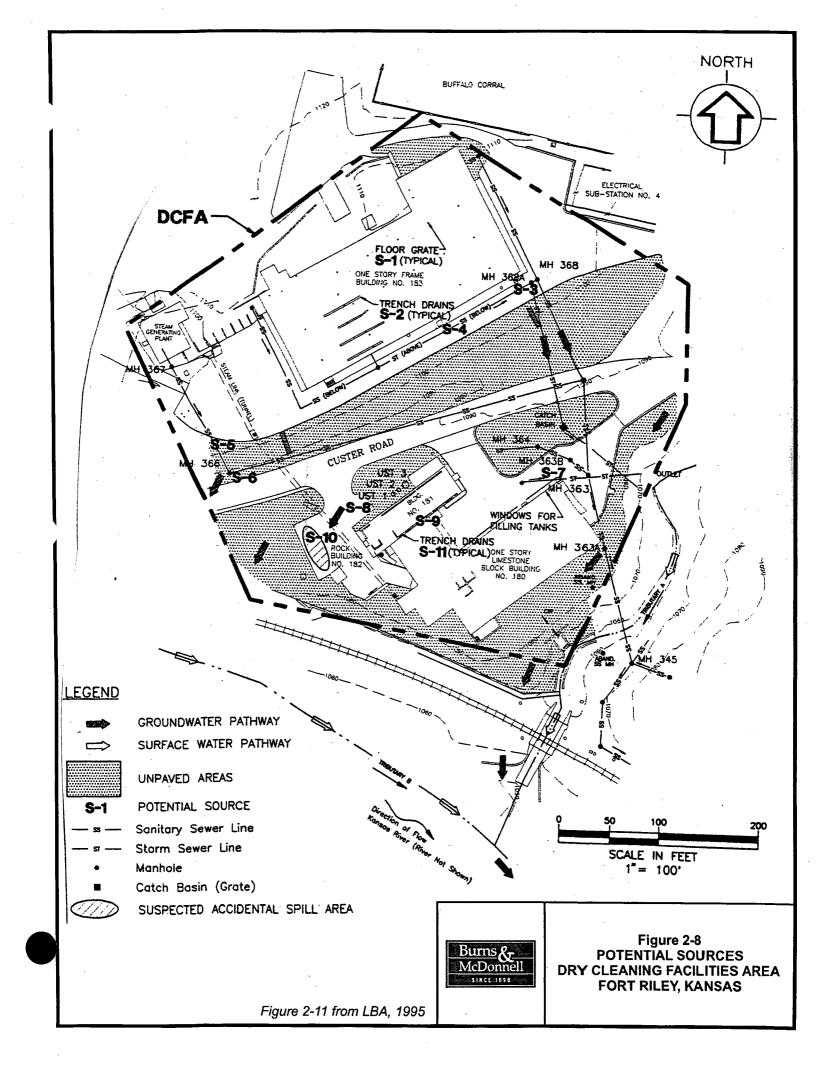










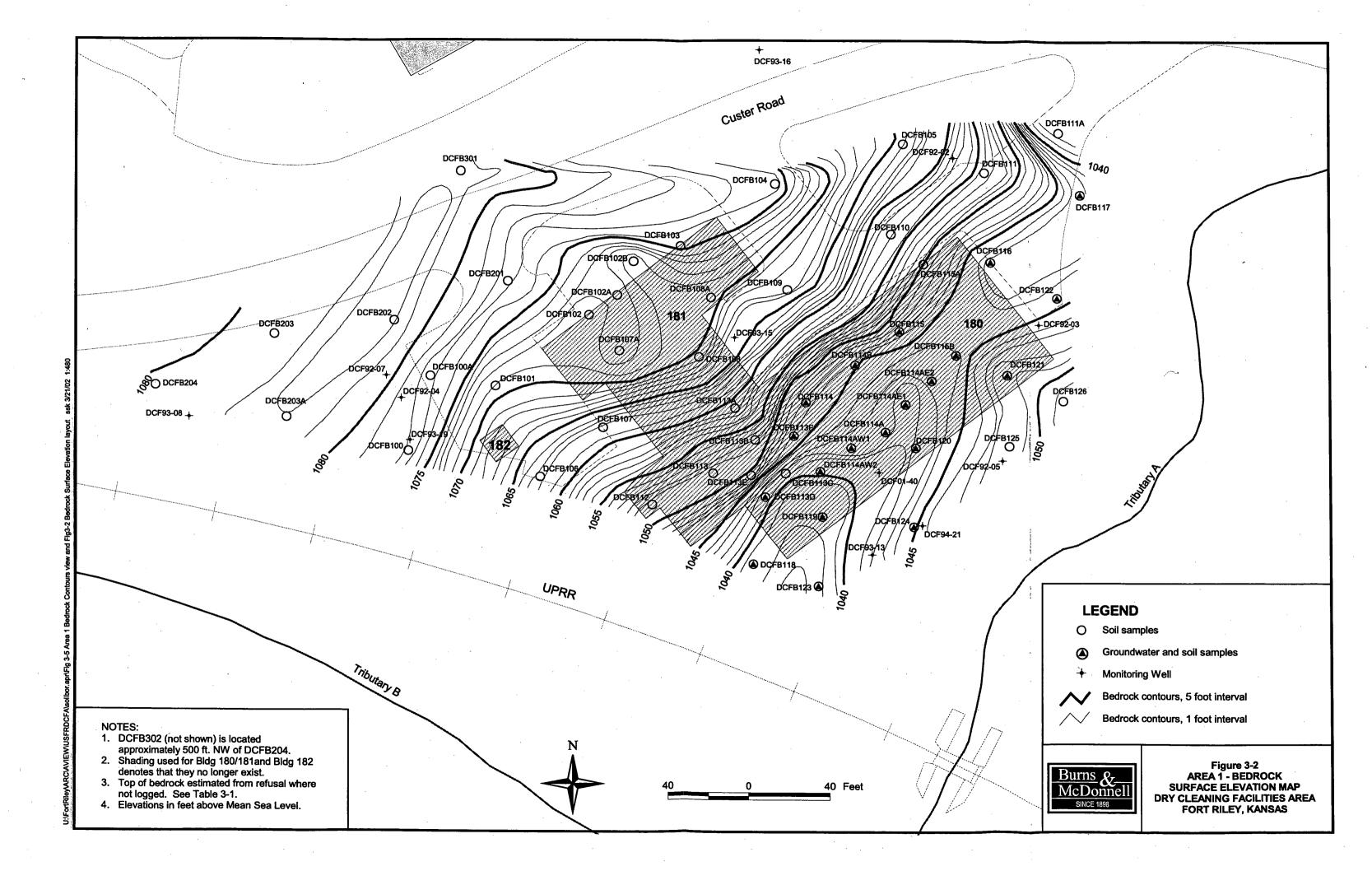


Paddock Sh. Mbr. Nolans Limestone Krider Ls. Mbr. Odell Shale Cresswell Ls. Mbr. Winfield Limestone Grant Shale Member Stoval Ls. Mbr. Gage Shale Member Doyle Shale Towanda Ls. Mbr. Group Holmesville Sh. Mbr. Chase (Fort Riley Ls. Mbr. Oketo Shale Member Barneston Limestone WOLFCAMPIAN SERIES Florence Ls. Mbr. **LOWER PERMIAN SERIES** PERMIAN SYSTEM Blue Springs Sh. Mbr. Matfield Shale Kinney Ls. Mbr. Wymore Sh. Mbr. Schroyer Ls. Mbr. Havensville Sh. Mbr. Wreford Limestone Three Mile Ls. Mbr Speiser Shale **Rock Units Outcropping at** Funston Limestone the DCFA Blue Rapids Shale Group Crouse Limestone Easly Creek Shale Middleburg Ls. Mbr. Grove Hooser Shale Member **Bader Limestone** Eiss Limestone Mbr. Council Stearns Shale Morrill Limestone Mbr. Florena Shale Member Beattie Limestone Cottonwood Ls. Mbr. Eskridge Shale Neva Limestone



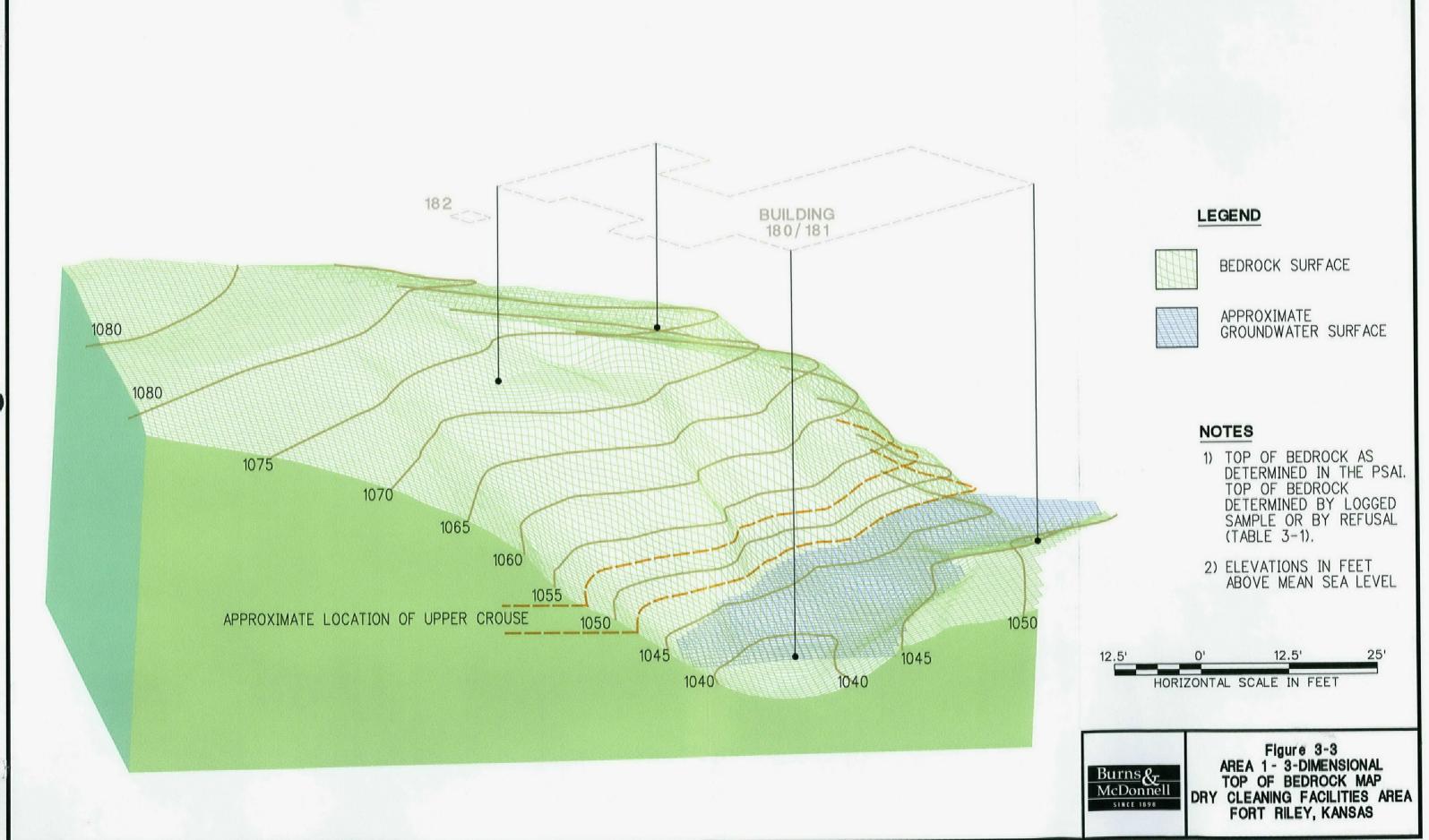
Figure 3-1
GENERAL SITE STRATIGRAPHY
FOR THE FORT RILEY AREA
DRY CLEANING FACILITIES AREA
FORT RILEY, KANSAS

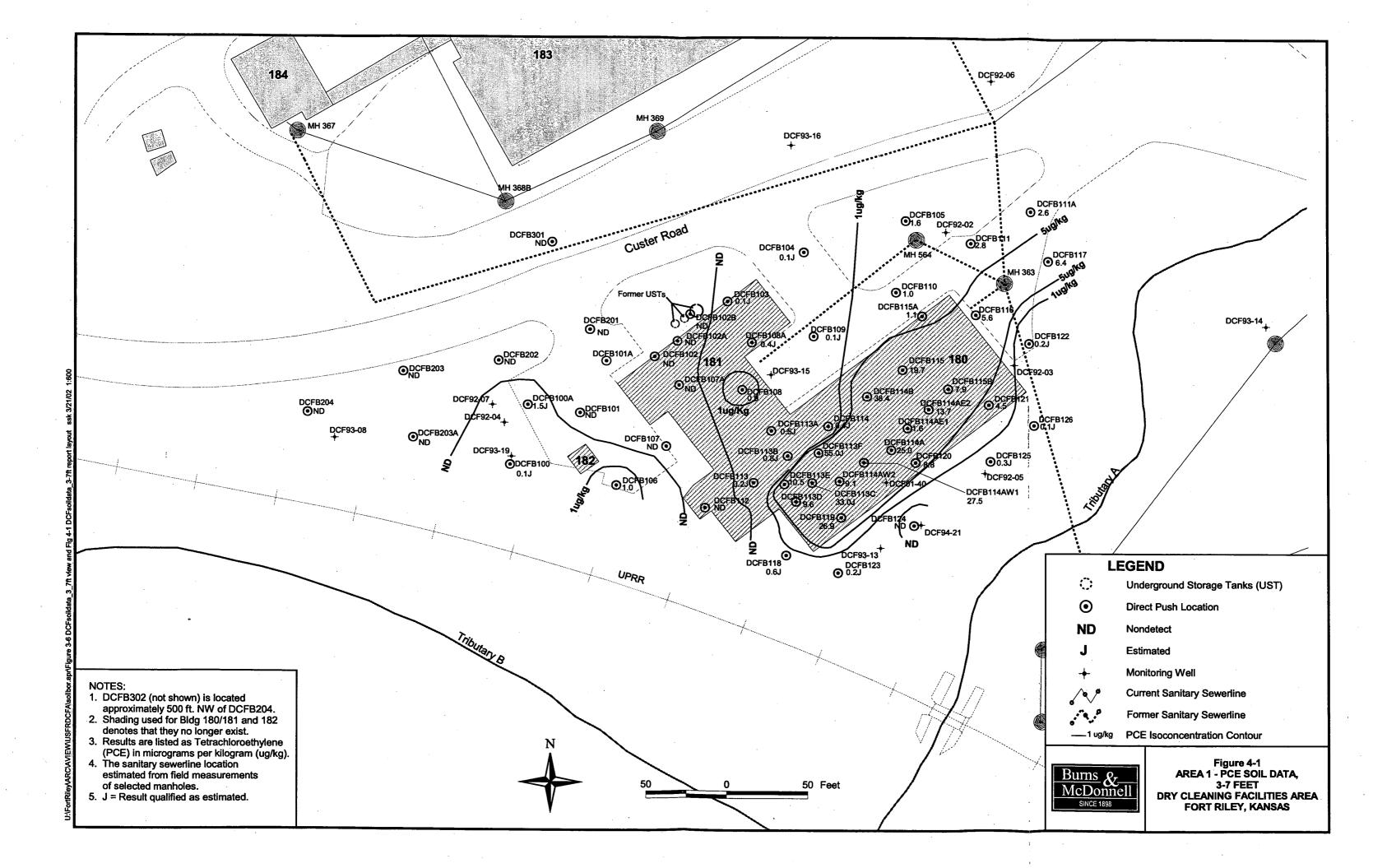
From: Zeller, 1994

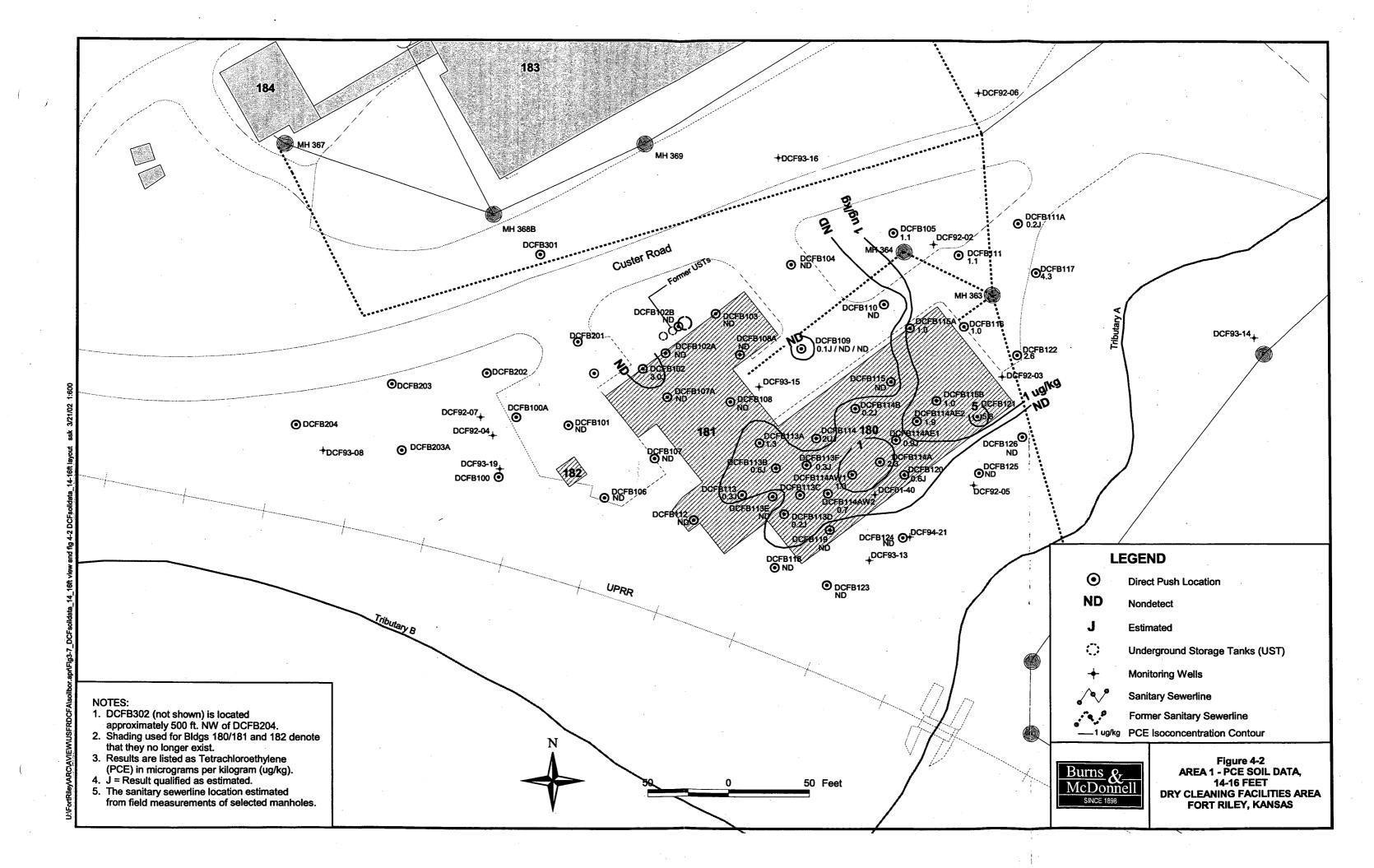


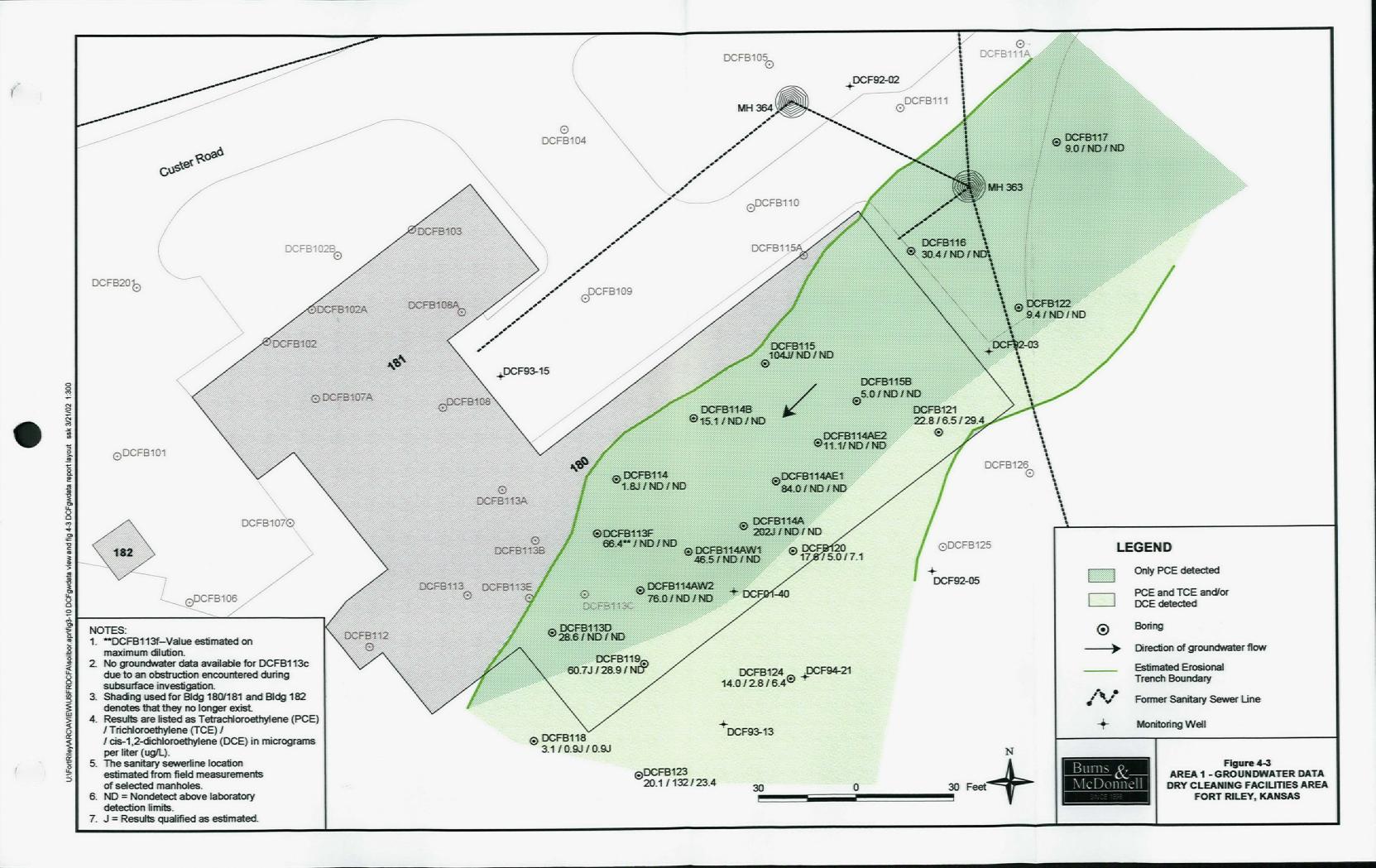


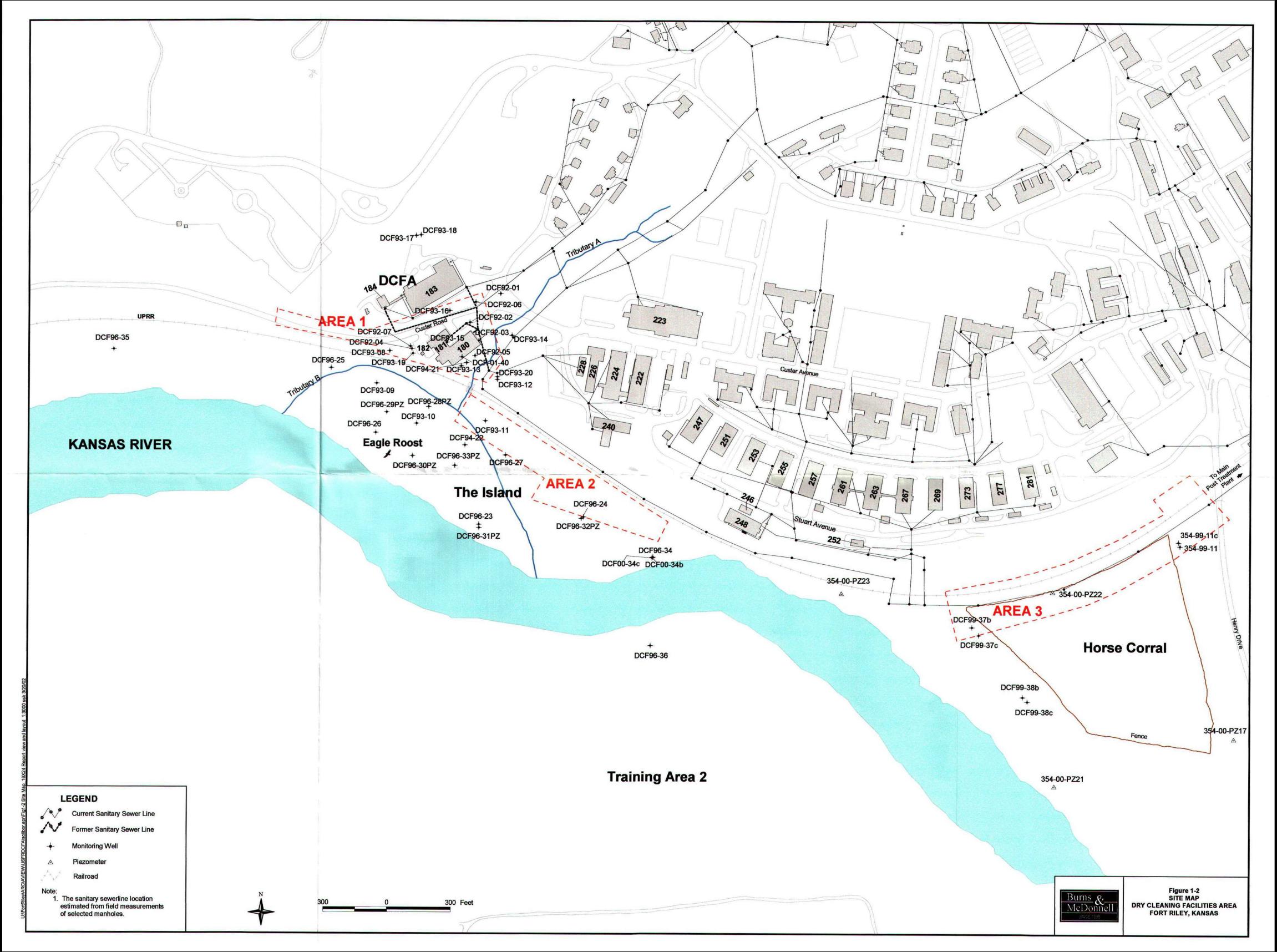


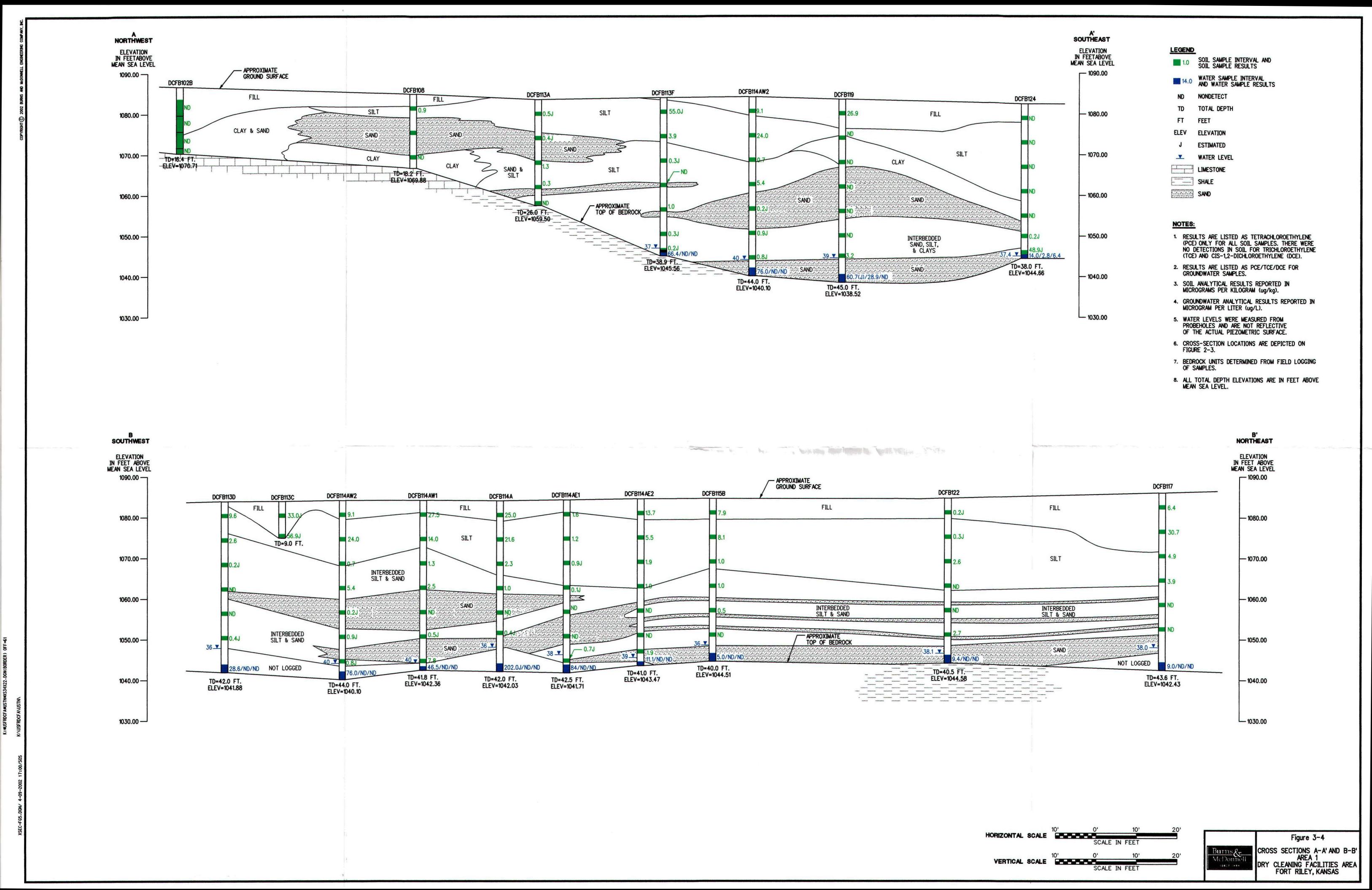












WORK PLAN TO EVALUATE POTENTIAL OTHER SOURCES

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, 1993c)

Investigation Derived Waste Management Plan (IDWNP) (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 Eupansten 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 Sarveyor (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-dichlorothylene 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 & Assc. (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 exacts 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 indgement 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 Deapartment 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., 1966, 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

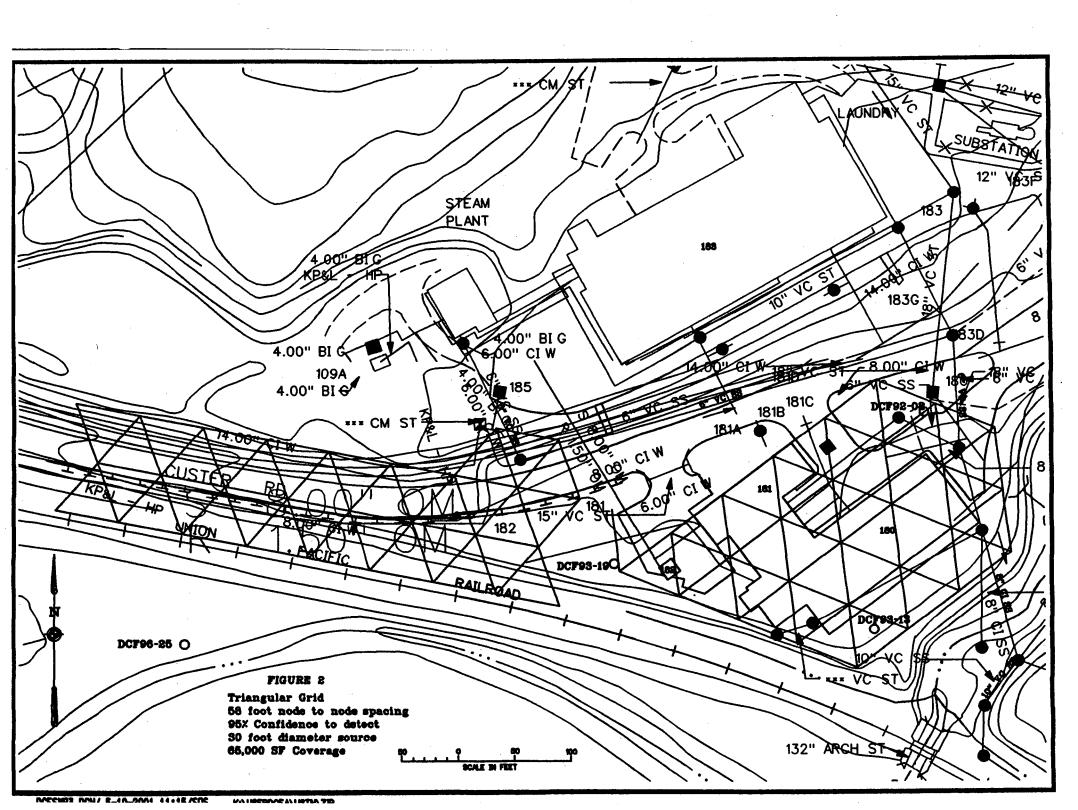
USACE United States Army Corp of Engineers

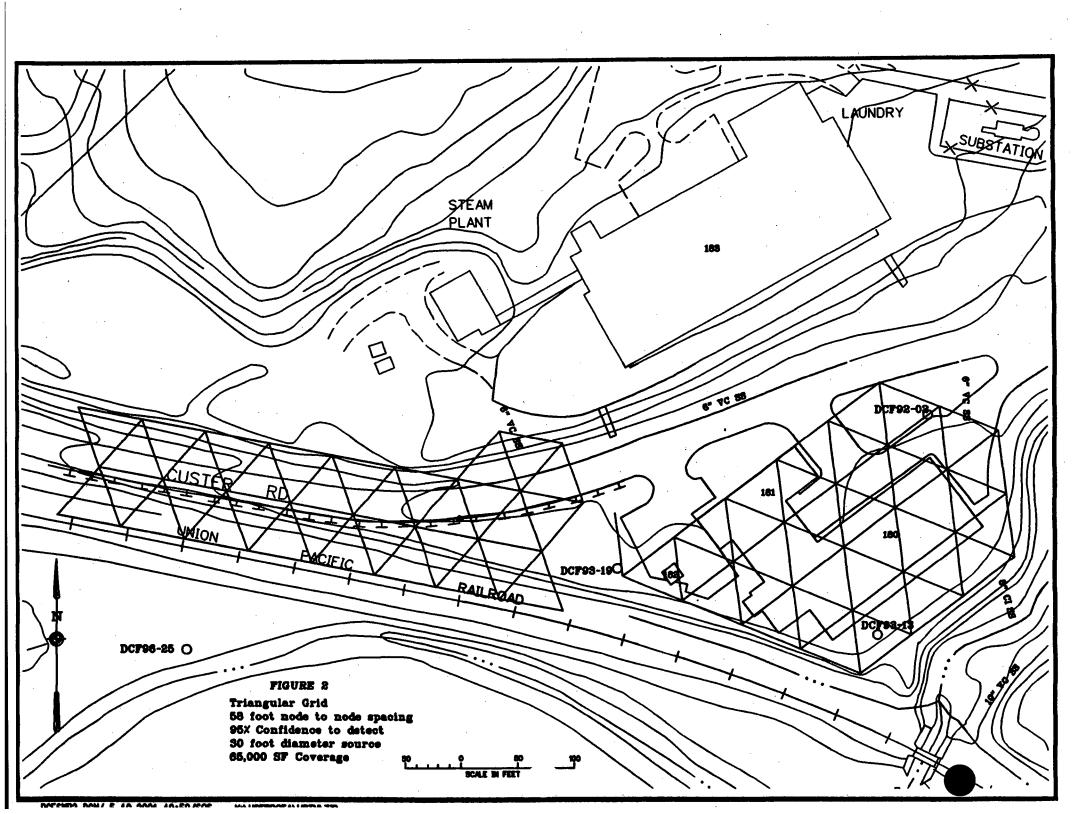
USEPA United States Environmental Protection Agency

VC Vinyl chloride

VOC Volatile organic compound

1,2-DCE 1,2-Dichloroethylene





FILE SUMMARY BY SITE

22-Aug-00

SITE	STATUS	TITLE	DOCUMENT DATE DATE RECEIVED
DCF	Draft	Vol I-Work Plan, Vol II-Monitoring Well Installation Plan, Vol III-site Safety & Health Plan, Vol IV-Chemical Data Acquistion 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 Speific 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

SITE	<u>STATUS</u>	TITLE	DOCUMENT DATE DATE RECEIVED
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

SITE	STATUS	TITLE	DOCUMENT DATE DATE RECEIVED
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	PASI Quality Control Summary Report - Third Quarter GW Sampling Event	07/01/1993

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SITE	STATUS	TITLE	DOCUMENT DATE	DATE RECEIVED
DCF °	Draft Final	Sampling & Analysis Plan	10/28/1993	11/01/1993
			•	
DCF	QCSR	RI/FS Quality Control Summary Report for DCI	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	01/19/1991
DCF	Technical Mem	Assumptions and Methodology for Baseline Risk Assessment	02/16/1994	02/17/1991
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	05/06/199	1 05/06/1 994

SITE	STATUS	TITLE	DOCUMENT DATE	DATE RECEIVED
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

SITE	STATUS	TITLE	DOCUMENT DATE	DATE RECEIVED
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	02/22/1905
DCF	QCSR	RI/FS Quality Control Summary Report - Analytical DataSuface Water and Sediment Sampling	02/23/1995	02/24/1 995
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 apendices 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

SITE	STATUS	TITLE	DOCUMENT DATE	DATE RECEIVED
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 Compartive 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	02/04/1996

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SITE	STATUS	TITLE	DOCUMENT DATE	DATE RECEIVED
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	Dian	-		
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	05/06/1990	05/07/1996
DCF	QCSR	Periodic Groundwater Monitoring - Analytical Data	07/15/1996	07/18/1996
	QOUNT.	reported for Groundwater from Monitoring Wells and Groundwater Screening Confirmation Samples		
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 Groundwaler Sampling at DCF Section 6: 9 May to 14 Jun 96	08/08/1990	08/06/1 999
		Groundwater Screening and Periodic Sampling		

SITE	STATUS	TITLE	DOCUMENT DATE	DATE RECEIVED
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	01/02/1907
DCF	Working Draft	Revised Feasbility 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	7 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	05/07/199	7 05/08/1 997

SITE	<u>STATUS</u>	TITLE	DOCUMENT DATE	DATE RECEIVED
DCF	Draft	2nd Working Draft Rvised FS	05/08/1997	05/09/1997
DCF	Working Draft	Monitoring Expansion Report & RI Addendom	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

SITE	<u>STATUS</u>	TITLE	DOCUMENT DATE	DATE RECEIVED
DCF	DSR	Data Summary Report for Grounwater Sampling at the DCFA Section 10 September 1997 Periodic Sampling, including Groundwater Evalations 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

SITE	<u>STATUS</u>	TITLE	DOCUMENT DATE	DATE RECEIVED
DCF	Draft	Data Summary Report for Groundwater Sampling at DCF Secitor 12: 16 to 21 Mary 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	08/06/199 8	8001/98/98
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	3 12/09/1998
DCF	Draft Final	Proposed Plan	12/18/1998	3 12/19/1998
DCI	DSR	Data Summary Reports for October 1998	02/08/1999	9 02/00/1909

SITE	STATUS	TITLE	DOCUMENT DATE	DATE RECEIVED
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 DCI	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/ {999

SITE	<u>STATUS</u>	TITLE	DOCUMENT DATE	DATE RECEIVED
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

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APPENDIX B EPS ANALYTICAL DATA TABLES

Notes for Appendix B

- 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' H20 and its field duplicate (collected on December 4, 2000) were incorrectly labeled as DCFB-114AW2 37.4-38.9' H20 and DCFB-114AW2 37.4-38.9' H20 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).

				Reported	PCE	Reported	TCE	Reported	DCE
Boring	Depth	Date	Media	PCE	Recalc	TCE	Recalc	DCE	Recalc
DCFB1		10/10/00		Dry					
DCFB2	12-14	10/10/00	Groundwater	1U	1U	10	1U	10	1U
DCFB3	8-10	10/10/00	Groundwater	0.6J	0.3J	1U	1U	10	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	10	10	0.7J	0.7J
DCFB1	22-24	10/11/00	Groundwater	1.1	0.93	10	10	0.8J	0.7J
DCFB1	34-36	10/11/00	Groundwater	4.6 1U	3.9 1U	0.4J 1U	3J 1U	0.5J	4J
DCFB7 DCFB7	22-24 32-34	10/11/00	Groundwater Groundwater	10	1U	10	10	2.1 1.5	1,9 1,3
DCFB8	32-34 18-20	10/11/00	Groundwater	2.9	2.5	0.4J	0.43	2.8	2.4
DCFB8	28-30	10/11/00	Groundwater	10.6	9.1	0.93	0.8J	1.0	0.93
DCFB8Dup	28-30	10/11/00	Groundwater	3.8	3.2	0.50	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 DCFB17	19-21	10/13/00	Groundwater Groundwater	6.3 0.5J	6.1 0.5J	0.8J 1U	0.8J 1U	2.3 30.8	2.0 27.4
DCFB18	21-23 23-25	10/13/00	Groundwater	14.2	13.6	1.7	1.7	3.0	2.7
DCFB19	EU-20	10/13/00	Giodilanalei	Dry	10.0	1.7	'''	0.0	
DCFB17	32-34	10/16/00	Groundwater	•	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	0.23	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	0.33	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	20	2U	20	2U
DCFB25	32-36	10/17/00	Groundwater	3.6	4.4	0.1J	0.2J	0.2J	0.2J

				Reported	PCE	Reported	TCE	Reported	DCE
Boring	Depth	Date	Media	PCE	Recalc	TCE	Recalc	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 2.2	2U 2.6	0.1J	0.1J 1.2
DCFB29 DCFB30	36-40	10/18/00 10/18/00	Groundwater Soil	6.2 2U	7.4 2U	2.2 2U	2.6 2U	1.0 2U	1.2 2U
DCFB30	10-14 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	0.23 0.5J	0.6J
DCFB30	40-44	10/18/00	Groundwater	4.0	4.8	1.4	1.6	0.6J	0.00 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.BJ	0.2J	0.3J	0.10	0.2J
DCFB31	31-35	10/19/00	Groundwater	4.1J	4.93	1.0J	1.2.1	0.4J	0.53
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	20.1	2UJ	2UJ	2UJ	2UJ	2UJ
DGFB32	23-27	10/19/00	Groundwater	0.4J	0.53	0.2J	0.3J	0.7J	0.8J
DCFB32	31-35	10/19/00	Groundwater	5.0	6.0	0. 4 J	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	203	2UJ	2UJ	200	2UJ
DCFB33	21-24	10/19/00	Groundwater	0.2J	0.3J	0.3J	0.4J	0.9J	1.13
DCFB33	29-33	10/19/00	Groundwater	4.8J	5.7J	0.5J	0,63	2UJ	2UJ
DCFB33	38-42	10/19/00	Groundwater	4.8J	5.BJ	0.5J	0.5J	0.2J	0.3J
DCFB33Dup	10-14	10/19/00	Soil	2UJ	20J	2UJ	2UJ	200	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	200	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		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

		1	· · · · · ·	Poported	PCE	Poportod	TCE	Paparted	DCE
Boring	Depth	Date	Media	Reported PCE	Recalc	Reported TCE	Recalc	Reported DCE	Recalc
DCFB37	21-25 28-32	10/23/00	Groundwater	10.0	12.0	0.6J	0.73	0.7J	0.9J
DCFB37		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	20	2U
DCFB38	20-24	10/23/00	Groundwater	4.5	5.4	0.4J	0.43	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 Groundwater	2U	2U	2U	2U	2U	2U
DCFB40 DCFB40	28-32 37-41	10/24/00 10/24/00	Groundwater Groundwater	7.7 8.9	8.8	0.6J	0.7J	2U	20
	•	1		8.9 2U	10.1	1.1 2U	1.3	0.9J	1.0J
DCFB40Dup	10-14	10/24/00	Soil	2U 2U	2U	B	2U	2U	2U 2 U
DCFB41	10-14	10/25/00	Soil Groundwater		2U	2U	2U	2U	
DCFB41	28-32	10/25/00		5.9	6.7	0.63	0.73	20	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	20	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	0.10	0.1J
DOFB42	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 D-					
DCFB44 DCFB114	21.5	10/25/00	Coil	Dry	0.4J	0111	0111	0111	0111
	3-4	11/07/00	Soil Soil	0.3J		2UJ 2UJ	2UJ	2UJ	2UJ 2UJ
DCFB114	9-10	11/07/00		2.1J	1.9J	II	2UJ	2UJ	
DCFB114 DCFB114	9-10	11/07/00	Soil	1.9J 2UJ	1.7J 2UJ	2UJ 2UJ	2UJ 2UJ	2UJ 2UJ	2UJ 2UJ
	15-16	11/07/00	Soil	20J 2UJ		13		20J 2UJ	
DCFB114	21-22	11/07/00	Soil Soil	1.4J	2UJ 1.8J	2UJ	2UJ 2UJ	20J 2UJ	2UJ 2UJ
DCFB114 DCFB114	27-28	11/07/00	l .	H	1	2UJ		H	2UJ
DCFB114 DCFB114	33-34 36-38	11/07/00	Soil Groundwater	2UJ 2.1J	2UJ 1.8J	2UJ 2UJ	2UJ 2UJ	2UJ 2UJ	20J
DCFB115	3-4	11/08/00	Soil	19.6	19.7	200 2U	2U	200 2U	200 2U
DCFB115	9-10	11/08/00	Soil	2.7	2.7	10	10	1U	10
DCFB115	9-10 9-10	11/08/00	Soil	2.1	2.1	10	10	10	10
DCFB115	15-16	11/08/00	Soil	2U	2U	20	20	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	20	20	20
DCFB115	32-33	11/08/00	Soil	1.5	1.5	2U	2U	2U	2U
DCFB115	37-39	11/08/00	Groundwater	103J	104J	20	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	50.93	51.1J	2U	20	2U	2U
DCFB116	15-16	11/08/00	Soil	1.0	1.0	20	2U	2U	2U
DCFB116		11/08/00		11	1	20		11	2U 2U
סווסחטט	21-22	יטטישטיזורן	Soil	3.8	3.8	J 20	2U	2U	20

				Reported	PCE	Reported	TCE	Reported	DCE
Boring	Depth	Date	Media	PCE	Recalc	TCE	Recalc	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	2∪	2U
DCFB117	3-4	11/09/00	Soil	5.3	6.4	ŻU .	2U	2U .	2U
DCFB117	9-10	11/09/00	Soil	25.2	30.7	2U	2U	2∪	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	2Ú
DCFB117	33-34	11/10/00	Soil	2U	2U	2U	2U	2U	20
DCFB117	41.6-43.6	11/10/00	Groundwater	10.4	9.0	2U	20	2U	2U
DCFB120 DCFB120	3-4 9-10	11/10/00	Soil	10.2	8.8	2U	2U	2U	2U
DCFB120	9-10	11/10/00	Soil Soil	0,8J 0.4J	0.7J 0.3J	2U 2U	2U 2U	20	2U
DCFB120	15-16	11/10/00	Soil	0.7J	0.6J	2U 2U	2U 2U	2U 2U	2U 2U
DCFB121	3-4	11/10/00	Soil	5.2	4.5	2U	2U	2U 2U	2U 2U
DCFB121	9-10	11/10/00	Soil	4.6	3.9	2U	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	20	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	2Ü	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	2∪	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 DCFB119	3-4 9-10	11/13/00	Soil	31.2	26.9	2U	2U	2U	2U
DCFB119	21-22	11/13/00	Soil Soil	2U 3.0	2U 2.6	2U 2U	2U 2U	2U 2U	2U 2U
DCFB120	27-28	11/13/00	Soil	2U	2.0 2U	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	Sail	0.2J	0.6J	2U	2U	2U	2U
DCFB118	9-10	11/14/00	Soil	2U	20	2U	20	2U	2U
DCFB118	15-16	11/14/00	Soil	2U	2U	2U	2U	2U	2U
DCFB118	21-22	11/14/00	Soil	20	20	2U	2U	2U	20
DCFB118	27-28	11/14/00	Sail	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	203	2UJ	2UJ
DCFB119	15-16	11/14/00	Soll	2ปป	2UJ	2UJ	2UJ	2UJ	2UJ
DCFB119	21-22	11/14/00	Soil	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ

				Reported	PCE	Reported	TCE	Reported	DCE
Boring	Depth	Date	Media	PCE	Recalc	TCE	Recalc	DCE	Recalc
DCFB119	27-28	11/14/00	Soil	2UJ	2UJ	20J	203	2UJ	2UJ
DCFB119	33-34	11/14/00	Soll	2UJ	2UJ	2UJ	2UJ	2UJ	2WJ
DCFB119	38-39	11/14/00	Soil	1.1	3.2	2UJ	203	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 Soil	2U 0.1J	2U	2U	2U	2U	2U
DCFB118 DCFB118	38-39 43-45	11/15/00 11/15/00	Groundwater	3.3	0.1J 3.1	2U 1.0	2U 0.9J	2U 1.0	2U 0.9J
DCFB123	43-45 3-4	11/16/00	Soil	0.2J	0.2J	2U	0.90 2U	1.0 2U	0.93 2U
DCFB123	9-10	11/16/00	Soil	2U	2U	2U	2U	2U	2U
DCFB123	15-16	11/16/00	Soil	2U	2U	2U	20	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	20	20	2U	2U
DCFB124	21-22	11/16/00	Soil	2U	2U	20	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 0.3J	2.7 2U	2.8 2U	6.4 2U	6.4 2U
DCFB125 DCFB125	3-4 9-10	11/17/00	Soil Soil	0.3J 2U	2U	2U 2U	2U 2U	20 20	2U 2U
DCFB125	15-16	11/17/00	Soil	2U 2U	2U 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	20	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	20	20	2U
DCFB122	9-10	11/20/00	Soll	0.3J	0.3J	2U	20	2U	2U
DCFB122	15-16	11/20/00	Soil	2.8	2.6	10	1U	1U	10
DCFB122	21-22	11/20/00	Soil	20	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 Sail	3:1 2:9	2.7	20	2U 2U	2U 2U	2U
DCFB122* DCFB122*	39-40 39-40	11/20/00 11/20/00	Soil Soil	3.2	2.4 2.8	2U 2U	2U 2U	2U 2U	2U 2U
DCFB122 DCFB126	21-22	11/20/00	Soil	2U	2.0 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	20	20	2U	20	2U	2U
DCFB126	31-32	11/20/00	Soil	2U	2U	2U	2U	2U	2U

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	10	1U	10	1U	1U	1U
DCFB113F	27-28	11/22/00	Soil	1.1	1.0	20	2U	2U	2U
DCFB113F	33-34	11/22/00	Soil	0.40	0.3J	20	2U	2U	2U
DCFB113F	37-38	11/22/00	Soil	0.30	0.33 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	7.9 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	20	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	20	2U	20	20	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	20	20	2U	2U	20	2U
DCFB203	3-4	11/30/00	Soil	2U	2U	2U	2 U	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	20	20	2U
DCFB204	3-4	11/30/00	Soil	2Ų	2U	2U	20	20	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	2∪	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	20
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	20	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	20	20	2U
DCFB114eW2	15-16	12/04/00	Soil	0.7J	0.7	10	10	10	1U
DCFB114aW2	21-22	12/04/00	Soil	5.9	4.5	2U	2U	2U	2U
DCFB114aW2	21-22	12/04/00	Sail	7.1	5,4	2U	2U	20	2U
DCFB114aW2	27-28	12/04/00	Soil	0.3J	0.2J	2 U	20	2U	2U
DCFB114aW2	33-34	12/04/00	Soil	1.2	0.9J	20	2U	2U	2U

				Reported	PCE	Reported	TCE	Reported	DCE
Boring	Depth	Date	Media	PCE	Recalc	TCE	Recalc	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	2∪	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	100
DCFB114eE2	21-22	12/06/00	Soil	1.4	1.0	2U	20	2U	2U
DCFB114aE2	27-28	12/06/00	Soil	20	2U	2U	2U	2U	2U
DCFB114aE2	33-34	12/06/00	Soil	0.5J	20	2U	20	20	2U
DCFB114aE2	37-38	12/06/00	Soil	2.6	1,9	20	20	2U	2U
DCFB114aE2	38-40	12/06/00	Groundwater	15.4	11.1	100	100	. 10U	10U
DCFB114B	3-4	12/06/00	Soil	53.1J	38.4J	2U	20	2U	2U
DCFB114B	9-10	12/06/00	Soil	4.0	2.9	2U	20	2U	2U
DCFB114B	15-16	12/06/00	Soll	0.5J	0.4J	2U	2U	2U	2U
DCFB114B	15-16	12/06/00	Soil	0.3J	0.2J	2U	2U	2U	20
DCFB114B	21-22	12/06/00	Soil	0.7J	0.5J	2U	20	2U	2U
DCFB114B	27-28	12/06/00	Soil	1.3	0.9J	20	2U	2U	2U
DCFB114B	33-34	12/06/00	Soil	0.7J	0.5J	20	2U	2U	2U
DCFB114B	39-39.5	12/06/00	Groundwater	20.8	15.1	10U	10U	10U	100
DCFB301	3-4	12/08/00	Soil	2U	2U	2U	2U	. 2∪	2U
DCFB301	7-8	12/08/00	Soil	2U	2U	2U	2U	2∪	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

(a) Sample collected below saturated zone

* = Taken from below top of groundwater

** = Estimated based on maximum dilution / fuel interference

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).

October 9-10, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample	Sample	e H2O	Vinyl	DCE	TCE	PCE	Comments
	Depth	Type	Level	Chloric	le ·			ř
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

October 11, 2000 FORT RILEY

PROJECT:

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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	22.31	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. 7 J	7.3	Purged 3 quarts

NA = not available

ND = non detect

October 12, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

October 13, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample	•	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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

October 16, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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)

October 17, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
•	Depth	Type	Level				
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)

October 18, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample Depth	Sample	H2O	DOE	mar	DOE	~
	Donth		1120	DCE	TCE	PCE	Comments
	ъерш	Type	Level				
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	PT: HAVE -
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)

October 19, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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. 7 J	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)

October 20, 2000 FORT RILEY

PROJECT:

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments	
	Depth	Type	Level					
DCF-34B	37-41'	H2O	30.2'	3.1	5.0	5.1	Purged 1 quart	
DCF-34A	30-34'	H2O	30.2'	0.7Ј	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. 7 J	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. 4 J	4.0	Purged 3 quarts	
DCF-37	10-14'	SOIL	NA	ND	ND	ND		estado e e

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	Sample	H2O	DCE	TCE	PCE	Comments
•	Depth	Type	Level				
DCF-37C	36-40'	H2O	21.5'	17.3	1.5	7.0	Purged I 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)

October 24, 2000

PROJECT:

FORT RILEY

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
-	Depth	Туре	Level				
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	20.31	0.3J	0.9J	7.3	Duplicate
DCF-39A	20-24'	H2O	20.31	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)

October 25, 2000 FORT RILEY

PROJECT:

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level	- 			Commones
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)

November 2, 2000 Fort Riley

PROJECT:

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

November 3, 2000 Fort Riley

PROJECT: PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

November 6, 2000

PROJECT: Fort Riley PROJECT #: 001025

Sample		Sample	•
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Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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

November 7, 2000 Fort Riley

PROJECT: Fort Rile PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
·	Depth	Type	Level				
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

November 8, 2000 Fort Riley

PROJECT:

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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	2
DCFB-115	37-39'	H2O	36'	ND	ND	51.6	Refusal= 39'
Method Blank	NA	H2O	NA	ND	ND	ND	S F Made cade
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

November 9, 2000 Fort Riley

PROJECT: PROJECT #: 001025

G 1	<u> </u>	0 1	1100	DOE	TOP	DCE	Comments
Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

November 10, 2000

PROJECT:

Fort Riley

PROJECT #: 001025

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Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments	
	Depth	Type	Level					
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		tues .
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		ti suci
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

November 13, 2000

PROJECT:

Fort Riley

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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	Dupicate
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

November 14, 2000 Fort Riley

PROJECT: Fort Rile PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

November 15, 2000

PROJECT:

Fort Riley

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				•
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 voa 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

November 16, 2000 Fort Riley

PROJECT:

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
_	Depth	Type	Level				
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	eiu.
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	an last tree.
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

November 17, 2000

Fort Riley PROJECT: PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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	2
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

November 20, 2000

Fort Riley PROJECT: PROJECT #: 001025

						· · · · · · · · · · · · · · · · · · ·	
Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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

November 21, 2000

PROJECT:

Fort Riley

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

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

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

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.

November 29, 2000

Fort Riley PROJECT: PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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

November 30, 2000

PROJECT:

Fort Riley

PROJECT #: 001025

1						·	
Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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	3-4¹	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

December 1, 2000

PROJECT: Fort Riley PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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

December 4, 2000

PROJECT:

Fort Riley

PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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

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

December 5, 2000 Fort Riley

PROJECT: PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
-	Depth	Type	Level				
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

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

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Туре	Level				
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. 7 J	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

December 7, 2000

PROJECT: Fort Riley PROJECT #: 001025

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
	Depth	Type	Level				
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'
B							

Results are given in ug/l (ppb)

ND = Not Detected

NA = Not Available

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

Sample	Sample	Sample	H2O	DCE	TCE	PCE	Comments
·	Depth	Type	Level		•	•	
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	3	H2O	NA	ND	0.3J	0.1J	

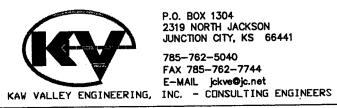
Results are given in ug/l (ppb) ND = Not Detected

NA = Not Available

APPENDIX C SURVEY DATA

BURING LUCATIONS ARE LUCATED ON THE ISLAND AND THE HORSE CORRAL. THESE COORDINATES ARE NAD83 UTM ZONE 0014 & NAVD 88

14192233. 23 2268150. 51 1049. 71 14192203. 41 2268192. 56 1049. 52 14192174. 28 2268234. 42 1050. 10 14192147. 83 2268282. 11 1051. 62 14191770. 22 2269767. 17 1061. 84 14191776. 09 2269832. 62 1061. 28 14191790. 99 2269929. 61 1061. 29 14191810. 74 2270028. 90 1059. 76 1419181. 23 2269883. 13 1060. 72 14191836. 39 2270133. 13 1058. 26 14191857. 36 2270178. 18 1056. 79 14191864. 98 2270228. 67 1058. 03 14191884. 91 2270270. 97 1059. 21 14191900. 53 2270321. 29 1060. 92 14191923. 98 2270366. 11 1060. 29 14191982. 12 2270497. 20 1057. 96 1419208. 00 2270540. 06 1060. 26 1419208. 39 2270540. 06 1060. 26 1419208. 39 2270579. 67 1060. 80 1419208. 82 2270620. 57 1061. 19 1419208. 82 2270660. 23 1061.	3. 41 2268192. 56 1049. 52 DCF-4 4. 28 2268234. 42 1050. 10 DCF-5 7. 83 2268282. 11 1051. 62 DCF-6 9. 22 2269767. 17 1061. 84 DCF20 9. 99 2269832. 62 1061. 28 DCF21 9. 99 2269980. 32 1061. 49 DCF23 9. 74 2270028. 90 1059. 76 DCF25 1. 23 2269883. 13 1060. 72 DCF25 1. 23 2270133. 13 1058. 26 DCF26 2. 39 2270178. 18 1056. 79 DCF27 4. 98 2270228. 67 1058. 03 DCF28 4. 91 2270270. 97 1059. 21 DCF29 0. 53 2270321. 29 1060. 92 DCF30 3. 98 2270366. 11 1060. 29 DCF31 4. 64 2270410. 78 1059. 09 DCF33 2. 26 2270453. 49 1059. 09 DCF33 2. 12 2270540. 06 1060. 26 DCF35 8. 00 2270569. 89 1061. 19 DCF36 <td< th=""></td<>
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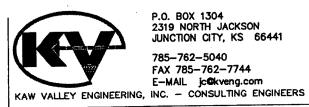
785-762-5040 FAX 785-762-7744

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 DCF-113A
14192968.66	2267315.33	1083.50	
14192953.37	2267325.25	1083.94	DCF-113B DCF-113C
14192936.06	2267340.16	1083.9 4 1083.77	DCF-113E
14192934.64	2267322.97	1083.77	DCF-113F
14192954.62	2267344.10	1084.44	DCF-114
14192971.96	2267349.56 2267356.59	1084.10	DCF-114AW2
14192936.60	2267372.06	1084.16	DCF-114AW1
14192949.30 14192957.02	2267389.37	1084.03	DCF-114A
14192937.02	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 DCF-124
14192909.46	2267403.00	1082.46	DCF-124 DCF-125
14192949.93	2267449.76	1082.70	DCF-126
14192973.37	2267477.49	1082.82	DCF-120
14193033.38	2267202.84	1087.52	DCF-201
14193013.34	2267147.14	1086.83 1087.02	DCF-203
14193006.15	2267087.90	1087.02	DCF-203A
14192964.25	2267094.31	1084.82	DCF-204
14192979.91	2267028.91	1089.84	DCF-301
14193088.31	2267179.55 22665 4 9.10	1070.2048	DCF-301
14193119.90	ZZ00349.10	10/0.2040	DOI JUE



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PAGE 1 OF 1 CFN: 7486\7486EXBB DATE: DEC 8, 2000

APPENDIX D PROBEHOLE LOGS

		НТ	W DRII	LLING	LO	G				HOLE	NO. CF-ZD
1. COMPANY NAME	Burns	+ Mc Donne	.1)	2. DRILLING	SUBCONT	ractor ive Pr	ob?	ng Solut	ions	SHEE	T 1 SHEETS
ROJECT	USFRO			724	4. LOCA	non est Cor	nea	of Hoa	LE CORAR	الري ا	n of Trade
5. NAME OF DRILLER					6. MANU		ESIGN	ATION OF DRILL		<u> </u>	
7. SIZES AND TYPES	• • • • • • • • • • • • • • • • • • • •	4' MACROC			8. HOLE	LOCATION	141	91770.22	Eaab	9767.	17
AND SAMPLING EQ	UIPMENT	2' spitsp	on Sampl		o SURE	ACE ELEVATION		Ocolog	C PAOT	16	
		ssteet t	ben Stoot		0. 00	1061					
		until refor	10. DATE STARTED 11. DATE COMPLETED								
12. OVERBURDEN TH	NCKNESS	\.\.\	·		+	H GROUNDWA		COUNTERED			
3. DEPTH DRILLED II	NTO ROCK	NA			16. DEP1	H TO WATER	AND EL	APSED TIME AFT	TER DRILLING CO	MPLETED	
14. TOTAL DEPTH OF	HOLE	92.0 fee	<u>ーーー</u> ナ	 .	17. OTH	R WATER LEV	EL ME	ASUREMENTS (SI	PECIFY)		
8. GEOTECHNICAL S		DISTUR	BED	UNDISTURBED) 19			CORE BOXES	Andles		
0. SAMPLES FOR CI		sis voc		METALS	OTHE	R (SPECIFY)		THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR
NA		NA		NA		NA		NA	~,	9	RECOVERY %
2. DISPOSITION OF	HOLE	BACKFILL	ED MONIT	ORING WELL	OTHE	R (SPECIFY)	23. \$	SIGNATURE OF IN	NSPECTOR		
Subsur Ja	ce Prof:	le Benton	ite 1	JA	l .	14	_	VAIter	B. mg	Vend	<u>m</u>
TUEV. DEPTH		DESCRIPTION OF MA	ATERIALS		SCREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	1	REMARKS h
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IRK JUN 89 55	5	PROJECT USE	RDIFA				2	5724	HOLE NO.	DCF.	2.D

			HTW DRII	LLING LO	G			HOLE NO.	
ROJECT	. (JSF e OCFA	25724	INSPECTOR Was	Hu B. m	= Clana	la	SHEET 2. OF SHEETS	
ELEV. a	DEPTH b	DESCRIPTION	OF MATERIALS		GEOTECH SAMPLE OR CORE BOX NO. 8	ANALYTICAL SAMPLE NO.	BLOW COUNTS	REMARKS h	
	<i>"</i>	Sily Sand, T. baown, day to a grained, well a	damp, fine	4	,				
	12-			•		·			
٠.	13—			_					
	н	sond, 7.5 yr 57. day, fine to m	edium, well		561 1914	ଅଟଠା	451	4/4	
	15				The second secon	the transfer of the second		Discoete	
	16-								
	/>	·					·		
	18								
	19	•			·				
į	20	sand, 7.5 yr 5/4 damp to moret, well-souted	, light baown, , fire to mediv	"					
	22	sand, 7.54, 514 moist to wet, g. medium souted,	, light bacum, ne to commer, Otz, Foldspan			·		;	
	23-		·						
	24	SAME	as above	0.6	30/24	0826	552	44	
	25_	;	* *			i		Disceele	
	26					·			
	27						,		
	28 =	PROJECT			· 				

MRK JUN 89 55-2

USFROCFA

25724 OCF-20

PROJECT			HTW DRILL					HOLE NO.
TIMEUI	US	FRDCF4	25724	ISPECTOR WOLL	~	SHEET 3 OF SHEETS		
ELEV. a	DEPTH b	DESCRIPTION	ON OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	I ANALTHUAL	BLOW COUNTS	REMARKS h
	29							Disease
un e	3/	Sand, 7.5yrs, medium to coasoned subango cheeky Limest	ly, brown, wet, are grained, poorly yar; Qt, Feldspar; one		·			Coving in at 25 leet
	33					-		
•	34—	some	as above		30/34	2844	<i>ss</i> 3	3/4
ď.	35-							Discoele
	36-							
	37— —			·				
	38						. `	
	40							
	41—	Sand 7.5yrbl medium to com souted, subargul Feldspae, cheel	me anained, poorly					•
	42			·				
	44	sond, 7. Syr Wi, Grainu, well co	GARY, WET FINE wied, Rounded	<u>.</u>	40/44	29,10	554	9/4
	45-	Sand, T.Eyrel, Saanel, well som	gely, wet, fined			-		Dispele
	46 -	PROJECT					HOLE NO.	

OJECT	LICED	0cFA 2573	DRILL	POECTOR	ter B. m	4 010		SHEET 4
LEV.	DEPTH h	DESCRIPTION OF MATERIA	ALS		GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS	OF SHEETS REMARKS h
		sand, T. ETES/, gray, well.	, fined			1.	-	
	47	grand, T.ETTS, ger, wer grained, well sourced, well sourced, weekled Soundy Lines	tore_	R-	45/47	1045	<i>5</i> 55	<u> </u>
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		Bottom of	HOLE					TD=92.0
	=	. ·						feet
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				HTW [RILL	ING	LO	G	,	-		HOLE	no. Ocf26	
COMPA	NY NAME	s + mcl	0000	e /l	2	DRILLING	SUBCONT	RACTOR PR	ن ه ی	ng Solu	tions	SHEE		
PROJEC	Ţ	ROCFI			2572		4 10CAT	ION		e Compl				
NAME (F DRILLER	DAN		·			6. MANUFACTURER'S DESIGNATION OF DRILL GEOGRAPHE 6-11-40							
	ND TYPES OF	FDRILLING		of macacoco		over			AA TO	133 - 13 5				
IND SA	MPLING EQUI	PMENI		oot AcetAlc (Screte Samp		deaval		CE ELEVATIO	V		CHAI COR	neg F	<i>) </i>	
							10. DATE	105	<u>8,ව</u>		11. DATE COMP	COMPLETED		
OVER	BURDEN THIC	KNESS					— <u> </u>	TH GROUNDWA			10/17/2			
				NA						. ^	J&			
DEPTH	i drilled int			NA			16. DEPT	'H TO WATER	and El		ER DRILLING COI	NG COMPLETED		
TOTAL	DEPTH OF H	IOLE 2	1 3.0	ist feet			17. OTHE	R WATER LEV	EL ME	ASUREMENTS (SPI	ECIFY)	·		
GEOTI	ECHNICAL SA	_		DISTURBED	UN	DISTURBED	19		BER OF	CORE BOXES	:		·	
		MICAL ANALY	_	VOC		METALS		OTHER (SPECIFY)		THER (SPECIFY)	OTHER (S		21. TOTAL CO	
		<u> </u>		TCE, PCE, DCE	N		NA OTHER (SDECKEY)		23 SIGNATURE OF IN		NA)	RECOVER'	
DISPO	SPOSITION OF HOLE BACKFILLED					IG WELL	OTHER	R (SPECIFY)	4	signature of ins		lend	'en	
	<u> </u>			Bentontle	· ·		CREENING		MPLE	ANALYTICAL	BLOW			
EV. a	DEPTH b		DESC	DESCRIPTION OF MATERIALS c		RES	SULTS d	OR CORE BO	X NO.	SAMPLE NO. f	COUNTS g	·	REMARKS h	
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			HTW DRILL					HOLE NO.	
PROJECT	· l	is frocta	25724 IN	SPECTORWAN	er B. mg	Clendor	•	SHEET 2 OF 2 SHEETS	1
ELEV. a	DEPTH b		N OF MATERIALS		GEOTECH SAMPLE OR CORE BOX NO. e		BLOW COUNTS g	REMARKS h	1
	// -	SAND, 7.5 Yrs. day to damp, well souted, and Fuldspar	hi, Light brown, fine grained, Pounded; Guards	0				Discrete Sample Interval 10-14	
	12		gradient de la company de la c	0					
	13			.0		4/4	·		
•	M	SAME A	s above	0	NA	551	NA	End Time: 1710	
		Bo Hom	of Hole-logge	d				7.0.= 14 foot (1059ed) Sample Interva to 5 feet before measured Street Linc invent	ľ
				<i>r</i>					}
		Bottom o	of Hole		·			TD=43.0 feet	
	باسياسا								
·									
	hinhin								
RK JUN	ORM 55-	2 PROJECT	SFROCFA	<u></u>		25724	HOLE NO.	DCF Zla	_

	1. COMPANY NAME BURNS & Madonnell					LI	NG I	LO	G	•			HOL	NO. DCF.27	
1. COMPA	NY NAME	1804 : 3	7) - A	000011		2. D	RILLING SUE	BCONT	RACTOR	Pa- 1	ing bolu	tio-		ET 1 2 SHEETS	
J. PROJEC	T	-				<u>1:</u> ,	4.	LOCAT	TON	*					\dashv
5. NAME (FRDCFA) 		2572	-4					CORA A 1 I	erce and	Sewe	e Line	_
D. NAME C	DAP							Gen	oppobe	GH	-40				
	ND TYPES O			oot macrocone		e e	8.	HOLE	LOCATION	114	191857 .:	36 Ed	12 70	178.18	\Box
AND SA	MPLING EQU	IPMENT		of Acetate Lin		امرو			CE ELEVATION		350 teet	east ot	west.	Coenal Post	닉
	•		D 13	CEER SHAPING	40,70		<u>'</u>	JUNE) (5	0.79				
						10.			STARTED	_		11. DATE COM			7
12 OVER	BURDEN THIC	KNESS					15		/ <i>O)18/2000</i> DEPTH GROUNDWATER ENCOUNTERED			10/18)		\dashv	
12. 0121			^	JA							NA				╛
13. DEPTH	i drilled int	O ROCK)A			16.	DEPT	H TO WATER A	AND EL	APSED TIME AFTI	er drilling co	MPLETED		
14. TOTAL	DEPTH OF H	HOLE 41.		y feet			17.	ОТН	R WATER LEV	EL ME	ASUREMENTS (SP	PECIFY)			1
18. GEOTI	ECHNICAL SA			DISTURBED			TURBED	19		BER OF CORE BOXES				 	1
20. SAMP		MICAL ANALY	SIS	VOC	М	ETALS		OTHER (SPECIFY)		OTHER (SPECIFY)		OTHER (S	PECIFY)	21. TOTAL COR	_
	site An Intirm			TCE, PCE, DCE	N	A	_,		NA	70		NA		RECOVERY	
	SITION OF H			BACKFILLED	MONITORING WELL		WELL	OTHER (SPECIFY)		23. SIGNATURE OF IN				1 ••••	7
	· · · · · · · · · · · · · · · · · · ·			Bentonite	NA			NA		U	Salter	B. Mcc	land	on	
ELEV.	1 . 1		DES	CRIPTION OF MATERIALS				CREENING GEOTECH SA SULTS OR CORE BO d e			ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	COUNTS		
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MRK 5	ORM 55		PRO	OJECT USFR O CFI)					•	5724	HOLE NO.	DCF	77	
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		HTW DRILL					HOLE NO.
OJECT	US	FROCFA 25724	ISPECTOR WANTE	RB.			SHEET Z OF Z SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS q	REMARKS
!	// ===================================	SAND, 7.5 yr 5M light brown, de,, fine to medium, well socted, Rounded to subangulae; Quaetz, Feldspal	. 0				Discrete sample Interni 10-14
	/2	en en en en en en en en en en en en en e					·
	13-		0				·
	14		0.7	NA	4/4 551	NA	End Time= 0905
		Bottom of the - logged					70 = 14 feet (loaged)
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		Bottom of Hole					TD=41.0 feet
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	ساسا					·	
	7 NB9 55-	PROJECT USFROCFA				HOLE NO.	

USFROCFA

25724

DLFZ7

			HTW [DRIL	LING	LO	G				HOLE	NO. DCFZ8
COMPANY	NAME Q.	006+00	:Dome11		2. DRILLING	SUBCONT	RACTOR	•	4		SHE	
PROJECT	R U	KUS 7 117	CNOMEII			4. LOCA	otive pr	obi	ng Solutio	<u> </u>	OF	2 SHEETS
rnweut		FROCFA	25	724				eh.	400 teet	east af u	sect A	DRIAL POST
NAME OF	DRILLER					6. MANU	FACTURER'S D	ESIGN.	ATION OF DRILL	<u> </u>	 ц	ACEM 100.
)AN				<u> </u>			e GH-40			
	D TYPES OF		1-foot macrocore		ICR	8. HOLE	LOCATION N	1/4	1191864.	98 Ea	1370	70,866
AND SAMI	PLING EQUIP	13	l-foot acctate si					Fence A	ed Sewer	Line		
			liscaete Samplin	2 JAL	9. SURF	ACE ELEVATION	۱:	058.03	2			
		—									PLETED	
							0/18/20	00			1200	D
. Overbu	IRDEN THICK	NESS NESS	}				H GROUNDWA					
. DEPTH D	DRILLED INTO	ROCK	,			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED						
. TOTAL D	EPTH OF HO	H2.0 141	feet			17. OTH		_	ASUREMENTS (SPI	ECIFY)		
GEOTEC	HNICAL SAN		DISTURBED NA	1	INDISTURBED			BER OF CORE BOXES				
_		IICAL ANALYSIS	VOC	METALS		OTHER (SPECIFY)		-	THER (SPECIFY)	OTHER (SPECIFY)		21. TOTAL COR
In site	e Anal	ytical	PCE, TCE, DCE	^	I D	NA		NA		NA		RECOVERY
. DISPOSIT	TION OF HOL	E	BACKFILLED	MONITORING WELL		OTHER (SPECIFY)		23. SIGNATURE OF IN		NSPECTOR		·
			Bentenite	NA		NA		u	Valter B	3. McClendo		
LEV.	DEPTH b	Di	ESCRIPTION OF MATERIALS	-		CREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	-	REMARKS
	7 2 3 4 5 6 7 8 9										ט.י	screte
	m = = = = = = = = = = = = = = = = = = =	P	ROJECT USFROU					257		HOLE NO.		FZB

		HTW DRILL					HOLE NO. DCF 28
NECT	USF	ROCFA 25724	ISPECTOR WOLF	er B. Mc	cuendon	·	SHEET Z OF Z SHEETS
LEV. a	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS
,	<i>"</i>	SAND, 7.5 YN 5/4, light beown, day, fine to medium grained, well souted, rounded to subargume; guartz, Feldspar	0				Discoule sample Interval
	12	e e e e e e e e e e e e e e e e e e e					
	3-		0				End
	14		0.7	NA	4/4 551	NA	Time= 1180
		Bottom of Hole - logged					70=14.0 feet (logged)
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		Bottom of Hole	·				TD= 42.0 feet
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		PROJECT				HOLE NO.	

MRK JUN 89 55-2

USFR OCFA

25724

OCF 28

	COMPANY NAME BURAS & McPoraell						IG	LO	G				HOLE	NO. CF 29	7
1. COMPA) 0	- 4 11		2. DRIL	LING S	SUBCONTI	RACTOR	h- h	ng bolut		SHEE	Γ1	ヿ
PROJEC		s 4 ///CF	יסטי	1611		L		4. LOCAT		140 Di	ng bour	, ,,	10+ 2	SHEETS	\dashv
		SFR DU	FA		2577	14			-	9 H	DRIL BA	eal Fence	and S	wee Line	
5. NAME C	OF DRILLER	DAN	ı								ATION OF DRILL be GH-	40 -			
7. SIZES A	ND TYPES O			4-foot macres	ne Sa	mole	e				191884.9		a7 02	70.97	┨
AND SA	MPLING EQU	IPMENT		-foot Acetaic							To feet em				╝
			0:	screte Samplin	5 Int	erua j	'	9. SURFA	CE ELEVATIÓ	N	U050	\sim 1			
			 				-	10 DATE	STARTED		1059,	11. DATE COMPLETED			\dashv
									118/2	<i>000</i>			12000)	
12. OVERE	BURDEN THIC	KNESS		NA				15. DEPT	H GROUNDW	ATER EI	NCOUNTERED			4	
13. DEPTH	I DRILLED INT	TO ROCK		· · · · · · · · · · · · · · · · · · ·				16. DEPT		AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		┨
14. TOTAL	DEPTH OF H	HOLE	<u></u>	NA W feet	<u> </u>			17. OTHE		VEL ME	ASUREMENTS (SP	ECIFY)	· · · · · ·		\dashv
18. GEOTE	ECHNICAL SA			DISTURBED	<u> </u>	UNDISTUR		19			F CORE BOXES				\dashv
00.000	NA		010	NA NO		NA	}		N1			1			
		EMICAL ANALY Ply tiza (SIS	PCE, TCE, OCE		ETALS	\dashv	OTHER (SPECIFY)		+-0	THER (SPECIFY)	OTHER (S		21. TOTAL COR RECOVERY	
					~		_	OTHER (SPECIEV)		_	NA	<u>~</u>	A	NA %	_
22. DISPO	DISPOSITION OF HOLE			BACKFILLED	MONITO	MONITORING WELL		OTHER (SPECIFY)		1	SIGNATURE OF IN				
				Bentonite	٨	JA			A	Walter		3. MECU	endm	-	
FLEV.			CRIPTION OF MATERIALS				reening JLTS I	GEOTECH S OR CORE B e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h			
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			PR	OJECT					<u> </u>			HOLE NO.		▼	上
ивк "	ORM 55		1	ISFR DOFA					23	572	4 .		OCFZ9	>	

OJECT	USFR I	OCFA 25724	INSPECTOR	- 12 Ma			SHEET 2
· ·	1		INSPECTOR WOLF	GEOTECH SAMPLE	ANALYTICAL	BLOW	OF 2 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	RESULTS d	OR CORE BOX NO.	SAMPLE NO.	COUNTS g	REMARKS h
,	//	SAND, 7.5-Jr.5/4, light brown dry to damp, time to medium grained, well corted, rounde to subangular; Quartz, feb.	id the				Discrete bampling Interval 10/14
į	12-						
	13-		6				End Time
	14		0.5	NA	4/4 551	NA	= 1204
	, III	Bottom of Hole - O	gged				(logged)
`	ulm					•	
					·		·
					,		
		Bottom of Hole					TD=42.0 feet
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	mline						

					HTW I	DRIL	LINC) LO	G					NO. OCF 30
SPORT OF THE STATE	I. COMPA	NY NAME	BURAL	. m	c Decoral		2. DRILLIN	G SUBCONT	RACTOR	ine	Salutian	٠	SHEE	T 1
SUZES AND THESE DRIVING SUZES AND THESE DRIVING AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLES NOT COMPLETED AND SAMPLES NOT COMPLETED AND SAMPLES NOT COMPLETED AND SAMPLES NOT COMPLETED AND SAMPLES NOT COMPLETED AND SAMPLES NOT COMPLETED AND SAMPLES NOT COMPLETED AND SAMPLES NOT COMPLETED BECCHILLD BECCHILLD BECCHILLD BECCHILLD BECCHILLD BECCHILLD BECCHILLD BESCREPTION OF MATERIALS B	PROJEC	T				5)2J		4. LOCAT	TON Deen Hol	ese	Corani Fen		•	
ACCEPTION OF HOLE BENEFIT OF MATERIALS 10. DEPTH OFFICE ELEVATION 10. DEFTH OFFICE DECENTION 11. DATE COMPLETED 12. DATE COMPLETED 12. DATE COMPLETED 13. DATE COMPLETED 14. DATE COMPLETED 15. DATE COMPLETED 16. DATE COMPLETED 17. DATE COMPLETED 18. DATE COMPLETED 18. DATE COMPLETED 19. DATE COMPLETED 19. DATE	NAME C		DAN		· ·			AT	1 Geople	sobe	BH-40			
ACCEPTION OF HOLE BENEFIT OF MATERIALS 10. DEPTH OFFICE ELEVATION 10. DEFTH OFFICE DECENTION 11. DATE COMPLETED 12. DATE COMPLETED 12. DATE COMPLETED 13. DATE COMPLETED 14. DATE COMPLETED 15. DATE COMPLETED 16. DATE COMPLETED 17. DATE COMPLETED 18. DATE COMPLETED 18. DATE COMPLETED 19. DATE COMPLETED 19. DATE				4	- foot macroco - foot acetate	ne san Sleeve	yslek	8. HOLE 500	location 1 feet ca	454 454	1191900.9 of west	COPANIC	aato Bener	321.29 post
2. OVERBURDEN THICKNESS A 15. DEPTH GRALLED INTO ROCK NA 16. DEPTH OF HOLE NA 17. OTHER WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 17. OTHER WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 18. DECTECHNICAL SAMPLES DISTURBED DISTURBED DISTURBED DISTURBED DISTURBED DISTURBED DISTURBED NA NA NA NA NA NA NA NA NA N				di	scaete Samplin	s Znte	evA)			v				
DEPTH OF HOLE DISTURBED DISTURB			_							00				ט'ל
TOTAL DEPTH OF HOLE TOTAL MARKEN OF CORRESON TOTAL COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF CORRESON TOTAL COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF HOLE TOTAL MARKEN OF COLORS TOTAL DEPTH OF COLORS TOTAL DEPTH OF COLORS TOTAL	. OVERE	BURDEN THIC	KNESS	NA			,			TER EI	NCOUNTERED			
GEOTECHNICAL SAMPLES NA NA SAMPLES FOR CHEMICAL ANALYSIS VOC METALS OTHER (SPECIFY)	. DEPTH	i drilled int	TO ROCK	NA				16. DEPT	H TO WATER	AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED	<u> </u>
NA NA NA NA NA NA NA NA NA NA NA NA NA N	. TOTAL	DEPTH OF H	104.0	yak	feet			17. OTHE	7. OTHER WATER LEVEL MEASUREMEN		ASUREMENTS (SP	ECIFY)		
PRESIDENCE ANALYTICAL RESTREAMS BACKFILLED MONITORING WELL OTHER (SPECIFY) Bentanite NA NA NA NA NA NA NA NA NA NA NA NA NA	GEOTE		MPLES			U					F CORE BOXES			
DESCRIPTION OF HOLE BACKFILLED BACKFILLE	_	ES FOR CHE		YSIS				†	(SPECIFY)	_				21. TOTAL COP
Bentanite NA NA WALL B. McClendon ELEV. B DESCRIPTION OF MATERIALS FIELD SCREENING RESULTS OR CORE BOX NO. SAMPLE NO. COUNTS IN TIME = 1410 Discrete Sampling The Adams of Core Box no. Sample no. Counts of the country of the coun	••)	1	
ELEV. BEPTH BESCRIPTION OF MATERIALS RESULTS OR CORE BOX NO. SAMPLE NO. COUNTS PARAT Time = 1410 J. J. J. J. J. J. J. J. J. J. J. J. J. J					-		1		1		_	lend	m	
= 1410 Discrete Sampling Interval		4		DES	CRIPTION OF MATERIALS			SULTS	OR CORE BO		SAMPLE NO.	COUNTS		REMARKS h
Discrete Sampling Interval 5									·					
2—3 3—4—5 5—7 8—7 9—7		,						<i>t</i>						
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RK JUN 89 55 PROJECT USFR OCFA Z 5724 HOLE NO. OCF 30		,,,		PR								HOLE NO.	<u> </u>	*

			HTW DF		···	G			HOLE NO. OCF 30	
ROJECT	USF	R DCFA	25724	IN	SPECTOR Was	tec 3. m	E Clenda	n	SHEET 2 OF 2 SHEETS	
ELEV. a	DEPTH b	DESCRIPTION	OF MATERIALS		FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO.	BLOW COUNTS g	REMARKS h	
	//	3 And, 7. Syr 5/4) fine to measum Rounded; Quari	light boown, well borted z, Feldspar	del,	0				Discrete Sampling Internel	
·	12				0					
	13				0				End Time	
	14	sit, 7.5 yr 5/4, 1.5 plaste, soft cors.			0	NA	4)LJ 55.1	NA	× 1418	
		Bottom of H	01c - 100gg	d		·			10=14feet (logged)	
5									.w. rus	
	ului									
	4	Bottom (of Hole						TD = 44.0 feet	
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	باستلب					,				(
1	FM 55-2	PROJECT						HOLE NO.		_

		HTW D	RILL	ING	LO	G		· · · · · · · · · · · · · · · · · · ·		HOLE I	10. LF 31	
1. COMPANY NAME	BURAS +	- McDonnell	2.	DRILLING	SUBCONT	RACTOR	b.'A	s solution	ns	SHEET OF 2	1 SHEETS	
ROJECT	USFROC	***************************************	25724		4. LOCAT	TON		_				7
5. NAME OF DRILLER			23.75					ATION OF DRILL	<u>pnd sew</u>	ea line		-
	DAN	111						be GH-4		00 - 31		_
7. SIZES AND TYPES O AND SAMPLING EQU		4-toot macrocoae		R				1191933.6 t of wes				
	ţ	discarte sampli	-	VA)		CE ELEVATION	1			-	740.	7
:					10 DATE	STARTED		<u>060.29</u>		COMPLETED		
					IO. DATE	10/19/2	000			/2000	-	
12. OVERBURDEN THIC	CKNESS	NA			15. DEPT	H GROUNDWA	TER EI	NCOUNTERED				
13. DEPTH DRILLED IN	TO ROCK	NA			16. DEPT	H TO WATER A	AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		
14. TOTAL DEPTH OF	HOLE 43,05°				17. OTHE		EL ME	ASUREMENTS (SF	PECIFY)			1
18. GEOTECHNICAL SA		DISTURBED		STURBED	19. TOTAL NUMI		BER OF CORE BOXES				· · · · · · · · · · · · · · · · · · ·	1
20. SAMPLES FOR CH	EMICAL ANALYS	is voc	METAI		OTHER	R (SPECIFY)	OTHER (SPECIFY)		OTHER (S	PECIFY)	21. TOTAL CORE	E
Onsite Ana	lytical	PCE, TCE, DCE	NA			NA		NA	~	A	RECOVERY %	
22. DISPOSITION OF H	OLE	BACKFILLED	MONITORING		OTHER	R (SPECIFY)	23.	SIGNATURE OF IN	ISPECTOR	<u>.</u>	••••	1
		Bantonite	NA.		NA		lι	valter.	B. McC	lendo	n	
CLEV. DEPTH	.		3.	RES	CREENING GEOTECH S ULTS OR CORE BO d e			ANALYTICAL SAMPLE NO.	BLOW COUNTS g	Ri	EMARKS h] .
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MRK FORM 55		PROJECT USFROG	5 0					25724	HOLE NO.	NES		
1411 (1 4 JUN 89 30	,	· VJFKBU	- py			•			ı	DCF 3	· ·	

ROJECT	-		HTW DRIL					HOLE NO. OCF 31 SHEET 2
TOUECI	USFA	POLFA	25724	INSPECTOR WOR	ter B. mc	Clendon		OF 2-SHEETS
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL	BLOW COUNTS g	REMARKS h
,	 	Sily Sa Drown, d Sorted, n	nd, 7.5yn 5/4, 1.5nt Af, fine BAAined, well ounded	0				Discrete sampling Interni 10/M
	12-		e en en en en en en en en en en en en en	•				
	13			•		4/4		End T:ne=0734
	14	·		0	NA	<i>5</i> S1	NA	
		ß	othom of Hole -10	også				TD= 14 feet (loagled)
			•			:		
	ساسا	Bo	How of Hole					TD=43.0 feet
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MRK JUN 89 55-2 USFRACEA

25724

PCF31

		HTW I	DRILL	ING	LO	G				HOLE	NO. OCF32	
1. COMPANY NAME	BURNS	and mcDonnell	2	DRILLING	SUBCONT	RACTOR	204	ing balo	tions	SHEE OF 2	T 1 SHEETS	
PROJECT 5. NAME OF DRILLER	USFRD Dan		25724		6. MANU	FACTURER'S D	ESIGN	CORANI 4		Leve	a line	
7. SIZES AND TYPES C	OF DRILLING	4-toot macrocon 4-toot Acetaics		oles.	8. HOLE	LOCATION	114	2 GN-40 1919 44. 1 of wes:	C4 E			
		discrete sampling	<u> </u>	•/		ACE ELEVATION	10	60.12	44 0475 004			
12. OVERBURDEN THK	CKNESS				10. DATE STARTED 11. DATE COMPLETED 10/19/2000 15. DEPTH GROUNDWATER ENCOUNTERED							
13. DEPTH DRILLED IN	TO ROCK	NA NA			16. DEPT		NATER AND ELAPSED TIME AFTER DRILLING COMPLETED					
14. TOTAL DEPTH OF	HOLE 43,0 S	Heet			17. OTH		EL ME	ASUREMENTS (SF	PECIFY)			
18. GEOTECHNICAL SA んみ	AMPLES	DISTURBED PA		DISTURBED AA	19		BER OF	CORE BOXES			,	
20. SAMPLES FOR CHI Onsite and		SIS VOC PCE, TCE, DCE	MET.		OTHER (SPECIFY)		OTHER (SPECIFY)		OTHER (SPECIFY)		21. TOTAL CORE RECOVERY %	
22. DISPOSITION OF H	OLE	BACKFILLED	MONITORIA	IG WELL	OTHER (SPECIFY)		23. SIGNATURE OF IN					
ELEV. DEPTH		Bantarite DESCRIPTION OF MATERIALS	NA	FIELD S	CREENING GEOTECH SAME OULTS OR CORE BOX		MPLE		B. Mc Clends BLOW COUNTS			
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RK JUN 89 55		PROJECT USFROCE	=A	•				25724	HOLE NO.	(F 3>	*	

		HTW DRILL	ING LO	G			HOLE NO.
PROJECT	BUR	15 And McDonnell 25774	ISPECTOR INDUST	ive Probin	ns bolu	tions	SHEET 2
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL	BLOW COUNTS g	REMARKS h
	//	Sity Sand, 7.5-yr 574, 1:8n+ brown, dry, well borted, fine grammed, rounded	0				Discrete Sampling Interval
	12		0				
	13—		0	4/4			End Time:
	14		0	<i>5</i> 51	NA	NA	0854
		Bottom of Hote - logged					70 = 14 leet (logged)
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		"Bottons of Hole		·			TD=43.0
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		PROJECT				HOLE NO.	

DCF32

			<u>.</u>	HTW I	DRIL	LIN	G LC	G			, .		E NO. DCF 33	
1. COMPAN	IY NAME	s + Me	Donn	اداا		2. DRILLIN	IG SUBCON	TRACTOR	Rob;	ns 60/Ut	ions	SHE	ET 1 Z SHEETS	
PROJECT	1 USF	=RDCF1			5724		4. LOCA	ition etween	Ho				L Seulin	
		AA	1.0.4				A	TV GA	1-41	•				
	ND TYPES O MPLING EQU			oot macaocoa		opher _	8. HOLE	LOCATION N	1419	7196212	le Ea	2704	53.49 ANCE POST	
				seale samplin		(4/4)	9. SURF	ACE ELEVATIO	N	059.09	CALLY COLL	CO	arce post	
							10. DAT	E STARTED	-0-10		11. DATE COM			
2. OVERBI	URDEN THIC	KNESS	NA	•			15. DEP			9 60 /0/19/2000 TER ENCOUNTERED				
3. DEPTH	DRILLED INT		NA				16. DEP		AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		
4. TOTAL	DEPTH OF H	10LE 42.0 3	1410	eot			17. OTH	ER WATER LEV	/EL ME	ASUREMENTS (SF	PECIFY)			
	CHNICAL SA			DISTURBED NA	1	JNDISTURBE			IBER O	F CORE BOXES				
Onsi	SAMPLES FOR CHEMICAL ANALYSIS CONSITE ANALYSIS OFFICE Lab Analy 6:5 DISPOSITION OF HOLE		t	PCE, TCL, DC2		ETALS VA	1	OTHER (SPECIFY)		THER (SPECIFY)	OTHER (SI	PECIFY)	21. TOTAL CORI RECOVERY	
	DISPOSITION OF HOLE		OF HOLE BACKFILLED MONI			MONITORING WELL		OTHER (SPECIFY)		SIGNATURE OF IN			, 1100 n	
					2					Walter			Lon	
FLEV.	DEPTH b		DESC	RIPTION OF MATERIALS			SCREENING ESULTS d	GEOTECH S OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9		REMARKS	
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	D) A		PROJ	ECT	-			<u> </u>			HOLE NO.		<u> </u>	
RK JUN	55		l	USFROCFA	3 .		•	2.5	5)24	1		cF3	7	

		HTW DRII	LING LO	G			HOLE NO.
PROJECT	USFA	DCFA 25724	INSPECTOR Wal	tu B. Mc	clendo		SHEET 2. OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d		ANALYTICAL SAMPLE NO.	BLOW COUNTS g	REMARKS h
``	//	5ily sand, 7.57×5/4, light beader, fine grained, wellsowed.	own,				
-	12-	And the second of the second o	0			·	
:	3-		0		4/4		End Time=
	N			NA	551	NA	1311
		Bottom of Note - Ogg	jed				10=14feet (logged)
	1					: -	
		Bottom of Hote					TD=42.0 feet
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	بيليب		·				
		PROJECT			,	HOLE NO.	

			HTW	DRILL	.ING	LO	G			<u>.</u> :	HOLE	NO. DCF 34			
COMPAN				[SUBCONTI					SHEE				
DDO IEC		s + Mei	Donne 11		Im	4. LOCAT	•	<u> </u>	Solutions		OF	≥_SHEETS			
PROJEC*	USF	ROCFA	2572	.4		I _		20	COMAL SO	nce and	50.00	2 Abo			
NAME O	F DRILLER								ATION OF DRILL	me and	3000	2 71-16			
	_	AN					Probe								
SIZES AI	ND TYPES OF		4-foot Acetate	sleave		8. HOLE	LOCATION N	114	191982.1	a Eas	¥0F€	97.20			
AND SAM	MPLING EQUI	PMENT	4-fort macroc		WER	700 f	ect his	m 4	ustern u	ORANI COR	nea pi	25			
		` [discrete Sample			9. SURFACE ELEVATION									
						<u> </u>	10	<u>05</u>	7.96						
						4	STARTED			11. DATE COMP					
			 			•	10/19/2			10/19	10/19/2000				
. Overb	URDEN THIC	KNESS NA				15. DEPT	H GROUNDWA √		COUNTERED	•					
. DEPTH	DRILLED INT	O ROCK			-	16. DEPT			APSED TIME AFTI	ER DRILLING COM	OMPLETED SPECIFY) 21. TOTAL CO RECOVER				
TOTAL	DEPTH OF H	OLE JOH				17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)						·			
. GEOTE	CHNICAL SAI		DISTURBED	UN	DISTURBED	19			CORE BOXES						
	<i>NA</i> ES FOR CHE	MICAL ANALYSIS	VOC	MET	NA ALS			OTHER (SPECIFY)		OTHER (SP	ECIFY)	21. TOTAL CO			
SAMPLES FOR CHEMICAL ANALYSIS PAST ANALYSIS DISPOSITION OF HOLE			PCE, TCE, OCE	NA		NA			NA	NA		RECOVERY			
DISPOSITION OF HOLE			BACKFILLED	MONITORII	NG WELL	OTHER	(SPECIFY)	23. SIGNATURE OF IN		INSPECTOR					
DISPOSITION OF HOLE			Bentanite	N	3	MA		1		B. Mi Cland		m			
LEV.	DEPTH b	-	DESCRIPTION OF MATERIALS			CREENING SULTS d	GEOTECH SA OR CORE BO e			BLOW COUNTS G	f				
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	10 7	·	PROJECT	·						HOLE NO.					

			HTW		ING LO	G			HOLE NO.	_
ROJECT	USFROCE	A	25724	IN	SPECTOR Would	u B. Mc	elender	_	SHEET > OF 2 SHEETS	
ELEV.	DEPTH b		PTION OF MATERIALS			GEOTECH SAMPLE OR CORE BOX NO.		BLOW COUNTS 9	REMARKS	
		ily sand, amp, fine c	7.54° 514, d Sanined, well	lay to Isoated	0			•	Discaete Sampling Interval 10/14	
	/2				0	·	·			
i.	13-				0.	NA	4)Y &&;	NA	End Time = H55	
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	-	Botton	v of Hol	e					TD=41.0	-
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K E	FM 55-2	PROJECT	US FR ACFA	9		257-	. u	HOLE NO.	CF34	E

			HTW D	RILL	ING	LO	G		·		HOLE	NO. Def35			
COMPA	NY NAME			2		SUBCONT					SHEE				
PROJEC		vans + me	: NOVUE !!		エハハ	4. LOCAT		175.	Solutions	·	OF a	SHEETS			
EU	-	ISFR DCFA	257	24				25C 6	espan ten	ce And s	icu cr	line			
NAME O	F DRILLER					6. MANU	FACTURER'S	DESIGNA	ATION OF DRILL						
		DAN							C CH-HO			D 2012			
	nd types of Mpling Equi		fuot macaocon foot aceroscs		<u>ur</u>										
		17-	scaple samplin		aual		CE ELEVATIO	N		-	7 701	a ros.			
			a a service de la companya de la companya de la companya de la companya de la companya de la companya de la co						1060.9	16					
						10. DATE	STARTED 10120/	/a		11. DATE COM					
OVERB	URDEN THIC	KNESS				15. DEPT	H GROUNDWA			10/3	0/200	<u>'D</u>			
012113		N	A			10. 02.	NA								
3. DEPTH	DRILLED INT	O ROCK	•			16. DEPT	H TO WATER	and el	apsed time afte	ER DRILLING CO	COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED COMPLETED				
. TOTAL	DEPTH OF H	#10 30H	feet	<u> </u>		17. OTHE	R WATER LEV	EL ME	ASUREMENTS (SP	ECIFY)					
3. GEOTE	CHNICAL SAI		DISTURBED		DISTURBED	19			CORE BOXES						
). SAMPL	ES FOR CHE	MICAL ANALYSIS	VOC	META		OTHER	R (SPECIFY)		THER (SPECIFY)	OTHER (SI	PECIFY)	21. TOTAL COR			
		shire!	PCE, TCE, DCE	N	A	,	NA		NA			RECOVERY			
_	SITION OF HO	Analysis	BACKFILLED	MONITORIN				SIGNATURE OF IN			, v, x,				
5.0.0		_				NA Walter B.			anne	n.					
			Bontonite	NA		<u> </u>		Ш,	,						
ELEV. a	4 °. I	SCRIPTION OF MATERIALS				GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS g						
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ROJECT				HTW D							· · · · · · · · · · · · · · · · · · ·	HOLE NO. OCF 35 SHEET 2
	USFRI	SCFA		25724		FIELD SCRE	olte Ening	CEOTECH SA	MDI E	lendon ANALYTICAL	BLOW	OF 2. SHEETS
ELEV. a	DEPTH b			OON OF MATERIALS		RESUL d	TS	OR CORE BO	X NO.	SAMPLE NO.	COUNTS	REMARKS h
	-	day to	CAMP, L	syn 5%, light well souted	beown, fine		B					Discaete
	//_=	SAAine	2	•				·				Interval
							_					10/14
	12	Gorde	(5-10 5/4 , 1:500			0					
] =	day to	ں وصحان	vell booted,	fine		0					•
	3-	3/40-76				,				4/4		End
	- ,,	Clases S	ilt, 7.5%	stic, soft Cons	un change	Ì	0	NA		94 551	NA	Time = 0829
	14			+ Hole -		1					1-77	70=14 fees
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RK .f	ORM 55-	-2	PROJECT	USFR DCF	-A				257	72.U	HOLE NO.	OCF 35

				HTW [DRIL	_L	ING	L()	G				HOLE	NO. LF 36			
. COMPA	NY NAME	urns +	m.^)aaa 1)		2.	DRILLING					Solution		SHEE				
. PROJEC		VK15 +	Incl			1_	LOO	9. LOC			· vae	201071 0/	<u> </u>	LOF 4	2-SHEETS			
		ROCFA		2577	24		,				عد	CORRAL F	Ence An	d sew	ee Line			
. NAME C	OF DRILLER					•		6. MAN	NUF.	ACTURER'S D	ESIGN	ATION OF DRILL						
		DAN		<u>.</u>				A	7	v ceo	PPO	be G-H-4	0					
	AND TYPES OF			ot macrocop		ose	R	8. HOL	ΕL	OCATION N	114	192038.0	O E	3970¢	69.89			
AND SA	MPLING EQUIP	PMENT		not Acetable S				250	,	feet w	<u>لاي</u>	of easte	RO CORNA	conne	r post			
			disc	este sampli	ns int	en.	PAI	9. Sur	FAC	NOTTAVELE EX	7/2	1.19						
								10 DA	TE	STARTED		1 . 1 . 1	11. DATE COM	DIETED				
										120/20	00			20/200				
2. OVERE	BURDEN THICK	KNESS		".						GROUNDWA	TER EN	COUNTERED			<u> V</u>			
-			NA						•	N)							
3. DEPTH	I DRILLED INTO		NA					16. DE	PTI	TO WATER /		apsed time aft	ER DRILLING CO	MPLETED				
4. TOTAL	DEPTH OF H	OLE JO	A,	feet			·	17. OT	HEF	R WATER LEV		ASUREMENTS (SF	PECIFY)					
3. GEOTE	GEOTECHNICAL SAMPLES NA SAMPLES FOR CHEMICAL ANALYSIS Onsite analysis			DISTURBED ~A		UNDI	STURBED	19. TOTAL NUMBER OF CORE BOXES										
		-		VOC	N	METALS		OTHER (SPECIFY)		OTHER (SPECIFY)		OTHER (S	PECIFY)	21. TOTAL CO				
				CE, TCE, DCE		NA	}		^	JA		NA	NF	}	NA %			
DISPOSITION OF HOLE		_	BACKFILLED	MONITO	MONITORING WELL		OTHER (SPECIFY)		23. SIGNATURE OF IN									
				Bantonite		JA	,		_	A		valtec	B. mcc	lend	m			
LEV.	1 - 1		DESCRIPTION OF MATERIALS			RES				GEOTECH SA OR CORE BO e			BLOW COUNTS g	F	REMARKS h			
			-											SHA				
	/二寸														= 1020			
	l d				•									Dis	icaetc aplins			
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	10					ł							·		1			
	·		PROJE	СТ		1							HOLE NO.		<u> </u>			
	ORM 55		1	USFROCE	^				2	5724				PCF :	÷1-			

		HTW DRIL					HOLE NO. DCF 34
ROJECT	USFR	OCFA 25724	INSPECTOR Was	eu B. Me	cundo	n	SHEET Z OF Z SHEETS
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL	BLOW COUNTS g	REMARKS
	//_	Sity Sand, 7.54n 5/4, lient Deawn, day, fine spained, well soated	0	·			Discoete Sampling Interval 10/14
	12		0				
	13-		0		4/4		End
	14		0	NA	55.J	NA	End Time=1035
		Bottom of Hole - logge	ed				TO=14Reet Clooged)
	1111						
		Bottom of Hole					TD= 41.0
							feet
٠	1111						
·							
	سالير						·
	باسا						
	1						
L	ORM 55-	PROJECT USFR DCFA	_1	2572	<u> </u>	HOLE NO.	XF 3/2

				HTW [RIL	LINC	a LC	G		_ _		HOLE	NO. DCF37	
1. COMPAN	NY NAME 2			0		2. DRILLIN						SHEE		7
PROJEC		unas p	100	Donne 11		7	4. LOCA		RO D	ing 301	otions_	I OF A	2 SHEETS	\dashv
_	ى	FR DC	FA	25	724		B	ztween		se coraal	and fen	ce co	ence	
5. NAME O		کمہ				-				ation of drill rabe G+1	-4O			
7. SIZES A	ND TYPES OF		4-	foot Acetate	blewe		8. HOLE	LOCATION	1000 N	4192061	- 70	1270	630.57	\dashv
	MPLING EQUI			foot macrocon						of easter				_
			dis	caete sample	ng In 1	lequal	9. SURF	ACE ELEVATIO	N I	061.19				
		•					10. DATE STARTED 11. DATE COMPLETED							\dashv
					_			10/2	0/2	000	10/	20/2	000	╛
12. OVERB	BURDEN THICK	KNESS	NA				15. DEP	TH GROUNDW	ATER EI	NCOUNTERED				1.
13. DEPTH	DRILLED INTO	O ROCK	A4				16. DEP	TH TO WATER		APSED TIME AFT	ER DRILLING CO	MPLETED	 ,	1
14. TOTAL	DEPTH OF H	OLE S		leet	•		17. OTH	ER WATER LE	/EL ME	ASUREMENTS (SP	ECIFY)		· · · · · · · · · · · · · · · · · · ·	1
18. GEOTE	GEOTECHNICAL SAMPLES NA SAMPLES FOR CHEMICAL ANALYSIS			DISTURBED	1	JNDISTURBE	D 19. TOTAL NUMBER OF CORE BOXES						\forall	
20 SAMPI			SIS	VOC	<u> </u>	ETALS	ОТИЕ	R (SPECIFY)		THER (SPECIFY)	OTHER (S	PECIEV\	21. TOTAL CORE	_
Onsi)nsite Analytical			PCE, TCE, DCE		NA		₩ A		NA.	No.		RECOVERY %	
22. DISPOS	DISPOSITION OF HOLE			BACKFILLED	MONITO	RING WELL	OTHE	OTHER (SPECIFY)		SIGNATURE OF IN	ISPECTOR			1
,				Bentonite	- N	A		NA NA			3. melend		on	
ELEV. a	DEPTH .	•	DESC	CRIPTION OF MATERIALS			SCREENING ESULTS d	GEOTECH S OR CORE B		ANALYTICAL SAMPLE NO.	BLOW COUNTS 9		REMARKS .	
-	E	-					i.						92)-	E
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	'											Di	baete	F
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			PRO	NECT						I	HOLE NO.	<u>. </u>	V	二
MRK J	ORM 55		1	USFRI	CFA			25724				DCF	37	

		HTW DRILL	ING LO	G	·		HOLE NO.	7
PROJECT .	USF	ROCFA 25724	SPECTOR Wast	er B. mcc	lendon	<u> </u>	SHEET 2 OF 2 SHEETS	7
ELEV.	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>1</i> /	5: Hy Sand, 7. 54r 5/4, day to damp, fine Gamined well souted	0				Discute Sampling Interval	
:	/z	, ,	0					
	/3—		0				End Time	E
·	4		0	NA	4/4 55 1	NA	= 1345-	E
		BoHom of Hok-log	ed				To=sufeet (loged)	
	1111	Botton of tiple					TD=40.0 feet	
			·					
					, disk is			يستليبيا
						:		
	باسب							
 1RK ♬	ORM 55-	PROJECT USFROCFA		25724	<u> </u>	HOLE NO.	DCF 37	

			HTW	DRIL	LINC	à LO	G					E NO. PCF38
1. COMPAI	NY NAME	_			2. DRILLIN	G SUBCONT	RACTOR	•			SHE	
	<u> </u>	vens t	mcDomell		I.			~:de	is bolution	ላደ	OF	≥ SHEETS
3. PROJEC	T			25724		4. LOCA				.	_	
- NAME 0		SFADU	-14	23729					e correct F ATION OF DRILL	ence And	Scure	د اندر
. NAME U)F DRILLER	Bret	-						shon of units be GH-4	0		
SIZES A	ND TYPES O		4-foot macrou	000 600	mileo				1192036.		OFEC	5.79.10=L
	MPLING EQU		4-foot Acetale									ner post
			Discrete Sampl				ACE ELEVATION					
				. •					100	08.00		
					10. DATE STARTED 11. DATE							
			l		10/23/2000 10							00
2. OVERE	BURDEN THIC		IR ·			15. DEP1	TH GROUNDWA		NCOUNTERED	•		
A DEBTI	, DD:: 1 CD (1)					40 050	NA		40000 THE 400	FO DON LINO 00		
3. DEPIH	i drilled int	O HOCK	'A			16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING					MPLETED	
14. TOTAL	DEPTH OF H	10LE 11.5 <i>J</i> 4	feet			17. OTH	ER WATER LEV	EL ME	ASUREMENTS (SP	ECIFY)		
18. GEOTE	ECHNICAL SA		DISTURBED	U	INDISTURBE	D 19	19. TOTAL NUM		F CORE BOXES			
O SAMPI		MICAL ANALY		144	TALS	OTHER (SPECIFY)		, 	THER (SPECIFY)	OTHER (SPECIFY)		21. TOTAL COR
	SAMPLES FOR CHEMICAL ANALYSIS VOC 151te Analytical RCE, TCE, DCE											RECOVERY
		,	.55, .55, .56	N	p)A		NA	NA		NA %
2. DISPO	SITION OF HO	DLE	BACKFILLED	MONITO	MONITORING WELL		OTHER (SPECIFY)		SIGNATURE OF IN	NSPECTOR		
			Bentanite	~	A	^	NA		Vaeter i	B. Mccuendo		~
ELEV.	EV. DEPTH DE	DESCRIPTION OF MATERIAL	s		SCREENING SULTS d	GEOTECH SA OR CORE BO e	MPLE X NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS		REMARKS	
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	ORM		PROJECT USFRO	F.0						HOLE NO.		
1HK ji	ORM 55		1 USEK UC	アイナ			257	2 2/	4	- 1 ()CF38	

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			HTW DRI			G	· · · · · · · · · · · · · · · · · · ·		HOLE NO.	
ROJECT	ν .	SFR OLFA	25724	ins	PECTOR Wast	u B. my	clando	بر. 	SHEET 2 OF 3-SHEETS	٦
ELEV.	DEPTH b	DESCRIPTION	ON OF MATERIALS			GEOTECH SAMPLE OR CORE BOX NO. e		BLOW COUNTS	REMARKS h	
	//	Silt, 7.5 yr 5, mod plassic,	lu, baown, day, soft consisten	ey	6				Disenete Sample Interval 10114	
	12		entra en la companya de la companya		0	,				
	13	Sand, 7.54r 5/4 i damp fine Gram	lisht brown, dry ed, well souted	40	0	NA	4/L) &S)	NA	End Time = 1545	,
			of Hole—le		d				70=14 feet Clagged)	
		· · · · · · · · · · · · · · · · · · ·		·		·		. :		
			,				•			
		Battom	of Hole						TD=41.5 feet	7
-										
		•			·					
	mlim							·		
RK 50	ORM 55-	PROJECT 2	US FR DE	Δ.		25724	1	HOLE NO.	CF 38	

	**			HTW	DRIL	LING	i LO	G		·			NO. CF 3 9	7
1. COMPA		+ mck	ر مرود	e 1)	-	2. DRILLING	SUBCONT	RACTOR	ob:	ns Solut	ions	SHEE	T 1 2 SHEETS	1
PROJEC	CT				5724		4. LOCA	TION						1
5. NAME (OF DRILLER	-raufi	7		3709	<u> </u>				CORARI &	CALL ASAG	sewer	e me	\dashv
		BR					A.	TV- Ge	OPE	obe GH	-HD	7 -		4
	and types o Ampling Equ		4.4	not macroco not Acetale	ne 590	noter	8. HOLE	LOCATION V	ン P	4142084 of Castel	.82 E	CARAC	0660.23	
				nete sample				ACE ELEVATION						1
	٠		<u> </u>		·		10 047	STARTED		106		DI CTED	· · · · · · · · · · · · · · · · · · ·	4
								0/24/	200	20	11. DATE COM	4/2 <i>00</i>	λ	ı
12. OVERI	BURDEN THIC	KNESS		NA ·			15. DEP	TH GROUNDWA	TER E	NCOUNTERED				7
13. DEPTH	DRILLED INT	O ROCK		NA			16. DEP		AND EL	APSED TIME AFT	TER DRILLING CO	MPLETED		
14. TOTAL	GEOTECHNICAL SAMPLES NA SAMPLES FOR CHEMICAL ANALYSIS			4 feet		-	17. OTH		EL ME	ASUREMENTS (S	PECIFY)			
18. GEOTI	GEOTECHNICAL SAMPLES			DISTURBED	U	INDISTURBED			BER OF CORE BOXES					1
				, voc	ME	TALS	OTHE	R (SPECIFY)	0	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	Ē
Unsi	te m	4N/FICA	' <i>'</i>	KE, TEL, ALL	r	A	,	JA		NA	\ \nabla	A	RECOVERY %	
22. DISPO	SITION OF H	DLE		BACKFILLED	MONITOR	RING WELL	OTHE	R (SPECIFY)	23.	SIGNATURE OF IN	SPECTOR	T		1
	· · · · · · · · · · · · · · · · · · ·			Bentonite	2	A	<u> </u>	JA		Valter	B. ME	Clenc	lon	
~LEV. a	DEPTH b		DESCR	IPTION OF MATERIALS		RES	CREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9		REMARKS h	
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ADIZ FO	ORM ==		PROJE								HOLE NO.	0	Ċ	
ALL YOU	ORM 55		1	USFR DU	-4					25724	I (OCF 3	7	

		HTW DRILL		G			HOLE NO.
ROJECT	USF	FROCFA 25724 INC	SPECTOR Walte	L B. M=	Clendo	n	SHEET 2 OF 2. SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9	REMARKS h
	// = = = = = = = = = = = = = = = = = =	Sandy Silt, 7.54, 154, 1564 Daown, dry, trace plattic, Soft Consistency	0				Discaete Sampling Interval
	12		0				
	13-	Sand To Joseph Association	6		4/4		End Time = 0745
	14	fine grained, was so reted, Rounded to prounded	0	NA	44 551	JA	
		BoHom of Hole - lagge	.				To=14 feet (loogyed)
	-						
	-						
		Bottom of Hole					TO = 40.0 feet
	<u></u>						
		· · · · · · · · · · · · · · · · · · ·			241		
					·.		
	ORM 55	PROJECT USFR OCFA			72.H	HOLE NO.	DCF 39

			HTW [DRILL	ING	LO	G			<u>, , , ,</u>	HOLE	NO. OCF40	7
1. COMPA		s And	McDonne I)	2.	DRILLING	SUBCONT	RACTOR	bin	s Sobti	901	SHEE	T 1 Z SHEETS	1
PROJEC	CT	-		25724		4. LOCAT	TON						1
5. NAME (OF DRILLER	FR DCF	- - ()	23 /24	1	6. MANU	FACTURER'S D	POR.	ATION OF DRILL	1 fence a	nd se	wer line	┨
		Brett				A	TV bee	بمورو	obe G-H-				╛
	and types oi Impling Equi		4-foot macroca						192109.8 H Flace			24.60°	
		- 1	disacte sample				CE ELEVATION	4					1
		ŀ	and a sequence of the second s	· · ·		10 DATE	STARTED	105	57.01	11. DATE COM	PI FTFN		-
							10/24/				5/2000	<u> </u>	
12. OVERI	Burden Thic	KNESS NA				15. DEPT	H GROUNDWA	TER EI JA	NCOUNTERED				
13. DEPTI	I DRILLED INT					16. DEPT		AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		1
14. TOTAL	DEPTH OF H	1015 Pr	et			17. OTHE		EL ME	ASUREMENTS (SF	PECIFY)			1
	ECHNICAL SA		DISTURBED		ISTURBED	19		BER OI	F CORE BOXES			· · · · · · · · · · · · · · · · · · ·	1
20. SAMP	SAMPLES FOR CHEMICAL ANALYSIS ONS ITE ANALYSIS FIRE LAB ANALYSIS			META	LS	OTHER	(SPECIFY)		THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	1
	faite Lab Analysis		ACE, TLE, OCE	NA	•		NA	NA		N	A	RECOVERY %	İ
	DISPOSITION OF HOLE		BACKFILLED	MONITORING	3 WELL	OTHER	(SPECIFY)	23. SIGNATURE OF INS		ISPECTOR	·	·	1
	- - - - - - - - - - 		Bentanite	NA	•	^	IA	Walter		B. ME	elen	dor	
ELEV. a	DEPTH b		DESCRIPTION OF MATERIALS		RES	CREENING SULTS d	GEOTECH SA OR CORE BO e			BLOW COUNTS	F	REMARKS]
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	, =					:					Time	C090 = 2	F
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ADIZ F	ORM FF		PROJECT							HOLE NO.			
MHKj	ORM 55		USFRA	LFA.			•	2	25724	1 6	CE 41	1	

			HTW DRI						HOLE NO.
JECT	USF	RDUFA	25724	INSP	ECTOR Wast	LOCATION AND IS	clendo	~	SHEET ≥ OF ≥ SHEETS
EV.	DEPTH b		ON OF MATERIALS	'	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	I ANALTHUAL	BLOW COUNTS g	REMARKS h
	//	Silty Sand, 7.s day to damp, f Soæted	yr 574, Light de	houn,	0				Discett Sample Intuvel 10/14
	12_=				0				
	13 = =	·		:	0		uky		End = 09 ey
	14_=				. 6	NA	ريح	NA	·
	,	Bottom of	Hole - 100	yich					To=14 teet (logged)
			•						
	.		•						. •
			<u></u>						
		Botto MO	6 Hole						TD=41.0 fect
		·							
									: '
									.:.
	ORM 55	PROJECT	11SFR OCFA			<u>.</u>	25724	HOLE NO.	KF4D

			HTW [RILLI	NG L	OG		·		HOLE	NO. CF4)	
1. COMPA			4	2. D	RILLING SUBC		. /- >	6.1.45.		SHEET		1
 ∂ROJEC		urns pa	d McDonnell			CATION	איייפונ	ح : این اوک	<u> </u>	I UF Z	- SHEETS	-
<u> </u>		FR DCF	A 2	5724			fa	DANAI CA.	stean fe	ne u	nence.	_]
5. NAME O	F DRILLER	Be	ett				eopu	ohe GH-			,	
	ND TYPES OF MPLING EQUI	<u> </u>	4- foot macro con		8. H	DLE LOCATION	7141	92134,2	IL Eas	FOF 6	45.69	
AND SAI		<u></u>	4 foot acetate. Liscute sample			IRFACE ELEVATI	ON	of corna 1059,5		, rence	. coiner	1
					10. [DATE STARTED		· · · · · · · · · · · · · · · · · · ·	11. DATE COMP			1
12. OVERB	BURDEN THIC			4"	15. [10/25/2 DEPTH GROUNDY	VATER EI	NCOUNTERED	10/25	12000		-
13. DEPTH	DRILLED INT	O ROCK		•	16. [R AND EL	APSED TIME AFT	ER DRILLING COI	MPLETED		\dashv
14. TOTAL	DEPTH OF H	OLE H		· · · · · · · · · · · · · · · · · · ·	17. (VEL ME	ASUREMENTS (SF	PECIFY)			1
18. GEOTE	CHNICAL SAI		DISTURBED	UNDIST		19. TOTAL NU	MBER O	F CORE BOXES				-
		MICAL ANALYSI		METALS	0	HER (SPECIFY)	₩ °	THER (SPECIFY)	OTHER (SI	PECIFY)	21. TOTAL CORE	E
DAST	e Ana	441CA1	ACE, TCE, ACE	NA		NA		NA	NA		~RECOVERY %	
22. DISPOS	SITION OF HO	DLE	BACKFILLED	MONITORING V	VELL 0	HER (SPECIFY)	_	SIGNATURE OF IN		land i		
-			Bentonite	~A	TIELD SCREEN	<u>. </u>		ANALYTICAL	B. Mcclend			4
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS c		RESULTS d	OR CORE I		SAMPLE NO.	COUNTS	F	REMARKS h	
	Ξ					7				SHAR	4= 0937	E
	<i> </i>						•			Dis	cute rple	
											mple Heaval	E
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MRK .fi	ORM 55		PROJECT USFR DC	FA		I	2	5724	HOLE NO.	CF4	Z. ·	·F

			HTW DRILL	ING LO	G			HOLE NO.]
PROJECT	ین	SFROCFA	25724	ISPECTOR	u B. me	ceend	Pm	SHEET ZOF ZOHEETS	1
ELEV.	DEPTH b	•	OF MATERIALS		GEOTECH SAMPLE OR CORE BOX NO. e		BLOW COUNTS 9	REMARKS h	1
	 -	Silt, 7.5-1 5/4 dry to damp, Soft consisten	,lisht brown, troce plastic cy	0				Discrett Sample Interval 10/14	
	12			0			·	End Tink = 1000	
	14			0	NA	10/14 55 I	NA		E
	11111111	Bottom of	Hole - 100ggsd	-				T0=14 feet (100gged)	
		+ . + +				÷.		•	
		Bottom o	6 Hole					TD=43.0 feet	
							·		
MRK 5	ORM 55-	PROJECT	ISFR DUFFA	1	2.5	724	HOLE NO.	DcF41	

	,			HTW [DRII	LL	ING	LO	G		<u>-</u> .			NO. 0cF42	7
1. COMPA	NY NAME						DRILLING	SUBCONT	RACTOR	ما ا		<u> </u>	SHEE	T 1	1
'ROJEC		iruz 4	<u> </u>	1c Donnell			10.	4. LOCAT		OD!	ns Soluti	امر	OF	2-SHEETS	\dashv
		FROG	FA	25	724			EAST	t of ea		en copea	1 Fence	CORNE	R	
5. NAME C	OF DRILLER	Bre	+}-								ATION OF DRILL Lohe G-H	-40			
	ND TYPES OF			-foot macrou			IOR	8. HOLE	LOCATION N	<u> </u>	192159,0	14 E 6	707 GS	10.08-	7
AND SA	MPLING EQUI	IPMENI		foot pretate Scute Sample			u u	ľ	FECT (t ot each	stern co	ALAI 1	fene coance	닉
,				- Description		-100	***				06099				
			_						STARTED ロノンケノン	.0 .0 7		11. DATE COM		۸	
12. OVERE	BURDEN THIC	KNESS	N	<u> </u>					H GROUNDWA	TER E		, , , , ,	-/200	<u> </u>	1
13. DEPTH	DRILLED INT	O ROCK	7			•		16. DEPT	H TO WATER	and El	APSED TIME AFTI	ER DRILLING CO	MPLETED		
14. TOTAL	. DEPTH OF H	IOLE 120		feer				17. OTHE	R WATER LEV	EL ME	ASUREMENTS (SP	ECIFY)			
18. GEOTI	ECHNICAL SA		<i>~ (</i>	DISTURBED	,		STURBED	19		ABER OF CORE BOXES					1
	SAMPLES FOR CHEMICAL ANALYSIS CASITE PARALYTICAL			voc		METAL		OTHER (SPECIFY)			THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR	티
Onsi				ACE, TCE, DCE		2	}		NA		NA	NA		RECOVERY %	
22. DISPO	DISPOSITION OF HOLE			BACKFILLED	MONIT	ORING	WELL	OTHER	(SPECIFY)	23. SIGNATURE OF INS		SPECTOR			1
				Bentonite		NA		Na		1	valter	B. MECLEN		don	
 □ CLEV. a	DEPTH b		DES	CRIPTION OF MATERIALS			RES	CREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9		REMARKS h	
1	_												SHOR		E
	, =			•				.*					Tim	2=1105	
													Oi.	e=1105 wetc mpling	E
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l	8														
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	9_														E_
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·	10		PR	DJECT								HOLE NO.	•	•	F
MRK J	ORM 55			1)SFRDU	FA		÷			25	724	THE NO.	OCF4	2	

ECT -		HTW DRILL					SHEET 2
	USF	RPCFA "	Walt	er B. McC	lendo	<u> </u>	OF 2-SHEETS
v.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS q	REMARKS h
)	Sitty clay, 7.5tr 574, brown, dry medium plastic medium cunsistency	0		·		Discrete Sample Interval
	12	5; H. 7.5 yr 574 light brown,	•				
	13	Sitt, 7.54r 574, light brown, dry to clamp, trace plastic, poft Consistency: with sand, fine grained, well sorted	0		est.		End
	14_		0	NA	4/4 55,	NA	Time=1115
	-7	C. 11- and 11-12-1-					
		Bottom of Hole -100gg		·		·	70=14 feet (10gged)
				·			
					:		
	· · -	Bottom of Hole					TD=43.0 feet
	-	÷					
							•
	-						
		·					

	, , , , , , , , , , , , , , , , , , , 		HTW [RILL	ING LO)G				HOLE	NO. FBIDO	
1. COMPA	NY NAME	rns & Mc	Downell	2.	DRILLING SUBCOI	ITRACTOR	<u> </u>	Priority	Servic	SHEE	Ť 1	
PROJEC	T			<u> </u>	4. LOC	ATION		•		_	_	1.
5. NAME (OF DRILLER	FROCE	A 2572	4	6. MAN	mer Ly iufacturer's d	<u>CL6</u> ESIGNA	TION OF BALL	acility	Buil	ding Loca	#10
	Pa	t Marti	n		<u> </u>	ruck-mo	un:	ted Ger	oprobe	GH	-40	4
	IND TYPES O IMPLING EQU	F DRILLING 4:	foot aceta	care sa Le siee	imple 8. HOL	e location 14 19 294	7.3	1 EZ	26715	3.88	•	
		Ċ	entinuous			FACE ELEVATION	l					1
					10. DA	<u>/085.</u> Te started ,	<u> </u>	· [.	11. DATE COM	PĻETED	· · · · · · · · · · · · · · · · · · ·	┨
40.00/50	DUDDEN THE	MAIFOO			15 05	12/08/2 PTH GROUNDWA			12/08	/200	0	-
12. OVERI	BURDEN THIC	9.0°			15. DE	VA A	IER EN	COUNTERED				
13. DEPTH	i drilled in	0.0 °			16. DE	PTH TO WATER A	AND ELA	APSED TIME AFTE	ER DRILLING CO	MPLETED		
14. TOTAL	DEPTH OF I	IOLE		· · · · · · · · · · · · · · · · · · ·	17. OT	HER WATER LEV	EL MEA	SUREMENTS (SP	ECIFY)			1
18 GEOT	ECHNICAL SA	9.0'	DISTURBED	UND	STURBED I	19. TOTAL NUMI	BER OF	CORE BOXES		 	···	1
			NA	1	VA	NA			· · · · · · · · · · · · · · · · · · ·		1	-
20. SAMP	LES FOR CHE	EMICAL ANALYSIS	VOC	METAL		ER (SPECIFY)	ОТІ	HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE RECOVERY	
		nalytical	PCE, TCE, DCE	N		NA	00.0	NA	NA	'	NA %	-
22. DISPO	SITION OF H	ULE	BACKFILLED	MONITORING		ER (SPECIFY)	23. 8	IGNATURE OF IN	Kidw	.11		
		<u> </u>	Bentonite	NA	FIELD SCREENIN	G GEOTECH SA	MPLE	ANALYTICAL	BLOW			4
ELEV.	DEPTH b	DES	SCRIPTION OF MATERIALS C	,	RESULTS d	OR CORE BO		SAMPLE NO.	COUNTS 9		REMARKS .	
	=	S. It and c	day: aark bre-	11 7.54R3						Start	time 0731	E
	, _=	damp, m	ledium plas	ticity,	C. C							þ
		medium	consistency								-	F
	2 =				0.0							E
	\ <u></u>	Silt: light	bicion 7.5y	R6/3	0.0							E
	3 -	ary, no	iplastic, so	11	0.0				٠			E
	=				A)			,		ľ	4	þ
	L, _=				0.0	3/4		SSI	7735	3516	3/4)	E
	' =	l	t very fine						-			E
	5 —		: WM 7.5YR 43		C.D			·				E
			inplastic, si									Ė
	φ <u> </u>	medium	consistenc	у	0.0		İ					上
	=					ľ		·				E
•	17 —				0.0			,				<u> </u>
:	=											F
	g —		·		0. V	4/4		SSZ	0.739			E
	=				c.0	1/4	<u> </u>		الأنف العماسيون		3 (3/9)	F
	9 -				- · · ·	/ 3	4	553	0744		time	
	10 =	Betlom o	thole							VIL=	9.6'bgs DRY	Ė
		l PR	OJECT			1	1		HOLE NO.	Refus	at in shale	<u> </u>
MRK 5	ORM 55	.	USFR	DCF	Д				1	CFR	100	

			HTW [ORILL	ING	LO	G					NO.
1. COMPA	NY NAME	msl M	Donnell	2.		SUBCONTI		P	Ç.	art an	SHEE	
3. PROJEC	ا د				En	4. LOCAT	ION	Prievity				
5 11415		FRDCFA	25.72	4		Form	er Dry	Cleani	ng (-acility	Buil	ding Lea
5. NAME (OF DRILLER Pa	+ Marti	n					nted G				9
	AND TYPES O	F DRILLING	-for macroco	re Samp	ler	8. HOLE	OCATION				0.0	
ANU SA	MPLING EQU		-fort acrtate	Sleevi	<u>e</u>		CE ELEVATION	.39 £	: 2	26 1 164	187	_
			CHI THE CK .3				1085	75				
		-	·			10. DATE	STARTED CS/2	000	1.	11. DATE COM 12./08.		`
12. OVERI	BURDEN THIC							TER ENCOUNTER	ED	<u> (Z/Ca)</u>		
12 DEDT	T DRILLED IN			-#1	•		A TO WATER A	AND ELAPSED TIM	E AETE	P DRILLING CO	MDIETED	
13. DEPTI	C.	0'			-		A	AND ELAPSED TIM	IL AFIE	n Drilling CO	MPLETED	
14. TOTAL	L DEPTH OF H	HOLE か					R WATER LEVE	EL MEASUREMEN	its (spe	CIFY)		
18. GEOTI	ECHNICAL SA	MPLES	DISTURBED	UND	ISTURBED			BER OF CORE BO	XES	<u></u>	· · ·	
	150 50D 010	EMICAL ANALYSIS	NA		<u>A</u>		NA					T.,
			VOC	META	4		(SPECIFY)	OTHER (SPE		OTHER (S	PECIFY)	21. TOTAL COR RECOVERY
	te Anal	nfirmation lytical	PCE TCEDCE BACKFILLED				VA.	N/A		NA		NA %
22. 01370	SHON OF H	JLE		MONITORING			(SPECIFY)	23. SIGNATURI			e p	
	T	· · · · · · · · · · · · · · · · · · ·	<u> Bêntonité</u>	NA		CREENING	GEOTECH SA			Kidwel	√ 1	
ELEV.	DEPTH b		ESCRIPTION OF MATERIALS C		RES	SULTS d	OR CORE BO			BLOW COUNTS 9		REMARKS h
	=	Silt and	clay: dark bro nedium plast	wn75YR	٤,						Start	time 075
	, <u> </u>	damp. v	nedium plast	icity,	€.	0						
	=	Medicir	to stiff a	nsistency	0.	C						
	2 =				0	.O						
	7					•						
	3				0.	C		i i				
	4_=						3/4	SS	,	0758	85	(3/4)
	' =											
	5		sand, trace c		C.	0						
			11/1 7.5 YR 6/3		U.	0						
	6-	non plas	itic, soft co	iis isten	y 0							
	=				"	V						
,	7 -					0						
	=				0.	V	, , <i>1</i> .	95	ر ا		<u>5</u> \$32	. (7/8)*
	8-				<u> </u>		4/4	در	4	0303	_	time
		Bettom	of hole			;						salin
·	19 -	i									Shal	e :8.0'bgs
	= =			:							-	: DRY
	<i>VL</i> =	P	ROJECT							HOLE NO.		
MRK J	ORM 55	. [MSFR	DLFA							CFB	ROOA

	HIW	DRILL	ING	LO	G		•		HOLE	LFB 101	
COMPANY NAME BURNS +	me One at the	2.	DRILLING S	SUBCONTE	ACTOR	Pa.	neity se	Quica.	SHEE	T 1	
B. PROJECT	ITCHOMETT			4. LOCAT		1 12.0	irity se	z vi ce	Į OF 4	SHEETS	
USFZOCFA	ı	25724				CF.	building	location			
5. NAME OF DRILLER							TION OF DRILL				
	d Paul						PEOPPOBL		101 (26	
	-fuot maceocoae -fuot acetate si		,					EZZLOT nention,			
	libeacle sampling		9/	O CLIDEA	OF FLOVATION			JUTTON ,	O E I G	PUI-1 101	
					1085.7	154	oUH				
				10. DATE	STARTED			11. DATE COMP			
0.0000000000000000000000000000000000000		·			02/2000			/d/QZ/:	2000	****	
2. OVERBURDEN THICKNESS	14.4		l	15. DEPTI	H GROUNDWAT NA	TER EN	COUNTERED			-,	
3. DEPTH DRILLED INTO ROCK	1.8			16. DEPTI		ND EL	APSED TIME AFT	ER DRILLING COM	/PLETED		
4. TOTAL DEPTH OF HOLE	16.2			17. OTHE		EL MÉA	SUREMENTS (SP	ECIFY)			
8. GEOTECHNICAL SAMPLES	DISTURBED ~A		isturbed NA	19	• •		CORE BOXES				
20. SAMPLES FOR CHEMICAL ANALYSIS	voc				(SPECIFY)	OTHER (SPECIFY)		OTHER (SF	ECIFY)	21. TOTAL COR	
Onsite Analytical	PCE, TCE, OCE			Δ	NA		NA	RECOV			
OFFs:10 10th Confiemate 22. DISPOSITION OF HOLE	BACKFILLED	MONITORING	DRING WELL OT		THER (SPECIFY)		IGNATURE OF IN		, 	NH %	
and contour or note	Bentanite	NA	- +		A			B. McC	end	m	
					GEOTECH SA OR CORE BO		ANALYTICAL SAMPLE NO. RECOVERS	BLOW COUNTS		REMARKS h	
			d				recovery) , ML	5+90-	<u>"</u> }	
				,			*·			c = 0705	
1 —									Dis	crete	
				,		•					
12_3											
Ϊ́Э											
1 3					•						
3-3	0	-1. 1.	ļ							Y	
BROWN. 1	mfines, 7,54rs	M 6 HARE	ing the		,						
4-damp	regional we)// LUP 100		0							
			ľ								
5_=								I			
3-				0							
1]									•		
6				0							
1 3							4/4	0715	<u></u> .		
7 - 590	be as above			0	NA		551	NA	3/7		
'									D	i6crete	
										1	
8]	ŕ										
4]								
1 4			<u> </u>		-						
Y—-			i			- 1					
7						l				1	
9											

	,	HTW DRILL	ING LO	G			HOLE NO.
NECT	US	FROCFA 25724 IN	SPECTOR	u B. Mcc	lendon		SHEET Z OF Z. SHEETS
LEV.	DEPTH b	DESCRIPTION OF MATERIALS		GEOTECH SAMPLE OR CORE BOX NO.		BLOW COUNTS 9	REMARKS
	_						Discrete
	//				:	·	
	=			:			
	12						
	13	SANCY CAY, 7.5 Yr , 1:6h+ SACY,					
	_	damp to moist, medium phostic					
	14	fine to medium poodly contes; or Kepan	0				
	- - -	Weathered Lines time, wet closed 7.5 of Light brown, medium plastic medium to hand cons is tenif					
٠.	ام <u> </u>	midium to hand come is tenef					
	16	Whatneard Linestone, 7.54 Lish+ Bead butted Amp, thou playte had eurs. Foxs:		. 1.4	3/4		End Time = 0755-
			15 0	NA	852	0745	
	/7	Bottom of Hele					TD=16.2AeT
	18	·					
	=		,				
	19						
	20-						
	2/						
	27					•	
	23—						•
	24					·	
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	25						٠.
	26						,
	-					ľ	
	27		. !	·			•
	28	Innovers					
₹K .FΩ	ORM 55-	PROJECT 1) SFR DCFA			25724	HOLE NO.	ER 101

		HTW [ORILL	ING L	OG				1	ENO. XFB 10
1. COMPANY NAME BURAS +	McDor.	one 11		DRILLING SUBCO		?ioRi	ity beau	'ce	SHEE OF 4	ET 1 Z SHEETS
3. PROJECT USFRD		2572			CATION	CF E	Building 1	Fac : 1.4v		
5. NAME OF DRILLER				6. MA	NUFACTURER'S C	ESIGNA	TION OF DRILL			
	And I						<u>Geoppobe</u> 93015.53			17 09
SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT		nagrocore sa not acetase					eaning 13			
		caete sampli			RFACE ELEVATION	N .			ıl	
				10 D	1086. ATE STARTED	30		35.8 0		
					11/02/20			111021		
12. OVERBURDEN THICKNESS	14.4	,		15. Di	PTH GROUNDWA	ITER EN	COUNTERED			
13. DEPTH DRILLED INTO ROCK				16. DI		AND ELA	APSED TIME AFTE	R DRILLING COM	MPLETED	
14. TOTAL DEPTH OF HOLE	1.0		<u> </u>	17.0	N/A	EL MEA	CUDENSENTS (COS	CIEV		
	15.4			17. 0	NATER LEV	EL MEA	Surements (SPE	:CIFT)		
18. GEOTECHNICAL SAMPLES		DISTURBED NA		STURBED √A	19. TOTAL NUM	BER OF	CORE BOXES			
20. SAMPLES FOR CHEMICAL AN		voc	METAL		HER (SPECIFY)		HER (SPECIFY)	OTHER (SP	PECIFY)	21. TOT.
Onsite analytica.	1/1	LE, TCE, DCE V.C.	NÀ		NA		NA	וא	A	~ REC
22. DISPOSITION OF HOLE		BACKFILLED	MONITORING	WELL OTI	IER (SPECIFY)	23. S	IGNATURE OF INS	PECTOR.	,	1
•	Æ	Benjanide	NA		NA	w	acter B	. mecu	nclo	~_
ELEV. DEPTH b		IIPTION OF MATERIALS		FIELD SCREENIN RESULTS	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS		REMARKS h
/			·						Dis Sa	me C scaetc mple ntcaua
3 c/n	Of, Gand	7.57 574. QA	ak baous		 					4
4 sand	, trace 1	T.Ogr EH, AM olnesic, soft, SIU, Light bac id, well coase,	consisteny our, damp,	0.s						\
4_ sand	, trace 1	oinesic, soft, 	consisteny our, damp,						-	4
4 sand	, trace 1	oinesic, soft, 	consisteny our, damp,		7		241		· .	
4 sand	, trace 1	oinesic, soft, 	consisteny our, damp,	0.	7		4 ju	<i>0830</i>	3/7	
4 sand	, trace 1	oinesic, soft, 	consisteny our, damp,	o.;	, , , ,		· i	<i>0</i> 830	3/7	
4 sand	, trace 1	oinesic, soft, 	consisteny our, damp,	o.;	, NA		· i	<i>0830</i>	3/7	
4 sand 5	, trace 1	olacsic, solt SIU, Light bao d, well coaded	consisteny our, damp,	0.; 0.;	, NA		· i	<i>083</i> 0	3/7	\

FIELD SCREENING GE	R CORE BOX NO. SAN	HALYTICAL BLOW COUNT Tige W/4 SSZ 0837	REMARKS h
ELEV. DEPTH DESCRIPTION OF MATERIALS SAND, T.S.Y. F. S.J., BABUM, damp, fine gasined, well beated 11 12 13 13 13 13 13 15 Clay T.S.Y.S.J., Babum, wet, night Plobit, Soft watified by Westhated Limptone, wet, with Card versus, adon 15 18 18 19 19 19 19 19 19 18	OTECH SAMPLE AND SAMPLE PROPERTY OF THE PROPER	ALYTICAL BLOW MPLE NO. COUNT PCOVERY Ting 414 652 0837	REMARKS T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/11 T/15 T/11 T/1
13— 13— 13— 13— 13— 13— 13— 13— 13— 13—	NA S	414	Illus Very 6+nons 15/15.4 Colvent 0000 TO=15.4 feet End Time:
13— Clay 7.547514, engine, wet, night D.9 Placiti, Anoth consistency wet, vith 282 Leand vital, about wet, night D.9 BoHan of Hole 17— 18— 19— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 18	NA S	533 0848	11/15 Very 6+nons 15/15.4 Colvent 0000 TO=15.4 feet End Time:
Clay 7.5475/4, expun, wet, night 0.9 plosist, soft weidland Weathers Limestone, wet, with 282 15	NA S	533 0848	11/15 Very 6+nons 15/15.4 Colvent 0000 TO=15.4 feet End Time:
Clay, 7.541514, exoun, wet, night 0.9 Placing, Anoth consistency Weathared Limestanc, wet, with 282 15 SoHam of Hole 17 18 19	NA S	533 0848	11/15 Very 6+nons 15/15.4 Colvent 0000 TO=15.4 feet End Time:
Weethered Lines stand, west, with 282 15	NA S	533 0848	15/15.4 Colvent 0000 TO = 15.4 feet End Time =
17	- PA	0900	TO = 15.4 feet End Time :
18————————————————————————————————————			
20			
25		I I	
22			
23			
24			
25—			
24		,	
27		:	
PROJECT			

				HTW C	RILL	ING	LO	G				HOLE	NO. Defige A]
1. COMPA			Δ.		2.	DRILLING	SUBCONT	RACTOR	1.			SHEE	T 1	1
PROJEC		s + Ma	Oos	<u>16 </u>		En	4. LOCAT		m	ority bea	vac	OF	2 SHEETS	┨
1110020		ROCFA		257	24		FO	ine d		bwilding	location	n		
5. NAME ()F DRILLER	Dous								ATION OF DRILL	be C-H	-40		
7. SIZES A	ND TYPES O		4-4	boot acetale.	sleer		8. HOLE	LOCATION A	1141	93025.83	3 E 22	6725		1
AND SA	MPLING EQU	IPMENT		foot racrocone			-			e of bu	= 102 M	ong):	16	4
			d	iscuse comple	Znteava	<u> </u>	9. SURFA	NCE ELEVATION 1086.						
								STARTED		T	11. DATE COM			7
40. 0\/EB	NIDDEN THE	NANEGO	<u> </u>					10 2/2 00 TH GROUNDWA		ICOLINTEDED	11/02	12000		4
12. OVER	BURDEN THIC	ANESS	1	48-14.0			15. DEF1	/3	IEN EI	4COUNTERED				1
13. DEPTH	DRILLED IN	TO ROCK		3.0			16. DEP1	H TO WATER	and El	APSED TIME AFTI	ER DRILLING CO	MPLETED]
14. TOTAL	DEPTH OF I	HOLE		7.0			17. OTH		EL ME	AȘUREMENTS (SP	ECIFY)			1
18. GEOTI	ECHNICAL SA	MPLES	•	DISTURBED		ISTURBED	19	. TOTAL NUM	BER OF	CORE BOXES				1
20 SAMP	IES FOR CHE	MICAL ANALY	212	VOC I	META	JA IS	OTHE	R (SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIEVI	21. TOTAL CORE	_
	te Ana			PC2, 722, DC2		ш			<u> </u>		 		RECOVERY	1
an Dicho	SITION OF H	015		ル.C. BACKFILLED	MONITORING	2 WELL	<u> </u>	NOC.	22	Pa SIGNATURE OF IN	<u> </u>	a	NA %	4
22. DISPU	SHON OF A	ULE .					 	•	1					
	<u> </u>			Bentonite	Na		<u> </u>	GEOTECH SA		beter E		endo	<u>~</u>	-
FLEV. a	DEPTH b		DES	CRIPTION OF MATERIALS		RES	SULTS d	OR CORE BO		ANALYTICAL SAMPLE NO. REGOVERY	BLOW COUNTS		REMARKS h	
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	_ =													E
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	3-	Sand -	7.54	1-574, baown, da		 	· · · · · · · · · · · · · · · · · · ·	 				-	<u>*</u>	F
	=	line sa	a : a	ed, well souted										F
	4]			•		0.9							E
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	7_						0.9	NA	1	<i>5</i> 51	0944	3/7	•	E
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	8_=	8/8017C	70 C	H, boun, damp, med ium construction	d:um	1	1.2					552	2	F
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	L		PR	OJECT		1		1	-	L	HOLE NO.	<u>.</u>		匚
MRK J	ORM 55			USFRI	DCFA				25	724		CFIO	21	

		HTW DRILL	ING LO	G		· · · · · · · · · · · · · · · · · · ·	HOLE NO. DCF 102 A
PROJECT	USFRD	CFA 25724	NSPECTOR Walte	LB. McO	lendon		SHEET Z- OF Z-SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. RECOVERY	BLOW COUNTS	REMARKS h
	//	sond, 7.54n 574, basum, cismp, fine saained, west souted	0.5	PA	414	\$ 953	7.,
	/2 =		2.6				
	13 —] - - - - - - - - - -	Clay, 91:00 gaes, damp, medium to highly plastic, medium to Hand consistency	2.3				
		we thened comes tous with Imas odor, only	102	₩ AA	4/ 3 553	/003	563
	16	The same of the sa	153				EndT:ac=
	//————————————————————————————————————			NA	<i>५८५</i>	1010	1018
	18_	130 Hom of Hole					TA=17.0feet -
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	ORM 55.	PROJECT				HOLE NO.	

MRK JUN 89 55-2 USFROCFA

25724 OCF1024

			HTW [RILL	ING L	OG				1	E NO. XF802B
COMPA	NY NAME			2.	DRILLING SUBCO				1 -	SHE	ET 1
PROJEC		15 + Mu	Donnell	l		CATION	>1 P	pion: ty	>eauice	OF	≥ SHEETS
rnWEC		PA DCF1	a 257	24	1 .		مو٥	Clean:n	e Facili	سد:	
NAME C	F DRILLER							ATION OF DRILL	<u> </u>	-7	
		PAUL			<u> </u>	an mou	ndea	6 Geopre	be Cut	-40	
	ND TYPES OF	FDRILLING	4- foot macrocon	i sampl	8. HO	LE LOCATION /	V 141	9304z.99	7 E22	67Z6	5,26
AND SA	MPLING EQUI	IPMENT	4 host Acetate	Sleeve				st of O	CFB 182		
		•			9. SUI	RFACE ELEVATION					
		}			10.00	1086. ATE STARTED	//	· · · · · · · · · · · · · · · · · · ·	11. DATE COM	DI ETED	
		ŀ				/1/02/20	00			-/2001	b
. OVERE	BURDEN THIC	KNESS				PTH GROUNDW		NCOUNTERED			
	=		16.0			NA					
. DEPTH	DRILLED INT	O ROCK	0.4		16. DI	PTH TO WATER	AND E	LAPSED TIME AFTI	ER DRILLING CO	MPLETED	
TOTAL	DEPTH OF H	· • • •	le. 4	· · · · · · · · · · · · · · · · · · ·	17. 0	THER WATER LE	VEL ME	ASUREMENTS (SP	ECIFY)		
	ECHNICAL SA	MPLES	DISTURBED		ISTURBED PA		MBER O	F CORE BOXES			,
	·	MICAL ANALYSI		META		IER (SPECIFY)		THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR
	te Ana		PCE, TCE, DCE				† <u> </u>	NA	N		RECOVERY %
				NA		OTHER (SPECIEV) 23					%
. DISPO	SITION OF HO	DLE	BACKFILLED	MONITORING	3 WELL OTI	OTHER (SPECIFY)		SIGNATURE OF IN	SPECTOR		
_			Benton:te	N	9	NA	1	Vaeter	B. Mc	Lend	ion
ELEV.			DESCRIPTION OF MATERIALS		FIELD SCREENIN	GEOTECH S			BLOW COUNTS		REMARKS
а	b .		C	 	đ	е		Recovery	Time		h
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		dayer-	Sand, 7.51 5/4 5	han.							
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	16-7	soutey,	with concrete bits	mmi							
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			PROJECT					·	HOLE NO.	L	•
RK .	ORM 55		USFR ACF	a ,	5724					OCF 1	17 B

		HTW DI		·	G			HOLE NO. DUFBIUZB
ROJECT		USFRACEA 25724			tu B. o.	4 Cleno	lon	SHEET CF 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	REMARKS h
	<i>u</i> —	chysy sound, 7.5-yr 574, 6th Awburn, fine to counter, will fines, poonly sounded, precomment and tile	ner of _	0.5	No	4/4 562	1054	The
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1	3-			D				
	14	444		D		1/4		1/15-
	15-	some as above, 10 tile.	-	0	と数	<u> ځکځ</u>	//00	
	14	were inerect concestone, da	- -	240	NA	584	1115	End : 1124 7:06:1124
	//	Bottom of the						70=16.5
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USFR DCFA

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PCF/02B

			HTW [DRILL	ING	LO	G				HOLE	NO. XFB103
1. COMPAN	Y NAME $\mathcal{B}_{\mathcal{U}}$	IRAS+ P	ncDonne II	2.	DRILLING	SUBCONT	RACTOR	1 1	Price ity	SCRVILL	SHEE OF 2	T 1 SHEETS
PROJECT	. <u> </u>	ISFRDO	CFA 2	15724		4. LOCAT	TION r <i>mer (</i>) FACTURER'S D	ry Esign	Cleaning ATION OF DRILL	Build	ing A	
7. SIZES AN AND SAM	D TYPES OF	DRILLING	4 toot macrococc 4 toot acetate s		ن	8. HOLE FOR	LOCATION A	/14 i	193051.Z Heaning	9 EZZ	c7282	209 9
-		-				10. DATE	CE ELEVATION LOS 7 EC	5	1086.8	11. DATE COM	PLETED	<u>,</u>
2. OVERBU	JRDEN THIC	KNESS	1)			<u> </u>	H GROUNDWA	TER E	NCOUNTERED	11/03/	2000	
3. DEPTH (DRILLED INT	O ROCK	2			16. DEPT		AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED	
4. TOTAL D	DEPTH OF H	IOLE	13			17. OTHE	R WATER LEV		ASUREMENTS (SF	PECIFY)	-	
	CHNICAL SAI)	DISTURBED NA		ISTURBED		NF	}	F CORE BOXES			
.0. SAMPLE On≤;	SAMPLES FOR CHEMICAL ANALYSIS POSITION OF HOLE		PLE, TCE, DCE	META	_	<u> </u>	(SPECIFY)	OTHER (SPECIFY)		OTHER (S		21. TOTAL COR RECOVERY
2. DISPOSI			Backfilled Bentenite		G WELL	 	THER (SPECIFY)		SIGNATURE OF IN		Und	L
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS			CREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. RECEIVERY	BLOW COUNTS	.1	REMARKS
	/_	bacur, a	17, 7,570 674, sta 19mp, tnake pla medium consis il moterial, conc	teny:							SYA	nt re=0656
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	3_					0						
	4_			· - 7		0	NA		3/4 551	0¢57	551 3/4	!
	5	Sand, 7. fine ga	syn Slu brown a pined, Well Coete	d d		0			:	,		·
	6					Ŏ						
	7				Ì	O			,			
	8-1					Ō	NA		452	0701	552	
	Ť		* *			0						
	9-1	·				ව					653 Ni	
RK .FO	fm 55		PROJECT USFRDC	FA	<u> </u>		<u> </u>	20		HOLE NO.), FB	10.2

PROJECT ELEV. DEP a J/- J/2- J/3- J/4-	Wester Olive of Medical Sound,		MATERIALS Dun, on 0:57 6 02 1 ed with clay in prooffic g, shall mi with sity t,	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIPE	SHEET 2-OF 2-SHEETS REMARKS h	
a b	Westle Olive e Medur	red lines he moust your well	MATERIALS Dun, on 0:57 6 02 1 ed with clay in prooffic g, shall mi with sity t,	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 7.84	REMARKS h	
13-	Wepter Olive e Medicin weath soul	red limstone garen, medi mion wo king wed lines to more to we	with day in prooffe or, shall		NA			£.1¢/	
13-	weak,	med lines to me	me with silty	0	NA		07060	i sel	E
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		PROJECT					HOLE NO.		

			НТ	W C	RILL	ING	LO	G					NO. CFB 104	7
1. COMPA	NY NAME	BURNS	And McC	Dance	11 2.	DRILLING S	SUBCONT	RACTOR PE	ح:			SHEE	T 1 2 SHEETS	1
HOJEC	CT	FROCE		5724		. 4	4. LOCAT	ION		Cleaning	Ruilding			1
5. NAME (OF DRILLER	7704	Pa+ mi		<u>'</u>		6. MANU	ACTURER'S D	ESIGN	ATION OF DRILL				1
7. SIZES A	AND TYPES O	F DRILLING	4-foot ma		le san	plec 8		LOCATION	900	ted Geop	uobe C	7.70	-	\dashv
AND SA	MPLING EQU	IPMENT	4-foot Ace Continous		sleeve			419308.		2 EZ	267334	.52		4
			CONTINGS				9. JUNFA	1087.7			-		· .	
		,		<u> </u>		1	10. DATE	STARTED 103/20	00	•	11. DATE COMP	PLETED 1200	0	
2. OVERI	BURDEN THIC	KNESS	11.8		·	1	15. DEPT	H GROUNDWA	TER E	COUNTERED				1
3. DEPTI	1 DRILLED INT	TO ROCK	1.7			1	16. DEPT	H TO WATER A	ND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		1
4. TOTAL	L DEPTH OF H	HOLE		·		1	17. OTHE	R WATER LEVI	EL ME	ASUREMENTS (SF	PECIFY)			\dashv
	ECHNICAL SA	MDI ES	/ <i>3.5</i>	DDEN	T HIND	ISTURBED	110	NA TOTAL AUTAG	DED O	CORE BOXES				4
			~	A		NA AN	13	NOTAL NOME		CONE BOXES	··•			
20. SAMP	LES FOR CHE LAB	EMICAL ANALY	FCE, DCE	t	META			(SPECIFY)	01	HER (SPECIFY)	OTHER (SI		21. TOTAL COR RECOVERY	E
22 01900	SITION OF H	N E	BACKFIL		MONITORING	-		(SPECIFY)	22 (SIGNATURE OF IN	NA JEDECTOR	4	№	4
iz. Dioi O	ornon or th	Ju	Benton		MONTONING			JA		W.B.		ndon		
=1.EV.	DEPTH		DESCRIPTION OF M			FIELD SCF RESU	REENING PLTS	GEOTECH SA OR CORE BO	X NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS		REMARKS	1
<u>-</u>		CIAL.	strong ba	own,	damp,	d		Recove	RY	f .	Time	StA	e+	+
	, =	mediv	strong ba m plastic, stency	medi	'um'					e e		Tim	u 0730	E
	/ =	cunsi	stency											E
	2_=						0				·			F
	=	5:14.	SAND, STRE	ns b	eows,						:			F
	3_=	fine g with	pained, we	.1/ 504	eted,		0							E
		WITH	rines		•		•	3/4	ı		_	/ 6	(3/4)	E
	4						0	7/4		551	0732			E
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	6-		brown,	fine o	RAINED,					·				E
	7_=	well.	souted				0						:	F
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	8=						0	4/4	/	<i>55</i> Z	0740			E
	=													E
	9-		Toward of		nodium									F
	10	Plastic	beown, da	neist	ency							<i>553</i>	(9/10)	F
			PROJECT			1					HOLE NO.			上
IRK J	ORM 55		1 USF	FROC	.FA	2	257	24	,			CFB	104	

	·		HTW		ING LO				HOLE NO. DCFB104	
OJECT	USF	ROCFA	2572	24 IN	SPECTOR W.E	3. Mccler	don		SHEET Z OF Z SHEETS	
ELEV.	DEPTH b		DESCRIPTION OF MATERIA	ALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVER-J	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 7:42	REMARKS h_	1
	//	SAND, DE GRAINED	laur, damp, ,well souted	fine.	0					
	/Z	WEATHER			U	4/4	553	0745		
	/3	Shale	Olive GREEN	√	0.0	1/2	554	0753	354 (12,2/12,8)	
	14	B	ottom of the	le					TD=13.5	,
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MRK JUN 89 55-2 USFROCFA

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DCFB 104

ROJECT ROJECT USFRDCFA 25724 A LOCATION FEWER Dry Cleaning Building Location Former Dry Cl		. •							71	•	
COMPRIME BUTTS & MCDOTHELL SUFFICIENT AND SUFFICIE			HTW C	RILL	ING L	OG					
INSERTOR FA 25724 FOR THE CONTROL BUILDING AND ANALYSIS OF THE CONTROL BUILDING AND ANALYSIS OF THE CONTROL BUILDING AND ANALYSIS OF THE CONTROL BUILDING AND ANALYSIS OF THE CONTROL BUILDING ANALYSIS OF THE CONTROL BUILDING ANALYSIS OF THE CONTROL BUILDING ANALYSIS OF THE CONTROL BUILDING OF T	COMPANY NAME	Burns & N	1 Donnell	2.	DRILLING SUBC	ONTRACTOR	tal P	riority	Service	CHEC	T 1
STREET OF THE CONTROLLED STREET OF THE CONTROL	ROJECT			14	1 4. LV	CALION		•			
AND SAMPLAS COMPANDED	NAME OF DRILLER				6. M	ANUFACTURER'S	DESIGNATION	ON OF DRILL			-DC4+16E
COLLECTION OF MATERIALS SUPPLICE BLEVANION 10. DATE STATES 12.077/2 COCO 12.077/2000 12.077/2000 12.077/2000 12.077/2000 12.077/2000 12.077/2000 12.077/2000 12.077/2000 12.077/2000 12.077/2000 13.071 NUMBER NO BLAYSED TIME AFTER DRILLING COMPLETED NA NA NA NA NA NA NA NA NA NA NA NA NA		OF DRILLING 4-	foot macro	core si	<u> 1710 lei 18. H</u>	OLE LOCATION					4-40_
OVERBURDOEN THICKNESS OVERBURDOEN THICKNESS 23.0' IS DEPTH OR MADE NOW AND THE PRODUCTION THE	AND SAMPLING EC	1		to sle				E:	<u> 226739</u>	7.57	
DEPTH DELICION THICKNESS 23.0' 15 DEPTH GROUNDWATER PRODUITERED NA 16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA 17. CHERR WATER LEVEL MEASUREMENTS (SPECIFY) NA BEDITHOENCH, SAMPLES TOTAL DEPTH OF HOLE 24.0' bas TOTAL DEPTH OF HOLE 24.0' bas TOTAL DEPTH OF HOLE ANA SAMPLES FOR CHEMICAL ANALYSIS VOC METALS OFFICE PCE, DCE NA NA NA NA NA DEPOSITION OF HOLE BUCKFILLED MONITORION WELL OTHER ISPECIFY) TOTAL ROMBE TOTAL NUMBER OF CORE BOXES NA NA NA NA NA NA DEPTH OFFICE BUCKFILLED MONITORION WELL OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) TOTAL CORE RECOVERY NA ** ** ** ** ** ** ** ** **					10.1		53	T	11 DATE COM	DIETED	
DEPTH DRILLED NTO POCK 1. 0' 16. DEPTH OF HOLLE DAYS ON THE ASSUREMENTS (SPECIFY) 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) NA SOMPLES FOR CHEMICAL ANALYSIS ONS TE Analytical TCE, PCE, DCE Bentrolite NA NA NA NA NA NA NA NA NA N						12/07/	2000				000
TOTAL DEPTH OF HOLE 24.0'bas TOSTUBBED TOTAL NUMBER OF CORE BOXES NA NA NA NA NA NA NA NA NA N	P. OVERBURDEN TH	ickness 23	3.0'				ATER ENCO	OUNTERED			
TOTAL DEPTH OF HOLE 24.0' bg s OSUPRED DESCRIPTION OF HOLE OSPOSITION OF HOLE OSPOSITION OF HOLE DESCRIPTION OF MATERIALS TEC. PC. DEPTH DESCRIPTION OF MATERIALS TEC. SC. DEPTH DESCRIPTION OF MATERIALS TEC. SC. DEPTH DESCRIPTION OF MATERIALS TEC. SC. DEPTH DESCRIPTION OF MATERIALS FELD SCREENING GROPPER-OWNER AND NA NA NA NA NA NA NA NA NA NA NA NA NA	. DEPTH DRILLED I	NTO ROCK	0'				AND ELAPS	SED TIME AFTE	er drilling co	MPLETED	
SAMPLES FOR CHENICAL ANALYSIS Onsite Analytical DISPOSITION OF HOLE BACKFILLED BACKFIL	. TOTAL DEPTH OF	HOLE 24	O'has			THER WATER LEV	'EL MEASU	IREMENTS (SP	ECIFY)	٠,	
SAMPLES FOR CHEMICAL ANALYSIS Onsite Analytical TCE, PCE, DCE NA NA NA NA NA NA NA NA NA NA NA NA NA	B. GEOTECHNICAL S		DISTURBED			19. TOTAL NUM	BER OF CO	ORE BOXES			
DISPOSITION OF HOLE BENTON ITE DEPTH DESCRIPTION OF MATERIALS PELD SOMEWHALE DESCRIPTION OF MATERIALS PELD SOMEWHALE DESCRIPTION OF MATERIALS PELD SOMEWHALE DAMAYTICAL SECONT SAMPLE NO. PELD SOMEWHALE PRESULTS PRESU	. SAMPLES FOR CI	HEMICAL ANALYSIS	·				OTHE	R (SPECIFY)	OTHER (S	PECIFY)	
Bentonite NA NA SAKIDURI LEV. DEPTH DESCREPTION OF MATERIALS FIELD SCREENING GEOTECH-SHAME IN MALTICAL ON-GORD BOWN SAMPLE NO THE BENARKS Top soil Silt, dark brown dry, non plastic, medium consistency Silt and sand, light brown dry, non plastic, medium plasticity, medium consistency Silt, trace day, trace very fine sand, brown damp; trace to nonplastic, medium consistency D.O. 4/4 SSI 0915 SSI(3/4) Silt, trace day, trace very fine sand, brown damp; trace to nonplastic, medium consistency D.O. 4/4 SSI 0915 SSI(3/4) PROJECT PROJECT PROJECT HOLE NO.	Onsite A	nalytical	TCE, PCE, DCE	NA		NA	N	JA	NA	<u>. </u>	
DEPTH DESCRIPTION OF MATERIALS Top seil Silt, dark brown dry, non plastic, medium dry, non plastic, pedium plasticity, medium plasticity, medium plasticity, medium plasticity, medium plasticity, medium plasticity, medium plasticity, medium plasticity, medium plasticity, medium plasticity, medium consistency Silt, trace clay, trace very fine sand, brown damp; trace to menplastic, medium consistency D.D. 4/4 SSI 0915 SSI(3/4) O.D. 4/4 SSI 0915 SSI(3/4) O.D. 4/4 SSI 0920 O.D. 4/4	DISPOSITION OF	HOLE					1	_			
DEPTH DESCRIPTION OF MATERIALS Topsoil Silt, dark brown dry, non-plastic, medium dry, non-plastic, medium dry, non-plastic, some ctay, brown damp; medium plasticity, medium consistency Silt, trace clay, trace very fine Sand, brown damp; trace to non-plastic, wedium consistency O.O O.O O.O O.O Silt and sand, light brown damp; medium plasticity, medium consistency O.O O.O O.O O.O O.O O.O Silt trace clay, trace very fine sand, brown damp: trace to non-plastic, wedium consistency O.O O.O O.O SS3 (9/10)	<u> </u>	1	Bentonite	NF	,		' '''				·
Topsoil Silt, clark brown dry, nen plastic, medium consistency 2 Silt and sand light brown dry, nen plastic, 3 Seft Silt, some clay, brown damp; medium plasticity, redium consistency 5 Silt, trace clay, trace very fine sand, brown damp; trace to nonplastic, medium consistency 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0		DES	SCRIPTION OF MATERIALS		RESULTS	OR CORE DO	×N O. S	AMPLE NO.	COUNTS	F	
Silt and sand, light brown dry, nonplastic, 0.0 Soft Silt, some clay, brown damp; medium plasticity, needium consistency Silt, trace clay, trace very fine sand, brown damp: trace to nonplastic, medium consistency O.0 O.0 O.0 O.0 O.0 O.0 O.0 O.	1-	dry, non	plastic, m	 edium	c.o			·		Star	t time 09
soft Silt, some clay, brive damp; medium plasticity, medium consistency Silt, trace clay, trace very fine sand, brown damp: trace to menplastic, medium consistency 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0		Consiste	ncy		0.0				÷		
damp, medium plasticity, medium consistency Silt, trace clay, trace very fine sand, brown damp, trace to nonplastic, medium consistency O.O. O.O. O.O. PROJECT PROJECT D.D. 4/4 SSI 0915 SSI(3/4) O.O. 4/4 SSI 0915 SSI(3/4) SSI(3/4) O.O. 4/4 SSI 0915 SSI(3/4) SSI(3/4) O.O. O.O. SSI(3/4) FROJECT HOLE NO.		50ft	dry, nonpla	orown Stic,	0.0		-				
5 — fine sand, brown damp: trace to nonplastic, wedium consistency 0.0 0.0 0.0 0.0 0.0 0.0 0.0 FROJECT PROJECT HOLE NO.		damp, m medium	edium plasti <u>cor</u> siste <u>nc</u>	') —	0.0	4/4		221	0915	SZIC	3/4)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	5 —	fine sar	id, brown	•	0.0						
8 - 0.0 4/4 8S2 0920 0.0 0.0 SS3 (9/10)	k -				0.0					·	
0.0 0.0 0.0 PROJECT HOLE NO.	7-				_						
0.0 SS 3 (9/10)					<u> </u>	4/4		852	0920		
PROJECT HOLE NO.					0.0					553	(9/10)
	DV FORM E				·	<u> </u>		<u></u>	HOLE NO.		

	, , , , , , , , , , , , , , , , , , , 	HTW DRILL	ING LO	G	<u> </u>		HOLE NO.	
PROJECT	USF	RDCFA	SPECTOR J. Kid	lwell	· · · · · · · · · · · · · · · · · · ·		SHEET 2 OF 2 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE. OR GORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	SOUNTS TIME	REMARKS h	
	11-	Silt, some clay: brown 7.54856 damp, medium plasticity, medium con sistency	0.0					-
	12-		0.0	4/4	5s <i>3</i>	0925		<u>-</u>
	13-		0.0					<u>-</u>
·			0.0					- - -
	14-		0.0		=			- - -
	15 — 	Silt, trace clay: brown 7.59 gamp, trace plasticity,	0.0	 4 <i>/</i> 4	554	0930	SS4 (15/16)	
	16	medium consistency	<u> </u>	7/4	297	0136	334 (13/10)	
	17—	Silt, trace clay, trace very	C.O					- - -
	18 =	fine Sand: light brown 7.54Rg damp, trace plasticity,	0.0				. F	
	19-	medium consistency	0.0					
	χc- <u>-</u>		0.0	4/4	\$ \$5	0937	•	- - -
	 	Sond, fine to med. grain,	0.0			:		<u>-</u>
	22—	moderately well sorted, light brown 7.54R6/3 dampt	0.0				SS5(21/22)	<u> </u>
	23-	incist, nonplastic, soft	0.0					<u>:</u>
	24-	Shale, Helivegray 546/2, damp	0.0	4/4	SS6	0946	End time	: :
	=	Bottom of hole					Refusal in shale	: - -
	25						TD=24.0 bgs WL=DRY	-
	26-					,	_	
	27							- - -
L	28 -	PROJECT	<u> </u>			HOLE NO.	-	<u>*</u>

USFROFA

DCFB105

	:		HTW [DRILL	ING	LO	G					NO. FB 106	
1. COMPA	NY NAME P	urns de l	McDonnell	2.	DRILLING	SUBCONTI		Vi.20	nmental	Priorit	SHE	T 1	1
PROJEC	CT		_	71		4. LOCAT	TION			•	,	•	1
5. NAME C	OF DRILLER	SFR DCF		,		6. MANU	rmer L FACTURER'S D	<u>)ry</u> Esign/	CLEANINATION OF DRILL	ag Bui	lding	Location	닉
	-	at Mar				Tr	uck-m	СM	nted qu	eoprok	e G	H-40	
	IND TYPES OF IMPLING EQUI		-foot macroco -foot acetat			8. HOLE	LOCATION 419 29:	33	63 E Z	767213	B1 N	414	ŀ
·			ontinuous	- OICE	V.E.	9. SURFA	ACE ELEVATION	N	MH				1
		-	·	 		10. DATE	7064 Started	. 70	1083.	11. DATE COM	PLETED		-
	- 5				:		2/07/			12	107	/2000	4
12. OVERE	BURDEN THIC	KNESS 21.	5 <u>′</u>			15. DEPI	TH GROUNDWA	IER EN	ICOUNTERED			•	
13. DEPTH	I DRILLED INT	TO ROCK	5′			16. DEPT	TH TO WATER A	AND EL	APSED TIME AFT	er drilling co	MPLETED		7
14. TOTAL	DEPTH OF H	IOLE 24	0'bas	•	-		R WATER LEV	EL ME	ASUREMENTS (SP	PECIFY)			1
18. GEOTE	ECHNICAL SA		DISTURBED		STURBED	19	O. TOTAL NUM	BER OF	CORE BOXES			<u> </u>	1
20. SAMPI	LES FOR CHE	MICAL ANALYSIS	VOC	METAL		OTHER	R (SPECIFY)	01	HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	Ē
Ons	ite A	nalytical	PCE, TCE, DCE	7	٩	1	NA		NA	7	A	RECOVERY NA %	
22. DISPO	SITION OF HO	DLE 7	BACKFILLED	MONITORING	WELL	OTHER	R (SPECIFY)	23. 8	SIGNATURE OF IN			<u></u>	1
		·	Bentonite	NA		<u> </u>	VV	$\lfloor \zeta \rfloor$	XK	idwel			
ELEV.	DEPTH b	DES	SCRIPTION OF MATERIALS			CREENING SULTS d	GEOTECH SA OR CORE BO RECOV	X NO.	ANALYTICAL SAMPLE NO. f	GOUNTS TIME		REMARKS h	
1		Silt, trac	e clay dark	brown							Start	time 0955	<u>}</u>
	1, =	7.5YR 3/2	, dry to dan	np,	0	.0							E
		consiste	esticity, m	edium	_	^							F
	2 -				0	.0				•			E
		Fill: br	ick, limesto	ne	1 0	.0							Ė
	3 -	gravel.	•			.0							E
					م ا	n							E
	4-					.D	3/4		SSI	M58	221	(3/4)	<u> </u>
	' =	Silt, son	ne sand bro	wn 7.518	4,	•				,			E
	5-		medium a		0.	0							
	=				1/	.0							E
	6							-					<u> </u>
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	7					0							
					0	.0	11/4				·		F
1	8 -	Silt Sa	me clay: lie	i.t			4/9		\$52	1002			
	=	brown	54R/3, damp	tudes	0	.0							F
	9	to modi	ium plastie	· i ccr						:			
	ן פון				0	.0						7/0/-1	Ė
		PF	consister	•	L		L			HOLE NO.	1 2> :	3(9/10)	
MRK J	FORM UN 89 55		USFRI	DCFA						1 DC	FBIC	6	

PROJECT USFROCFA EER. DEPM DESCRIPTION OF MATERIALS EER. DEPM DESCRIPTION OF MATERIALS Silt, some Clay: light brown 7.55/Rb/4, damp. trace to medium plasticity, medium consistency B. Silt and sand: light brown 0.0 12			HTW DRILL	ING LO	G		·	DCFB106
BEN. DESTRIPTION OF MATERIUS SIR, some Clay: light brown 7.59R%4, damp. trace to medium plasticity, medium consistency Sir and sand: light brown 7.59R%4, damp, nonplastic, soft consistency D. D. U/4 SS4 1007 D. D. D. D. D. D. D. D. D. D. D. D. D. D	PROJECT	USF	RDCFA	SPECTOR J. K	idwell			SHEET 2 OF 2 SHEETS
Silt some Clay: light brown 7.588/4, damp: trace to medium plasticity, medium consistency 0.0 0.		DEPTH	DESCRIPTION OF MATERIALS C	RESULTS	OR CORE BOX NO.	SAMPLE NO.	-COUNTS	REMARKS
12		=	brown 7.54R6/4, damp.	0.0				
3 Sit and sand: ight brown 0.0 0			plasticity, medium	ļ	५/ ५	გ\$ჳ	1007	
17— 18— 17— 18— 17— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 18— 19— 19— 18— 19— 19— 19— 19— 19— 19— 19— 19— 19— 19		B =						
17— 18— 19— Sand, some Silt: light brown 7.59844, damp, non plastic, soft 0.0 4/4 SS5 1017 20— 21— 22— Shale, It. olive gray 5942, damp 23— Bottom of hole 25— 26— 27— 28— 28— 28— 28— 28— 29— 21— 22— 24— 25— 26— 27— 28 0.0 4/4 SS5 1017 6:56(20/21) Sinale It. olive gray 5942, 0.0 SS6 1024 End time TD=2410 bgs WIL= Dry End End End End End End End En		 H==	Silt and sond: light brown 7.54R 1/4, damp, nonplastic,	0.0				
17— 18— 19— Sand, some sitt: light brown 7.5yzb/4, damp, non plastic, soft 0.0 20— Shale, It. olive gray 59½, damp 22— Shale, It. olive gray 59½, damp 23— Bettom of hole 24— Bottom of hole 25— 26— 27— 28		15	soft consistency	0.0				
18		W-		0.0	4/4	८८५	1012	SS4 (15/16)
19 Sand, some Sitt: light 0.0 0.0 4/4 SS5 1017 0.0 20 0.		17-		0.0				
Sand, some silt: light brown 7.59844, damp, 0.0 4/4 \$55 1017 21		18 -		0.0				F
20 0.0 0		19-	Sand, some silt: light brown 7.548/4, damp,		·			
21— 22— Shale, It. olive gray 54½, damp 23— Bottom of hole 25— 26— 27— 28— 21— 28— Shale, It. olive gray 54½, 0.0 SSIO 1024 End time Refusal in shale TD=24.0'bgs WL=Dry		20-	non plastic, soft		4/4	<u>\$\$5</u>	1017	
23— 24 Bottom of hole 25— 26— 27— 28 D.O SSio 1024 End time Refusal in shale TD=24.0'bys WL=Dry		21 -		0.0				556(20/21)
24 Bottom of hole 25 Bottom of hole 27 Bottom of hole 27 Bottom of hole 28 Bottom of hole 28 Bottom of hole 28 Bottom of hole 29 Bottom of hole 20 Bottom of hole 20 Bottom of hole 20 Bottom of hole 21 Bottom of hole 22 Bottom of hole 23 Bottom of hole 24 Bottom of hole 25 Bottom of hole 26 Bottom of hole 27 Bottom of hole				0.0	·		·	\$56(21/22)
Bottom of hole 25 26 27 27 28				0.0		\$\$ <i>6</i>	1024	End time
20 = 24.0' bgs = WL= Dry = 27 = 28 = 28 = 28 = 28 = 24.0' bgs = 24.0' bgs = 24.0' bgs = 24.0' bgs = 24.0' bgs = 24.0' bgs = 25.0' bgs = 24			Bottom of hole					Refusal in =
27_=		=				·	·	TD=24.0'bgs =
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USFRDCFA

DCFB106

. COMPANY NAME			_	LO					. ν	CF107
Bullet	+ mcDonnell	2	DRILLING S	SUBCONT	RACTOR	Po	1'02:H =	Servin	SHEE	T 1 Z SHEETS
B. PROJECT		A + > -	. 1	4. LOCAT	TON					- SHEETS
USFR		2572					ATION OF DRILL	FACILITY	Area	· · · · · · · · · · · · · · · · · · ·
NAME OF BRILLER	aul .				oprobe					
7. SIZES AND TYPES OF DRILLIN AND SAMPLING EQUIPMENT					LOCATION	0 0	78 E		77 10	2 00
AND SAMPLING EQUIPMENT	4-toot macrocon				ICE ELEVATION			. 22	c (24)	1.79
				-+	& & & &	23	1083.8		-	
					STARTED 06/2000	9	•	11. DATE CON		
2. OVERBURDEN THICKNESS	22.4 18.0				H GROUNDWA	TER EN	COUNTERED			
3. DEPTH DRILLED INTO ROCK				16. DEPT			APSED TIME AFT	ER DRILLING CO	OMPLETED	
4. TOTAL DEPTH OF HOLE	NA 22.4			17. OTHE	R WATER LEV	EL MEA	ASUREMENTS (SI	PECIFY)		
8. GEOTECHNICAL SAMPLES	DISTURBED ~A	UND	ISTURBED NA	19			CORE BOXES			
20. SAMPLES FOR CHEMICAL A	NALYŞIS VOC	META	·	OTHER	(SPECIFY)	ОТ	HER (SPECIFY)	OTHER (S	SPECIFY)	21. TOTAL COR
Offsite UP	PCE, TCE, OEE	NA			NA		NA	NA	-	RECOVERY %
2. DISPOSITION OF HOLE	BACKFILLED	MONITORING	G WELL	OTHER	(SPECIFY)	23. 8	SIGNATURE OF IN	ISPECTOR		<u></u>
	Bentanite	AN			VA-	l	Naltu	B. ME	clond	<u> </u>
ELEV. DEPTH	DESCRIPTION OF MATERIALS		FIELD SCI RESU d	ILTS	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO.	BLOW	F	REMARKS
- CIA	1, 7.54 5N, 5 thong brown	1, damp,	<u> </u>		:			,,,,,,		Tine
medi	waspiastic and consis	HENLY		0					07.	52
-500	y 5: H, beaun, damp, til, soft consistent	from		Ò						
2 7 19.50	tic, soft consistency	1		^	٠					
12-				U				i		
I, I										
3-chape	y Sitt strong brown number of the	damp.		0			4/4			•4
anedi	un pinstic, suttion	cisteriq		0	NA		551	0754	3 123	4
4-500	dy clay beaun dan	D. HARE						0737	1	
Home	dy clay beour, dan edivin plastic, medic sistemy	m								
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6				0	<u>-</u>					
7				0						
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8-3-			ļ	Ð	NII		552	0805	ł	
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grouse	led to Assulae	,		ေစ						
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		HTW DRILL	ING LO	G			HOLE NO. DCF-107
PROJECT		USFROCFA 25724	ISPECTOR WA	ter B M	& clend	on .	SHEET Z OF Z SHEETS
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW	REMARKS h
	//	Sily Sand, Brown, fire to main grained, well sorted, Rounded to Angular	.0				553 9hD
	/2		0	NA	553	0813	
	=	SAND, BROWN, damp, fine to medium Grained, well socked					
	<i>ルー</i>		0				
	14		0				-
		·	0				
	15 						554(17/16)
:	1b		<u> </u>	NA	554	0822	
	 />—						
	'/ =		0				;
	8-	Clay, Olive Green, to black,	寄				
į	K—	clay, Dlive Green, to black, meast to wet, medium to hishy plastic, medium to mand consistency	17.2				
		Wisiste 4	189	NA	35 5	0835	565 (15/20)
	20-	Clay, Olive Green, day to damp, medium plastic hand consisteny				00 33	
	21	,	33				
	n-	claf, Olive Speen, day to damp medium phastic, hand consistency	3.7				EN11,2= 0852
	 23	Bottom of Itale					10=22,5
	=				Y	·	
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		DOOLEGT				1,6,5,	
RK 🎜	ORM 55.	-2 PROJECT 1/SFR DCFA		. 2	?572U	HOLE NO.	UFBIOT

1. COMPANY NAME BURNS & MC DOME 1) 2. DRILLING SUBCONTRACTOR ENVIRONMENT OF PRIOR THE SERVICE OF Z SHEET 1				HTW	DRILI	LING	LO	G	- 				E NO. XF/07A
S. MARE OF DRILLER (2) MARE OF DRILLER (3) MARE OF DRILLER (3) MARE OF DRILLER (4) MO SAMPLANG FOR DRILLING (4) MO SAMPLANG FOUR PROCEDURE (4) MO SAMPLANG FOUR PROCEDURE (4) MO SAMPLANG FOUR PROCEDURE (5) SAMPLANG FOUR PROCEDURE (6) MO SAMPLANG FOUR PROCEDURE (6) MO SAMPLANG FOUR PROCEDURE (6) MO SAMPLANG FOUR PROCEDURE (7) DATE STREET FOR DOCUMENTERED (7) DATE STREET FOR DOCUMENTERED (8) DEPTH OF HOLDE (8) DEPTH OF HOLDE (8) DEPTH OF HOLDE (8) DEPTH OF HOLDE (9) DEPTH OF HOLDE (10) DEPTH OF HOLDE (11) DATE COMPLETED (12) DEPTH OF HOLDE (13) DEPTH OF HOLDE (14) DATE STREET FOR DOCUMENTAL MANK YOS (15) DEPTH OF HOLDE (16) DEPTH OF HOLDE (17) OTHER WATER LAVEL MASSUREMENTS (SPECIFY) (18) DEPTH OF HOLDE (19) DEPTH OF HOLDE (19) DATE OF HOLDE (19) DATE OF HOLDE (19) DATE OF HOLDE (19) DATE OF HOLDE (19) DATE OF HOLDE (19) DATE O	. COMPAI	NY NAME	URNS &	mcDone 1)		2. DRILLING	SUBCONT	RACTOR	- P1	eioe:ty:	Service		
RAME OF DRILLER SIZES AND TYPES OF DRILLING 4-Foot macrocare 8. HOLE LOCATION N. 14/19/2997 S.S. E 22-L/72 5 8.2 9	. PROJEC	. !			25724		4. LOCA	TON					
SUZES MOD TYPES OF DRILLING AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT AND SAMPLING EQUIPMENT B. SUPPROSE ELEMATION AND AND AND AND ELAPSED TIME AFTER DRILLING COMPLETED AND AND AND ELAPSED TIME AFTER DRILLING COMPLETED AND AND AND AND ELAPSED TIME AFTER DRILLING COMPLETED AND AND AND AND AND AND AND AND AND AND	. NAME Ö				-31-1		6. MANU	FACTURER'S D	ESIGN	ATION OF DRILL		,	
9. SUPPLO ELEVATION 10. DATE STAPTED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 12. DEPTH PROLUMBY THE RICCUNTERED 13. DEPTH PROLUMBY THE RICCUNTERED 14. TOTAL EXPTH OF HOLE 15. DEPTH PROLUMBY AND ELAPSED TIME AFTER DRILLING COMPLETED 16. GEOTECHNICAL SAMPLES 17. OTHER WARRE LEVEL MEASUREMENTS (SPECIFY) 18. GEOTECHNICAL SAMPLES 19. STAPLES FOR CHEMICAL ANALYSIS 10. DEPTH PROLUMBY AND AND AND AND AND AND AND AND AND AND	SIZES A	ND TYPES O	'	4-foot macroc	ore					7 10			
2. OVERBURDEN THICKNESS 2. OVERBURDEN THICKNESS 2. OVERBURDEN THICKNESS 2. IS. DEPTH GROUNDYTER ENCOUNTERED 3. DEPTH GROUNDYTER ENCOUNTERED 3. DEPTH GROUNDYTER ENCOUNTERED 4. TOTAL DEPTH OF HOLE 5. GEOTECHNICAL SAMPLES 6. GEOTECHNICAL SAMPLES 6. DESTURBED 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) 18. TOTAL NUMBER OF CORE BOXES 19. SAMPLES FOR CHEMICAL ANALYSIS 19. DEPTH (SPECIFY) 19. TOTAL NUMBER OF CORE BOXES 19. SAMPLES FOR CHEMICAL ANALYSIS 19. DEPTH (SPECIFY) 21. TO METALS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 11. DATE COMPLETED 12. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 12. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 12. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 12. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 12. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 12. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 12. TO THER MERS LEVEL BY CHEMICAL ANALYSIS 13. SOUNT ANALYSIS 14. DATE COMPLETED 15. DEPTH OF OTHER MEASUREMENTS (SPECIFY) 17. OTHER MEASUREMENTS (SPECIFY) 18. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 19. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 19. TOTAL MERS LEVEL BY CHEMICAL ANALYSIS 10. DATE CHEMICAL ANALYSIS 10. DATE CHEMICAL ANALYSIS 10. DATE CHEMICAL ANALYSIS 10. DATE CHEMICAL ANALYSIS 11. DATE CHEMICAL ANALYSIS 12. TOTAL MERS LEVE	AND SAI	mpling Equ	JIPMENT		sleeve	٤	1			55 E.	226725	8.29	
2. OVERBURDEN THICKNESS 12 15. DEPTH GROUNDWITER ENCOUNTERED 16. DEPTH GROUNDWITER ENCOUNTERED 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) 18. GEOTECHNICAL SAMPLES 18. DEPTH TO WATER LEVEL MEASUREMENTS (SPECIFY) 19. TOTAL MEMBER OF CORE BOXES 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 10. SAMPLES FOR CHEMICAL MANLYSS 11. TOTAL MUMBER OF CORE BOXES 11. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 12. TOTAL MUMBER OF CORE BOXES 13. SAMPLES NOT CHEMICAL MANLYSICAL OF MARLYSICAL MANLYSICAL OF INSPECTOR 14. MARLYSICAL MAN				CAMPIACOL			9. SURF/			ર			
15. DEPTH GROUNDWATER ENCOUNTERED 16. DEPTH TO WAITER AND ELAPSED TIME AFTER DRILLING COMPLETED 16. DEPTH OF HOLE 17. OTHER WAITER LIVEL MEASUREMENTS (SPECIFY) 18. GEOTECHNICAL SAMPLES 19. TOTAL DEPTH OF HOLE 15. DISTURBED 19. TOTAL NUMBER OF CORE BOXES 19. TOTAL NUMBER OF CORE							10. DATE	STARTED	000	,			
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED 4. TOTAL DEPTH OF HOLE 4. TOTAL DEPTH OF HOLE 5. GEOTECHNICAL SAMPLES 17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) 18. GEOTECHNICAL SAMPLES 19. TOTAL NUMBER OF CORE BOXES 19. SAMPLES FOR CHEMICAL ANALYSIS 19. SAMPLES FOR CHEMIC	2. OVERE	BURDEN THIC	I CKNESS	17	·		 	H GROUNDWA	TER EI		777007		
4. TOTAL DEPTH OF HOLE 15. DISTURBED DISTURBED NA DISTURBED NA DISTURBED NA DISTURBED NA DISTURBED NA DISTURBED NA DISTURBED NA NA NA NA NA NA NA NA NA N	3. DEPTH	DRILLED IN	TO ROCK				16. DEPT	H TO WATER		APSED TIME AFT	ER DRILLING CO	MPLETED	
B. GEOTECHNICAL SAMPLES DISTURBED UNDISTURBED NA NA NA NA NA NA NA NA NA NA NA NA NA	4. TOTAL	DEPTH OF I	HOLE				17. OTH	R WATER LEV	EL ME	ASUREMENTS (SF	PECIFY)		
O. SAMPLES FOR CHEMICAL ANALYSIS POST 1 P. PROPERTY POST 1 P. PR	8. GEOTE			DISTURBED	UN	IDISTURBED) 19	. TOTAL NUMI		CORE BOXES			
ELEV. DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING GEOTECH SAMPLE NO. COUNTS REMARKS OR COME BOX NO. SAMPLE NO. THREE CONTROL COUNTS		ES FOR CHE		is voc	MET		OTHER	<u>_</u>	<u> </u>	THER (SPECIFY)	OTHER (S	SPECIFY)	21. TOTAL CO
Bordon; te NA NA Waster B. McClanda ELEV. DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING GEOTECH SAMPLE ANALYTICAL BLOW COUNTS TIME COMPT OF COME BOX NO. SAMPLE NO. SAMPLE NO. SAMPLE NO. TIME SHAPT TIME CONSTRUCTION OF MATERIALS COME BOX NO. SAMPLE NO. SAMPLE NO. SAMPLE NO. SAMPLE NO. TIME SHAPT TIME OBSTO SHAPT TIME OBSTO ANALYTICAL BLOW COUNTS REMARKS FIELD SCREENING GEOTECH SAMPLE ANALYTICAL BLOW COUNTS REMARKS TIME OBSTO NA SHAPT TIME OBSTO OBST	Pro-S	oite A	nghysis	PLE, TLE, DLE	^	IA		NA		NA	NA	7	NA %
ELEV. DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING RESULTS OR CORE BOX NO. SAMPLE NO. COUNTS TIME CLAY 7.54 574 CLARK DADAW, Amply medium plastic, medium classistery; pieces Colicer, the county fine grained, well soxeted 3 44 5And 7.54 544, Dedwar, damp, fine grained, well soxeted 0.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	2. DISPO	SITION OF H	OLE	BACKFILLED	MONITORI	NG WELL	OTHER	R (SPECIFY)	23.	SIGNATURE OF IN	ISPECTOR		
ELEV. DEPTH DESCRIPTION OF MATERIALS CIAY, 7.5 +> 514, CLARK DADIUM, OBAMP, MEDIUM PLASTIC, MADIUM CLARS SECULT PLASTIC, MADIUM CLARS SECULT PLASTIC, MADIUM CLARS SECULT PLASTIC, MADIUM CLARS SECULT PLASTIC, MADIUM CLARS SECULT PLASTIC, MADIUM CLARS SECULT PLASTIC SHART TIME OBSTO SHART TIME OBSTO SHART TIME OBSTO SHART TIME OBSTO SHART TIME OBSTO SHART TIME OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO SHART TIME OBSTO OBSTO				Banton: te	رام	9	/	JA	l	Vaeter	B. Mc	clone	dn
Clay, 7.54, 574, dakk badun, damp, alamp, fine grained, well sorted 5.14, Sand, 7.54, Drown, damp, fine grained, well sorted 5.34, Drown, damp, fine grained, well sorted 5.34, Drown, damp, fine grained, well sorted 6.5 6.5 0.5 NA 652 0908				DESCRIPTION OF MATERIALS	3		SULTS	OR CORE BO		SAMPLE NO.	COUNTS		REMARKS
5:14 Sand, 7.5 fr 574 Mount, damp, fine Grained, well soested 5:2nd, 7.5 fr 514, Deown, damp, fine Grained, well soested 0.5 0.5 NA 452 0908		_	CIRY, 7	54 514 , CARK D	roun,	1					7.7.50	Stop	tTime =
5:14 Sand, 7.54 Shown, damp, fine Gramed, well societed 5.34 4.		, =	Consister	ny; pieces concret	e, tile		^					6	2856
3 15 15 15 15 15 15 15 1			5:14:50	nd, 7.5+1 574 BAGU	n, damp,		Ü						
3			fine GAS	ined, well sorted]					
3— 4— 5, and, 7.5-yr.5/4, Deown, d.Amp, fine g. 2, airned, well sorted 0.5 0.5 NA 451 0903 6513/4 0.5 NA 452 0908			1				15						
### 557 SIA, DROWN, dAMP, fine GRAMED, well sorted 0.5 0.5 NA 451 0403 5.5 6.5 0.5 NA 552 0908			1										
5-20, 7.5-15.54, DROWN, Clamp, fine grained, well sorted 0.5 0.5 NA 452 0908]							4/4		551	3/4
0.5 0.5 0.5 0.5 NA 652 0908			•				0	NA	_	651	0403		
0.5 0.5 0.5 0.5 NA 452 0408		7 -	SAND, 7	5-1-5/4, DROWN,	damp,								
0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5			fine giz	cained, well son	ted		M 5						
7 8 0.5 NA 552 0908			1				0.5						
7- 8- 0.5 NAY 852 0908		/ ₂ _=					~ -						
8- 0.5 NAY 65Z 0908		_	1				6/.3						
8 - 0.5 NAY 65Z 0908		7											
18-1 - 1-3-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1							0.5						
		8					0.5	NA		45Z	0908		
		=	1										
9-3		9_	}				n						
		' =						ļ	1	i			
PROJECT HOLE NO.		/D -	<u> </u>	DDO IECT	-		0.5	<u> </u>			1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		

<u> </u>		HTW DR			G			HOLE NO. DUFBIOTA	
PROJECT	US	FROCFA 25724	INS		ter B. Mc			SHEET 2 OF 2-SHEETS	1
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS c		FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Tingl	REMARKS	1
	// =	SAND, 7. 3415/4, DAOWN, DA fine grained, well souted	mp	05	мA	112	06.7	\$\$3 61-	
	13 -	weathered linestone, yellows orange, with fines		0.5	74.7	353	0917	9/10	
	14	Sittelatwith Limestore fun medium plastic, medium consistency weathered Limestone, gaey	5s,	0	*			Edd 554 Tive=	
	15			0	NA	554	0931	(14/15) 0931	E
		Bottom of Hole						TO=15 feet	Ē
						*			E
			٠						
						· ·			
		· .		·		es.			E E
									- E
MRK 55	ORM 55-	PROJECT 1/5FRIX FA			2.5	724	HOLE NO.	FRING	

			HTW	DRILL	_ING	LC	G					ENO. FB108	
1. COMP	ANY NAME	201006 1	mcDonne 11		2. DRILLING	SUBCON	TRACTOR	ı Pı	Piority.	Lapuse	SHE	ET 1	┪
PROJE	CT	ISFRDO		2 <i>5</i> 72		4. LOCA	TION			FACILY		Z SHEETS * i'cin	\dashv
5. NAME	OF DRILLER		انه	, .		6. MAŅU	JFACTURER'S E	ESIGN	ATION OF DRILL	cobe Gr			
	AND TYPES C		4-toot MACROCOM		R	8. HOLE	LOCATION						ヿ
AND S	ampling Equ	JIPMENI	4-toot Acetale	sleeve-						E 2267	296.	86	\dashv
						9. SUNF	ACE ELEVATION	3011	1084.	88			
							E STARTED			11. DATE COM			٦
12 OVED	RBURDEN THI	CANEGO	<u> </u>			├	U GROUNDWA		NCOLINTERED	11/03	יסט בלי	5	4
IZ. UVEN	NOUNDEN I HI	JKNE33	15			15. DEP	NA	iien ei	NCOUNTERED			•	
13. DEPT	'H DRILLED IN	TO ROCK	3.2				TH TO WATER . リン	AND EL	APSED TIME AF	TER DRILLING CO	MPLETED		٦
14. TOTA	L DEPTH OF	HOLE	18.2			17. OTH	ER WATER LEV	EL ME	ASUREMENTS (S	PECIFY)			7
	ECHNICAL SA	MPLES	DISTURBED NA		DISTURBED	19	9. TOTAL NUM		F CORE BOXES		-		٦
		MICAL ANALYS		MET	ALS	OTHE	R (SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR	
UNSH	te pna	75.641	PCE, TCE, DCE	N),	4		NA		NA	~	A	RECOVERY	
22. DISPO	OSITION OF H	OLE	BACKFILLED	MONITORIN	IG WELL	OTHE	R (SPECIFY)	23.	SIGNATURE OF I	NSPECTOR	<u> </u>	<u> </u>	┪
			Bentonite	N.F.)	6	JA	ļ	Walte	CB, M	e clo	nden	
FLEV. a	DEPTH b		DESCRIPTION OF MATERIALS		RES	CREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS q		REMARKS	
	-	C/24, 7	5/1 5/4, strong be white plastic, meaning	cun,							14114	+	丰
], =	consist	ulim plasme, med very	unc		0					Time	+ =0417	F
			•		1								E
	=	Fillson	al, Light brown, de			(C)							E
	2		inex, well soited			0							þ
	1 =		•			0		į					F
	3	5:14150	x1, with fines, 7.54	- 574							i		E
	=	ه وسنددي	ecen, dans, fire golden	naireal							5513,		E
	<i>4</i> _ =	week 26	Char.			2	NA		£51	0919	33/3/	4	F
										, , , , , , , , , , , , , , , , , , , ,			F
	_ = =					0. z	ļ		:				E
	5									·			F
],]	1			ļ	0.3		1					F
	<i>\(-</i>]	Spad >	E 10 57/1 10 - 1 - 1 -			•							F
	_ =	fine g	54 5/4 , baour. dan	53 _/									E
	ブーゴ					0.2							E
	\exists												t
	8_3					0.2	NA		552	0726			F
													F
'	9 =					0.3							E
					Ī			Ì			. 1	9/0	F
	10 =				l .	0.2		ŀ			553 (יון	F
	·		PROJECT		<u> </u>	0,6				HOLE NO.			上
IRK 🛍	ORM IN 89 55	:	USFRO	CFA				٠			MEBI	13	

EV. DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING GEOTECH SAMPLE ANALYTICAL BLOW REMARKS	0.150-		HTW DRILLI	050700				HOLE NO.
EN LEPTH DESCRIPTION OF MATERIALS STATE, T. 3.57 516, Dates, of comp The Grand Little and Little	OJECT	US	FROCFA 25724 INS	PECTOR Was	ter B. M	ccleno	don	
South 7375 the Datum deep Fine Grained well suched to the first grained well suched to the first grained to the fi	LEV.			RESULTS	OR CORE BOX NO.	Sample no.	BLOW COUNTS	
15— Westerd Lit with clay of the standard peach of the standard peach of the standard peach of the standard peach of the standard of the stand	·	// <u>=</u>		0.2				
Weathered I to with clay of the company to the comp		/2		02	NA	<i>9</i> 53	8432	
Weatherd Lis with clay grank making strong something plank medium consisting something and the consisting something and the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency; with timestree should be a seen of the consistency of the consistenc		13— <u>—</u>		0				
Westhered Lis with claring planks of the pla	·	14 _=					·	
Comp. Medium programs from a commission of the c		15	Weathered Lis with clay plank	0				
19 Bother of there 20 21 21 22 22 22 22 22 22 22 22 22 22 22		16-		<u>o</u>	NA	SSH	0938	-
15 — Bo Hen of Hell 20 — 22 — 22 — 23 — 24 — 24 — 24 — 24 — 24		´ =	consissing, with the service of the					
20 - 21 - 22 22 23 23 24 - 24 -		18 =		0	Na	^د کک	Stry	
		/4 <u> </u>	BoHen of Here					70=18·Z
		20 <u>=</u>		·				
		21			·		·	
		23-						
		-						
						·		
			·					
PROJECT HOLE NO.				,				<u> </u>

							gar 1 +					
			HTW [ING	LO	G			 .	HOLE NO.	108A
1. COMPAN			McDonnel) 2.		<u>no no.</u> 4. 100ài	nental		Priority		SHEET 1 OF 2 S	HEETS
5. NAME O	F DRILLER	SFR DCF Dat Man				6. MANU Vai	Mer L FACTURER'S D	esign et e	Cleani ATION OF DRILL Dd Geo	ng Bui probe	lding L GH^40	ocation O
	ND TYPES O MPLING EQU	IPMENT 4-	foot macroco foot acetatentinuous	ore sar e slee	vè	8. HOLE	LOCATION	<u> 5.</u>	49 E	•		
						- 11	STARTED	∞		11. DATE COM		
	URDEN THIC	<u> </u>	o ′				H GROUNDWA J A				7	
_	DEPTH OF 1	0.5	/			[)ry		APSED TIME AFT		MPLETED	
	CHNICAL SA	15.5	DISTURBED	UND	ISTURBED		1A		ASUREMENTS (SI	PECIFY)		
	NA		VOC		VA.		(SPECIFY)	<u> </u>	THER (SPECIFY)	OTHER (S	PECIFY) 21.	TOTAL CORE
		nalytical	TCE, PCE, DCE				/A		NA	NA		RECOVERY %
2. DISPOS	SITION OF HO	OLE .	Bentonite	MONITORING			(SPECIFY)		SIGNATURE OF IN D. Kidu			
ELEV.	DEPTH b		SCRIPTION OF MATERIALS		FIELD SCI RESU	JLTS	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW- GOUNTS TIME	REMA	
	1 2 3 4 5 6	med. plast Silty cla brown 7 trace pl consiste Silty cla dry, med medium Silt, tra brown 7	y, dark brow lium plasti consistence ce clay, da 59R3/2, dan losticity, so	n 7.54R% city,	0.	7	2		551	0745	. 5S1 (3/4)
	7—				0.1		NA		552	0752		
	9 —	,		:	0.	0	, ,				·	
	10				0.	0			· 		* 553 (9/10)
RK JU	DRM N 89 55	PR	OJECT 1)SFR	DC FA	\					HOLE NO.	FB108	

PROJECT USFR DCFA BED: DEPM DESCRIPTION OF WITERALS FELL SCREENING DECORPTION OF WITERALS FELL SCREENING DE		····	HTW DRILL	ING LO	G			HOLE NO.
BED. DESCRIPTION OF MITTINUS Silt, trace clay, dark brown	PROJECT	USFI	RDCFA	SPECTOR J. Ki	dwell	es se symme		SHEET 2
1		DEPTH		FIELD SCREENING	GEOTECH SAMPLE OR CORE BOX NO.		00U NTS	
12		= -	7.54R3/2, damp, trace	0.0		-	:	
Shale, olive grey 5\(\frac{1}{2}\)		12 -		0.0	NA	<u>853</u>	0755	·
4		13 —	7.5 yr 3/4, damp, medium			,		
15 Shale, olive grey 5/15/2 0.0 NA SS4 0803 SS4 (14.5/5.5) 16 Bettom of hole End time 08/0 17			consistency	0.0				E E
Shale, olive grey 5/5/2. U.U NA SS4 C803 SS4 (14.9/15.5)			Siloy	0.0				
17 — 18 — 19 — 20 — 21 — 22 — 23 — 24 — 25 — 26 — 26 — 26 — 26 — 26 — 26 — 26		15—	Shale, olive grey 5/5/2	0.0	NA	554	೧೪೦૩	S54 (14.5/15.5)
		16-	Bottom of hole				· •	TD=15.5'bgs E
20— 21— 22— 23— 24— 25— 26— 26— 26— 26— 26— 26— 26— 26— 26— 26		17 —				·	•	WL=Dry E
20— 21— 22— 23— 24— 25— 26—		18 -			,			E
21— 22— 23— 24— 25— 26— 26— 21— 21— 22— 23— 24— 25— 26— 26— 26— 26— 26— 26— 26— 26— 26— 26		19 =	·					
22— 23— 24— 25— 26— 26— 21		20-						
23— 24— 25— 26— 21 24— 25— 26— 21 25— 26— 21 26— 21 26— 21 26— 21 27 28— 28— 28— 28— 28— 28— 28— 28— 28— 28		21-					•	<u> </u>
24—————————————————————————————————————		22_=			·			<u> </u>
25—		23—					. :	<u> </u>
		24-			a .	:		
		25-			·			
		26-				·	·	F_
		27				·		<u> </u>
MRK FORM 55-2 PROJECT HOLE NO.		28	PROJECT			·	HOLE NO.	<u> </u>

USFR DCFA

DCFB 108A

		HTW	DRILL	ING LO	OG			HOLE	no. :FB109
1. COMPANY NAME	BURNS +	Mc Donne 11	1	DRILLING SUBCO	NTRACTOR E	P5		SHEET OF 2	1 SHEETS
PROJECT US 5. NAME OF DRILLER	FRDCFA	2572	24		FORMER	DRY Cle		 	
		at martin		17	ruck ma	ESIGNATION OF DRILL UNHED GEO	probe C	54-40	•
7. Sizes and types (And Sampling Equ		4-foot macross 4-foot Acetate Continous			E LOCATION 1419302 FACE ELEVATION		7341.22	-	
					1085.7				
				10. DA	TE STARTED ///03/2 0	000	11. DATE COM	MPLETED 03/200	<i>7</i> 0
2. OVERBURDEN THI	CKNESS	18		15. DEPTH GROUNDWATER ENCOUNTERED					
3. DEPTH DRILLED IN	TO ROCK	4		16. DE		ND ELAPSED TIME AF	TER DRILLING CO	OMPLETED	
4. TOTAL DEPTH OF	HOLE Z	2		17. OT		EL MEASUREMENTS (S	SPECIFY)		
8. GEOTECHNICAL SA		DISTURBED NA		NSTURBED NA	19. TOTAL NUMB	ER OF CORE BOXES			,
0. SAMPLES FOR CHI Onsite Am	EMICAL ANALYSIS PHYICAI	RETCE, DCE	META		ER (SPECIFY)	OTHER (SPECIFY)	OTHER (S	SPECIFY)	21. TOTAL COR RECOVERY
2. DISPOSITION OF H	OLE	BACKFILLED	MONITORING	<u> </u>	NA CONTOUR	NA SIGNATURE OF		IA	NA %
	·	Bentonite	NOTITOTIA		ER (SPECIFY)	23. SIGNATURE OF WB	ME CU	endor	_
ELEV. DEPTH	C	DESCRIPTION OF MATERIALS		FIELD SCREENING RESULTS d	GEOTECH SAM OR CORE BOX RECOVER	NO SAMPLE NO.	BLOW COUNTS Time	RE	EMARKS h
=	Fill CAM	HidARK DROWN	damp, tency	60				51AP	+ Time 006
	Fill SAN fineska	itic And consisti id, light brown pined, well soen	n,damp, Led						
2	Fill me	eterial, conce	rete	0					
3	_	DE BRICK, SAND		0					
4_=	trace p	lastic, sottco	onsistany	0	4/4	551	0808	5516	3/4)
	Silty =	hand, dark ba line grained, w	own,	0.4					
	damp, to	liac grained, w	·	0.6					
-			;						
7-		•		0.4			, ,		
8_				0.4	4/4	SSZ	0813		
				0.4					
12 4					Ī	1			
9-	•		ľ						

	· · · · · · · · · · · · · · · · · · ·	HTW DRIL	LING LO	G			HOLE NO. DCFB109
OJECT	US.	FROCFA 25724	INSPECTOR WE	3 MECLEN	sdon_	`	SHEET 2- OF Z SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERJ	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Time	REMARKS h
	<i>1</i>	Silty SAND, DROWN, dAMP, fine grained, well sorted	06				
	12	·	0.6	4/4	553	0822	
:	13-		0			- - -	
	14		. 0				
	15—		0.6				
	16		0	4/4	554	0827	SS4 (15/16)
	7-	Clay, beown, damp, trace plastic, medium consistency			·		
	18—	SAND, BROWN, damp, Fine to medium GRAINED, well soated, Weathered Limestone with	0				
	19	Clay, Light brown to Olive snee clamp to day, medplastic and consistency	1				
	ż _{o_}	clay, Olive s aren, day, tance plastic, med to hand consistency	0	4/4	535	0834	
	2/		0	2/2			556(21/22)
	22	BoHom of Hole	0	72	556	0848	E.T. = 0910 TD = 228+
	-						
	=			. *			
							E
		· .					

USFROCFA

25724

DEFB109

			HTW	DRIL	LING	LC)G				HOLE NO.	חנוצ
1. COMP	ANY NAME	Bux	ns & Mc Deane	21)	2. DRILLING	S SUBCON	TRACTOR P	یح			SHEET 1	
ROJE	CT			2572	<u> </u>	4. LOCA	TION		Clean	inc Rui	Iding Loca	
5. NAME	OF DRILLER		Pat marti			6. MAN	JFACTURER'S D	ESIGNA7	TION OF DRILL		CH-40	
	AND TYPES (AMPLING EQI		4-toot macre			8. HOLE	LOCATION 14 19 305			226739		
	Continovi						ACE ELEVATION 1085.					
						10. DAT	E STARTED			11. DATE CO	MPLETED 01/00	-
12. OVER	BURDEN THI	28	<u> </u>		15. DEP	TH GROUNDWAT				, ,		
13. DEPTI	B. DEPTH DRILLED INTO ROCK 2					16. DEP	TH TO WATER A			TER DRILLING C	OMPLETED	
14. TOTAL	4. TOTAL DEPTH OF HOLE 30					17. OTH	ER WATER LEVE	LMEAS	UREMENTS (S	PECIFY)		
18. GEOT	B. GEOTECHNICAL SAMPLES DISTURBED					1!	9. TOTAL NUMB	ER OF (ORE BOXES			
20. SAMP	LES FOR CHI	EMICAL ANALYS	SIS VOC ALE, TCE, DCS	MET		OTHE	R (SPECIFY)		ER (SPECIFY)			TAL CORE
22. DISPO	SITION OF H	OLE	BACKFILLED	MONITORIN	VA NG WELL	OTHER	NA R (SPECIFY)		NATURE OF IN	NA NA	מא א	COVERY %
<u>.</u>			Bentonite	7	Δ		V A			E Cleni	den	
T' EV.	DEPTH b		DESCRIPTION OF MATERIA	L\$	RES	CREENING BULTS d	GEOTECH SAN OR CORE BOX Pec eve	MPLE NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS	REMARKS	
	_	Fill Jay in And parties of the Interior of the	with fill, convicting necessity	ruste wipinsk	.	D					SHART Tine i	v2/
	3	Sist, L	ish brown, d lastic, siff co	ans, incisting		0						
	4					5	414		رک	1023	cc) (3/4)	
	5	Sandy day, ,2	silt, dat m un plastic, s steny	win,		0			,			
	6_	Spray	chay, dont a trace to need	roun,		0						E
	7-	2644	io med consust	en		0						Ē
	8=	•				0	4/4		رج	<i>10</i> 30		E
	9_		`							·	·	Ę
	10					6					543 (9/10)) [
RK JÜ	RM 55		PROJECT USER			<u>-</u>	- 77.1			HOLE NO.	0.5000	Γ_

			HTW DRIL	LI	NG LO	G			HOLE NO.	
ROJECT	USFF	ROCFA	25724	INSP	PECTOR WB	m's clar	do		SHEET 2. OF 3 SHEETS	7
ELEV.	DEPTH b	**	CRIPTION OF MATERIALS		FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Received	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h	1
	 //_=	Sandy Classics, dis	loz, dar Neddish enjs, trock plaste meellin consisten	3	0					
	1,2 =	1			0	4/4	213	1037		E
	13	5:14 SA fine gran	ind, brown, dury,	-	0				12/01/00	
	14-				0					
	15-				0				\$55.46.15/14	
	<u> </u>				0	4/4	८८५	0913	,	ļ
	//				0					
	13-				0					1
		<u> </u>			0					
	4	·	·		0	4/4	555	0920		
	23-		 		0				556 (21/22)	
	22		munder »		0					
	23	Minst, me	id puori, seff to	, Le	o	, 				-
	24	L. S. frez	in derf, mel pus sist from ofsen	dy	0	4/4	536	0129		
L,	25	1.5.		_	.0			·		•
-	Zi:	moist, fo	one been, dop to		0					
	27_				0					
	28=	1			l o	4/4	557	0437	557(27/28)	

USFROCFA

25724

PLEBIO

				ITW DRI			G	·		HOLE NO. DCI-BILO
DJECT	USF	FROLFA		25724	INSPECTO	WB	MECLE	den		SHEET 3 OF 3 SHEETS
LEV. a	DEPTH b			OF MATERIALS	FIELD RI	SCREENING ESULTS d	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 7.7%	REMARKS h
	24	wepshie	. <u>-</u>			U E	2/2	55 9	0945	Engle of the
	3/	Bo	Hon	et there						7D30
	32								:	
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		·						·		
-						v				

USFERCEA

25724

DC=3110

•			H	TWI	DRILL	.ING	LO	G				HOLE	NO. バニス ノバ
1. COMPANY NA	ME £	30205	+ mear	nell	2	. DRILLING	SUBCONT	RACTOR P	85		-,	SHEET	
PROJECT			DCFA		724		4. LOCAT			CF Bui	ا ماداد		
5. NAME OF DRIL	_	, , , , , ,			124		6. MANU	FACTURER'S D	ESIGN	ATION OF DRILL			07
SIZES AND TV	ZES AND TYPES OF DRILLING 4-box macrocon							LOCATION	nte	d Geopu	obe OH	-40	
	SIZES AND TYPES OF DRILLING 4- FOR PROJECT SIZES AND SAMPLING EQUIPMENT 4-FORT PROJECT SIZES								8.8	77 E	226747	37.79	
			Continu	vs				ACE ELEVATION	1				
	·						10. DATE	1086.			11. DATE COM	PLETED	
								11/30/0			12/0	100	
2. OVERBURDE	N THICK	NESS	33				15. DEPT	TH GROUNDWA	TER EI	NCOUNTERED			
3. DEPTH DRILL	LED INTO	ROCK) .				16. DEPT	TH TO WATER		APSED TIME AFT	ER DRILLING CO	MPLETED	
4. TOTAL DEPTI	H OF HO	LE	34				17. OTHE		EL ME	ASUREMENTS (SP	PECIFY)		
8. GEOTECHNIC	CAL SAMI	PLES	DIS	TURBED NA	UNI	DISTURBED	19		BER O	F CORE BOXES			
	SAMPLES FOR CHEMICAL ANALYSIS VOC					ALS	OTHER	R (SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR
ו של יבונט	Insite Analytical PCE, TCE, DCE				NA)	/	JA		NA	MA	r .	RECOVERY %
2. DISPOSITION	DISPOSITION OF HOLE BACKFILLED				MONITORIN	G WELL	OTHER	R (SPECIFY)	23.	SIGNATURE OF IN	ISPECTOR		
	Bentan				2	A-		なる	WB		mecu	enda	_
	PTH b		DESCRIPTION OF	MATERIALS		RES	CREENING SULTS d	GEOTECH SA OR CORE BO	X NO.	ANALYTICAL SAMPLE NO.	BLOW	R	EMARKS h
		cho4, d	lank brow	n, dan	o, fil,			RECTO	-7	<u> </u>	1750	4100	
]	rleipl	cotic me	i coms	isteny		.~					7.	t ne 1002
'	彐						0						
	Ξ												
2	᠆╣᠂	5:14 /	ight ba		10.00		0						
			istic, se										•
3.	====	•	,	, ,			0.3						
	\exists						^	4/4			1005	56,6	(3/4)
4.	\exists					<u> </u>	0	79		ادی	1030		
	=												
5-			4 4 4				0.3						
	1	(14) S	and, and Line grain	and we	il								
٤.	-]`	ocuted					0.3						
	Ⅎ												
7.							C. 3					'	
]										1811		
8-							0.3	414		ssz	Qui-	•	
	\exists												
9.	1												
'	4							1				5536	9/13)
D.	王											5006	-7-4
	55		PROJECT	SER I				2572			HOLE NO.		

		_	HTW DR	ILL	ING LO	G			HOLE NO.	
PROJECT	U	SFROCEA	25724	·IN:	SPECTOR WB/	n's clend	m		SHEET 2- OF 3 SHEETS	
ELEV.	DEPTH b		PTION OF MATERIALS		FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTIGAL SAMPLE NO. f	BLOW COUNTS	REMARKS h	1
	_	socied, w.	reddion pabur e grained, we in Lines y reddion bru	m	0	0				
	12_=	ciamo, mo	iplestic and			4/4	553	1015	Pláil2 vod	
•	13-	Sand, with	ines, prom, de	ing	0				·	
	И				0					
	15		·		0	ŭ,	. ·		554C1×110) \$	
	li			٠	0	414	554	0800		
	_ =	plastic, m	n, clamp, nead in not		. 0					
	13-	5.7.701. 6.200 G. warnest. h	ellenter		0	·				
•	-	5,2,244 5.14, bacon, nece consisson	classic, sift	je G	0	4/4	رددی	1808		
	zù-									
	21-	saul, pro.	ed sorted	 	0				556(21/22)	
	22	chap bron postcensist sand sitt	, moun, def,		0					
	23	plestic te	ined, buff to ist		0	4/4	د کال:	0817		
	24_									
	25		<i>)</i>	•						
	26								,	ſ
	23	Sizal Zigh gapinal, ne	+ baour, day, f.	- ;\e		4/4	557	08.20	557(27/23)	

MRK JUN 89 55-2 USERNIFA

25724

DCFBII)

		HT	W DRILL	ING LO	G			HOLE NO.	7
PROJECT	115	70		SPECTOR	nis clen	clon		SHEET 3 OF 3 SHEETS	7
ELEV.	DEPTH b	DESCRIPTION OF MA	TERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO.	BLOW COUNTS	REMARKS h	
	=	for your, well	o which				_		E
	24	•		0					
	30-	•		0					
,	3/-			e e					E
	32		-	0	44	378	0841		E
	33	sand, bear, wi moist the grame	i, were	0				559(3433)	
	34	Snote, Red		0	2/2	ويك	0820	ENT.	F
	<i>3-</i> 1	Bottom of Lo	ssed stole					To= 20 to co	F
					,				E
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MRK J	ORM 55	PROJECT	SFRDB FA	1 Z	5724	L	HOLE NO.	DUFBII	工

u ≯oronia de de deservición de la composición del composición de la composición de la composición de la composición del composición del composición de la composición de la composición de la composición de la composición de la composición de la composición del composición del composición del composición del composición del composición del composición del composición del composición del c

	•••		HTW [RILL	ING	LO	G	·				NO.	7
1. COMPAN	NY NAME	0		12	DRILLING	SUBCONT	RACTOR		10		SHEE	T 1	7
3. PROJEC	T:		Mc Donne	11 1	<u>Er</u>	4. LOCAT	<u>n men</u>	ta	1 Priori	ty Serv	ice of	3 SHEETS	-
		ISFRIDO	FA			For	mer	Dr	y Clean	ina Bu	ildin	g Locat	idп
5. NAME O	F DRILLER	Pat M	lartin						ation of drill			GH-40	
	ND TYPES OF	DRILLING 4	-foot maco			8. HOLE	LOCATION			`			7 .
AND SAI	MITEING EQUI	نچا ہے	-foot aceta ontinuous	te Sie	eve		419316 ACE ELEVATION		<i>Di</i>	22674	75.11		\dashv
								080	6.96				4
							STARTED /	CO	\mathcal{O}	11. DATE COM	7 /2 (000	
12. OVERB	BURDEN THIC	KNESS 49	O'bas			15. DEPT	TH GROUNDWA	TER EN	NCOUNTERED		,		7
13. DEPTH	DRILLED INT	O ROCK	o' ogs	···· ·	·	16. DEPT	H TO WATER	AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		1
14 TOTAL	DEPTH OF H	<i>D</i> .	0				R WATER LEV	FI ME	ASUREMENTS (SF	PECIEV)	v = ··		┨
14. 101AL	. DEF III OF T	49.	O'bas			<u></u>	<u>IA</u>			Lon 17.			╛
18. GEOTE	ECHNICAL SA	MPLES	DISTURBED		STURBED	19). TOTAL NUMI NA	BER OF	F CORE BOXES				
20. SAMPL	ES FOR CHE	MICAL ANALYSIS	VOC	METAL		OTHER	(SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORI	Ē
On	Site A	onfirmatio Inalytical	PCE TCE DUE	NA	+	N	Α		NA	NA	ı	RECOVERY %	
	SITION OF HO		BACKFILLED	MONITORING	WELL	OTHER	R (SPECIFY)	23.	SIGNATURE OF IN	ISPECTOR			1
			Bentonite	NA	τ	1	1A		QX K	idwel	1	-	╛
ELEV.	DEPTH b	DES	SCRIPTION OF MATERIALS			CREENING SULTS d	OR CORE BO RECOVE	X NO.	ANALYTICAL SAMPLE NO.	COUNTS TIME		REMARKS h	
		Clay, toce	silt: dark b	prown							Start	time 104	配
	, _=		damp, medi										E
		-	ty, medium	•									F
	2 _	consist	ency						·				E
	-			•		.5							F
	2				0	0							E
	3 =				ے), O							F
	4_=						1/4		551	1043	SSI	(3/4)	E
	' =	Silt, Stine	clay: dark by	งพก		. C						7/2000	E
	₅	1,57K 7/2 ,	damp, medic y, seft to	om ned.									
		consiste			0	.C							E
	L ==				-								F
	=		clay: bizwn 7		l e	0							E
	7	t .	ledium plast	, .									上
	=	ייונקיטאיי	censistenc	/		.0	,		_	,			E
	g-=				ļ	·	<u>3/4</u>		552	0738	-		E
ſ	=				0.	0	,						E
	9 								,	*			
	1c =				o.	O						(01)	-
L		PF	ROJECT		<u> </u>	•	<u> </u>			HOLE NO.		5 (9/10)	
MRK J	FORM UN 89 55		USFR1	DCFA		*				I Do	FBI	114	

		HTW DRIL	LING LO	G			HOLE NO.
PROJECT	USF	RDCFA	INSPECTOR J.Ki	dwell			SHEET 2. OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH CAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO.	BLOW- COUNTS TIME	REMARKS h
		Silt, some clay: brown 7.51/k damp, merlium plasticity	0.0				<u> </u>
		medium consistency	0.0	4/4	5 5 3	0743	
	12 = 1 13 = 1	-	0.0		,		<u> </u>
	14-		0.0			·	[- - -
	15		0.0				ļ
	 k-	silt and sand, some clay: brown 7.5485/3, damp, trace plasticity, soft to med. cons	istency 0.0	4/4	ક્ક્ય	075 i	554 (15/16)
	17-	Sand, fine, mod well serti damp, nonplastic, seft; Silt, some clay in lenses (from 17, 18, 18.5, and 19 bo	20) C.C				<u> </u>
	18 =	from 17', 18', 18.5', and 19' be all are light brown with the chidized (reddish) zones	raci				<u> </u>
	17 =	own cea Creagisms —	0.0				<u> </u>
	20-	Silt, some clay: dight bro		4/4	<u>\$\$5</u>	0800	- [
-	21—	75YR 6/3 damp, medium Plasticity, medium to so	Ft C.C				
	22-	Consistency; trace sand lenses and exidized zone	S (.(· ·			556(21/22)
	23	Sand, Fine, well sorted, light	_ (()				, [
	24 =	brown 7.54Rg, damp, nonplast soft consistency; trace sil lenses and exidized ribbe	+ 	4/4	554	0310	
	25 =		0.0	,			<u> </u>
	26-	Silt, light brown, damp, trace to non plastic, soft consistency sand fine well some light	e stercy 0.0				
	27-	Sand, fine, well sorted, light brown 7.54Rs, damp, nonplay Soft consistency	· · ·	11.11	s57	0822	SS 7 (27/23)
L	11-11	PROJECT	<u> </u>	- 4/4	1 231	HOLE NO.	30 · W. C3/

PROJECT USFRDCFA

HOLE NO.
DOFBILLA

		HTW DRILL	ING LO	G			HOLE NO.	
PROJECT	USF	RDCFA IN	SPECTOR J.K.	dwell			SHEET 3 OF 3 SHEETS]
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVER	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME	REMARKS h	
	গ্র—	Sond, fine, well sorted, light brown 7.5 YR 6/3, damp, nonplastic, soft consistency trace silt lenses and exidized	0.0				·	
	30—— ব্য	trace silt lenses and exicized	0.0				·	
	32—		0.0	3/4	553	0839	Hard drilling	
·	33—	·	0.0					
	<u> </u>		0.0			·	SS9 (33/34)	
	35— <u> </u>	Sand, some silt: light brown 7.548 00 moist to wet, nonplastic, soft consistency	0.0					
` 1	36 ==	Pottom of logged hole	0.0	4/4	કડી	<u> </u>	End time	
	37-	Dottom of Tayset 1010					TO=49.0'bgs WL=DRY	
	38-				٠.			
	31 — = 46—							E
	41-							
	42_=				٠			
	43-							
	44— <u>—</u> = =							
	45-							
MRK J	ORM 55	-2 PROJECT USFRDCF	A			HOLE NO.	CFBIIIA	

			-	HTW	DRILL	ING	LO	G				HOLE	NO. CFB112]
1. COMPA	NY NAME	BURNS	+ 1	nc Donne	// 2	. DRILLING	SUBCONT	RACTOR &	P	5	······································	SHEE	I 1 SHEETS	1
,. PROJEC				257			4. LOCAT	ION ORME	0	ory cla	aninG			1
5. NAME C				rtin						ation of Drill ed Geo				1
7. SIZES A	ND TYPES O		4-4	oot MAC				LOCATION	<i>,,</i> , , ,	ey va	PRUCE	0 77		\dashv
AND SAI	MPLING EQU	IPMENT		oot Aata antinous	te slee	eve		IA QZ		0.20	E 2267	274.	00	4
				<i>x,,,,</i> ,,,,,,,,,,,,				1084.						
					 		.10. DATE	STARTED /	0		11. DATE COM			
12. OVERE	BURDEN THIC	KNESS		33				H GROUNDWA		NCOUNTERED			/	
13. DEPTH	DRILLED INT	O ROCK					16. DEP1	TH TO WATER A		APSED TIME AFT	ER DRILLING CO	MPLETED		1
14. TOTAL	DEPTH OF H	IOLE		34			17. OTH			ASUREMENTS (SF	PECIFY)			\dashv
18. GEOTE	CHNICAL SA	MPLES		DISTURBED	UN	DISTURBED	19	. TOTAL NUMI	SER O	F CORE BOXES				-
20 SAMPI	ES EOD OUG	MIÇAL ANALY	cie	VA VOC	MET.	DISTURBED	, 	(SPECIFY)	,		071150 (6	DEOLEVA	Las rozu con	
-0115	ite Li	7 6		CE, TCE,	 	IA		NA	-	THER (SPECIFY)	OTHER (S		21. TOTAL COR	
	FIRMA SITION OF H			BACKFILLED	MONITORIN	<u> </u>	 	(SPECIFY)	23.	SIGNATURE OF IN	<u>.i. · · · </u>		NA %	\dashv
			E	penton; te	N	A		NA	U	telter	B.ME	مل =	ndon	
ELEV. a	DEPTH b		DESCRI	PTION OF MATERIALS			CREENING SULTS d	GEOTECH SA OR CORE BO RECEVE	X NO.	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9	·	REMARKS h	
		Filln	nater D, Wit	cial, clay, the concret leby tile	, daek le bits				7				2+ Time 0748	E
	/ —	And Is	PICK,	I clay tile			0							F
	2-		•	. "			0				·			E
							J							F
,	3	 ,			,—		Ð							E
		SANU + MALE	4 & i 17 2 ha S	t, brown, of	damp,	·		314	,		07-7	55	1 (3/4)	E
	4-	Consi	ster	14			0	214		551	0752		•	E
							_							E
	5	Silt	Clay	, brown, a	JAMO.		0							F
	6-	mediu	וא פן מ	asticity, n	nedium	·	ø							F
		<i></i>	STEAC	/										F
	7_3					1.	Ó							E
	- 1													E
	8	Land	10/2	y door h	0000		0	414		552	0759			E
		damp,	+PAC	y, dark but to med. p	145he,								•	F
	9-	med. t	o hA	Rd consis	tency		0		-			467	191. A	
,	10						0			1		フララ	(9/10)\$	E
	<u>, , , , , , , , , , , , , , , , , , , </u>		PROJE	CT				l			HOLE NO.	L		<u> </u>

MRK JUN 89 55

USFROCFA

25724

DCFB11Z

-		HTW DRILL	ING LO	G			HOLE NO. OCFB11Z
PROJECT)SFR	DCFA 25724	NSPECTOR Walt	e B. Mc	Clend	on	SHEET Z OF 3 SHEETS
ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OB CORE BOX NO. RECOVERJ	ANALYTICAL SAMPLE NO.	BLOW COUNTS Tirke	REMARKS h
	//	SANDY CLAY, CLARK DROWN, CLAMP, trace, to med. plastic, med. to hard consistency	0				
			0	4/4	<i>9</i> 53	0801] [
	13—	SAND, with fines, brown, damp, fine grained, poorly sorted	0.3				
	14		0.3				<u> </u>
	15		0.3				554(15/16)
	16—		0.3	4/4	554	0810	334 (3)(6)
	77—		0.3	·			
	18-		0.3	~,			
	2	Silt brown, damp, teace	0.3				<u> </u>
	20_	Silt, brown, damp, trace to med. plastic, soft Consistency	0.3	3/4	555	0815	<u> </u>
	21		0				556(Z1/2Z)
	22.		0				<u> </u>
	23		0		,		
	24	moist	0	4/4	جآذو	0822	
	25		0			7	
	26		0				Į E
	27		0				<u> </u>
	28 -		0	3/4	557	0824	557(27/28)
MRK J	ORM 55-	2 PROJECT USFRDCFA	25724			HOLE NO.	CFB 112

		HTW DRILL	ING LO	G			HOLE NO. OCFB112]
PROJECT	U 51	FROCFA 25724 INS	SPECTOR Was	ter B. D	Accient	don	SHEET 3 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 1 inc	REMARKS h	
	29	Silt, brown, moist, med. to highly plastic, soft Consistency	O					
	30-		0					
	3/-	SANDY Silt, brown, medium plastic, medium consistency	0	4/4	619			
	32	pursus, manus or a superior		.,	. 558	0830		
	<i>33</i> =	Shale	3.6	2/2	559		459 (33/34)	
	34		173		23 1	0837	PHC DOOR	
		BoHom of Hole			,	·	END Time 0840 TD=34	
				. '				
			:					
	-					١		
					•		. :	
-								
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	=							<u>-</u>
					•			
MRK J	ORM 55	PROJECT -2 USFROCFA	2577	ii		HOLE NO.	call CFB1142	:

• 18

	HTW I	DRILL	ING L	.OG					NO.	
1. COMPANY NAME	MCD	2.	DRILLING SUBC	CONTRACTOR				SHEE	<u>CFB113</u>	\dashv
ROJECT	Mc Donnel		4. L	CONMENT						\dashv
USFRDO	CFA			Former IANUFACTURER'S I	Da	Clean	ung Bu	ildine	Locati	ट्या
Pa+ Ma	rtin			Van - mou						
	4-foot macro	core s	amold& H	OLE LOCATION			•			7
i <u>1</u> -	4-foot acet Continuous	AFE SI		N 141929 URFACE ELEVATIO		.19 6	2261	30-5.0	30	\dashv
			10	10 DATE STARTED	83.3	39	11. DATE COM	IOI ETED	<u> </u>	_
				11/15/	200	∞		2/ <u>20</u>	60	
12. OVERBURDEN THICKNESS	3′		15.	DEPTH GROUNDWA	ATER EN	ICOUNTERED	·	•		
13. DEPTH DRILLED INTO ROCK	0′	-	16.	DEPTH TO WATER	AND EL	APSED TIME AF	TER DRILLING CO	MPLETED		7.
14 TOTAL DEPTH OF HOLE	31	 ·	17.	OTHER WATER LEV	EL MEA	ASUREMENTS (S	PECIFY)			-
18. GEOTECHNICAL SAMPLES	DISTURBED	UND	ISTURBED	19. TOTAL NUM		CORE BOXES			.	\dashv
20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METAI	JA	THER (SPECIFY)	I 07	HER (CRECIE)	T OTUED (O	DE OUT.	I	
Onsite Analytical	PCE, TCE, DCE	NEIA		NA	01	HER (SPECIFY)	OTHER (S		21. TOTAL COR RECOVERY	
22. DISPOSITION OF HOLE	BACKFILLED	MONITORING		THER (SPECIFY)	23. 5	IGNATURE OF I		•	NA %	4
	Bentonite	NA		AA		_	idwell			
SLEV. DEPTH	DESCRIPTION OF MATERIALS		FIELD SCREEN RESULTS d	OR CORE BO		ANALYTICAL SAMPLE NO. f	BLOW- GOUNTS TIBNE	F	REMARKS h	
Fill								Star	r Time=	E
, = = = =			0.9					0850	.	F
1 1	rown 7.5 YR 4									F
· // ——	trace plas	ticity,	0.5							E
	onsistency									F
3 -=			0.0							E
]										F
4 -=			0.0	NA		581	0854	SSI	(3/4)	E
]										Ė
	silt, brown		0.9							F
	crace plastic		- 0							E
6 - soft to	medium cor	ngistem	y 0.9							F
			0.6				·			E
1			0.4		l					
=			0.4				-05.			F
				- NA	+	552	0856	•		<u></u>
	lay, dark b	rewn	ما ٥٠٠				·			F
7.5 YR 3,	k, damp, t	race								
10 - plasticit	y, soft to i	mediom	0.6					553	(9/10)	E
MRK JUN 89 55	PROJECT	ø	SFR DC	FA			HOLE NO.	NCER	2113	

		HTW DRILL	ING LO	G			HOLE NO.	
PROJECT	USF	ROCFA	J. K	idwell, h	B. Mcc	lendon	SHEET 2 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME	REMARKS h	<u></u>
	"-	Silty sand, dark brown 7.54R3/2, damp, non plast soft consistency	li .					سلسب
	12-		0.6	NA.	<u> </u>	0858		
	13-		0.6		· .			
	14	• 5	0.6					E
	15-		0.6				• .	
	 16		0.6	NA	554	0903	554 (15/16)	
	17-	Candy oils by Taylor	0.6			•		
<i>i</i>	18-	Sandy silt, brown 7.54R5, damp, trace plasticity,	9>		:			Ę –
	19—	soft consistency	0.6	·	·			E
			0.3	NA	5 25	0907		1111
	20-	Silt, light brown 7.54R 6/4 damp, trace plasticity, soft consistency	0.3					
	22-		0.3			,	556 (21/22)	E
,	23—		0.3					
	24-		0.3	NA	556	0115	11/16/2000	
	25-		0.0					
	26-		0.0					E
	27—		0.0					É
	28	sity clay, brown 7.5 YR 5/4, moist, med. to high plasticities of the state of the s	0.0	NA	557	0705	SS7 (27/28)	E
MRK J	ORM 55	PROJECT				HOLE NO.	CFB113	

PROJECT		HTW DRILL					DCFB13
	USF	?DCFA IN	SPECTOR J. Kic	GEOTECH SAMPLE	B. MCCI ANALYTICAL	endon	SHEET 3 OF -3 SHEETS
ےLEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	RESULTS d	OR CORE BOX NO.	SAMPLE NO.	BLOW COUNTS TIME	REMARKS h
	_	Silty clay, brown 7.54R 5/4,					,
	29	moist, med to high plastici	0.0		••		
	=	soft to med. consistency	0.0		·	·	
	30-	Sand lens	0.0				
	31-		0.0		:		
] =	Sand lens			·		
	32-		- 6,Δ	NA	558	0715	·
	=	sand lens			- •		
	<i>3</i> 3—	Shale, olive gray 545/2	0.0	NA	559	0723	\$59 (32/33
		Bettom of hole			*		End times 0728
	34-						TD=33' bgs
•							
	35					~	
	36—				, ,		
	=						
	37						
	38-	·					
	=						
	39-	·		:			
	=			•			
	40-			· •.			;
	41— =			,			
	42-						
٠	=		,				•
	43-						
	=	•					
	<i>\\</i>						
			·				
	45 —						
	46 -				· · ·	· - 	
MRK √		PROJECT		·		HOLE NO.	

			HTW	DRILLI	NG L	OG				HOLE NO). B 113A	
1. COMPAN	IY NAME A	2RA +	mc Donne 11	2.	DRILLING SUBC	ONTRACT	OR Paior	: W Seri	ila.	SHEET 1		1
PROJECT	T		A 257		4. L	OCATION	R DRY C	·				1
5. NAME O			17 257	24		IANUFACT	URER'S DESIGNA	TION OF DRILL	rac, 119			1
7 01750 A	ND TYPES OF	Paul	4-toot macroco	20		<i>رکو</i> ی OLE LOC <i>i</i>	probe C	FH-40				-
	APLING EQUI		4-but Acetate			V141	92968.	66 E	226731	5.33		
•			Con tinous		9. S	URFACE E	ELEVATION 1083.56))				
		,			· 10.	DATE STA	RTED		11. DATE COMP			1
12. OVERB	URDEN THIC	KNESS			15.		6/2000 ROUNDWATER EN	ICOUNTERED	11/06/	000	<u> </u>	1
		A BOOK	24		100	DESTI TO	NA	ADOED THE AET		101 STED		
13. DEPTH	DRILLED INT	O ROCK	NA 2		16.	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED						_
14. TOTAL	DEPTH OF H	OLE	NA 26		17.	OTHER W	ATER LEVEL MEA	SUREMENTS (SP	ECIFY)			
18. GEOTE	CHNICAL SA	MPLES	DISTURBED		STURBED VA	19. TO	OTAL NUMBER OF	CORE BOXES]
20. SAMPL	ES FOR CHE	MICAL ANALY		METAL	s c	THER (SP	PECIFY) OT	HER (SPECIFY)	OTHER (SF	PECIFY) 2	1. TOTAL CORE	
CIS	, pc pr		PCE, TRE, DCE	NA		NA	,	NA	, , , , ,	9	PECOVERY %	
22. DISPOS	SITION OF HO	DLE	BACKFILLED	MONITORING	WELL C	THER (SP		SIGNATURE OF IN	_	4 - 4		
			Bentonite	MA	·	N			B. Mcc	<u> anda</u>		4
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS		FIELD SCREE RESULTS d		OTECH SAMPLE CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 7	RE	MARKS h	
1	=	Medium	7.540-541 became on plastic, medius stemy; with conc	gang,						Stant	= 0940	F
	1/_=	Lonsis	tent; with conc	nete pieces	0.	<u>-</u>]		Tipe -	- 0740	E
												E
	2_		A A		O.	5						E
		Sarry -	Sitt, 1,847 BROWN, plastic, sufficient	sisteny								E
i	3_		January Anni a dan		0.	ا حو						E
] , =	to med	pastic, soft for h, with some	ned.	Z.	ر ع	NA	351	0945	£21	3/4	F
	14	2 11	Land haowa da	mp fix	2.		~~	321	0943	·	•	F
	= سرا	to med Sonte	Sand, brown, da live siained, po	024								E
	3 —	Source	- q			az						
	, =											E
	-				(D.z				• •.		E
	7 =									,		E
	'-					0.2	•	· ·				E
	8_=					Q2	NA	552	0952	·		F
	=	Silys Drown.	damo, fine to m	and, edium								F
	9_=	GRAIDE	damp, fine to med, pookd		D.	2						E
	′ =										-	F
	10 =		- F		0.	2						F
MRK !	FORM 55		PROJECT 1/SF	ROFA			•	~~·/	HOLE NO.	OCFB.	113A	

20.22		HTW DRIL	•••		,, <u></u>		DCF/1/3A
ROJECT	U.	SFROCFA 25724		ter B. My	Cland	en_	SHEET > SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 7/22	REMARKS h
	_	SAND brown, damp, line to	0.2				
	<u> </u>	medium snained, poorly touted	,				
	=	,		·			552 (9/10
	12_=	Till Good how a damp Al . I	0.2	NA	553	1000	35867/16
	=	Sitty Sand, prown, damp, fine to medium snamed, poorly souled					
	13-		0				
],,=						
	<i>Y</i>	,	. 0				
	15_		1				
	' -	Sitt becan clamp to moist, medium to highly plastic, soft	0		!		554(15/14)
	16_=	consistency	0	NA	554	1007	(3//4)
•	17-	Farty 5: 1+ have a dama to mount					
	_ =	medium plastic and consistency					
	8-	Chaf Deown, damp, Med. Phad Soft k med	icos. 0				
	=	S: 14 Sand, Brown, moist fine GAA: recl, well souted					
	19-		0				
	20_	Sant, brown, moist, fine Graines well sould		NA	555	1015	
	=	FILL SAND, 7.5-1-54 brown, dam fine GARINED, WELL SERVED	0				555/(21/22)
	4_		0			·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	=						
	22_	Sand 7. 1. 15/4. Brown clame	- 0				
		fine to coanse, poorly souled					
	23		0				
	24			NA	556	1045	
•	' =	CIAL, Olive Green, day, nonglast hand coms is terry, odor (Shale	<i>i</i> e :			·	Petrolan
	25_	ma conserve, bable conse	12.2] .		
	, ,	·	72.2	 ₩A			357(25/24)
	26_			γn	557	1100	
		Bottom of Hele					70=26fee
	=						<u> </u>
					.		

MRK JUN 89 55-2 USFR OCFA

25724 | DCFR112A

			HTW I	DRIL	LING	LO	G				HOLE	NO. よろ11313
1. COMPAI	NY NAME	2 3 2 3 3	Incoonell		2. DRILLING	SUBCONTE	RACTOR	122:	oa:t, se	RJ:UF	SHEE	T 1 ZSHEETS
3. PROJEC					2. 770	4. LOCAT	ION		,			3
		ULFRDO	F# 25	5724						Facility i	Loontic	ハ
5. NAME O	F DRILLER	Do	US			6. Manuf			TION OF DRILL ムル・4c			
7. SIZES A	ND TYPES OF		4-foot macrocur	e samp	leq	8. HOLE I						
AND SA	MPLING EQUI	PMENT	4-foot suspe						7 E2	267329	5.25	
			Continous			9. SURFA	CE ELEVATION	74				
		<u> </u>				10. DATE				11. DATE COMP	PLETED	
		<u>·</u> [-	11/07/200			11/08/2	000	
12. OVERE	BURDEN THIC	KNESS	31			15. DEPT	H GROUNDWA		COUNTERED			
13. DEPTH	DRILLED INT	O ROCK	1			16. DEPT	H TO WATER A		APSED TIME AFT	ER DRILLING CO	MPLETED	
14. TOTAL	DEPTH OF H	OLE	32			17. OTHE	R WATER LEV	EL MEA	SUREMENTS (SF	PECIFY)		,
18. GEOTE	ECHNICAL SA	MPLES	DISTURBED NA	U	NDISTURBED	19	. TOTAL NUMI		CORE BOXES			
		MICAL ANALYS	s voc	ME	TALS	OTHER	R (SPECIFY)	01	HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE
_	te Ana te Lab	42.7	PCE, TCE, OCE	~ √	A	-	NA		NA	~	A	NA RECOVERY
	SITION OF HO	DLE	BACKFILLED	MONITOR	RING WELL	OTHER	R (SPECIFY)	23. 8	SIGNATURE OF IN	NSPECTOR		<u> </u>
			Bentonite	^	JA.	•	JA.		Walte	LB. M	=clen	don
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS	3	RE	SCREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS Ting		REMARKS .
	1	med. plas fell, comin	have alegar	stem	-	0.3			·		SHA Tiv	e 0505
	3		b bavun, clamp, of soft come steny		· .	1.0	מלק		/ ذخ	0510	ر چي	(44)
		5:1+, do	ic, soft cens is den	. – – *,		80						
	6-					c-3						
	7-					1.1				r :		
	8_=				-	1-1	NA		652	Bilv	-	
	9_=	Silty SA medium G	nd, backn, damp; as not so	fine to nted		0.8				:	<i>5</i> 53	(4/10)
	10 =	•	,			0.8						
ADK !	FORM EE		PROJECT	Γ. Λ.					25724	HOLE NO.	o, ≥11	32

+ 2° p

		HTW DRILL	ING LO	G			HOLE NO. DEFB113B
PROJECT		USEROCEB 25724 INS	PECTOR Was	ter B. Mc	clandon	•	SHEET CONTROL SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d			BLOW COUNTS 7:2	REMARKS h
	× 1111	5:14 Sand, brown, damp, fire to medium: Banied, poonly souted	0 .8				
	12_		1.1	44	553	0922	-
	13		6.3				<u>-</u>
	ју <u>-</u>		0.8				1
	15-=		0.8				<u> </u>
	ルー	Sandy Si H, baow, damp, medium plastic, soft consistency	0.3	NA	554	0927	
•	17		0.8			·	Ę
-	18-		0.3				E
	15 <u> </u>		0.8	10	·		
	20-		0.3	HA	335	0934	554 (21/22)
	21-		1-1				#
	23—	Sand, 7. 5-1-54, light bounn, CHAD, fix to medium GARINA, wells ented	0.8				<u>-</u>
	24-		1.1	μa	بهادی	0542	11/08/2000
:	25-		01		-		
	26		C·1				<u> </u>
	27		0.5	10			557E7123) <u>E</u>
	28 =	PROJECT	0.1	A L	657	∂7/0 HOLE NO.	<u> </u>
MRK J	й ё 55	-2 NSFROCFA		25	724	ı	ICFR 113R

			HTW DRI	LLING L	OG			HOLE NO.
PROJECT	· I	USFROLFA	25724	INSPECTOR	altu B me	clanden		SHEET 3 OF 3 SHEETS
-∟LEV. a	DEPTH b		ON OF MATERIALS		ING GEOTECH SAMPL OR CORE BOX NO	E ANALYTICAL	BLOW COUNTS TIME	REMARKS
		fire to medium	, Down, dama,					·
	29	Sacked	gearer, a ex	0.)	,			
] [
	3ù			0 1				
	_		•					
	3/	Chay, Emil, vint prosec, haden	gite, day, in	- 0.1	·			558/3.132)
	32	plassic, Harden	sisting, show	0.1	NA	828	0732	558/3.132) ENTIME=073
	-	Be Hon	of dele					カニ3と
	33	150 7000 1	, /v ··					
		1						
	34-							
·								
	3,-							
•	36							
ļ	-							
	37_							
	38							
		1						
]		1						
	=	1						
		1						
		1	•					
		1			·			
]						
		1			·			
		<u>.</u>						٠.
	=]						
1		1						
		1						
1] =	1						

			HTW !	DRILL	ING	i LO	G				HOLE	NO. CFB113C
1. COMPAN	IY NAME	2204 4 M	Pc Donnell	2	. DRILLING	SUBCONTI	RACTOR	PR	or:4 5	ervice.	SHEE	T, 1 SHEETS
. PROJEC	T		·	<u> </u>		4. LOCAT	ION			·	, ³	
		SFROCE	FA 25	724					ERA INS I	Facility	LOCAY	103
). NAME U	F DRILLER	Doug	5						Geoppob	e C++-4	0	
. SIZES AI	ND TYPES OF	DRILLING	4-toot MACROCO	ne		8. HOLE	LOCATION					
AND SAI	MPLING EQUI	PMENT	4-foot Acetale			N 14	<u> 192936.</u>	.06	E 2.	267340.	16	
			Costineus			9. Surfa	ICE ELEVATION	1 83 <u>,</u>		•		
					•	10. DATE	STARTED	<u>ر د ن</u>		11. DATE COM	PLETED	
							1107100	-		1110	7/00	
12. OVERB	URDEN THIC	KNESS	9			15. DEPT	'H GROUNDWA'	TER EN	ICOUNTERED J. J. J.			
13. DEPTH	DRILLED INT	O ROCK	D			16. DEPT	H TO WATER A	AND EL	APSED TIME AFTI	er drilling co	MPLETED	
14. TOTAL	DEPTH OF H	OLE	9			 			ASUREMENTS (SP			
18. GEOTE	CHNICAL SAI		DISTURBED NA	UNI	DISTURBED) 19). TOTAL NUM	•	CORE BOXES		<u> </u>	
		MICAL ANALYS		META	NA als		R (SPECIFY)	7	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE
Onsi	te Ann	Siske	PCE, TCE, DCE	NA	7		NA		NA		A	RECOVERY
22. DISPOS	SITION OF HO	DLE	BACKFILLED	MONITORIN		OTHE	R (SPECIFY)	23. 9	SIGNATURE OF IN	ISPECTOR		1 //
		-	Benjonite	7/			JA	1	Walter		clono	lon
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS			SCREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW		REMARKS h
	2-3-3-3	p135 \$17 p135 \$17	lack, dang, medically selected to be a s	, £:11 e, sme		0			•		Time	1 2 = 0653
] . =		are as above			0.1	JA		ادک ادک	0659	SSI	3/4
	4		HE HE MOULE			0.1)		1	
	5-					0						
•						J						
	\&					0		•				
	7-					o						
	8_		SAME AS Abo.	181		0	NA		152	0702		
							NA		553	0707	1	8/9) mi=0710
	9-		soffer of Hule								cres 1	-2 -0 //0

			HTW D	RILLI	NG	LO	G				HOLE	NO. B113D
COMPAN	Y NAME				-	SUBCONTRA					SHEET	
COMPAN	B	urns & M	1CDonnell					al 1	Priority	Service		
₽ROJEC	τ	SFROCE			:	4. LOCATIO	N					
NAME O	F DRILLER	JEK LILE	Α	··· · · · · · · · · · · · · · · · · ·	<u>'</u> .	6. MANUF	ACTURER'S DE	SIGNA	TION OF DRILL	ng Bu	Tam	g Locati
. 14741112 0		at Mar	tin						ed Ge	oprel	عو ر	3H-40
	ND TYPES OF	DRILLING 4-	foot macroco			8. HOLE L	OCATION		•	_ '		
AND SAI	MPLING EQUI		foot acetati	e sleer	/e	1	4/9292 E ELEVATION	<u>.4,</u>	31 E	2267	<u>220</u>	.14
			on tinue is			0. 0011111		10	283,88	3		
						10. DATE		,		11. DATE COMP	LETED	
2 OVER	JURDEN THIC	KNESS				15 DEPTH	TUZI/ I GROUNDWAT	20 ER EN		11/21	1200	
Z. UVENE	OUDEN THIC	42				13. DEFI	36'		4S			
3. DEPTH	DRILLED INT	O ROCK				16. DEPTH	TO WATER A	ND EL	APSED TIME AFTE			
A TOTAL	DEDTH OF !!	()	<u>.</u>	····-		17 OTUF	37.7		bes Surements (SPI	~10m;	n	
i+. ţUIAL	DEPTH OF H	42	1 (36' 109	ged)		I'. OTHER	NA	.c mc/	OUTEMIENTO (OP	-Oii 1)		
18. GEOTE	CHNICAL SAI	MPLES	DISTURBED	UNDI	STURBED	19.			CORE BOXES			
O CAMPI	ES EUB UNE	MICAL ANALYSIS	VOC	METAL	NA s	OTHER	(SPECIFY)		HER (SPECIFY)	OTHER (SF	ECIEV)	21. TOTAL CORE
		malytical			 	 	·	- 01			LOIFT	RECOVERY
			-, -,				<u> </u>		NA	NA		NA %
22. DISPO	SITION OF HO	DLE	BACKFILLED	MONITORING	-	OTHER	(SPECIFY)		GIGNATURE OF IN			•
			Bentonite	NA		\ \	A		J. Kidwe	LP		
LEV.	DEPTH b	DES	SCRIPTION OF MATERIALS			SCREENING SULTS	GEOTECH SAI OR CORE BOX e	MPLE X NO.	ANALYTICAL SAMPLE NO. f	COUNTS TIME	I	REMARKS
		Clay, dack	brown 7.54	R 3/≥,						111191		
		damp, me	dium plasti	cityi	_	٠ •				•		
	1 -	Candy Gil	consistency		0	.0						•
	_	Janey Ji	It, light brown	W : N	1				•	7.		
	2 -	6.5/1.79	, damp, har	rplastic,	0	.3						
	~ =	Soft con	rielench									
] _ =	Silt, tra	ce clay, lig	ht	0	٥.						
	3-		.54R6/4, da					٠.				
		trace DI	asticity, me	diom	0) . O	NA		SSI	0815	661	(3/4)
	4	consiste		-·•						1	. JJ1	CO(-1)
	=		,								,	
	5 -				0.	.0						•
] =				1	_	1					
	6-				0	.0						
	=											
	₇ _=				0	0						
	' =											
	=				0	. D	NA		SS2	0827		
	8	C: 14- = - A	clay dank	han			, , , ,	-	302	0021	,	
	=	7.5 VR 3/2	l clay, dark ,, damp, med	dina	_	^	<u> </u>			•	,	
	ام —			-1/O FI (10	.0						
	' =	consiste	y, medium		_							
	10 -	L			0.	3					883	(9/10)
		Inc	ROJECT							HOLE NO.		

		HTW DRILL	ING LO	G			HOLE NO. DCFB 113D	
PROJECT	USE	R DCFA INS	PECTOR J.	Kidw ell			SHEET 2 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	-BLOW COUNTS TIME	REMARKS h	
	1 -	Silt and clay, dark brown 7.54k damp, medium plasticity, medium consistency	0.0				•	
	=		0.0	NA	SS 3	0833		E
	13-	Silt, trace clay: brown 7.5 YR 1/3 damp , trace plasticity, medium consistency	0.0				·	
	 14 —		0.0					
	15	Sand and sit; brown 7.54R43 damp, non plastic, soft	0.3			,		
	10 -	consistency	0.7	NA	SSY	0838	SS4 (15/16)	
	17-		0.3				·	<u></u>
	18		0.0					_ _
	9-		0.7				,	<u> </u>
	20-		0.3	NA	555	0844		<u> </u>
	21	Silt, trace sand light brown 7.5yr/4; damp, nonplastic, soft	1.1				55 6 (21/22)	
	22	Sand, mod. well sorted, light	0.7	·			SS 6 (21/22)	<u> </u>
	23	Sand, mod. well sorted, light brown, damp, nonplastic, soft Sand, some silt, light brown 7.5484, damp, nonplastic, soft						
	24	1.5/k/7,0/3/Mp; [0.7	NA	SSIP	0849	· '	
	25—	Silt, light brown 7.54R 6/4 damp, non plastic, medium	0.7					
	26-	to soft consistency	0.3					
	27		0.7					
	28		03	NA_	557	0900	587 (27/28)	<u>E_</u>
MRK .	FORM 55	5-2 PROJECT USFR DCF A				HOLE NO.	FB113D	

:		HTW DRILI	ING LO	G		-	HOLE NO. DCFR113D	
PROJECT	USF	R DCFA	INSPECTOR J.K	idwell			SHEET 3 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. 1	COUNTS TI ME	REMARKS h	
	29-	Silt light brown 7.5 YR 6/4 damp, honprastic, soft eensistency	1.3					
	30—	Silt, light brown 7.5 yr6/4 moist, trace plasticity,	0.5					
	31 -	soft consistency	0.3			·		
	32		0.3	NA	8 28	0912		
	33 -	Sand and silt lens from 32.3' to 32.5' bgs; Clayey sil- lens from 32.5' to 32.8' bgs	1.1					
	34-		0.7				SS.9 (33/34)	
	35	clayey silt lens from 35'to	0.3		·			
	3k-	35.3' hgs	0.5	NA	559	0923		<u>-</u>
	37—	Bottom of logged hole					Bottom of logged hole at 36 bgs;	
	38—						Stot refusal a + 42' bgs WL= 37.71'	
	39—						WL- St. II	
	40 —							
	41-							
	42-	<u> </u>						
	13						·	
	44—							E_
1	45—							
	46							E
	, .	PROJECT				HOLE NO.		

			HTW C	RILLI	NG	LO	G		1,0		HOLE	NO.	
1. COMPAN	IY NAME	une 9	McDunnell	2.	DRILLING	SUBCONTR	ACTOR	أد	Priority	Sardica	SHEE	Τ 1	
ROJEC	T T			<u> </u>		4. LOCATI	on						1
5. NAME O		SFRI	PCFA .	· · · · · · · · · · · · · · · · · · ·		6. MANUF	ACTURER'S DE	SIGNA	TION OF DRILL	3 Duile	نسنا	Location	-
		Paul	Vogels bere	\		<u> </u>	11 - 11161	int	ed G	<u> ران مت مت </u>	= Gt	1-40	4
	ND TYPES OF MPLING EQUI		4-feet macro	<u>core Sa</u>	napler s	8. HOLE L	.OCATION <i>14 192 9</i>	34	.64 E	22673	22.9	7	
			Continuous				CE ELEVATION			<u></u>			1
		F				10. DATE		<u>08</u>	3.77	11. DATE COMP	PLETED		+
		-				1	1/22/			11/22			
12. OVERB	BURDEN THIC	KNESS	34				GROUNDWA	rer en	ICOUNTERED	·			1
13. DEPTH	DRILLED INT	O ROCK	1,			16. DEPTI		ND EL	APSED TIME AFTE	R DRILLING CO	MPLETED		
14. TOTAL	DEPTH OF H	OLE	35'	· .		17. OTHE	4 .	EL MEA	ASUREMENTS (SPI	ECIFY)			
18. GEOTE	ECHNICAL SAI	MPLES	DISTURBED		STURBED			BER OF	CORE BOXES				1
20. SAMPL		MICAL ANALYSI		METAL		OTHER	(SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	
Onsi	te Ana	alytical	PCE, TCE, DCE	NA	+	1	IA		NA	N/	4	RECOVERY	
22. DISPO	SITION OF HO	DLE	BACKFILLED	MONITORING	WELL	OTHER	(SPECIFY)	1	SIGNATURE OF IN				1
			Bentonite	NA		N	·	<u> </u>	& Kidi	vell			
CLEV.	DEPTH b		DESCRIPTION OF MATERIALS c			CREENING BULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME		REMARKS h	
		Topsoil	1		-							t time	F
	<u>, </u>	Sand a	and silt, poorly	y sorted,	0.	0						120	E
,		damp	brown 2.54 8/4,	Seft		•							F
					0.	n							E
	=	Silt, d	ark brown 7.5	YR 3/2									F
	3 -	grading	g to light bro	wn 7.5yr	* 0.	0							E
	-	ary,	non plastic,	sof F								1 = 1 : 1	F
	4 _=				0.	0	NA	<u> </u>	551	0725	J SS	1 (3/4)	E
	=												Ė
	5 -				0.	0							E_
] =		ace clay, dark										E
	k -=	7.5YR3	é, damp, tra city, suft to	دو	0	.0							F
			ciry, sitt ti stency	rriect.		_							E
	7-	31			0	.0						•	<u></u>
	=				h	. 0	NA		552	0727			E
1	18 -					· ·	17/7		370	0732	 		F
1] a				Ĺ	C							F
	' =												E
	10 =	·	Topo gov		0	·C	<u> </u>				55	3 (7/10)	上
MRK J	FORM 55 UN 89		PROJECT	DOF	۵					. HOLE NO.	KED.	lize	

		HTW DRILL	ING LO	G	· · · · · · · · · · · · · · · · · · ·		HOLE NO. DEBUSE
PROJECT	U	SFROCFA		Kidwell			SHEET 2 OF Z SHEETS
ELEV.	DEPTH	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	c oun ts Time	REMARKS h
	11-	Silt, trace clay and sand: dark brown 7.5 yR3/2, damy numplastic, medium to	0.0			,	-
	12-	Soft consistency	0.0	NA	983	0740	
	13-	Sand with silt, poorly Sorted, brown 7.5484/3,	C.C				
	14-	damp, nonplastic,	0.0				
	15 =		0.0			·	
	16-		0.0	NA	554	0748	* SS4 (15/16) =
	17		0.0				
	IS -		0.0			:	E
	19 — 20 —	Sand, moderately well Sorted, light brown 7.5785, damp, nonplastic, soft	0.0	NA.	555	0758	
	21	Silt, light brown 7.5 yr6/4,	0.0	·			
	22	damp, mon to trace plastici soft to med. consistercy _ Sand, moderately well	ξ. 0				556 (21/22)
	23	Scrted, light brown 7.5 YR6/4 damp, non plastic, soft;	, j. t				
	24-	Trace chert gravel, very coarse and weathered	0.0	NA	556	0807	
	25—	Silt, trace clay, light brown 7.5 YR 4, damp to	6 .0	`			
	26-	moist, trace plasticity, Soft to medium consister	1			:	<u> </u>
	27	sandy lens from 27.3 to 27.5	0.0		~~~	4611	(27/27/20)
140:4	28 -	PROJECT		<u> NA</u>	LSS7	OSI6 HOLE NO.	SS7 (27/28)F CER 1120

	·	HTW DRILL	ING LO	G		·	HOLE NO. DCFB113e]
PROJECT	USFI	ROCFA	SPECTOR J. K	idwell			SHEET 3 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h	
	29-	Silt, trace day, light brown 7.5/Rb/4, moist, trace plasticity, soft	0.0				. '	
	36-	to medium consistency	0.0	·				
	31		0.0					
	32-		0,0	NA_	558	ē329		
	33-		0.0					
	34-	O at all 1/2 appear area (5)	0.0				559 (33/34)	
	35	Shale, olive areen grey 5% moist, med. plusticity, Stiff	0.0	NA	SS9	084C		
1	36-	Bottom of hole					TD= 35'bgs WL= DRY	
	37—							
	38-	<u></u>						E
				·				E
	39—							
	H C-							E
	41-	<u>.</u>						E
	42-			-				
	43—							
	44—			1				
	45-							
	46	- Inno unas			<u> </u>	Lugis		E_
MRK	FORM 5	5-2 PROJECT ISTRDIFA				HOLE NO.	CQ 112A	

	· · ·		HTW D	RILLI	NG	LO	G				HOLE	NO. CFB/13f	.]
1. COMPAN	NY NAME	Burns	& Mc Donne	2.	DRILLING SI	UBCONTR	ACTOR	ì	Priority	Service	SHEE	Т 1	1
ROJEC	T	USFRD			1 4	LICCATIO	ON]
5. NAME O					6	. MANUF	ACTURER'S DE	SIGNA	TION OF ORILL	Raning	DMIT	ding Loc	471
7. SIZES A	ND TYPES OF	Paul Y	Vogetsberg L-foot macroco	re Sam	nler 8	3. HOLE L	<u>Vain-ii</u> Ocation	100	inted C	sect co	oe (a H- 40	-
AND SA	MPLING EQUI	PMENT 4	1-foot acetai	e slei	eve	N	14 19 29 DE ELEVATION	54	,62 E	22673	44.1		4 .
		-	ontinuous				/	08	3.96			····	
				•	1	IO. DATE		0		11. DATE COMP	LETED		
12. OVERE	BURDEN THIC	KNESS	8.5'		1	15. DEPTI	GROUNDWAT	ER EN	COUNTERED]
13. DEPTH	i drilled int		0.4'		1			ND EL	APSED TIME AFTE		APLETED		1
14. TOTAL	DEPTH OF H	lole ×	8.9'		1	17. OTHE		L MEA	SUREMENTS (SP				┪
18. GEOTI	ECHNICAL SA	MPLES	DISTURBED	UNDI	STURBED		TOTAL NUME	BER OF	CORE BOXES		·		-
	NA	MICAL ANALYSIS	VOC I		NA.		NA (SPECIFY)		HER (SPECIFY)	OTHER (SF	ECIEV	21. TOTAL CORE	_
1 _	ite Ana				·			01	NA	OTHER (SP		RECOVERY	
	SITION OF HO	·	PCE, TCE, DCE BACKFILLED	MONITORING			(SPECIFY)	23. 8	SIGNATURE OF IN		•	1 14/ 1/2	1
			Bentonite	NA	t	٨	JA		9 1	ridwel			:
LEV.	DEPTH	D	ESCRIPTION OF MATERIALS				GEOTECH SA OR CORE BO		ANALYTICAL SAMPLE NO.	BLOW- COUNTS		REMARKS	7
a	b		С		d	<u> </u>	е	_ ,	f _.	TIME	S - 3	nt fime	lacksquare
	=	Topscil]				-	349	E
		7.5yR6/4	d silt, light b	rown Iastici	0.	j						• .	-
	=	Sef+	,,,,,,,	• - •	0.	t		٠					F
	2 =	Silt, to	race clay, da	CK braw	^								F
	3 =	7.5YR361	dry, nonplast	ic, soft	C.	3				·			E
1	=	Sitt, I	ight brown 7.5	YR 4/4,								1-1-1	E
	4 -	dry, n	displastic, s	cf+	0.	<u>う</u>	NA		351	0852	551	(3/4)	<u></u>
					0.	3							E
	15 =												E
	=				0.	()							F
	\\ \(\begin{aligned} & -\\ -\\ & \end{aligned} \]	Silt, to	race clay, d	ark			ļ						F
	7 =		5/R/2, damp, 1		0	i							E
	=	consist	ity, soft to	nieci.		7							E
1	8 -	(-,-,,,	THEY		0.	<u>5</u>	NA		552	<u> </u>			
i					Ĉ.	0	1						E
<u> </u>	19 -					-					·		F
	10	·			0.	0					SS	3 (9/10)	F
MRK !	FORM 55		PROJECT) D(E	Δ					HOLE NO.		ハント	

	_	HTW DRILL	ING LO	G	<u>.</u>		HOLE NO.	
PROJECT	USI	FROCEA	SPECTOR J. K	dwell			SHEET 2. OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME	REMARKS h	
	11-	Silt, trace fine sand: brown 7.54R43, damps nonplastic, medium	0.3					
	12-	consistency	0.0	NA	<u>\$</u> 53	0903	·	
	13—	Silt and fine sand: light brown 7.5 YR%, damp, nonplastic, soft	0.0					
	14 -	non prostre, serr	0.3	·				
	15		0.0					шШш
	16		0.3	NA	554	0909	854 (15/16)	
	17		0.0					ग्रा
	18		0.3					1
	19-		0.0			,		سلس
	20-		0.3	NA	SS.5	0915		11111
	21 —	Sand, coarse and poorly	0.0				:	шШ
	22-	Scited, light brown 7.5784, do non plastic, soft Silt and fine sand:	-				556 (21/22)	шш
	23—	light brown 7.54R4/4 ,dam						TIT
	24—		0.3	NA	220	0923		गाग
	25—	Silt, trace clay: 7.54R6, light brown, moist to Wet, medium plasticity	0.3					TITI
	26-	Soft	0.0					TIT
	27-		0.0					шШ
	28	PROJECT	0.3	NA	SS 7	0932 HOLE NO.	SS7 (27/28)	E

MRK FORM 55-2

PROJECT NICED DIED

HOLE NO.
DCFRII3f

		HTW DRILL	ING LO	G			HOLE NO.
PROJECT	USF	RDCFA	SPECTOR J. Ki	dwell			SHEET 3 OF 3 SHEETS
ÉLEV.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d		ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	29—	Silt, trace clay, light brown 7.54R6/4, moist to wet, medium plasticity, soft Sand, trace silt, moderate sorting, light brown 7.54R6/4,	0.0				<u>-</u>
	30	damp, non plastic, sett Silt, light brown 7.5 YR 4/4, meist to wet, trace plastic soft clay lenc from 30' to 30.2	0.0 455				
	32-	Sand, trace silt, moderate sorting, light brown 7.5486/4, damp, hon plastic, soft	0.3	NA	588	0944	<u> </u>
	=	Silt, trace clay, light brown 7.578/4, moist to wet, medium plasticity, soft	0.0				<u> </u>
	34-	Sand and silt, some chert & shall gravel, poorly sorted, light brown 7.5486/4, moist, nonplastic, soft	du O.			5	\$69 (33/34) -
	35	Silt with sand lenses, light brown 7.5 yR6/4, moist,	I		•		<u> </u>
ı	36-	trace plasticity, soft to medium consistency	0.0	NA	559	0959	
	37	Silty clay, light grey 54%	0.3				
	38 —	Sity clay, light grey 54% moist to wet, medium plasticity, softto medium censistency	0.3				5510 (37/38)
	39 -	Shale, olive grey 545/2 Bottom of hole	0.0	NA	SSID	1019	End time 1027
	40-						TD=38.9 WL=37.0
	41 —					·	
	42						
	43						
1	14-						
	45-						
	1710	PROJECT	 	<u> </u>	1	HOLE NO.	<u> </u>

PROJECT USFRDCFA HOLE NO.
DCFB113F

			HTW [RILL	ING	LO	G				HOLE	NO. FBハゼ
. COMPAN	NY NAME	8:01 = 1 ¹	(000001)	2.	DRILLING	SUBCONTR	ACTOR MENTAL	PR:	ority se	Ruses	SHEET	1 SHEETS
ROJEC	T ·	rns + m	CUODAEII			4. LOCATI	ON		<i>'</i>			ONEETO
		FROCFA					•		leaning !	Location)	
. NAME O)F DRILLER	Poug				6. MANUF	ACTURER'S DE Pいとは かり	SIGNA	TION OF DRILL Yed Geop	probe G	4-40	•
'. SIZES A	ND TYPES OF	DRILLING 4	1-toot macroca			8. HOLE L	OCATION -					
AND SAI	MPLING EQUI		1-toot Acetat	e					,96 E	72267	349,5	56
		· }	Continous			9. SURFA	CE ELEVATION		34.44			•
						10. DATE	STARTED			11. DATE COMP		
		W1500					107/00		OOL INTERED	11/07	100	
12. OVERE	BURDEN THIC	38 XNESS				15. DEPII	1 GROUNDWAT	IEK EN	COUNTERED			
13. DEPTH	I DRILLED INT	O ROCK	4			16. DEPTI	H TO WATER A	ND EL	APSED TIME AFTI	R DRILLING COI	MPLETED	
14. TOTAL	. DEPTH OF H	OLE 38	?		17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)				·			
	ECHNICAL SAI		DISTURBED	UND	ISTURBED		TOTAL NUME					
<i>ۇنىم</i> 20. SAMPL		MICAL ANALYSIS	VOC	META		OTHER	(SPECIFY)		HER (SPECIFY)	OTHER (SI	PECIFY	21. TOTAL COR
_		MICAL ANALYSIS	PCE, TCE, DCE	<i>M</i> ,			NA	Ť	NA	N/		RECOVERY %
	sition of ho		BACKFILLED	MONITORIN			(SPECIFY)	23 5	SIGNATURE OF IN		Τ	# V/T %
	SHOR OF IR						JA	l	actec s	_	enden	_
	1		Bentonite	~A			GEOTECH SA		ANALYTICAL	BLOW		
LEV.	DEPTH b		DESCRIPTION OF MATERIALS C	•	RES	CULTS d	OR CORE BO		SAMPLE NO.	COUNTS	F	EMARKS h
		Clay, da	K brown, dans, nedium consiste	medium		,					Start	L =0712
		Ť	and the second s								Time	=0712
	'	Sarl, Dec	cen, clary, fine			0						
		grained	well sorred									
						0	ł		ų.			
	3-	Tarke !	sit, dank backing	dans		O		•				
		TRAW P	rastic, soft con	sistency			<i>ما</i> لم				3516	(3/4)
	4-	V				0	1 1 1 1 1 1 1 1 1 1		ردک	0715	•	•
	3											
	5				,	Ø						
					.]					,		
	16-3		nt bum, dainy			0			, '			
	=	Plastily	soft consista	79								
	7_ 7				1	0				·		
		silly da	ak, baoun, dam									
	8	Soft Con-	ou h medium pi sistênu	1. + S F- C		0	NA		652	0720		
		, , , ,	7							-	,	
]]					0					·	
	9 —											
	=				1	⊙ .∃					SS.3(G	1/3 🗲
	<i> 10</i> -	:1	PROJECT		<u> L </u>	<u>U.</u>	<u> </u>	·		LHOLE NO		
	FORM 55		USFROC	.~ ^			, 3 c	72		HOLE NO.	OCFB	

		HTW DRILL	ING LO	G			HOLE NO.	
PROJECT	US	FRAFA 25724 INS	SPECTOR Was	en Binzal	enden	· .	SHEET 2 OF 2-SHEETS	1
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS	
	11-	6:14 Sours, de la brain, das to moist, with kines, succe to medium prestit, saft consisting	0			,		
	12-	en en en en en en en en en en en en en e	3	NA	553	0725		E
	/3-	Sanci, 7.54:5/4, brown, clary, fine guarrea, redium Lacted, with fines	0					
	14-		O					E
	.5		0					EE
	14-		0	4.7	554	0730	£34(17116)	
	17—				:		·	
	18 —	Silt, 75-1-514, brown, clarp to maint, trace to med plantic, soft Consisting						
			. 0					
	l –	Sand 7.541.514 blue, dass fire grained, well served	0	Na	سری ک	0737		
	20-							E
	<i>21</i> —		0				456 (21/22)	E
	22		0					F
	v		D		.4.		ys.	E
٠	24	•		44	55 lr _.	0747		1
	<i>y</i>		0.3					E
	24	5: 1t, 7.54 - 574, beaun, moist	0.3			·.		E
	27	Medium pliastic, medium consistency	6.3	·		:	557 (27/28	
	23 -	PROJECT	0.8	A16.	557	0 75% HOLE NO.		上

PROJECT USER DUEA

25724 HOLENO.

		HTW DRILL	ING LO	G			HOLE NO.
PROJECT	US	FR DEFA 25724 IN	ISPECTOR Wal	tu B. mg	= Clender		SHEET 3 OF 3 SHEETS
∡EV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d		ANALYTICAL SAMPLE NO.	BLOW COUNTS 7.4C	REMARKS h
	24,	Silt, 7.5-12 Sty, Dioun, moist medium was aleay		·			
	30	Gand, with silt, 7.54 spy, haven, diams, fire to medium garained, Joshfy Low ted	08				
	3/	sit, 7.5-1-574, books, moist medium plastic, medium to soft consistency	0.8				
	32	5,5 nd, 7.5 -11 5/4, 0. cour, domp, fire to median gracied, will socked	0.8	NA	458	0810	
	33_	Davie					(2.4.)
	34						ST2 (33/3A)
	3 -		NA	nka	5 59	0824	×
ı	3 <i>L</i>	BiHom of Lossed Hele				,	TO of Luissel
	-	150 Hem of Lessen Tyell					Hule 36 Net at 35.8
			·				
	=						
						·	
1							
,							
MRK 5	ORM 55	PROJECT -2 1) SFL DCFA		2.	5724	HOLE NO.	CF3114

		HTW I	ING	LO	G				HOLE	NO. FBI/4A			
I. COMPA	NY NAME BURNS	+ mc	Donnell	2	DRILLING	SUBCONT	ractor nental	PA	ribrity s	ervice	SHEE	T 1 3 SHEETS	
ROJE						4. LOCAT	TION		Cleanin				
5. NAME (OF DRILLER		artin	· · · · · · · · · · · · · · · · · · ·		6. MANU	FACTURER'S D	ESIGN	ATION OF DRILL			<u> </u>	-
	AND TYPES OF DRILLING		-fost maci	rocore		8. HOLE	LOCATION						
AND SA	MPLING EQUIPMENT	4	-foot ace			_			Z EZ	226732	39,37		
			Contino	us	<u> </u>	9. SUHF	ICE ELEVATION		84.03				
						10. DATE STARTED 11.					DATE COMPLETED		
0.0050	OVERBURDEN THICKNESS						1124/30	_		11/29/2	2000		
2. OVEH	34/42					15. DEPI	H GROUNDWA 35.4		NCOUNTERED				
3. DEPTI	DEPTH DRILLED INTO ROCK TOTAL DEPTH OF HOLE					16. DEPT			APSED TIME AFT		OMPLETED		
4. TOTAI	TOTAL DEPTH OF HOLE 34/42 GEOTECHNICAL SAMPLES DISTURBED				17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)								
8. GEOT	ECHNICAL SAMPLES	UND	DISTURBED NA	19	. TOTAL NUMI		F CORE BOXES						
0. SAMP	SAMPLES FOR CHEMICAL ANALYSIS VOC PLE, TRE, OCE				LS	OTHER	R (SPECIFY)	01	THER (SPECIFY)	OTHER (S	SPECIFY)	21. TOTAL COP	
					A	<u> </u>	NA		NA	NA		RECOVERY %	
2. DISPO	SITION OF HOLE		BACKFILLED	MONITORIN	G WELL	OTHER	(SPECIFY)	23.	SIGNATURE OF IN	SPECTOR			
			Bentonite	. 7	A	<u>,</u>	JA	l	WALTER	B ME	clena	lon	
FLEV.	DEPTH b	DESC	RIPTION OF MATERIALS		RES	CREENING SULTS d	GEOTECH SA OR CORE BO	X NO.	ANALYTICAL SAMPLE NO. f	BLOW COUNTS		REMARKS h	
	Fill mean		disek baum 1934 to, med. a 1934 to, mede	n, chang Levisiet		02 0.2					Stan	+ L= 0.746	
	3_=					0. L 0. Z	NA MA		531	f.) U E	حي	314	
	I, Journ	ly sin to tea	t, light bourse u prastic, 60	n, dimp		02							
	7					0.2	314		·				
	a Thint	uazi to tree	K bizuur, UA. L. pitstie, si	no, no, upt to		02	NA		<i>55</i> 2	<i>075</i> 0	533	(5)c) 4	
	סו	PRO	JECT			0				HOLE NO.		·	
RK J	ORM JN 89 55		USFROCE	A							FAI	MA	

		HTW DRILL	ING LO	G			HOLE NO.	7
PROJECT	リシド	2DIFA INS	SPECTOR 3.	Meckene	lon		SHEET Z OF 3 SHEETS	1
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Recover		BLOW COUNTS	REMARKS h	Ĺ
	11	5: It, clare moun, damp, non to these plastic, soft to med consist	o					
	12		0	414	553	0383		
	 3		0.2		·	f		
	14		0.2					
	15		0.2	·			524 (2714)	F
	14-		02	414	८५५	0811		
	17-		0					
	\s^_=		C					F-
	15	Gisty class, 7.54. 5/4 hours,, dam, mea. pkotec, nea.	0.2					
	20_=	consistency	0.2	414	555	0815	2.0	
	21-		O				556	
	22	Sandielasia	0				61/22	
	2.3	Sandy chay howers, days, med wisset	0.2					Ш
	24	fine Estaine, well booted	6	3.5/4	656	0824	e e	
	20-		0			·		
	26		0		·			Ē
	27		0		4		(27)	<u>E</u>
	28 -	PROJECT	ð	4/4	557	7330 HOLE NO	557(27/28)	E

PROJECT

USFROCFA

HOLE NO.

		HTW DRILL		G			HOLE NO. DESIGNATION
ROJECT	تخ لما	ROC=A	ispector ws	Mccon	den		SHEET 3 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d		ANALYTICAL SAMPLE NO.	BLOW COUNTS	REMARKS h
·	1.1	swand, Light brown, clamp, fine Grained, well scuted	-				•
	24_	o di milo jwoji scand	0			i	
	3c		0				
		5:1t, Light Divum, moist, trove to alle protie, soft consistent					
	3/	consisteny	0				
		Chay, Light Driven, champ, med plastic, med. consistency		414	<i>558</i>	0842	
٠	32	flastic, ma. consistency	<u> </u>		938	0372	6 59 (3 2133)
	- =	2777-	-				3316 35)
	33-	Sandy Silt 7.545 TH, beam, clarp to maist track to meil plastic, soft consisting	·				
		platin, soft consisting					
	<i>34</i>						
	3, =	band, reddish oronge dry to darp, fine grained, will occided					5.74
	i –					:	V 0854
	s	Sand, wet	<u> </u>		559	0851	
	=	BiHom Ji Lussed Hole	 	ļ			T0=34
	37-	•					
		•					
	33 <u> </u>						
	_						
	34-					<u> </u>	
	,,, =			,		<u>.</u>	
	40						•
	///						- Non
3	4/ -						W-0
	42_=						
	-	BoHom of Hole			<u> </u>		TP = 42.0 teat
		•					·
,							
		PROJECT		<u></u>		HOLE NO.	<u> </u>
IRK J	ORM IN 89 55	2 USFROGA				م ا	CFBILLAT

			HTW I	DRILL	ING	LO	G				- 1	ENO.	7
1. COMPA	ANY NAME	· · ·		2.	DRILLING	SUBCONT	RACTOR	$\overline{}$	•••	6 .	SHE	ET 1	┧.
PROJE	_	<u> </u>	Mc Dennell		Env	4. LOCA	11211121 TION	Pr	ichity	<u> Zervia</u>	OF.	3 SHEETS	-
		SFRDC	FA			FEI	mer [بند	Clean	<u>ing B</u>	uildi	ng Lecal	نودر
5. NAME	OF DRILLER	Dona Ro							ation of drill Geografies				
	AND TYPES O	F DRILLING		ero core	Sample	8. HOLE	LOCATION		•		•		1
AND SA	ampling Equ	JIPMENT	4- from acet			N	<u> 141929</u>		.75 E	226739	18.53	3	4
			Continuolis			9. SUHF	ACE ELEVATION		084.ZI				
							STARTED			11. DATE COM	_ /		7
12. OVER	BURDEN THIC	CKNESS					TH GROUNDWA			12/0	5/2	000	-
			42.5	· · · · · · · · · · · · · · · · · · ·			_38′			· · · · · · · · · · · · · · · · · · ·			
13. DEPT	H DRILLED IN	TO ROCK	0'			16. DEP1	TH TO WATER A		APSED TIME AFT	er drilling co . hit	MPLETED		
14. TOTAL	L DEPTH OF I	HOLE	12.5'			17. OTH		EL ME	ASUREMENTS (SF	PECIFY)]
18. GEOT	ECHNICAL SA	MPLES	DISTURBED		ISTURBED	. 19	D. TOTAL NUMI		CORE BOXES				1
20. SAMP	LES FOR CHE	MICAL ANALYSIS		META	· · ·	OTHE	R (SPECIFY)	01	HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	E
		Analytica		NE	٩	- 1	AL		NA	l N	A	NA %	
	SITION OF H		BACKFILLED	MONITORING	3 WELL	OTHER	R (SPECIFY)	23. \$	SIGNATURE OF IN	ISPECTOR		······································	7
	T		Bentonité	NA			VA		90	Kichi	ell		
ELEV.	DEPTH b		ESCRIPTION OF MATERIALS		RES	CREENING ULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME		REMARKS h	
	=	Tepscil	y, brick, lime	est one	G.	C.					Start	time 030	7E
		gravel	7,		0.	•							F
	' =				0.0	n							F
	2 _=				0	•					-		F
					0.	O							E
	, -				(,								-
	3 -	Silt, to	ace clay, bro	WN 7.5YR	% D	, C							F
		damp, to	race to heaple	astic,					551	0810	SSI	(3/4)	E
	4 -	30/11							331	1) 010		. ,	-
	_ =	Silt lie	ht brown 7.	54R6/3.	0	Ü							E
	5	dry, në	int brown 7.	oft									-
	1. =	cénsis	stency		l o	.C							E
	k -												
	\exists				ı.	U							F
	7 -												
					0	O			~~:				F
ļ	8-	<u></u>				-			<u>\$\$2</u>	0014	}		E
	=	_	ce clay, dar			1							E
	9 -]	-	dry to damp		C.C	*							<u> </u>
]	. ⊣	•	lastic, medi	r m	0.0	0					.=	1.15	E
L	/C -	consist	PROJECT		U.		<u> </u>			Lucismo	5\$3	(9/10)	E_
MRK J	ORM JN 89 55		USFRD	CFA						HOLE NO.	FBII	4AEI	

		HTW DRILL	ING LO	G			DOFBIHA BY
PROJECT	1) S F	RDCFA	SPECTOR	Kidwell			SHEET 2 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW- BOUNTS TIME	REMARKS
	11 —	Silt, trace clay, dark brown 7.5 yr3/6, liamp, trace to non plastic, medium	2.9				
·	12	consistency	(î		555	1323	
	 	Silt, some clay, strong brown 7.548 1/6, damp. trace to medium plasticit	00 . 00		:		<u> </u>
	14	trace to medium plasticity	e.0			,	<u>-</u>
	15		0.0		554	0830	554 (15/16)
	17 ==		υ (
	12 =	·	0.0		·		
	19 -		Q0		555	<i>C</i> S3S	- - - - -
	21-	Silt, light brown 7.54R6/3, damp, trace to nonplastic	1 ~				
	22-	5:1t and Sund, light brown 7.54843,damp, neighboutic, so Silt, trace sand lenses,	0.0				35 lo (21/22)* =
	25—	light brown 7.548%, stamp, nonplastic, sift	0.0		SSV	7345	-
	24-	Sana, very fine to medium Grain, moderate stiting, light brown 7548%, damp,	0.0		بارد_	0510	
	24	Silt, some cond lensus, light brown 7.54863, damp	0.0				<u> </u>
	27	trace to numplastic, soft	0.0				<u> </u>
	25 -	I nno ina	0.0		S57	1852 HOLE NO.	SS7 (21/28)
MRK J	FORM 55	-2 PROJECT USFRDCFA					CFB114AEI

		HTW DRILL	ING LO	G			HOLENO. DOFBILLAE!
PROJECT	US	FRDCFA	INSPECTOR	Kidwell			SHEET 3 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d		ANALYTICAL SAMPLE NO. f	BLOW- GOUNTS TIME	REMARKS h
		Sund, fine, med well scried, damp, light brow 7.548/8, non plastic, soft		,			
	 3(-		0.0				
	31	clay lens from 300' to 30.2' bys	C.0		SSS	<i>iau</i> C	
	=	clay lens from 33.0'to	ð. 0				
·	- - - - -	Sund, fine to gravely poord Screed, light brown 7.54R9/ Jamp, non plastic, soft	().0 (y) (3) ().0	!			559 (33/34)
	1 =	damp, non plastic, soft			559	0910	
		Silt, sine clay, light grey 7.54R7/1, moist to wet	7. C		33.	61	
	-	medium plasticity, soft to inedium consistency	2.0				
	31-	Silt, some sand, light grey 7.5yr%, wet, trace to memplastic, soft	((
	40-	Sand, some sitt, light grey 7.5 yr/1, wet,	00		551C	0120	SC10 (59/42)
	41-	pumplastic, soft					WL= 38.3 TD=42.5 GW (40.5/42.5)
	42-				·		End time
	44						
	45						
<u></u>	FORM 55	PROJECT				HOLE NO.	

UKER DEFA

HOLE NO.
DCFB114AE1

	`		HTW I	DRILL	ING	LC	G				l l	ENO.	4
1. COMPA	NY NAME			2.	DRILLING	SUBCONT	RACTOR				SHE	FBILLAE	2
		¿ Mc	Damell		Envi	12.11	1ental	P	richty !	Scrvice	OF	3 SHEETS	
PROJEC		Dc = A	2022			4. LUGA	HON		•				
	OF DRILLER	DEA	<u> 75724</u>			<u>ئ-ن</u> 8	EVELLIBERIO D	ESICH	ATION OF DRILL	ming t	build	ing Locat	141
J. Teravic		Roy	/ Pat Mart	100					and Gec				ŀ
7. SIZES	AND TYPES O		-foot macrocci		ler-	8. HOLE	LOCATION	ш	-u Gee	JI DUC	(311	10	
AND SA	AMPLING EQU	IIPMENT Z	1- Fret acetate			N	141929	83	R E	22674	12.02	_	
		<u> </u>	entinuous	<u> </u>			ACE ELEVATION						
1		 	:						1084.4				_
	<i>Y</i> .	-					ESTARTED 12/05	120	∞	11. DATE COM		<i>ስ</i> ሶ ነገ	1
12. OVER	BURDEN THIC	CKNESS					TH GROUNDWA			12/6	16/21	<u> </u>	┥.
	41.0	<u>) </u>					38.6°	_ k	195				
13. DEPTH	H DRILLED IN	TO ROCK				16. DEP	TH TO WATER	AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		
44 70711	<u> </u>	O.					38.97	<u>bqs</u>	; 10 min				_
14. IOIAL	L DEPTH OF I	LOCE .					ER WATER LEV V 🔥	EL-ME.	ASUREMENTS (SI	PECIFY)			
18. GEOT	ECHNICAL SA	MPLES	DISTURBED	UND	ISTURBED	·		RER O	F CORE BOXES				-
NA			NA		VA	"	NA		OOTIL BOXED				
20. SAMP	LES FOR CHE	MICAL ANALYSIS	VOC	METAI		OTHE	R (SPECIFY)		THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR	IE
Cair	٠ ۸ ، -	[]	Det Ter har	NA	\		NA		NA	010		RECOVERY	
22. DISPO	SITION OF H	ly tical	PCE TCE, DCE BACKFILLED	MONITORING			R (SPECIFY)	22	SIGNATURE OF IN	NA NA		NA %	\dashv
								1					
	,		Bontonite	NA	·	1	NA		22 Ki	dwell			
LELEV.	DEPTH	,	DESCRIPTION OF MATERIALS	•	FIELD SC RESU		GEOTECH SA OR CORE BO		ANALYTICAL SAMPLE NO.	BL OW-			
a	b	<u>'</u>	C C		. neot		RECOVE		SAMPLE NO.	TIME		REMARKS h	
ı ——	=	Clay, ria	rk brium 7.5 YR3	/a, aamp			150010	1 		1101-	Start	time	+
	=	wealor	n plasticity, m.	edium/	} t (2					10	12	þ
	j —	Cinsi	stency								'		
		Fill			0.	ń							E
	=				(1,1)	•							E
	2 -												
	=				0	O				•			Ł
]	3 -												Ł
Ì	=											•	E
					0.	O	3/4		531	1014	(5)	(3/4)	E
-	4						3/ 1		231	1017	331		F-
													E
	5				. 0.0	()							Ł
		Silt, lic	int between 7.5	5YR1/3,		•			•				E
	1. 7	dry, no	int bezien 7.5 Emplastic, se	it+ 1	0.0	C.						,	Ŀ
	(¢ -	•	•		(-							<u> </u>
					0.	r							E
	7				(E
						: 1							E
					0.	U	4/4		SUŽ	1018			F
1	12 -	<u> </u>					7/7		·3J2	1013			<u>-</u>
		7,14, +1.9	Due clay, dark	promise	0.0)							F
	9	7.5YR 3	33,drý to da	mp,	1/- \	-	·						E
	l ¹ ∃	tais al	esticity, ned	in to									F
İ	10 =	- 7	isticity; men cosistency		٥.	0						3/01/	F
<u> </u>	 		PROJECT		*.		L			HOLE NO.	.53	3 (9/10)	
MRK 🎜	ORM IN 89 55	ł	HSFRDC	FA	•					Dci	-B114	A E2	

		HTW DRILL	ING LO	HOLE NO. DCFB 114AEZ			
PROJECT	USF	FRDCFA	NSPECTOR J. (Kidwell			SHEET 2_ OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RE COVER	SAMPLE NO.	BLOW COUNTS (TIME)	REMARKS h
		Sill, trace clay, dark birdiv 7.54R3/3, dry to damp, trace plasticity, medium to stiff consistency	G.C				
	12-	Silt and clay, dark brown	<u>C. 0</u>	4/4	593	1022	<u> </u>
	13 -	7.54R3/3, grading to strong brown 7.54R1/6, damp,	6.0		·		
	14	medium plasticity,	C.C				
.		medium consistency	0.0				
	15 -		C.C	4/4	SS4	1027	SS 4 (15/16)
	16 =		00				12/01/2000
	3		₹. C				Į Ę
	19 =		0.0			·	E
	20_		0.0	4/4	ς \$5	c 9 45	E
	21-		0.0				
	22.—	Silt, bit win 7.54R 4/4 , damp trace to sofiplastic, medium	ē, 0.0				356(21/22)
	23	Silt and sund, light brown 7.548/3, damp, nouplastic,	0.0				
	24-	Soft to medium consistence	cy OC	4/4	SSIc	0753	<u> </u>
	25—		c.c				
	24-	Sondifine, wed-sorted, light brewn 7.54R43, damp, neoplastic, silt, trace clay, light brewn 7.54R damp, trace plantic, soft	sofe (I.U				
	27—	Silt and sand light brown	0.0				E
	28 -	754R % damp, non Plastic, soft	00	4/4	557	0802 HOLE NO.	SS7 (27/28)

PROJECT

HOLE NO.

DCFBII4AE 2

		HTW DRILL	ING LO	HOLE NO. DEFB14AE2			
PROJECT	USF	RDCFA "	NSPECTOR J	idwe 11			SHEET 3 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIMBE	REMARKS h
	24 <u> </u>	Silt and sand, picely screed, light british 7.54R/3, damp, menplastic, seft	0,0				· E
	=	Silt, trace sand, somecay, light brown 7.548/3, damp, trace to medicin plasmicity, medicin consistency	10.0				=
	31—	silt and sand, trace cay lense light brown 7.5 YR 6/3, damp non plastic, Scft	0.0 0.0	4/4	SST	0313	
	33 =		e.c		i.	e e	
	34	Silt, some clay, trace poorly Sorted sund lenses, light	1.00				SS9 (33/34) =
1	35	grey 754R7/, damp to invist medium plasticity, medium to soft consistency	1-1	4/4	559	0330	
	37-	Sand, with silt, light brown 7.588%, moist, " non plastic, soft to medium consistency	00		· .		<u> </u>
			_				SS10 (37/35)
	39 — 40 —	Sand, fine, moderately well sorted, light brown 7.548/3 Wet, nonplastic, sch	<u> </u>	4/4	SSIC	<u>6347</u>	End time
	 	Bottom of logged hole	·				Wil= 389'bos TD=41.0'bos O9 00 GW (38)40)
i	42 — 43 —						Ift preprobe
	44 <u> </u>	,					
	45	·					
	42 -	PROJECT		L		HOLE NO.	<u> </u>

PROJECT USFR DCFA

DCFBII4AEZ

			HTW	DRIL	LING	LO	G					NO. 1/L	1Aw 1
1. COMPA	NY NAME	DUAMS J	Mc Donnell	<u>, </u>	2. DRILLING	SUBCONT	RACTOR	25			SHE		
PROJEC						4. LOCA	ION						_
- WAYE 6		USERE	LEA 2.	5724		C 14414	Form	u i	Org Ules ATION OF DRILL Ed Gelepa	soing E	Wild.	'x Las	וטא
5. NAME C)F DRILLER		Pat Mactin			6. MANU	uch Moi	ESIGN/	ation of drill Ed Lews	wise bus	40		
	ND TYPES O	F DRILLING	4 foot pour		nsu	8. HOLE	LOCATION						
AND SA	MPLING EQU	IPMENT	U tout ALLTA Continous	<i>te</i>		O SLIDE	14 1929 ACE ELEVATION	49	3 EZZ	<u>67372</u>	٥٥,		_
					•	9. SUNF/	10B		ما				
						4	STARTED			11. DATE CON	,		
12 OVER	BURDEN THIC	KNESS				15. DEPTH GROUNDWATER ENCOUNTERED					C4/CV		
	41.8'					10. 52.	40'		100011121120				
13. DEPTH	DRILLED INT	O ROCK	· .			16. DEP1	TH TO WATER A		APSED TIME AFT		OMPLETED		
14. TOTAL	DEPTH OF H	HOLE				17. OTH			- 10 min ASUREMENTS (SI	PECIFY)			-
18. GEOTE	EOTECHNICAL SAMPLES DISTURBED NA				JNDISTURBED	ISTURBED 19. TOTAL NUMBER OF CORE BOXES							
	SAMPLES FOR CHEMICAL ANALYSIS OC. 1994 14 1994 1994 1994 1994 1994 1994			MI MI	ETALS	OTHE	R (SPECIFY)		THER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CO	ORE
Uns	Unsite Amytical Act, The, DE			5 1	IA		NA		NA	NA	2	₩ ECOVER	iY 6
22. DISPO	•			MONITO	RING WELL	OTHE	R (SPECIFY)	23. \$	SIGNATURE OF II	NSPECTOR			-
	4		Benteriye	<u> </u>	IA		NA	L.	NBM	5 Clen	den	•	
ELEV.	DEPTH b		DESCRIPTION OF MATERIA		RE	SCREENING SULTS d	GEOTECH SA OR CORE BO	X NO.	ANALYTICAL SAMPLE NO. f	BLOW COUNTS		REMARKS	
		F; 115.	in bats	4 come	k	*		•			Stans	14.ne	E
	, =	CHEC ISI	MA NATS								NO)6	·
	-					0							E
	-												E
	-					0							-
] _ =		·							- -			E
	3					0							
	= نا	Sitted	ask brown d			0	4/4	į	Ssi	1007	4510	3/4)	F
	4-	tree D	lestic, soft c	g. 042. sers					931	1007	† ·	•	E
	=												_
	<u></u>					٠.							<u> </u>
,	_				_	O							E
	b -	S.H,Li	ight brown, d. ofti, softian	sol		0	l						<u> </u>
		own green	one, soft con	esting									F
	7					0							E_
	=					(7)							F
	8_		<u> </u>		.	0	4/4	[·	552	1011	1	•	F
ı		5.14,0	dout brown de plestic, seft	amp									E
I	g_=	true	oustil, sets	r cons.s	"	6				i			þ
	7 -					•	[F
<i>)</i>	18					0					5536	טיל	E
		<u> </u>	PROJECT		. <u> </u>	V	1			HOLE NO.	L.,	· · · · · · · · · · · · · · · · · · ·	
MRK J	ORM JN 89 55		Usead	PA	25	724					WBI	INNI I	

			HTW DRII	LLING LC)G			HOLE NO. JAHAWI
PROJECT	V5	FLOFA	25724	INSPECTOR WB	mzclen	rlen		SHEET 2 OF 3 SHEET
ELEV.	DEPTH b	DESCF	CRIPTION OF MATERIALS	FIELD SCREENING RESULTS d		E ANALYTICAL	BLOW COUNTS Take	REMARKS h
	11 -	Sitt, das trose ple	Absen, dorp, is fix, next cons	B:51	o o			
			-,-,	0	414	453	1015	
	 	5. Ny Clay, ture pla	derk brown day	<i>sy</i> .		,		
	14		H, dankbran, dan	0				
	<u>-</u> ا	free plan	ya, suff insis	0.4				
	16	S: 14 Sand	, light brown, der mest consist, for el souled	0	14	554	1020	454(15/h)
	クー	general, wel	infticors or, in	0				
	18-			0				
	19	1		0	4/4	حىك		
	20			0	7/7	کند	1026	556(21/22)
	21			C				
	22	Lisal, pro	in cop, fine	0.4				
	23		•	0	414	SSL	1034	
	27	•						· ·
	24	1		0				
	27			0				L
	28	1		o	4/4	557	140	557 (27/28)

PROJECT USED DEFA

25774

HOLE NO.

HTW DRILLING LOG HOLE NO. DC FB 114AW1										
PROJECT	VS	FRDCFA	SPECTOR J. KI	dwell			SHEET 3 OF 3 SHEETS			
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9	REMARKS h			
	-	Sand, light brown 7.54844 damp, fine grained, well screed, non-plastic, seft	6.0				12/04/2000			
			0.0							
	31-	Sand, light brown 7.5 YR6/4, damp, fine to gravel, poorly sorted, naplastic, soft; some clay lenses	0.0		- -	_				
	32-	Silty clay, light brewn 7.548	4,	4/4	<u>558</u>	2730		<u>-</u>		
	34-	soft Sond, light brown 7.548%	0.0				559 (33/34)			
	155 —	Sand, light brown 7.5/R6/4 damp, fine, well screed, non plastic, soft	1 0.0			,				
_	56-	Sand, light brown 7.5486/4 damp, fine to gravel, porry screed, numplastic, scft; scme clay lenses	0.0	4/4	559	5743				
	3/	Sand and silt, light						<u>-</u>		
		brown, wet, fine, mod. Scrted, trace plasticity, Soft	0.0					<u>-</u>		
	39 — HC —		[.[4/4	SSIC	0757	5510(3940)			
·		Bettein if logged hole					End time 1805 WL=40.8 I TD=41.8			
					•	·	GW(40.8-41.8)			
		·								
1	-									
		PROJECT				HOLE NO.				

PROJECT USFRDCF.A

HOLE NO. DCFB114AW1

			HTW [RILL	ING	LO	G				HOLI	ENO. FB 114AW2	2]
1. COMPA	NY NAME P	urne l. N	1 Donnell	2.	DRILLING	SUBCONT	RACTOR				SHE	T SHEETS	1
ROJEC	CT	SFRDC		724		4. LOCA		D _r	y Cleani	ող Βրմ		Locatio	2h
5. NAME (OF DRILLER	Doug Ro	· •	·		6. MANU	FACTURER'S DI	ESIGN/	TION OF DRILL Geop	J robe (6H-4	40	
	AND TYPES O	F DRILLING 4	-feet macro	core s	····	-8. HOLE	LOCATION		τ. τ		. •		1
אט טאא	AMPLING EQUI		-foot xetal	te sle	eve		919293 ACE ELEVATION		o E	22673	<u> </u>	7	1
			* . %		-	10 DATE	STARTED	10	<u> 84.10 </u>	11. DATE COM	DI ETED	·	4
						12	104/0			12/0	5/01	<u>')</u>	
12. OVERI	BURDEN THIC	KNESS					GROUNDWA		COUNTERED		,		ŀ
13. DEPTH	H DRILLED INT	TO ROCK				16. DEP	TH TO WATER	ND EL	APSED TIME AFT		MPLETED		1
14 TOTAL	L DEPTH OF H						FR WATER LEV		ASUREMENTS (SP	ECIFY)			\dashv
	44'		.			1	VAAV		``				_
18. GEOT	ECHNICAL SA	MPLES	DISTURBED	1	ISTURBED	19	9. TOTAL NUMI NA	BER OF	CORE BOXES		•		
20. SAMP	LES FOR CHE	MICAL ANALYSIS onfirmation	VOC	METAL	•	OTHE	R (SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	٤
O	isite /	Analytical	PLE, TLE, DLE	^	/A		NA		NA	\ \ \	Ά	NA %	
22. DISPO	DSITION OF H	OLE	BACKFILLED	MONITORING	WELL		R (SPECIFY)	23. 5	SIGNATURE OF IN		<u> </u>		
			Bentonite	N	Α		NA	<u> </u>	GZ Ki	dwell			
ELEV. a	DEPTH b	DES	SCRIPTION OF MATERIALS			CREENING OLTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9		REMARKS h	
	, =	Tupsiil			0	.0					Star	t time032l	5 F
		1 - 1	ie stone gra	vel	0	ق ،						·	
					0	.0				•			
. *	3 -				1	· *\						•	F
						('	4/4		551	0830	55	(3/4)	E
	17 -									<u> </u>	33		E
	5	4	·k brown 7.5		0.	0					-		E
		dry to d plasticit	lamp, trace ty, soft to	ned.	0.	0							E
	(¢ _ =	consister			0.	0							E
	17 =	Sand len	s from 7.0 to	7.1'bgs	0.								E
	5-						4/4	·	SS2	Û \$ 35			F
					0.	0					,		E
	$\int_{\mathcal{U}} =$				0	0			·		3 S -	3 (9/10)	E
4014	FORM	PF	ROJECT		•					HOLE NO.			
MRK J	FORM IUN 89 55	I	USFR	.DCF/	4					DU	FBII	4AW2	_ /

		HTW DRIL	LING LO	G			HOLE NO. DCFB114A1V2	
PROJECT	USE	RDCFA	INSPECTOR	- 			SHEET 2 OF 2 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 9	REMARKS	
·	-	Silt, and clay, dark brown 7.54R3/3, damp, medium plasticity, stif	C.C					
	2 -	piesticity (Str.	C 10		SS 3	6845		<u> </u>
	13 -		0.0					- - -
	14 =	Silt, trace clay, brown 7.5	0.0					- -
	15 =	damp, trace plasticity, medium to seft consiste	ncy O.G					- - -
	16-		(.C.C		SS4	6848	554(15/16)	
	17 =	Silt and very fine sand mod to well sorted, light	C.C					- -
	13 =	brown 7.54R 4, damp, numple soft	0.6			٠.		- - -
	i9		C.C					- - -
	χι		0.0		5 <u>5</u> 5	0353		-
	21 —		Ţ,C		:		4	
	22—		CC	•	- - -		551 (2/22)	<u>.</u>
	_	·	0.Û				,	: : -
	23-		C C		SSÚ	<u>0859</u>		<u>.</u>
	25—	Sand Comment and	00					-
	24-	Sand, fine, well stried light brown 7.5 yr 6/4, damp, nonplastic, soft	0.0					: -
	27	damp, nonpinsC, Sett	O.V					: -
	28	PROJECT	0.0		SS7	POLE NO.	557 (27/28)	: -

MRK JUN 89 55-2 L'SFRDCFA

DCFB114AW2

		HTW DRILL	ING LO	G	·		HOLE NO. DCFB/14 AW2
PROJECT	USFR	DCFA	ISPECTOR (). K	dwell			SHEET 3 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS g	REMARKS h
	_	Sand, fine, well screed, light brown 7.54R 6/4, damp, non plastic, soft	6 .0			·	
	_	Clay and Silt lenses from 36.0 to 30.3' bgs and from	0.0	,			
	ار ا	31.8' to 32' bys	0.0		SSS	0913	
		brown 7.51R64, damp trace to nonplastic, soft	C.C				
	34-	Silt and clay, briwn 7.5% damp, medium plasticity	0.0°			:	559(33/34) <u> </u>
	35—	medium to soft consistency	0.0		ssq	0922	
	37—		ی ن				12/05/200
	 33	Sand, fine to med gran, med Stand, hick Scriting, light	0.0				<u> </u>
	=	Sult and clay, busing 7548		·	SSIC	0727	SSIC (35/40)
],, =	Bottorn of logged hole					WL= 38.4'bgs TD= 44.0'bg
	42	, Ju			•		En., time 2753
	43 -				·	,	
	44— - - - - -						
	46 =	PROJECT				HOLE NO.	E

11SED NOEA

HOLE NO.
DCFB114AW2

COMPANY NAME PROJECT USER DCFA 25724 STEAM FOR THE PAT May fin STEAM NOT PROJECT PAT May fin STEAM NOT PROJECT PAT May fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PROJECT PAT MAY fin STEAM NOT PAT MAY FIN STEAM NOT PAT MAY FI			HTW D	RILL	ING	LO	G	,			HOLE	NO. FB 114B
A LORANDIA SECRETARY DEFO. 12. TOPAL OFFICE SANDERS OF THE SECOND TOPAL STATES OF THE SECONDARY OF THE SECON	COMPANY NAME	D . S	MCD	2.				,	D	. C. ·	SHEET	1
SEES AND THESE OF DRAILING SEES AND THESE OF DRAILING AND SAME UNG EQUIPMENT AND SAME UNG EQUIPMENT AND SAME UNG EQUIPMENT AND SAME UNG EQUIPMENT AND SAME UNG EQUIPMENT AND SAME UNG EXCHANGE CONTRIBUTION OF SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES C. SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES C. SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES C. SAME SEES B. GEOTECHNOON, SAME SEES C. SAME SEES B. GEOTECHNOON, SAME SEES C. SAME SEES B. GEOTECHNOON, SAME SEES B. GEOTECHNOON, SAME SEES C.	PROJECT	Burns O	NI Donnel					<u>al</u>	Mility	1 Secti	CE TOF S	SHEETS
SITES AND TYPES ORBINDO SITES AND TYPES ORBHIND AND SAMPLING COUNAEM AND SAMPLING COUNAEM AND SAMPLING COUNAEM AND SAMPLING COUNAEM AND SAMPLING COUNAEM CARLITUM CALLS 10. DATE STATED 10. DATE STATED 11. DATE COUNTEED 12. DOES STATED 12. DOES STATED 13. DEPTH ORALIDE NOT ROCK 39. D. 10. Intelligent or MOTE STATED		USFR	DCFA 25	724		For	ner Dr	y C	leaning	Build	ing L	<u>ccation</u>
SIZES AND TIPES OF BRILLING AND SAMPLING EQUIPMENT Continuous Con	NAME OF DRILLER	Pa+ Ma	ortin		İ					o seahe	ر الماني . ماني م	-40
CONFIDENCE THAT MADE AND A THE PRESENT OF THE RESULTS CONFIDENCE THAT MADE AND A THE PRESENT OF THE RESULTS CONFIDENCE THAT OF THE ADDRESS OF THE ATTER PRESENT OF THE RESULTS CONFIDENCE THAT OF THE ADDRESS OF THE ATTER PRESENT OF THE RESULTS CONFIDENCE THAT OF THE ADDRESS OF THE ATTER PRESENT OF THE RESULTS CONFIDENCE THAT OF THE ADDRESS OF THE ATTER PRESENT OF THE RESULTS CONFIDENCE THAT OF THE ADDRESS OF THE ATTER PRESENT OF THE RESULTS CONFIDENCE THAT OF THE ADDRESS OF TH		of drilling 4	-for macro	ore sa	mpler	8. HOLE	LOCATION		•	•		<u> </u>
10. DATE AND LAWS THE ENCOUNTERED 10. DATE AND LAWS THE ENCOUNTERED 11. DATE COMPLETED 12. India / 2000 13. DEPTH DRULED NIO ROOK 13. DEPTH DRULED NIO ROOK 1. TOTAL DEPTH OF NOTE 1. TOTAL DEP	AND SAMPLING EQ			e slee					.09 E	22673	74.19	*
2. OVERBURDEN THOUSES 39.5 DEPTH OPILIED INTO DOC 10. DEPTH OPILIED INTO DOC 10. TOTAL DEPTH OP HOLE 39.5 DESTURBED		Ci	WEING DUS			9. SUNFA						
Some content of the								201		11. DATE COM		·//
1. TOTAL DEPTH OF FOLE 1. TOT	2. OVERBURDEN TH	CKNESS									GIZU	<u>w</u>
TOTAL BEPTH OF ROLE 39.5 BEFORENMAN SAMPLES DESTURBED DESTURBE		<u>39.5'</u>				3	5.6'					
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY) 39.5 GEOTECHNICK SAMPLES DISTURBED NA NA NA NA NA NA NA NA NA N). Depth drilled i	NTO ROCK			ĺ					ER DRILLING CO	MPLETED	
DISTURBED NA NA NA NA NA NA NA NA NA NA NA NA NA	. TOTAL DEPTH OF					17. OTHE	R WATER LEV			ECIFY)		
AN NA NA NA CONTROL NALYSIS VOC METALS OTHER ISPECIFY) OTHER ISPECIFY OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY) OTHER ISPECIFY OTHER ISPECIFY) OTHER ISPECIFY OTHER ISPECIFY) OTHER ISPECIFY OTHER ISPECIFY) OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECIFY OTHER ISPECI	R GEOTECHNICAL S	·/	DISTURBED.	LIND	ISTURBED	<u>_</u>		RER OF	CORE BOXES			
Chiste Analytical PCE, TE, DCB NA Backfled Monitoring well other (SPECIFY) Bentonite NA Description of Materials Feld screening field screening fields from the field of the field screening field from the field field from the fi	NA		NA					JEII 01				
Chiste Analytical PCE, TE, DCB NA NA NA NA NA NA NA NA NA NA NA NA NA	Offsite	lemical analysis Confirmati	voc	META	LS	OTHER	(SPECIFY)	OT	HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR RECOVERY
Bentonite NA NA Description of Materials Best Description of Materials Best Description of Materials Best Description of Materials FIELD SCREENING OF OPPORT SAMPLE ANALYTICAL SHOPP SAMPLE NO. TIME FIELD SCREENING OF OPPORT SAMPLE NO. TIME TUpscil Silt, trace Sand, trace clay, 1 c.0 Silt, dack by No. 7.5786/3.dry, 1 c.0 Silt, dack by No. 7.5786/3.dry, 1 c.0 Silt, dack by No. 7.5788/3/3, dry, non-plastic, scft 0.0 Silt and very fine Sand, well soited, light brown 7.5786/3.dry, to plastic, scft 0.0 Silt soited, light brown 7.5786/3.dry, 1 c.0 Silt, stime clay, dark brown 0.0 Silt, stime clay, dark brown 7.5783/3, damp, medium 0.0	Onsite !	Inalytical	PCE, TCE, DCE			`	-					NA %
ELEV. DEPTH DESCRIPTION OF MATERIALS DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING OF OFFICE SAMPLE AMALYTICAL OFFICE SAMPLE OFFICE	2. DISPOSITION OF	HOLE				OTHER	(SPECIFY)	23. 8				
DEPTH DESCRIPTION OF MATERIALS DESCRIPTION OF MATERIALS TUPSCI Silt, trace sand, trace clay, light brown 7.57R8/3, dry, trace plasticity, soft Grant time of 13 Silt, dark brown 7.57R3/3, dry, trace plasticity, soft Grant time of 13 Silt, dark brown 7.57R3/3, dry, non plastic, soft Grant time of 13 Silt, dark brown 7.57R3/3, dry, non plastic, soft Grant time of 13 Silt, dark brown 7.57R3/3, dry, non plastic, soft Grant time of 13 Silt, dark brown 7.57R3/3, dry, trace plastic, soft Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time of 13 Silt, some clay, dark brown 0.0 Grant time 0913			Bentonite	N/	\		NA		JXX	idute		
Tupscil Silt, trace sand, trace clay, light brown 7.5yRb/3, dry, trace plasticity, soft 0.0 Silt, dark brown 7.5yR3/3, dry, non plastic, soft 0.0 Silt and very fine sand, well sorted, light brown 7.5yR 6/3, dry to damp, non plastic, soft 0.0 0.0 Silt, seme clay, dark brown 7.5yR3/3, damp, medium 0.0 Silt, seme clay, dark brown 7.5yR3/3, damp, medium 0.0		DES			RES	ULTS	O R CORE BO	X NO.	SAMPLE NO.	STANGO	R	
Silt, trace sand, trace clay, light brown 7.5yR3/3, dry, trace plasticity, soft 3		Tupscil					Recov	<i></i> /		11145	Start	time
Silt, dark brown 7.59R3/3, dry, trace plasticity, soft 0.0 0.0					0.0	2	1				09	13
2 trace plasticity, soft 0.0 0.0 3.1t, dark brown 7.57R3/3, dry, nonplastic, soft 0.0 4/4 551 0916 551(3/4) 551 6 551(3/4) 551 6 6 6 6 6 6 6 6 6	11-	light has	esta 75406L	e Clay,							·	
3 Silt, dark brown 7.5483/3, dry, non plastic, soft 0.0 4/4 551 0916 531 (3/4) 5: It and very fine sand, well sorted, light brown 7.548 6/3, dry to damp, 0.0 non plastic, soft 0.0 6 0 0 4/4 352 0919 8 0.0 4/4 352 0919 8 Silt, some clay, dark brown 7.5483/3, damp, medium 0.0		trace pla	isticity, sof	,α, γ, .+	O.	Ò				•		
Silt, dark brown 7.5783/3, dry, nonplastic, soft Gilt and very fine sand, well sorted, light brown 7.5786/3, dry to damp, nonplastic, soft O.O. Silt, some clay, dark brown 7.5783/3, damp, medium O.O. Silt, some clay, dark brown 7.5783/3, damp, medium O.O. A/4 551 0916 551(3/4)	2-	‡ '	•									
9 Silt, dark brown 7.5783/3, dry, nonplastic, soft 0.0 4/4 551 0916 551(3/4) 5: It and very fine sand, well sorted, light brown 7.5786/3, dry to damp, 0.0 0.0 nonplastic, soft 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.					ا ا	n						
dry, non plastic, soft 0.0 4/4 551 0916 551 (3/4) Silt and very fine sand, well sorted, light brown 7.5yR 6/3, dry to damp, non plastic, soft 0.0 0.0 Resilt, sent clay, dark brown 7.5yR 3/3, damp, medium 0.0		Silt, da	ck horsen 75	VR3/2	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \						!	
Silt and very fine sand, well sorted, light brown 75yR 6/3 , dry to damp, non plastic, soft 0.0 0.0 Silt, seme clay, dark brown 7.5yR3/3, damp, medium 0.0		dry, no	nplastic, s	oft.	l c.	0	يدا ان		551	nalla	631	/3/4\
5 7.5yr 6/3, dry to damp, 0.0 non plastic, soft 0.0 0.0 8 Silt, seme clay, dark brown 7.5yr3/3, damp, medium 0.0	4-	Gilt and					1/1		551	Univ	, ,,,,	
7 - 3 dry to damp, 0.0 8 - 0.0 9 - Silt, some clay, dark brown 7.5yR3/3, damp, medium 0.0		Well sort	ed, light ha	nd, SWN								
6 - 0.0 7 - 0.0 8 - 0.0 9 - 0.0 Silt, some clay, dark brown 0.0 7.5yR3/3, damp, medium 0.0	5 –] 7.5)R <i>6/2</i>	3 , dryte da	mp,	0.	0						
0.0 8 9 Silt, some clay, dark brown 7.5 y R 3/3, damp, medium 0.0 0.0 4/4 SS2 0919		- 19 d 1104	stic, soft		1	0.						
8 - 0.0 4/4 552 0919 8 - 0.0 4/4 552 0919 8 - 0.0 4/4 552 0919 8 - 0.0 4/4 552 0919	6-	· .			"				****			
8 - 0.0 4/4 552 0919 8 - 0.0 4/4 552 0919 8 - 0.0 4/4 552 0919 8 - 0.0 4/4 552 0919		=			0	o						
Silt, some clay, dark brown 7.5 y R 3/3, damp, medium 0.0	7 —	=			"	, •						
Silt, some clay, dark brown 7.5 y R 3/3, damp, medium 0.0		‡			10	c				00.0		
Silt, some clay, dark brown 7.5 y R 3/3, damp, medium 0.0	8-	3			· · ·		4/4	4	352	טיוויט		-
Silt, some clay, dark brown 7.5 y R 3/3, damp, medium 0.0		‡			e.	C						
- $+$ $7.5yR3/3, damp, medium + 0 + + + + + + + + + +$	9-]			+							
10 + starticity medium consistedus S33/9/10		7.5 YR 3/	clay, dark br 3, damp, med	dium	0.	0				•		
PROJECT HOLE NO.	10	ا ملقع تدري	ty, medicin co	onsister	ky		<u> </u>			Lugi e via	553	(9/10)

		HTW DRILLI	NG LO	G		· .	HOLE NO. DCFB114B
PROJECT	นรเ	FRDCFA	PECTOR J.	Kidwell			SHEET Z OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW- COUNTS TIME	REMARKS h
	11-1	Silt, some clay, dark brown 7.54R 3/3, damp, medium plasticity, medium consistency	c.0				1111111
	12		0.0	4/4	క్షక్రి	0928	. <u>E</u>
	13-1	Silt, trace clay, brown 7.5 yr 5/3 , damp, trace to nonplastic, medium	0.0				
	14	consistency	0.0				
	15		0.0	4/4	<u> </u>	0930	554 (15/16)
	17-3		c.0 v.c				11,
	18 -		0.0				- -
	20—		0,0	4/4	<u> ১৯</u> 5	0938	
	21 —		0.0 0.0				
	22	Silt and Sond, light brown 7.54R 6/3, damp, non-					556 (21/22)
	23— 24—	- Soft consistency	•	4/4	556	0945	
		Sand, fine to gravel, poorly sorted, light brown, damp, non plastic, soft			,		
	26-	Silt and clay, light brown 7.54R 1/3, damp to	0.0		:		E_
	27 -	moist, medium plasticity, medium consistency		4/4	557	0951	SS7 (27/28) =
MRK 5	ORM 55	PROJECT USFRDCF	A			HOLE NO.	FB114B

		HTW DRILL	ING LO	G		· 	DUFBILLIB	
PROJECT	USF	R DCFA	NSPECTOR J.	Kidwell			SHEET 3 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR GORE BOX NO. RECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h	
	29	Silt and clay, light brown 7.54R6/3 , damp, medium plasticity, medium	C.O	•		_		
	29 <u> </u>	consistency; trace sand lenses	0.0			·		
	31 —	Sand, fine, moderately Soited, some silty clay lenses, light brown 7.5yr 43,	0.0					E
	32	dampi nonplastic, soft	0.0	4/4	558	1000	·	E
	33	Clay, trace silt, brown 7.5485, damp to moist, medium plasticity, stiff consistency	y; 0.0					ىلىس
	34-	Coarse, poorly sorted sand lenses from 32.5 to 32.7 and 34.0 to 34.3 bys	0.0		٠.		SS9 (33/34)	سلس
	35 —	Silt and clay, light grey 7.57R7/1, moist, medium	0.0					шш
† 	34 ⁻	Plasticity, soft to met. consister Silt and sand, light brown 7.54R/3, wet, nonplasticsoft	0.0	4/4	SS9	1CIC	End time WL= 39.0'	
	37 —	Bettern of logged hole					TD = 39.5'	TTT
	38 — <u> </u>	3				٠.	GW (39/39.5)	
	39-	·					. 🗷	
	40-							E
	41-					·		
	42-							
	43 —	•						
	44							
	45	·						
<u></u>	<u> 46 - </u>	PROJECT				HOLE NO	<u>.</u>	上

USFROCFA

DCF.B114B

-			HTW	DRILL	ING	LO	G				HOLE	NO.
COMPA	NY NAME			2.		SUBCONTI					SHEE	Г 1
DDO IEC	·T	Buins	+ וושרתום שרוו +		رادع.			يا نه حکو	paity se	eviu	OF 2	SHEETS
3. PROJECT USF 23 = 3 25724 4. LOCATION FREMEN: DAS CLEARING BUILDING BUILDING LOCATION FREMEN: DAS CLEARING BUILDING BUILDING LOCATION 5. NAME OF DRILLING AND SAMPLING EQUIPMENT 7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT 4. LOCATION FREMENE: DAS CLEARING BUILDING BUILDING AND SAMPLING EQUIPMENT 4. LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING FOR BUILDING LOCATION FREMENE: DAS CLEARING BUILDING BUILDING BUILDING BUILDING BUILDING LOCATION FREMENE: DAS CLEARING BUILDING BUIL												
NAME C	F DRILLER	نيون	1			6. MANU	FACTURER'S DE	ESIGN/	TION OF DRILL			
SIZES A	ND TYPES OF			_				······································	1 000,0401	136. (274 70		<u> </u>
AND SA	MPLING EQUI	PMENT							39. E	ZZ 6739	5.75	
		}	Continuus	· · ·	·-		-					
		t	· · · · · · · · · · · · · · · · · · ·			10. DATE	STARTED					
										11/05/2	000	
2. OVER	BURDEN THIC	KNESS			15. DEPI	H GROUNDWA	IER EN	S. 8				
3. DEPTH	i drilled int	O ROCK	SA 0.4	dilla		16. DEPT	H TO WATER A			ER DRILLING CO	MPLETED	
. TOTAL	DEPTH OF H	IOLE		- L		17. OTHE	R WATER LEVI			PECIFY)		
B. GEOTI		MPLES	DISTURBED			19		BER OF	CORE BOXES			
	ES FOR CHE			METAL	S	OTHER	(SPECIFY)	ОТ	HER (SPECIFY)	OTHER (S	PECIFY)	
<i>UN5</i>	,TE: 1418	70.7	KE, TCL, DCE	NA		,	~ .4		NA .	22	· ·	RECOVER'
2. DISPO	SITION OF HO	DLE	BACKFILLED	MONITORING	WELL	OTHER	R (SPECIFY)	23. SIGNATURE OF INSPECTOR				
		·	Bentanite	N.4		^	J:S		Waste	LB ME	dench	
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS		RES	CREENING SULTS d	GEOTECH SA OR CORE BO		ANALYTICAL SAMPLE NO.	BLOW	F	REMARKS
		C/24,15	nt haven, dang,	+ hirown, asmy fined placed			 		·	//	StA	rt .
	=	70.00		distry.						,	7	ne = 074
	'	fire gri	3-4 - 5/4 , breezes, constead	J , ,		0						
] =											
	~	_ _		_ _		O					,	
	=	freu >	ilt, 7.5-1.61, 19ry, hestin, sett consi	ilverry) j etany								
	3 —		·			0.1						
		5:14, 61	totic, septems:	te, dangi,							251	(3/4)
	i/	4. West 1	com, sept cins.	, , ,		0	NA		351	0744	_	_
		_			,							
	, <u> </u>	21.75 4ic,	soft consisting	Tucc		_					·	•
] =	,	,			O _j				, .		
	_ ا		s.		İ	0						
)					-			
	, =									·		
	/ -	_	_			0						
] _]	5:14 61.	sick, diamp, prace	Justu.		·2A	NA		552	6743		
	8-	SATT CO	msistemy-			Ö	 			0 / = 0		•
] =											
	9		•			0					5530	(9/10)\$
							I					
	10					6				·		

		HTW DRILL	ING LO	G			HOLE NO.
PROJECT		US= ROCFA 25724 IN	SPECTOR <i>Wi</i> ≈	Har B.	n's clan	den	SHEET "Z OF 3-SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h
	11-	6:14. Oak brown, das, siere pustic, soft consistent	0	NA	SS 3	0800	
	13-	Litty Sord 7 5/4, brown, damp fine to median giorine, well-a tel	01				
	15		0.1	4 4	554	0805-	इरवं(1 ड ी)क)
	17—		0		·		
	14	Chap, 7.51- 711, Brown, class, highly plactic, puddin consisting 3:14 50-21, 7.54, 574, burn, deep	0	No	//-	اردون	
	21	Sance, 7.5-1. 5/4, burn, ciery, fic. Le word, poorly Sorted	<i>c</i>		55s~		956 (21/22)
	23-		0	ho	5¥e	0827	
	25-	Sit, Light Tai), moist, highly plactic soft consistent	0			·	
	28	Sand, 7.54 - 5/4, howen, disoip sine Granes, well socied	0	NA	<i>5</i> 57	0837	557 (27/23°)

MRK FORM 55-2

USFR DIFA.

25724 | DC 7315

			HTW DRI			G			HOLENO.
OJECT	V.	strafa	25724	INS	SPECTOR Wal	ter B. Mc	clander		SHEET 3 OF 3 SHEETS
ELEV. a	DEPTH b		TION OF MATERIALS		FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h
	-		auft consusting	-	6		-		
	29-	1	new con 14 and _	_	0	<u>{</u>			,
	36	Swall 7.840 5; to reduce, well	y bacup, dupp, for L so that	ı	0				
	=				_				
	ارْدَ	5:14, 5u.d, 7.6	trisin, brown, class	,_ ,,					
	3Z	په در کاره شود کار کاره	ry so seet		0.	NA	<i>558</i>	0550	
	_ =		•		0			:	554/32/33)
٠	33	5.2nd, 7.5,42574	peon, desp to	_ ادر					
	34_=	souted fire to	pean desp to , nedim grainel,		\mathcal{C}				
	, -	Sandy 51 H. 7.5	y syu borons prais	,				÷	
	35-		yest ansesting		o c	NA	•		
	36	free crane	the cost sociales, is extins stay, same		<u> </u>	<i>**</i>	554	0703	
	- - - - - -	, - 35		:	:				
	<i>3</i> 5——	BoHom of	Ligger How						Gw 37/35,4
	3,					·			, , , , , , , , , , , , , , , , , , ,
		3:44	of there						TO = 35.4
	40-	٠,٠٠٦	of the						10 2 35.4
	111		•						
		•							
	=======================================				•				
	듹								
	=	· PDO IEO						1,,5,5,	
K Jui	ORM 55-	PROJECT	USFR DO	下层)	2.	5724	HOLE NO.	DCFB115

	•	HTW [DRILL	ING L	OG					ENO. CFB115A
COMPANY NAME	BURNS	+ McDanell	2.	DRILLING SUBC	ONTRACTOR /	25			SHE	ET 1 SHEETS
	SFROC			4. LC	CATION FOR MAR	DRJ C	Clean	ing Bu		Location
NAME OF DRILLER	3	Pat MARTIN		6. M	NUFACTURER'S D	DESIGNATION	OF DRILL	oc sha	ر لدی	40
SIZES AND TYPES	OF DRILLING	4-toot macko	come s	molec 8. HO	LE LOCATION					
and sampling eq	JUIPMENT	4-foot Acetate	<u>-</u>		141930			26740	7.92	· · · · · · · · · · · · · · · · ·
				10. [1085, ATE STARTED	00	· ·	11. DATE COM	IDI ETEN	
OVERDURDEN TI	10/41/500				1/13/08			11/13		•
OVERBURDEN TH	HICKNESS	35		15. [EPTH GROUNDWA	ITER ENCOUN	TERED			
DEPTH DRILLED I	NTO ROCK	0		16. C	EPTH TO WATER	AND ELAPSED	TIME AFT	ER DRILLING CO	MPLETED	
TOTAL DEPTH OF	HOLE	35		17. C	THER WATER LEV	'EL MEASURE	MENTS (SP	ECIFY)		
GEOTECHNICAL	SAMPLES	DISTURBED		DISTURBED	19. TOTAL NUM	BER OF CORE	BOXES			
SAMPLES FOR CHEMICAL ANALYSIS VOC ME				<i>UA</i> LS OT	MA- HER (SPECIFY)	OTHER (SPECIFY)	OTHER (S	SPECIFY)	21. TOTAL CORE
PCE, TCE, DCE				4	NA	N.	A	N		RECOVERY %
DISPOSITION OF HOLE BACKFILLED MONITOR				G WELL OT	HER (SPECIFY)	23. SIGNAT	_			
		Bentonite	NA		NA		 ,	Nc Cle	ndo	<u>۔</u>
EV. DEPTH		DESCRIPTION OF MATERIALS		FIELD SCREENI RESULTS d	OR CORE BO	X NO. SAM	LYTICAL PLE NO. f	BLOW COUNTS Time		REMARKS h
/- 2-	Plast Clay med.,	fill, Clay, damp, consist fill, black, da consistered consistered concrete fragi	medium ency mp, sistency, nent	0						ort Time 0910
3-		~ ·		0						(m.)
4_				0	4/4	55	5/	0914	351	(3/4)
5-				_						
6-	CAMP,	y 5; It, black to non to trace pla consistency, fill concrete + L.S. fi	nstic,	0						
7-	ייאיש: - -	JUNUKUIC 4 213, FI	2,50	0	24					
8_	-	11/11/1			3/4	55	52	0918		
9_	+RACE	H Silt, brown, of to med. placetic	clamp, =	0						
10				0					554	(9/10)
K JUN 89 55	5	PROJECT USFRD	CFA	257	124			HOLE NO.	FB	115A

			HTW DRILL	ING LO	G			HOLE NO. DCFB11574	,
PROJECT	US,	FROCFA	25724	SPECTOR WB	mecles	ndon		SHEET 2 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION	ON OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Perouch	ANALYTICAL SAMPLE NO. f	BLOW COUNTS 7. me	REMARKS h	1_
	 	SANDY Silt trave to me med. consis	, beown, damp, d. plastic, stency	0					
	12	·		0	4/4	453	0923		
	13			0					
	14			0					Ė_
	 - /5			0					E
	16_	Silt, brown	n, clamp, med.	0	4/4	55 <i>4</i>	0930	SS4 (15116)	
	17	PHASTIC AND	Consistency	0					E
	18			0				·	F _
	i9—	SANDY Silt GZEY, JAMP Medium pla	to moist, stick soft to	0					
	20_	medium ca	nsisteny	0	4/4	435	0435	<u> </u> 	
	21			0				,	E
	22			0		,		556 (21/22)	
	23	SAND, Lisht of fine to medium	to tan grey, damp, n, weil sopted	0					
	24_	SANUT Silt, I damp, med pli consistence	ight TAN to Seet, astic And with sand lenses	0	4/4	556	0947		
	25			0				:	E
	26			0					E_
	27_		• •	0		,			É
	28	PROJECT		0	4/4	557	0955 HOLE NO.	557 (27/28) DEBUSA	<u> </u>

USFROCFA

25724

HOLE NO. DCFB 115A

		HTW DRILL	ING LO	G			HOLE NO.	
PROJECT	JSFE	20CFA 25724 INS	SPECTOR WE	3 Mc Cles	nden		SHEET 3 OF 3 SHEETS	1
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOVELY	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	SAND, brown, damp to moist fine grained, well souted, those of fines	0					
	31	trace of fines		414		·		E
	32-		0.4	77	828	1002		
	33		O				659(33/34)	<u> </u>
	34		0			:	30 112 37 37	
	35	moist	O	3/3	559	1015	ENTINE 1020	
		BoHom of Logsed Hole					40=35	-
	-		·	·	-			E
				,				
							·	
	-	·					·	E
					•			E
							•	
1.								<u>-</u>
			· .					
MRK .f	ORM 55	-2 PROJECT USFROCEA	. 2	25724		HOLE NO.	LFB115A	<u>-</u>

				HTW [DRILL	ING	LO	G				HOL	ENO. OCFB 1154	TUB OF B
1. COMPAN	Y NAME	Gume	ر من	Mc Denoull	2.	DRILLING	SUBCONT	RACTOR	a /	Poico	H SCRU	SHE	ET 1	
KOJECT		USER				UI	A LOCAT	ION:						1
5. NAME OF		USFR	UCI	-17	· · ·		6. MANU	RMER FACTURER'S D	ESIGN/	ATION OF DRILL	ning FR	6:1.4	y lecation	긱
			1				10	EUCK M	000	ted au	pube o	4-4	0	4
	id types : Ipling eq	of drilling Uipment	4	-fort Samp -fort Alexan	12.R		8 HOLE	LOCATION			= 22674			
***				continous			9 SURFA	CE ELEVATION			-2011			1
			-					84.51 STARTED			11. DATE GQM	PLETED 0	li k	-
		<u> </u>						124/200			11. DATE COM ;//24/	2000	····	4
12, OVERBL	JRDEN TH	CKNESS		33			15. DEPT	H GROUNDWA ろん		COUNTERED			•	
13. DEPTH	DRILLED II	ITO ROCK		0		, , , , , , , , , , , , , , , , , , , ,	16. DEPT		AND EL	APSED TIME AFT	TER DRILLING CO	MPLETED		1
14. TOTAL I	DEPTH OF	HOLE		3/3 40			17. OTHE			ASUREMENTS (SI				
18. GEOTE	_	AMPLES		DISTURBED		ISTURBED	L	. TOTAL NUMI	<u>. </u>	CORE BOXES				1
20. SAMPLE	ES FOR C	EMICAL ANALY	SIS,	₩A voc	META	NA LS	OTHER	(SPECIFY)	r	HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	-
Ons	ite s	natific	Al	PLE, TLE, DEE	No	4	 	NA		NA	^		RECOVERY %	
22. DISPOS	ITION OF	HOLE		BACKFILLED	MONITORIN		OTHER	(SPECIFY)	23. \$	SIGNATURE OF II			,,,	1
				Bemfonite						W.B. A	n Cland	on		
⁻¹ EV.	DEPTH b		DES	CRIPTION OF MATERIALS			CREENING SULTS d	GEOTECH SA OR CORE BO	X NO.	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TONE		REMARKS h	
		70050	27									344	net ~L=0935	F
	. 1_:	charey	5:1+	with fill ma	terial,		0.2					1.	*1=0935	Ė_
	• —	glass.) Maid , `L, yy	in, dans, mi Lid. consist	Æ.							·		E
	2	3					6.5							E
		5:11.0	in	brown tolis	 int_da_a		0.2					ļ		þ
	3—	trae .	p her	itic, soft con	sisteny	1	0.2							E
		=			,		•					کک	, (314)	F
	4_	3					0.2	4/4		541	0934			E
		=												F
	<u>5</u> —	=	_				C.2							E
		3:14,1	:GH	brown, darp, not consistency	1077									E
	<i>b</i> —	- Plestic	so	for consisting	-		CZ				·			<u> </u>
														E
`	7_	=					0.2							上
	_ :]			÷		6 -	3/4		652				E
	8_]			•	<u> </u>	0.2			2.6	0540	+		
,		=		•										E
	9		T				0						.la.	E
	10	pleatic	ing ., so	brown, demp, to	ree Li		•					553	(9/10)	F
	ν.	1		OJECT	<u>′ </u>	<u></u>	0			<u> </u>	HOLE NO.	<u> </u>	мн	<u> </u>
MRK Jui	DRM N 89 55	5		USFR	OCFA							FB11	• • •	

	<u></u>	HTW DRILLI	ING LO	G			HOLE NO. DESIST	B
ROJECT	USF	R DCFV7 INS	SPECTOR WB	MECLINO	en		SHEET 2- OF 3 SHEETS	1
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d		ANALYTICAL . SAMPLE NO. f	BLOW COUNTS	REMARKS · h	1
	h	5.17, desk, prom, dont, trace plantic, nort to neel consist.	6	0				
	12—		0	4/4	453	0947		
	13_	clayer 5:1t donk brown, dap, med pistic, med. consist.	0.2					
	 W		0					-
	 		6				554 (5116)	
	14-	· .	<u> </u>	4/4	534	0951	334 6 7, 0,	
	 17		Ø.2					
٠	13 -	Swidt Silt dath brown	0.6					
	 ig	Swidy Sitt, dock proun, durp, trace prastic, nott consistent	0.2				·	
	20-		0.6	414	3.5	<i>j00</i> 0		
	21		0.6				5560 (21/22)	
	2 2		0.2					
	23-		0.2					
	24		0.6	4/4	554	1006		
	2,-	Jand, Light Booun, dorp, fine	0.2			·		
	24-	Silt, Light Barnin damp, trout to med plantic, soft to	0.2	1				
	27	5/14 clay Light Bound darp	0.6					
	26 =	med plastic + consistency	0.2	4/4	557	HOLE NO.	557 (27/28)	

MRK JUNES 55-2

DCFB115AR

	······································	<u>. </u>	HTW DRIL	LING LO)G		·	HOLE NO.
PROJECT	USFR	OCFA	25724	INSPECTOR WB	-Mecland	<u>~</u>		SHEET, 3 OF 3 SHEETS
ELEV.	DEPTH b		DESCRIPTION OF MATERIALS	FIELD SCREENIN RESULTS d	G GEOTECH SAMPLE OR CORE BOX NO.	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h
	29	traces	Sit, brown, damp to med plastic, to med. consist.	C				11/30/00 =
	3c =	3.4.1d G.2.4i	, Bauur, diamio, fin	0				
,	31	C1.7-1,	paulu 1, danzi, Hastic and consist	0				
	32			0	414	358	0453	<u> </u>
	33	5,14,5 £ hu s	hard, haven, champ, animed, well scaled	0				559(33/34)
	34	sandy med. p	Sit, giat, muist, Imstic, sift cois.st	0				
	35			0	44	<i>959</i>	0715	
1	36	 5~~/	heavy at Jav			77,	7773	
	37	ر ماروس در وراثر نور	havion, wet, line well seated		2,			
į	3s =				2/4	5510	C13C	EndTime =
·		\mathcal{B}	eton of Hole					TO = 38 test
	-							
	-							
		<u> </u>	PROJECT			<u> </u>	HOLE NO.	<u> </u>

PROJECT USES DCFA 25724

HOLE NO.

			HTW	DRIL	LING	LO	G				ENO.
1. COMPA	NY NAME	2	-		2. DRILLING	SUBCONT	RACTOR	,		SHEE	ET 1
		sums d	Mc Jonall		<u>En.</u>	RUND	rental K	voit se	evu		3 SHEETS
PROJEC	T • 12	FR OCFA	1	25724	ţ.	4. LOCA	TION	- 44.	my Facil	· .	
NAME (F DRILLER	, ic bei F	7	23,2	·	6 MANUE	EACTURED OF DE	SIGNATION OF DR	my F.7611	<u> </u>	
NAME	/ UNILLER	Paul					Conobe		ilLL.		
SIZES A	ND TYPES O	F DRILLING	4-foot macaicos				LOCATION	(2)			
	MPLING EQU		4- foot actate s					7 77	E22674	40.95	5
			Cortinous				ACE ELEVATION	,			
						1	1084.	94			
						10. DATE	STARTED	•	. 11. DATE COM	MPLETED	
						//	1/03/2000	َ	11/09	10000	
2. OVER	BURDEN THIC	KNESS	4/10			15. DEP1	_	ER ENCOUNTERED)		
			40		 		37				
3. Depth	i drilled int	O ROCK	•10			16. DEP1	H TO WATER A	ND ELAPSED TIME	AFTER DRILLING CO	OMPLETED	
			NA		·		34,3				
4. TOTAL	. DEPTH OF H	IOLE / היישישה	T Hoteet 40	3		17. OTH	ER WATER LEVE	L MEASUREMENTS	S (SPECIFY)		
8 GEOTI	CHNICAL SA		DISTURBED		NDISTURBED	1 10		ER OF CORE BOXE	EQ.		
J. GEO 11	C V	mi LLO	N.A		NA	' '`		EN OF CONE BOXE	20		
0. SAMPI	ES FOR CHE	MICAL ANALY	SIS VOC	T ME	TALS	OTHER	(SPECIFY)	OTHER (SPECIF	Y) OTHER (SPECIFY)	21. TOTAL COR
Cns.	+E. Clra	ylange	PLE, TLE, IKE		JA		,V. 7	,	-/- 		RECOVERY
				<u> </u>	<i>∪ ' ∀</i>			~A	W	÷	NA %
2. DISPO	SITION OF HO	DLE	BACKFILLED	MONITOR	ING WELL	OTHER	(SPECIFY)	23. SIGNATURE C	OF INSPECTOR		
			Bentonite.	^	<i>I.</i> 4	~	JA	Walter	B. m. de	inda	
			CO: 176.		TEID C	CREENING	GEOTECH SAN	IDIE ANALYTICA	v 1 51011	1	
ELEV.	DEPTH		DESCRIPTION OF MATERIALS	;		SULTS	OR CORE BOX				REMARKS
a	Ь		С			d	е	f	Tire	1	h
] :	Chay, d	fork drawn, domp, in	ed. , sust	!					Ston	n+
		med co	ind them, dongs, in no strong - ind, concute, Lile, e	_ ;	-	•				7	it 1005
	<i>)</i>	۵۱۱:۳	ird, concuté, Lile, c	lez		0				1	
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	=				1						
	3_								1		
	~ -					Õ			· []	1	(3/4)
	=								ļ	337	(3/4)
	4				ļ		અન	551	1010	_	
	l′ ±										
	=								ļ		
	5-					0			[i	
	7	Stally 3	5: It, dark brown, e clastic, soft con	denf,							
	, 	trace of	clastic, soft con	germany		0				1	
	6					0					
	=								Ì		
	7					0				1	
	آ ِ ا								ľ		
	7						NA	352	42.5	1	
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	7 =				- I		1	1		1 207	(040)
	/2				5	6	·			563((८११०)
			PROJECT			0			HOLE NO.	653	(9/19)

		НТ	W DRILL	ING LO	G			HOLE NO. $\alpha = 8$ // ω
OJECT	ŧ	USFROCEA 25	5724 IN	SPECTOR Will 4	u B. Myc	landen		SHEET ₹ OF 3 SHEETS
LEV. a	DEPTH b	DESCRIPTION OF MAT	TERIALS		GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Tignil	REMARKS h
	=	Garagesit, dent pros trace pursue, soft un	m, demp	0				
		, was , with , 80pt of)			į		
	=							
	12			0	N.7	553	1022	
		•						
	13 -	6: 14: Sand 7.5-15574	basen, clary	0				
	=	6; 14; 6201, 7.5-10574, fore graner, proving soci	ich					
	M—							
				0				
	0 =				' -			554 (5/16)
	Jr _=		_ ~-	0	NA	554	1031	
	=	5:14, 7.54 574, DRIVE trace to press. press comsisting.	n, dans					İ
	 17—	consistery.	-1 80 PM	0	.			
!	/3			0				
				C		•		
	1/4-							
	20			0	<i>ج</i> د,	455	1041	
	=							
	и_=	5,14 sans, 7.540.	My prous,	0				60.194251
		days, fine grained socied	, week					SSI.(21/22)
	22	Silt, 7.84.514, days		0				
] =							
	23	Land, 734, 574, Buch	Sinsten	0				
	7.1	5.14, 7. m/s s/4 pours travel to mea. , 2 2214.2, Consistency	dary tement,		NA	EU	1051	
	24_=			0		656	7037	110900
				0				
		SAND TISHT DROWN, down	mp, time					·
	26	· · · · · · · · · · · · · · · · · · ·		O.2			j	·
	. =		·	0.2				
	27	SANDY S.IT, I GAT BROWN, MOIST, HIGHTY PINSTILL SI	domp to oft consistency	. 0				557 (27/28)
					70	//-		
	28 -	PROJECT		0	r _A	557	0805 HOLE NO.	

listr diff

25724 NERIIL

		HTW DRILL	ING LO	G		,	HOLE NO.	
PROJECT		USFROCFA 25724 IN	SPECTOR Worker	B. Mccler	ndo	•	SHEET 3 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS c			ANALYTICAL SAMPLE NO.	BLOW COUNTS Time	REMARKS h	
	29-	Sit, Lient Beaun, domp, med. pinstic, med. to soft consistency Sond, Lient aroun, days, Lie grained well souted	0					
		well sorted Swady Sit light brown, deep to , meist median plastic and consist; with some lends; dap, fine grand, well sorted	0					
	32_=		0	NA	<u>822</u>	0514	1-	
	33—		0				559 (32/53)	
	34 <u> </u>		0 .0		· .			
	37-	Land of above a set more & Low let		NA.	८४५	002		
	36-	SAME 172 Above, Except moist tower cheet Ennss	6			0835		
	38	Sport, 7.5-1-5/11, proun, Evet, fine grained, well sorted	_					
	39		_					
	40-	Bottom of Logscul Hole	_	NA	5510	0250	higged TD= wofeet	E F
					٠.		usfeet	
		PROJECT				HOLE NO.		
MRK 🎜	ORM 55-	2 USFROCFA			25724	HULE NU.	DEER 116	

			HTW I	DRILL	ING	i LO	G				HOLE	CFB117
1. COMPA				2.	DRILLING	SUBCONTI	RACTOR	20:0	eity sea	2.15.0	SHEE	
3. PROJEC		uns +	McDonnell		En	4. LOCAT		PKI	R. FY SER	V. &	OF	3 SHEETS
o. Thouse		SFR DU	= A	25724		4. LOOM	Former	Da	4 Cleani	ns FAC:	1:4/ 10	eation
5. NAME C	OF DRILLER	PA))						TION OF DRILL	206e C-H-	40	
	ND TYPES OF DRIL		- Fuot MACROCO			8. HOLE						
AND SA	MPLING EQUIPMEN	4.	- fuot Acetate 5 Continous	recue			1193076 ACE ELEVATION		E 22 107	485.61	·	
		1	CONFINIOS			9. SUNFA	1086					
							STARTED			11. DATE COM		-
44 01/505		ll					11/09/20		OCUMENTO	11/29/	9000	·
12. OVERE	Burden Thicknes	s 4	O			15. DEPI	H GROUNDWA 3		COUNTERED			
13. DEPTH	I DRILLED INTO RO	CK . D	NA	. ,		16. DEPT	H TO WATER A 3 S		APSED TIME AFT		MPLETED	
14. TOTAL	DEPTH OF HOLE	.Hi	o- 43.6			17. OTHE	R WATER LEV	EL MEA	SUREMENTS (SP	PECIFY)		•
18. GEOTE	ECHNICAL SAMPLES		DISTURBED NA	UND	STURBED	19	. TOTAL NUMI		CORE BOXES			
	LES FOR CHEMICAL		voc	META	LS.	OTHER	(SPECIFY)	ОТ	HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL
Up.	site Analy	yw11	PCE. TCE, DCE	NA	;	^	1A		MA	. ^	IA	RECOV <i>∼</i>
22. DISPO	SITION OF HOLE		BACKFILLED	MONITORING	WELL	OTHER	R (SPECIFY)	23. S	IGNATURE OF IN	SPECTOR		•
			Bentonite	NA	-	^	/A		WA Uter	B. MG0	lerda	
ELEV. a	DEPTH b	DE	SCRIPTION OF MATERIALS		RES	CREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	BLOW COUNTS		REMARKS h
		050:1								<u></u>	STA	2+
		11, dry 6	concrete, clay t	ile							7,7	ne = 1000
	/	•	Ů		1	0						
					'	٠						
	2					0						
	7					Ü						
	3_=										551	÷
		· · -				0					1314.	
	131	ns sten	dig, non pust.	i, hard		0	Na		ا کی	1003		
	4 -						† <i>-</i>			, ,,,,,		
]											
	5					0						
	1 10h	7+16,	fill material			0						
	6-30	0.00.00				0						
	1 4-											
		14 11201	han also	n plastic		0						
	7	0	Dustin, Osty, 100		1		}					
	7-3,	et cons	basun, day, no.				į.					
		lt cons:	istery				,J.2i		, ,	10.43		
	8			~ _		0	הג		632	1008		
	8	ill man				0	μA	· . · ·	432	1008		
	8						h	<u>-</u>	652	1008	5526	419
	8					0	JA		432	1008	552l	4/d
	8						μа		632	1008	652l	V/4)

			HTW DRILL	···	G			HOLE NO.	
PROJECT	ν	SER DUEA	25724	NSPECTOR Wa	etu B. m	4 clend	n_	SHEET 2 OF 2 SHEETS	
ELEV.	DEPTH b		ON OF MATERIALS C	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h	
·	\ \ 	Fill material,		0					
	12	Clay, brown, do	y non-plastic	0	Na	553	1015		
	13—			0					
	14	SiH, 7.54-574	brown, damp	0					
	// -	frace plastic, s	off consistent	<i>O</i>			·	534(15116)	
	16 -				JA	554	103,		
	17			0				·	
•	/3 <u> =</u>			<i>6</i>			. · · · ·		
	19			0					
	20				NA	555	1040		
	2/			0			·	556 (21/22)	
	23	·							;
	24	SANDY SILF, 7.57F picotic med, med.	54 Pasun damp consistency	0	MA	مادي	1057		
	2,-	Sand Lishe Mo	un, 041, fiel graned	0					
	26-	Sandy Sit Ligit non plant had	r mam, dry,	0					
	27 =	SANO LONES		0	.10.	•		557(27/28)	
	26 _ ORM 55	PROJECT	115FR DCFA	9	NA	2572.U	HOLE NO.	C.E.B.17	_

•			HTW DRI	LL	ING LO)G			HOLE NO.	٦
ROJECT	VS:	FROUF &	25724	INS	SPECTOR W.B	. Mª Cleno	ton		SHEET 3 OF 3 SHEETS	٦
ELEV.	DEPTH b	DESCRIPT	ION OF MATERIALS	,	FIELD SCREENING RESULTS d	GEOTECH SAMPL OR CORE BOX NO		BLOW COUNTS	REMARKS h	1
	29	damp, trou a	54774 Davum, day to 1.20 + ic, Suft y. H. Sand lenses, D c. grainel, well source						Lost MACRONE samples down byle. After Repeated Attarps Li Retzierc, offict	ı
	30-	·			0				2 feet once pre probe clown to 28 feet.	7/
	3/_			_	o					
	32	to medium grain 5:11 1:601 grain	, seem, dry fix well sorsed	_	. 0	NA A	558	1420		
	32	tial w medium interior,	to main, main , pusting , supsi to	,	_				1110/2000	
	33 —	5 and, Light ba	own det, fine to		0				559 (33/34)	
	34	Siandy 5:14, w inclaim plastic,	ith chart foos, but see consist mois	Unit						
	35=	Sand Lien- but	en major fix	_	0					
	34	grained well	ser, news, fine		0	NA	559	0825		
	37_					0		·		
:	38	sard wet				ō				
	35-	,				_				
						_	50,00	0833	End Time = 093,	
	4/0	BOHon of W	gged hole						TO = 40 feet logged	
									76=42.L	
	4									
									· · · · · · · · · · · · · · · · · · ·	
								,		
	=======================================		·							
- Fo	RM 55-	PROJECT	USFRD CFA	1			2 7771	HOLE NO.	DICA I	1

				HTW I	DRILL	.ING	i LC	G				HOLE	NO. CFB118	>
1. COMPA	NY NAME B	URNS +	nc Doi	2011	2	. DRILLING	SUBCONT	TRACTOR	P	<u> </u>		SHEE		_
ROJEC	GI						4. LOCA	TION			. ~		SHEETS	-
5 NAME (OF DRILLER	15FR A	CFA	2572	2.4					TION OF DRILL	ing Fac	ility	 -	_
. WANE C	or britter			1ARtin							eobe G	4-40	•	
	AND TYPES OF			t MACRUL t Acetati				LOCATION	20	01 =	21722			
7.11.15 07	um Envo Edo			inous	e sieevo	<u></u>		ACE ELEVATION		91 E Z	267323	5.9		_
		-						108	3.3	57				
		-		<u></u>				E STARTED 1/14/20	פס		11. DATE CON	APLETED 1/2000	ว	
12. OVER	BURDEN THIC	KNESS		40 4	15			TH GROUNDWAT		COUNTERED	777			_
13. DEPTH	1 DRILLED INT	TO ROCK	**	2	0		16: DEP	TH TO WATER A	ND EL	APSED TIME AFT	TER DRILLING CO	OMPLETED		_
14. TOTAL	DEPTH OF H	IOLE		10- 45		.	17. OTH			JO min SUREMENTS (SI				_
18. GEOTE	ECHNICAL SA	MPLES		DISTURBED	UND	DISTURBED	19	9. TOTAL NUME		CORE BOXES				-
20. SAMPI	LES FOR CHE	MICAL ANALYSI	s	VOC	META	NA us	OTHE	R (SPECIFY)	JA	HER (SPECIFY)	OTHER (S	SDECIEVI	21. TOTAL COF	_
		MICAL ANALYSI PO Porfieman		E, TCE, DCE				NA	571			JA	RĘCOVERY	
	SITION OF HO		ומי	BACKFILLED	MONITORIN		<u> </u>		23 9	IGNATURE OF IN		, F1	NA %	_
			<u> </u>	ntonite	NF			NA			,B, Mg	Ecler	don	
			14	MIMITE		,	CREENING	, 		ANALYTICAL	BLOW		- -	-
⊂LEV. a	DEPTH b		DESCRIPTION	ON OF MATERIALS			SULTS d	OR CORE BOX	NO.	SAMPLE NO.	COUNTS	R	EMARKS h	
		Fille	lay, d	ARK BRA	undam	•		100000	~/		7	STAR	+ Time	-
	; =	medium	pla.	ARK BRA Stic And	, , ,	,	9.1					1	910	
	'	Consis	tency	/		`	<i>-</i>		ĺ			i		
	, =					,	6V 1							
	4	fill	0000	He, ROCK	and	'	9.1							
		beick		-			.							
	3-	- J ,	,,			(٥.1					461	(3/4)	
],,]						0.1	3/4		551	0911		(2/4)	
	4	-							_			†		
	[ہے						_							
	5						0							
,	$[\]$						_							
	6-						0							
	7—]	5:14	1000	- -	-/0 1		0							
		ת יוור מנם ממח	CIHKK L+in i	brown, sott con	CIAMP,		_	4/4		663	AG 12			
	8	ייניון ושיי	د ری را	SUFF WIT.	NO TENCH		0	'7		<i>9</i> 52	0912		•	
	=											,		
	9-						0	·						į
												5530	(9/10)	
	10 -		DDO IFOT			<u></u>	0.1							
-	ORM 55		PROJECT	SFROCE			72.4				HOLE NO.	OCFB		

			HTW DRILL	ING LO	G			HOLE NO. DCFB118]
PROJECT	USF	ROCFA	25724 INS	PECTOR WB	McClend	lon		SHEET 2 OF 3 SHEETS]
ELEV.	DEPTH b	DESC	RIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. Leciples	ANALYTICAL SAMPLE NO. f	BLOW COUNTS Tirgue	REMARKS h	<u></u>
	<i>n</i>	Chy, bro plastic, m	wn, damp, highly ed. to hand consist	0			·		
	12			0	3/4	553	0916		
	13			0					
	74 =	Silt Cla	y, brown, damp,	0					
	5-	med . plas f	ic + consistency	0.5				554(15/16)	E
	W		•	0.1	4/4	594	0929		
	/>			0			·		
	18			0					
	19	SIT, DRO Plastic, M Consiste	wn, damp, trace ned. to soft ned	0	·	,			
	20-		;	0	4/4	555	0935	-	
	2/			0			;	556 (21/22)	
,	22	 -		0					
	23		own, damp, time enined, well	0					
	24	General		0	4/4	65le	0950		
		SANDY S	it, brown, damp	0					
	2/2	to med co	ace plastic, soft asistency	0	·				E_
	7	·		0				*	<u> </u>
	28 =	1		0	3,5/4	557	0458	557 (27/28)	E
MRK J	FORM 55		USFROCFA	25724			HOLE NO.	DCFB118	

		LITM DOL	B B · B ·	<u>*;</u>			· · · · · · ·	HOLE NO.
		HTW DRI		COTOD				OCFB118
PROJECT	USFR	PCFA 25724			3. Mccle			SHEET 3 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	1	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECOUGH	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TAME	REMARKS h
	29— —	SAND, DROWN, CLAMP to MULTISORIED FINE GRAINED, WELLSORIED SILT, DROWN, MULT, MED PLASTIC, SOLT CONSISTENCY SAND, DROWN, CLAMP, FINE TO MED. GRAINED, WELL SORTED	livm	0				
	31_	sorted		0				
	32			0	414	528	1008	11/15/2000
	33			0				ssq(33/34)
	34			0				
	35-			0	4/4		47.44	
	36-		-	0	79	559	0708	
	37-			O ;	·			
	38_=			6	·			LS 10 (38/39)
	39			0				,
	40			6	3/4	5510	0719	
	4/_=	BoHom of Hole-L	099	ed :				TO=40H End Time= 0720
	42					•		Losged
.`	UB =			•				
	44 -	·						
	# <u> </u>	BoHom of Hole				<u> </u>		TO=45

MRK JUN 89 55-2 USFR DCFA

25724

OCFB118

	,		HTW I								HOLE	NO. FB119	7
1. COMPA	NY NAME	ums +	McDonnell	2.	DRILLING S	SUBCONTE	RACTOR PE.	5			SHEET	3 SHEETS	
ROJEC	T 1)	SFR DC	FA			4 LOCAT	iΩN		OJ ČIDA	pine La			1
5. NAME C			ot Maetin			6. MANUI	FACTURER'S DI	ESIGN/	ET CLEAR STION OF DRILL CCOPES	An Cui	40		
	ND TYPES O	F DRILLING	4-foot MACRO			8. HULE	LOCATION	•					1
AND SA	MPLING EQU		1-tout Acetat Continous	و			CE ELEVATION		3 <i>E</i>	<u> </u>	58.0	6	\dashv
		Ė				10	83.52			-			4
		-					STARTED //13/26	200		11. DATE COM ///4	PLETED 1200 (>	
12. OVERE	BURDEN THIC	KNESS	40°45	•		15. DEPT	H GROUNDWA	rer en	ICOUNTERED				
13. DEPTH	ORILLED INT	O ROCK	0 ,			16. DEPT	H TO WATER A	ND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		
14. TOTAL	DEPTH OF H	OLE	4645		-	17. OTHE			ASUREMENTS (SF				1
18. GEOTI	ECHNICAL SA	MPLES	DISTURBED		ISTURBED NA	19	. TOTAL NUME		CORE BOXES			,	7
20. SAMPI	LES FOR CHE	MICAL ANALYSIS	voc	METAL		OTHER	(SPECIFY)		HER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL COR RECOVERY	E
		ti'Amsti'o		NA	4		VA-		NA	~	A	NA %	
22. DISPO	SITION OF H	DLE	BACKFILLED	MONITORING			(SPECIFY)		SIGNATURE OF IN				
	Τ	I	Bentonite	NA	FIELD SCF		JA GEOTECH SA	L	W. B. I	BLOW	racon		
CLEV.	DEPTH b		DESCRIPTION OF MATERIALS		RESU	JLTS	OR CORE BO	X NO.	SAMPLE NO.	COUNTS	F	REMARKS h	
	=	Fillch	H, black, da	idi.							Sto	ut Le 1103	F
	/_=	Medium	of, black, dai on plastic, med tency, with c d baick pieces	prosek		0					Tim	e 1103	E
		tile, An	d baick pieces	•					. '				E
	2 -				(9.1							E
	=					. .							F
	3-				. (0.1					161	(3/4)	F
	4			i	,	0	3/4	!	551	1107	931		E
	' =	SANH	Jay, black to	תשטפס									F
		Medium	topic to med. I consistence, w Lill material	olastic,	6	9.1					<u> </u>		E
		some +	ill material			•				•	ī		E
	6-				0	9.1	,						E
	=		•		۔ ا	ا ، ،							F
	7-				٥	2.4				,			F
	8	Silt da	RK becom dan	p trais		0.4	4/4	·	552	1110			E
1	=	plastic,	ex become dan Sottensister	061					·				
	9_	Clay, d	APK DROWN, dr	mp		9.1							E
	b	VIVEU PIPS.	stic and lonsis	reny		0.1					<i>\$</i> \$3((9/10)	E
<u>·</u>	<u> </u>		PROJECT		1 '	<u> </u>	I			HOLE NO.			工
MRK ${\mathbb J}$	ORM 55		USFRACI	H	257	24	,		•	1 /	OCFR	3119	

			HTW DRILL	ING LO	G			HOLE NO. DCFB119	
PROJECT	USF	ROCFA	25724 INS	SPECTOR WE	3 Mc Cler	idon		SHEET 2 OF 3 SHEETS	
ELEV.	DEPTH b		RIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. DECOVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h	
	"— "—	Clay, clar. plastic An	K brown, medium ad consistency	0.4			·		
	12-		•	0.4	3.5/4	553	1114	11)14/00	
	13			0.1					
	5		·	0	3/4	554	0710	554 (15/16)	
	17-1	SAND DRO GRAINED A	wn, damp, fine poorly sorted with						TITITI
	152	fines		0.1					
	20			0	4/4	335	0733		
	21 =			0				SSG (21/22)	
ļ	Z 2		1	0					
İ	23		<u> </u>	0.1					
	24=	SAND BROWN	ent first n clamp, time to ned, well sonted	0	4/4	حاكك	0742		
	25=	med. Grain	ed, well source	0					
	24			0.1					ţ
	27-			0.1				557(27/28)	
	28			0	4/4	557	054	W/(2//40)	

MRK JUN 89 55-2 USFROCFA

25724

DCFB119

	 -		HTW DRIL	LI	NG LO	G			HOLE NO. DCFB119	
PROJECT	USI	=RDCFA	25724	INSF	PECTOR WB	Mª Cler	don		SHEET 3 OF 3 SHEETS	
ćLEV.	DEPTH b		TION OF MATERIALS		FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. RECEVERY	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h	
	29	SAND, BROW to med, GRA	in, clamp, fine sined, we'll soeled	d	0					TITLE TO THE
	30	SANCY Siltomoist, N	t, brown, damp ned. plastic and	0	0					
	32	Consistency			0	4/4	<i>5</i> 58	0867		
	33	SAND, DEOW!	n damp to moist	5	0				559(33/34)	
	34	Surted	muist, med. plash		Ø				25 162434)	
	35	SAND, BROW	n fine grained , champ to moist	4	0	4/4	559	0319		
	37	cyl howa	moist hichl	-	0					
	38-		moist, highly to 60th consist. beown, moist, med consistency	d,	0				540(38/39)	
	=	Sand, brown	n, wet, time to			4/4	5510	0072	End Time 0835	
	40		n of Hole 45.	0		,1	<i>الحد</i>	0832	TD=40 feet Logged	
	42 -	Loggec	1 +0 40.0'						• •	
	43									
	<i>134</i> 1							·		
	45	Bo Hom	ef Hole						70 = 45 feet	
MRK J	ORM 55	-2	USFROCE	A				HOLE NO.	DCFB119	

<i>.</i> •			HTW	DRILL	ING	LO	G	-			HOLE	NO. CF/3/20
COMPA	NY NAME				. DRILLING S				- · 		SHEE	
<u>`</u>		Buns,	McDonnell					L 8	Privaity	Service		SHEETS
ROJE			25	אנדב		4. LOCAT	10N					, •
NAME (OF DRILLER	FRUCTB			•	6 MANUE	EACTI IDED'S DI	ESIGN.	Cleanin	y buld	in wa	itum
AWME (OF DUITTEN	Parl	And Pat			O. MANU	ude muc	mk	of Geopu	UNO C-H-4	0	
SIZES A	ND TYPES O	F DRILLING	4-toot MACNOC	ore		8. HOLE	LOCATION					
AND SA	MPLING EQU	IPMENT	4- foot sutst	_					7 EZ	267404	7.27	
			Constnaw				CE ELEVATION	l	4			
							STARTED			11. DATE COM	DIETED	
		ł	<u>:</u>				1/10/200	00		11. DATE COM		
OVER	BURDEN THIC	KNESS	*				H GROUNDWAT		NCOUNTERED			
	_		39	· · · · · · · · · · · · · · · · · · ·			<u> 37 </u>				···- <u>-</u>	
DEPTI	i drilled in	TO ROCK	O'NA			16. DEPT	H TO WATER A	ND EL	APSED TIME AFT	TER DRILLING CO	MPLETED	
TOTAL	. DEPTH OF I	HOLE	39 42	4			R WATER LEVE	EL ME	ASUREMENTS (SI	PECIFY)		
GEOTI	ECHNICAL SA	MPLES .	DISTURBED	UNI	DISTURBED NA	19	. TOTAL NUMB		F CORE BOXES			
		MICAL ANALYS		MET/	us	OTHER	(SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE
UPSI	te Ano.	igy, cost	PLE TEE, OCL	~	'A		NA		NA	~	A	RECOVERY
DISPO	SITION OF H	OLE	BACKFILLED	MONITORIN	G WELL	OTHER	(SPECIFY)	23. \$	SIGNATURE OF I	NSPECTOR		
				~/	2		NA	,	NB. MY	. 10 den		
EV.	DEPTH		Benton to DESCRIPTION OF MATERIALS	<u> </u>	FIELD SCI RESU	REENING	GEOTECH SAI OR CORE BOX	MPLE	ANALYTICAL	BLOW		DELLA DIVO
1	b		C C		d		e e	A 140.	SAMPLE NO. f	COUNTS	'	REMARKS h
	_	Fill ma	11en: 31, C/134, 7.5	in block							Stal	
	=	soun, o	loop, med plastic	reel. te list							T.>	· 1043
	'	Sand	and, core	y porc		0						
	=											
	2_		·			0			ļ			
	=											
	, =					ð					5S1	
											(3/	Ω
	1 =					_						
	4 —	clay =	- duk brown, darp,	trace	ļ ———	0	AH		551	1050		
	=	plastic 1	ears consistent, a	,: H								
	<u>~_</u> _	fill mate	earol			0						•
	=											
	In =				-	0	,					
	-		•									
	=		-									
	⁷ —	Sand Li	ght brown, damo n	edium		D						
	=	GRAINER,	ght brown, damp in well sorted, the	sond								
	8_=					. 0	NA		552	1050		
	=											
	ς <u> </u>				1	0						
	'					.0					453	9/10
	•											
	=											

			HTW DRILL		G			HOLE NO.	
PROJECT	05.	F2 OKFA	25724 IN	SPECTOR ω . \mathcal{B}	. Mc Clero	lon		SHEET 2 OF 3 SHEETS	
ELEV. a	DEPTH b	DESCRIPTION	ON OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h	1
	1111	Sist, Light he prestic, suft co	our, darp, there issuitery	0				·	E
	12 -	Gity clay, dark damp, non to the to redice consu	, morn, chy to me planting, soft	0	NA	<i>\$</i> \$3	1059		
	/3 =	5:1+ clare brown auff to ned con	in, dorp, have plastic	0					
	14			ð		.i			
:	/5 —] /4 —]	Sand, with fines, of	dat brown, darp, sined, poorly sorted	. 0	NO	Ssil	1104	45 4 (1511b)	
	 n_=	Chot, 7.54 5/4 /	basm, Mare and	0			·	11/13/2000	
	18-3	Small spallens	ors interest, with es less than . I sank	O	•				- -
	15 -			0			•		
	20	Sist, 7.5 fr 5/4 , b.	roup, dong shar	. 0	JA	45	0732		-
	21	sondy clay, blace damp, mal pio	Il to don't bears, story soft consistency	0				654621/22)	
	22	Sord, Lient baom medium, 6 as. hed	del to damp, unell sontal.	0				·	F
	123-1	souly graden brown, damp for medium cons:	moret, med pleasie	0			·	·	
	zu			. 0	MA	654	0>47	· .	F
	25_			6		·			
i	24	Sand, Light baoun, well souted	, damp, Fine gapinal	. 0					F_
	27	- -		Ó	·			557(77/28)	
	28 7	200 150			NA	357	0756		E
MRK 🎜	ORM 55-2	PROJECT	lista. Ole a			25724	HOLE NO.	OCFB 12n	

		HTW DRI	ILLING LO	G			HOLE NO. DCFB 120
OJECT	US	FROCEA 25724	INSPECTOR WB	micland	~ >	ű	SHEET 3 OF 3 SHEETS
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS		GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL	BLOW COUNTS Tige	REMARKS
		Sord, Light boom, damp, line					
	_	Ganiaed, well coased	0				
	24					ļ	
	_						
	30		0.1				
	. =						
	3/		0.1			ĺ	
	_				_		
	32	`.	0	NA	568	0804	
	=						
	32] .	
			0				(59 (33/34)
	34	GRAVETY SAND, LICHT to dANK DAVE	- 0				
ļ		GRAVELLY SAND, LICHT to APRIL DADA MOSST, LIVE to COPUSE, MOSALY SON KEN, WITH L.S. ONLY CHENT FAMES				,	
. [3	William Comment of the State of	0				
.	1		_				
1	34	Sand, HETE LISH + SARY MEISH, LINE GRAINED, Well SON YED	_	HA	359	0827	·
	٧	Grained, well sonded		76		0007	-
	-		,				
l	37—	·					Y .
. [\exists						
1	36						Encl Time =084
ĺ							Time =0841
1	, I		<u> </u>	NA	5510	0839	:
	35					0,07	
	Ε	Bottom of Lossed Hore					TD-39 Rect
Ī	40-						leagré :
	3	Total Depth = 421					
- 1	41						
							·
1	42_=				*		
1	-		** AVEC 44 A				
	\exists	Bottom of Hole					TO = 42 feet
1	\exists	•					End Time = Obso
	3			·]	,		
	Ē	•					
	3						
}	긬		•				
	#						
				<u>. </u>		•	
		PROJECT				HOLE NO.	

			HTW I	DRILL	ING	LO	G				HOLE	NO.	
. COMPAI	NY NAME	2	20-2	2.	DRILLING	SUBCONT	RACTOR		2		SHEE	T 1	
ROJEC		Juns +	McDonnell		<u>ع .</u> ا	4. LOCAT	10N	<i>L</i> /	Priority &	evin	OF	3 SHEETS	_
		ser ocea	. ;	25724				i cl	eaning F	Acility Lo	EATION		
. NAME O	F DRILLER	Paul An	1 Pa+			_			ATION OF DRILL	640			
SIZES A	ND TYPES O		4-toot macrocour	Samalia			LOCATION	7861	Geopio	L 0-4-40		<u> </u>	\dashv
	MPLING EQU	_	4-foot scetate	Jan page				6.0	9 EZZ	6744 F. 8	5		
			Continous				CE ELEVATION				•		
				· .			10 84.45 STARTED	S		44 047 004	N CTEO		_
							10/2000			11. DATE COM			
2. OVERB	BURDEN THIC	KNESS	35.6			15. DEPT	H GROUNDWA		COUNTERED				
B. DEPTH	DRILLED INT	O ROCK	0.4			16. DEPT		ND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		
4. TOTAL	DEPTH OF H	HOLE	36.0-	390	;	17. OTHE	R WATER LEVI	EL ME	ASUREMENTS (SP	PECIFY)			+
B. GEOTE	CHNICAL SA		DISTURBED	UND	ISTURBED	19	راكبر TOTAL NUME		CORE BOXES				-
). SAMPL		JA MICAL ANALYSI	NA voc	META	NA LS	OTHER	のA (SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFYI	21. TOTAL COR	
00	15:4C 1,) as his is	PCE. DCE, TCE	~/	4	•	NA		NA	ν.		RECOVERY	
. DISPOS	SITION OF HO	OLE	BACKFILLED	MONITORIN	G WELL		(SPECIFY)	23. 8	SIGNATURE OF IN				_
		•	Ben+onite	NA		~	'A	4	W. B. M.	clenda	-		
TEV.	DEPTH b		DESCRIPTION OF MATERIALS		FIELD SCI RESU	JLTS	GEOTECH SA OR CORE BO		ANALYTICAL SAMPLE NO. f	BLOW COUNTS		REMARKS	
			ik. brown, domp,							- 1, 0 3	5406	of Time	٦
		Plactic,	ned consisteny	•								709	
	/ —					0.2							
		;			l							•	
	Z	Sondy Cl	ey, brown, days, or	red									
		,	mer contrast of		ŀ	0.2							
	z			,						'			
		-				0.1					ر یک	(3/41	
	=					0.1	NA		351	05/3			
	4 -	F.11 54	ici, Light brown de	ans	 -	<u> </u>				0113			
]	medun q	pained, well' so	il		0.2							
	5	Sandy S.	14, 1.9 ht mour, d	ang,								•	
	╛	har pl	as his, not consu	stenj									
	<i>ω</i>					O. Z							
		Sitt Is	of Brown class in								•		
	$\mid \ \ \mid \ \mid \ \mid$	Plastir.	et Brain, desp to soft consistency	vec									ĺ
			J			0.1			٠				
	, <u>]</u>					0.1	NΘ	ì	552	2015			
	š - 	4:14 11		15/ 15	 -	<u> </u>	<u>[v·′</u>		7,5	7919			
		trace, sall	consistent build	716 40 160:1									
	4 -	horizon	20 20 010 19, 200 110	- - /· ·					-		257	(9/10) #	
											フノン	Uny N	
	.0 =	<u>.</u>	· 										ŀ
	-		PROJECT		· · · · · · · · · · · · · · · · · · ·					HOLE NO.			_

		<u> </u>	HTW D		ING LO	G			HOLE NO. DCFB 121
CUECT	U.S	FROCES	25724	IN	SPECTOR $\omega_{\mathcal{B}}$	mcclende	~		SHEET 2 OF 3 SHEETS
ELEV.	DEPTH b		SCRIPTION OF MATERIALS	,	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO.	BLOW COUNTS	REMARKS h
	//	5: 1t, block, damp, trace,	buriel soil has plasting soft con	nsostery	0	2A	<i>\$</i> 23	0530	
	/3				0 0			- -	554 (15/14)
		5:14 clay	dent bram, de i ned consist	ing,	0	NA	ક્ડવ	0432	
	17	Sand, with	fine, 7.27 5/4 to rained, pools so		0		·	,	
	20	aug, par s			0	NA	455	0943	
	21	Sand 7.54 fire to mea with sixt lens ned to soft c	- 5/4 brown, dans L. greiner, well on ics dam, trove plass onsisteny	facted,	6		. •		456 (2423)
:					O				
	23-				0 <i>0</i>	NA	<i>956</i>	095°U	
	24	Sist, 7.5-1- Soft cons	574 moist, med,	olastic					
ŀ	27	SANDY SIT,	7.57-574 brown most consistent	aior		ρſΑ	S57	0959	657 (27/28)
	ORM 55-2		OJECT () SFC DC			257	·	HOLE NO.	r=0 121

		HTW DRIL	LING LO	G ,			HOLE NO. DC=13/21
ROJECT	·	ISFROLFA 25724	INSPECTOR WB/	's clender			SHEET 3 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d		ANALYTICAL SAMPLE NO.	BLOW COUNTS 7.	REMARKS
-	=	Sandy Silt 7.57 574, main, maist, erace plastin, roft consistency					
	25	consisting	0				
	=						
	30		0				
	-	·					·
	31	4	0	,			٠.
) o	NA	558	1009	
	32-	same as above				,	555
	<u>-</u> رد		0			·	655 (33/34)
				f			
	34		. 0				
	3,- -	Sitty Signal, 7.54:574 moust toket fine grand, will souted					Eng
	36-	we street shale, Olive green, now to wet highly prastic hand consistency	0	JA	559	1020	1025
	=	BoHon of Loyged Hole					70 = 36 feet
	3 7————————————————————————————————————	·					Logsect
	38-					·	
	7 1	•		·	•		
	34					_ -	
		Bistom of How					7D=350F4
	40 <u> </u>	•					·
	ц, Т					:	
				·			
	42						
	-						
	43-						
	\exists						
	44-				·	,	
	4/=						
	3						-
	46 7	I DOO LEGT	. [
}K	ORM 55-	PROJECT USPRO CFA	•	200	22.1	HOLE NO.	Dr & B 17 1

			HTW	DRILL	ING	LO	G					E NO. CFB 122	7
1. COMPANY	y name	_		2.	DRILLING SU	UBCONT	RACTOR				SHE	ET 1	┨
		: & M	Donnell		Envir	onr	nental	P	riority	Service	OF	3 SHEETS	4
PROJECT						. LOCA		_	C 1 -				١
5. NAME OF		DCFA	· <u>-</u> · · · · · · · · · · · · · · · · · · ·			MANU	FACTURER'S D	ESIGN.	Y Clean	ing ta	cility		┨
		Martin	1			Vai	n-meu	nt	ed Geo	probe	GH	-40	
7. SIZES AND	D TYPES O	F DRILLING	4-font macro	core 5	ample 8	. HOLE	LOCATION		•	•	•		٦
AND SAM	ipling Equ		4-foot aceta						.99 E	22674	174.	23	4
		┝	Continuous		9.		ACE ELEVATION 3 4.58	ł					ŀ
		<u> </u>	<u> </u>		10		STARTED			11. DATE COM	PLETED		┨
							1/20/2			11/2	1/20	00	
12. OVERBU	JRDEN THIC	KNESS 41	0.01		15		TH GROUNDWA	TER E	NCOUNTERED	7	7		
13. DEPTH D	DII I ED INT	-	J. U				A TO WATER	NID EI	APSED TIME AFT	TED DOLLING CO	MOLETED		\dashv
S. DEFIND	DUILTED IM	0).5 ′		"				APSED TIME AFT				ı
14. TOTAL D	DEPTH OF H	IOLE		· · · · · ·	17	7. OTHE	ER WATER LEVI	EL ME	ASUREMENTS (SI	PECIFY)			ᅦ
			.5′			<u>N</u>	•						
18. GEOTEC	CHNICAL SA	MPLES	DISTURBED	1	ISTURBED	19). TOTAL NUMI NA		F CORE BOXES				
20. SAMPLE	S FOR CHE	MICAL ANALYSIS		METAI		OTHER	R (SPECIFY)		THER (SPECIFY)	OTHER (S	PECIEY	21. TOTAL COR	ᅱ
		stytical	PCE, TCE, DCE	NA					NA			RECOVERY	-
		· -		ļ		<u> </u>	IA	_		<u> </u>	^	NA %	_
2. DISPOSIT	HON OF HO)LE	BACKFILLED	MONITORING			R (SPECIFY)	1	SIGNATURE OF IN	_			
			Bentonite	NA	٩	-/\	IA		Kidwe				
TLEV.	DEPTH		DESCRIPTION OF MATERIALS		FIELD SCRE		GEOTECH SA		ANALYTICAL	-BLOW			
a a	b		.C .		RESUL'	.15	OR CORE BO	X NO.	SAMPLE NO.	COUNTS		REMARKS h	
		Topsoil	1								-		7
					_								
- 1	1 -	rill wi	th limestone	graver	0.0)]			
					_	_					İ		
	ر م ــــــــــــــــــــــــــــــــــــ				0.3	5				:			
1	7												
	_ =				0,0)							[
, l	3				•		İ			,	İ		ł
						,							ŀ
	4				0.3	<u> </u>	NA		55)	0808	\$\$1	(3/4)	
ŀ	' =	•	**								1	sal in	١
	_ =				0.0							rete at 4'	<u> </u>
	5 📑	Silt and	d limestone ,	ravel							bas,	offset 6	ı
	Ŧ		own 7.5 yr 6/4,								to n	orth	I
(ر ا		itic, soft consi		0.3								ļ
	3												l
-	7 <u> </u>		d shala light		0.0								l
	' ¬	547/1, dr	ry , non plastic	, Soft									ŀ
- 1	3	Sile	ه ــــــــه امنعنا احد		0.0	,			552	~, =			þ
5	8 - ∃	ωιι σ γ	nd limestone	gravel	0.0		NΛ		222	0817			þ
		light k	100WN 7.5YR6,	14, dry,									F
	a	nonpla	stic, soft	consiste	ncy 0.0								F
	' -	•	,		7			İ					F
	io d		•		0.3							(4.1)	F
	<u> </u>		PROJECT	-	<u> </u>		<u> </u>		L	HOLE NO.	22.2	(9/10)	Γ
FOP	RM 55		USFRDC	EA							FBIL	_	

		HTW DRILL	ING LO	G			HOLE NO. DF8122
PROJECT	USF	RDCFA	SPECTOR J. Kio				SHEET Z OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS C		GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS
		Silt and limestone gravel, light brown 7.548.4/4/dry, nonplastic, soft consists Fill, brick	cy 0.0	MA	353	0823	1
	13—	Silt and limestone gravel,		NA.	757	UX	
	4 =	Silt and limestone gravel, light brown 7.5 YR 6/4, dry, nonplastic, Soft consistence	6.0				
	15 =	Silty clay, dark brown 7.54R3/2, dry, trace	0.0		200	-024	-
		plasticity, med. consistency Fill, brick and limestone gravel	0.0	NA	554	0834	SS4 (15/16)
	18	Clayey Gilt, very dark grayis					
	19 -	brown 104R3/2, dry, med. plasticity, medium consistency	0.0	NA	<u>\$\$5</u>	o840.	
	21 -	Clayey Silt, light brown 7.54R6/4, dry, medium	1 6				
	22	Plasticity, medium consistency	0.0				556 (21/22)
	23	Sand, some silt, fine, mod. well corted, dry, nonplostic	0.3	NA	586	0848	
	24	Clayey silt, light brown	0.0	INC.	JOW	UATO	
	26	7.5 yR6/4. damp, trace plasticity, medium consistency	0.6				E
	27	Clayey Silt, Some Sand, light	0.0				E E
L	28 -	PROJECT CONSISTENCY	0.3	L NA	<u>SS7</u>	0856 HOLE NO.	557 (27/28)

MRK JUN 89 55-2 USFR DCFA

DCFR127

		HTW DRILL	ING LO	G			HOLE NO. DCF8122
PROJECT	USF	RDCFA	J. Kic	dwell			SHEET 3 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	<u>بد</u> -	Clayey Silt, light brown 7.5 YR 6/4, damp, medium					
		Plasticity, medium consistency; Sand lenses from 30.0' to 30.2' bgs and	0.0				
	31-	from 31.0' to 31.2' bgs	0.0				
	32-	Silt, with limestone gand	0.3	NA	SST	0910	
	33— -	and gravel, light brown, dam, 7.5 yr 6/4, non plastic, Soft	s, 0.0				
	34-	Clayey silt, some sand, light brown 7.54R6/4,	o.º		÷		ઇ ફ્રે (33/સ્ત્ર
	35 <u> </u>	damp, no to trace plasticity	•		·		·
	36— =		0.6	NA	559	0922	
	37		0.0				
	38 =	Silty Sand, light brown	0.3				▼.
	39	7.5 YR 6/4, damp, no to trace plasticity, soft;	0.6		·		
	40-	frace clay stringers	<u>.</u>	NA	SSIO	0933	5510 (39/40) 11/21/2000 GW (385405)
	41 —	Shale, olive gray 54%, damp Bottom of hole	0.0	NA.	<u>5811</u>	0725	TD = 40.5' bgs WL= 38.1' bgs
	H2 -				·		End time = 0730
	43 — <u> </u>						,
	44						
	45-	·					
	46 =	PROJECT				HOLE NO.	

USFRDCFA

DCFB122

	 		HTW [DRILL	ING	LO	G			-		ENO. CFB123	7
1. COMPA	NY NAME	2	Mc Donnell	2.	DRILLING	SUBCONT	RACTOR	1 6	20'00'4	Cani	CUE		1
ROJE	Ų i				<u> </u>	14 H.K.A	III M		Priority				\dashv
5 NAME (OF DRILLER	SFROCE	<u></u>			6 MANI	FACTURER'S D	<u>Dy</u> Esign	y Clear	ring Bi	<u>aildin</u>	g Locati	gn
O. TOTALL		at Mar				Va	n-mov	Int	ed Ge	epro be	GH-	40	
	and types o Ampling Equ	· ——	-footmacrocc -foot acetai			8. HOLE	LOCATION		.24 E	`			
		S	entinuous	<u> </u>		9. SURF	ACE ELEVATION		<u>~ </u>		5 5 5 -	<u> </u>	1
		·			 -	,	STARTED		1	11. DATE COM	PI ETEN		\dashv
	·					11/	16/20			11/16	/200	00	
12. OVER	Burden Thic	KNESS 45'				1	TH GROUNDWA 7.5	ter ei ba:		,	•		
13. DEPTI	H DRILLED IN	TO ROCK			-	16. DEP1	H TO WATER	ND EL	APSED TIME AFT		MPLETED		1
14. TOTAL	L DEPTH OF I	HOLE						ba ELWE	S 10 ASUREMENTS (SP	Min ECIFY)			┨
10, 0507	ECHNICAL SA	45′,	40' logge	d	OTUDOED		IA				······································		4
18. GEO!	A	IMPLES	NA	UND	ISTURBED	18	DA NUM	BER O	CORE BOXES				
1		EMICAL ANALYSIS	voc ·	METAI		1	R (SPECIFY)	0	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORI	Ε
		lnalysis	PCE, TCE, DCE	NA	+	<u> </u>	IA	L	NA	NF	+	NA %	
22. DISPO	ISITION OF H	OLE	BACKFILLED	MONITORING		†	R (SPECIFY)	23.	SIGNATURE OF IN			•	
	1	1	Bentonite	NA		<u> </u>	VA			well			_
TILEV.	DEPTH b	DES	SCRIPTION OF MATERIALS			CREENING SULTS d	GEOTECH SA OR CORE BO e		ANALYTICAL SAMPLE NO. f	- BLOW- - COUNTS- TIME	· 	REMARKS	
	=	Topsoil								0738	Start	·Time	E
], =	'			6	.0							F
	' =	Fill											E
] <u>_ =</u>				<u>ا</u>	.0							F
	-					-							E
	7	٠			0	. <i>O</i>							E
) <u> </u>												F
	4 —		-	· · ·	0	.0	NA		53 i	0740	SSI	(3/4)	E
	' =	Silt; ligi	it brown 7.54	R6/4.	·								E
ľ	5		damp, nonf	plastic	0.	<i>O</i> .				•			E
		soft cor	isistency										E
	6-		 ;		0.	0							<u></u>
] =		ace clay: b						<u>, ·</u>				E
	7 -		, dry to damp	o, trace	0.	0							F
		consister	y, medium nov		Ö.	n				İ			E
	18		 _		ļ	<u> </u>	NA		552	0743			E-
ì	=		rown 7.5yR	2/4,		\wedge						:	F
	19-	alasticit	amp, trace y, stiff con	دمد د الله و ا	0:	U							
	10 =	7 (33)1011	() SUITT CON	212Leuch	0	o					0.07	101.7	F
· ·		PR	OJECT		<u> </u>		L			HOLE NO.	223	(9/10)	<u> </u>
MRK J	ORM 55		USFR	MFA				•			FRI	23	

	HTW DRIL	LING LO	G			HOLE NO.]
PROJECT	USFROCEA	INSPECTOR ,	idwell			SHEET 2 OF 3 SHEETS	
ELEV.	DEPTH DESCRIPTION OF MATERIALS c	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h	
	clay: brown 7.5 YR 5/4, dry to damp, trace plasticity, stiff consists	0.0	NA	883	0748		
	13—	0.0					
	15 = Clay, trace silt: brown 7.5) = dry to damp, trace	0.0 0.0 (R)	NA	SS4	0800	554(15/1 4)	
	dry to damp, trace plasticity, stiff consistency Silt: light brown 7.5/R	0.0	187				
·	dry, nonplastic, medius	0.0	NA	SCE	0015	Due to sluff	
	Sand: light brown 7.5% damp, nonplastic, soft to very soft consistency	0.0	1071	222	0815	offset ~2′	
	23—23—23—23—23—23—23—23—23—23—23—23—23—2	0.0			·	556 (21/22)	
	24	0.0	NA	556	0840		
	26.25' bgs	0.0					E É
	28 = PROJECT	0.0	NA	\$ \$7	0847 HOLE NO.	SS7 (27/28)	<u> </u>

USFRDCFA

DCFB123

		HTW DRILL	ING LO	G			HOLE NO. DCFB123	•
PROJECT	USE		PRECTOR	Cidwell	· · · · · · · · · · · · · · · · · · ·		SHEET 3 OF 3 SHEETS	
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS	
		Sand, poorly sorted, light brown 7.5 YR 6/4, damp, non plastic, very soft consistency	0.0			·		- - - - -
	3i—	Silty seam from 31.0'to	0.0	NA	SS8	0855		-
	33—	clay: brown 7.5 YR4/3, dar	1.	NV.	220	_0833_		
	31-	Sand, poorly sorted, light brown 7.5 YR 4, damp,	- ·			0	559 (33/34)	
1	36-	nonplastic, very soft consistency Silty clay: light brown	0.0	NA	SS9	0906		- - - -
	37	7.5 YR 6/4, damp, high plass to medium plasticity, mediu consistency	n O.O					<u>-</u> - -
	38-	Silt: light gray 54 7/1, wet, trace plasticity, stiff consistency; sand,	0.0				-	
	39— 40—	seam from 37.4' to 37.6' bgs	0.0	NA	551 <i>0</i>	0920		
	41	Bottom of logged hole					Bottom of logged hole at 40' bgs;	<u>-</u>
	42			·			slot refusal at 45' bgs WL=37.7'bgs	<u>-</u> - -
	44-						J	<u>-</u>
	45-		·					- - -
	46	PROJECT				HOLE NO.		_

PROJECT US FR DCFA

HOLE NO.
DCFB123

COMPAN NAME BURNS & Mr Donnell				HTW I	DRILL	ING	LC	G				i i	NO. CFB124	
AURET USFR DEFA INME OF PRIEF Pat Martin Sees No Tipes or Press	1. COMPA	NY NAME	Rurus d.	McD- all	2.					> · .	Carria	SHEE	T 1	1
EMBER OF DRILLED Pat Martin SEZS AND TYPES OF DRILLING MO SAMPLING EQUIPMENT 4-Foot macrococ Samples WO SAMPLING EQUIPMENT 4-Foot macrococ Samples WA 12909 A E EZZUTA03.00 S. SUPPLIE ELEVATION 10 DATE STANE) 10 DATE STANE) 10 DATE STANE) 10 DATE STANE DRILLING 11 DATE COMPLETED 11/11/2000 11/17/2000 11/17/2000 11/17/2000 12 OVERBURGEN THOMBES 37.8' 15. DEPTH ORWING HOLD LANGED TIME AFTER DRILLING COMPLETED 17. OHER NAME HOLD LANGED TIME AFTER DRILLING COMPLETED 38.0' 18. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 38.0' 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 19. DEPTH ORWING HOLD MASSED TIME AFTER DRILLING COMPLETED 20. DEPTH DRILLING MASSED TIME AFTER DRILLING COMPLETED 21. TOTAL COMPLETED NA NA NA NA NA NA NA NA NA NA NA NA NA N	ROJEC	CT C					4. LUGA	HON		•				\dashv
SEES NAD THES DIBUIS 1 SEES NAD THES DIBUIS 1 SEES NAD THES DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 2 COVERBURDEN THOMESS 3 SEET ARCHITECT DIBUIS 3 SEET ARCHITECT DIBUIS 3 SEET ARCHITECT DIBUIS 3 SEET ARCHITECT DIBUIS 4 SEED ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 1 SEET ARCHITECT DIBUIS 3 SEET ARCHITECT DIBUIS 3 SEET ARCHITECT DIBUIS 4 SEED ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 5 SEET ARCHITECT DIBUIS 6 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 8 SECRETION OF MALE 9 SECRETION OF MALE 1 SECRETIO	5 NAME C		SEK DCI	-A	· · · · · · · · · · · · · · · · · · ·		FOY	Mer I	Dr.	Clean	ing Bui	ldip	g Locati	c
SEES AND THREE OF DRILLING AND SAMPLENG EQUIPMENT AND SAMPLENG EQUIPMENT AND SAMPLENG EQUIPMENT AND SAMPLENG EQUIPMENT AND SAMPLES 2. OVERBURDEN THOUNESS 37. 8' 3. DEPTH ORILLED INTO ROCK 2. OVERBURDEN THOUNESS 37. 8' 3. DEPTH ORILLED INTO ROCK 2. 110. DEPTH OR WHER AND ELAPSED THAE AFTER DRILLING COMPLETED 37. 9' 4. TOTAL DEPTH OF HOLE 38. 0' 4. DISTURBED 19. TOTAL NAMERS OF COMPLETED 19. TOTAL NAMER OF COMPLETED NA NA NA NA NA NA NA NA NA NA NA NA NA			Pat Ma	rtin		·	Var	1 - Mau						
Continuous 1. O. BAT STATED 1. DATE COMPLETED 1. DATE STATED 1. DATE COMPLETED 1. DATE STATED 1. DATE COMPLETED 1. DATE			F DRILLING 4	1-foot macro	core 33	mple	-8. HOLE -8. <i>\\ i</i> .∠	LOCATION			-			
2. OVERBURDEN THICKNESS 3. DEPTH DRILLED NTO ROCK 4. TOTAL DEPTH OF HOLE 8. REDITIONALLA SAMPLES NA 15. DEPTH SPOLUPINATER RECOUNTERED NA 16. DEPTH OF WATER AND ELAPSED THE ATTER DRILLING COMPLETED 37.9				entinuaus	are su	20.83	9. SURF	ACE ELEVATION		<u> </u>	20 170	3.0 -		7
2. CHERBURDEN THORNESS 37. 8' 15. DEPTH ORDINGWOATER PROCONTIFRED NA 3. DEPTH ORDINGWOATER PROCONTIFRED NA 4. TOTAL DEPTH OR OLLED INTO ROCK 0. 2' 4. TOTAL DEPTH OF HOLE 38. 0' 10. DAMPLES FOR PHOLE 38. 0' 10. DAMPLES FOR PHOLE 38. 0' 10. DAMPLES FOR PHOLE 38. 0' 10. DAMPLES FOR PHOLE 38. 0' 10. DAMPLES FOR PHOLE 10. DAMPLE		•	ļ								11 DATE OOL	IDI ETED		_
Source S								11/16	120	2			90	
3. DEPTH ORLLED INTO ROCK O. 2' 4. TOTAL DEPTH OF HOLE 38. 0' 8. GEOTECHNICAL SAMPLES DISTURBED NA NA NA NA NA NA NA NA NA N	2. OVERE	BURDEN THIC		70'			15. DEP	TH GROÚNDWA	TER E	NCOUNTERED		,		
4. TOTAL DEPTH OF HOLE 38.0' 8. GEOTECHNICAL SAMPLES ODSTURBED NA NA NA NA NA NA NA NA NA N	3. DEPTH	DRILLED IN	TO ROCK				16. DEP	TH TO WATER					-	-
8. GEOTECHNICAL SAMPLES NA NA NA NA NA NA NA NA NA N	4 7074	DERTH OF I		0.2'				37.4	<u></u>	95 '	~10 mi	n		_
B. GEOTCHNICAL SAMPLES NA NA NA NA NA NA NA NA NA NA NA NA NA	.4. IUIAL	. DEPIH OF I		8. <i>0</i> ′			17. OIH		EL ME	ASUREMENTS (SF	PECIFY)			
O SAMPLES FOR CHEMICAL ANALYSIS ON SITE A NATURAL OF METALS ON SITE A NATURAL OF METALS ON SITE A NATURAL OF MATERIALS DESCRIPTION OF HOLE BEACKFILLED MONTORING WELL OTHER (SPECIFY) DESCRIPTION OF MATERIALS PLEV DEPTH DESCRIPTION OF MATERIALS TOPS C: 1 Consistency Adry, medium consistency Adry, medium consistency Sandy sitt, light brown 7.5786/4, dry, no to trace Plasticity, soft Consistency O.O O.O NA SS1 OPS SS1 (3/4) OR CORE SS2 OPS SS1 (3/4) OR CORE SS2 OPS SS1 (3/4) OR CORE SS1 (3/4) OR CORE SS1 (3/4) SS1 (3/4) OR CORE SS1 (3/4) SS1 (3/4)				DISTURBED			19	9. TOTAL NUM	BER OF	F CORE BOXES			<u> </u>	٦
Onsite Analytical Refite, DE NA NA NA NA NA RECOVERY DESCRIPTION OF HOLE BACKFLLED MONTORING WELL OTHER (SPECIFY) 23 SIGNATURE OF INSPECTOR Bentonite NA NA NA PAMALYTICAL TIEV. DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING GEOTECH SAMPLE AMALYTICAL OR CORE BOX NO. SAMPLE NO. TIME Topscil Fill Silty clay, brown 7.5YR4/3, dry, medium plasticity, medium consistency Sandy silt, light brown 7.5YR4/3, dry, no to trace plasticity, soft consistency O.D NA SSI 0995 SBI (8/4) Plasticity, soft consistency O.D NA SSI 0995 SBI (8/4) O.D NA SSI 0995 SBI (8/4)			EMICAL ANALYSIS				OTHE		01	THER (SPECIFY)	OTHER IS	SPECIFY)	21. TOTAL COR	
Bentonite NA NA SAMPLEN COUNTS RELATED BENTON OF MATERIALS PELD SCREENING RESULTS OR COME BOX NO. SAMPLE NO. TIME START TIME START TIME COUNTS START TIME COUNTS START TIME COUNTS START TIME START TIME COUNTS ST	Onsi	te An	alytical	PCE, TCE, DCE	. NA	۸.							RECOVERY	
Topsoil Topsoil Sitty clay, brown 7.5784/3, dry, medium plasticity, medium consistency Sandy sitt, light brown 7.5786/4, dry, no to trace plasticity, soft consistency O.O NA SSI 0955 SBI (3/4) O.O NA SSI 0955 SBI (3/4) O.O NA SSI 0955 SBI (3/4) O.O NA SSI 0955 SBI (3/4) O.O NA SSI 0955 SBI (3/4) O.O NA SSI 0955 SBI (3/4)	2. DISPO	SITION OF H	OLE	<u> </u>	MONITORING	G WELL		<u> </u>	23. \$				NA *	\dashv
Topscil Topscil Topscil Silty clay, brown 7.5784/3, dry, medium consistency Sandy silt, light brown 7.5786/4, dry, ho to trace plasticity, soft consistency O.O NA SSI 0935 581 (3/4) Sandy silt, light brown 7.5786/4, dry, ho to trace plasticity, soft consistency O.O NA SSI 0935 581 (3/4) O.O NA SSI 0935 581 (3/4)				Bentonite	NA		٨	IA		g Kidu	ull			
Topscil A Silty clay, brown 7.5984/3, 0.0 Silty clay, brown 7.5984/3, 0.0 dry, medium plasticity, medium consistency Sandy silt, light brown 7.5986/4, dry, no to trace plasticity, soft consistency O.D NA SSI 0935 SSI (3/4) Sandy silt, light brown 0.3 Plasticity, soft consistency O.D NA SSI 0935 O.D NA SSI 0935 O.D NA SSI 0935 O.D NA SSI 0935	୩.EV.	•	DE			RES	ULTS	OR CORE BO		SAMPLE NO.	COUNTS			
Silty clay, brown 7.5y84/3, 0.0 dry, medium plasticity, medium consistency Sandy silt, light brown 7.5y86/4, dry, he to trace plasticity, soft consistency 0.0 NA SSI 0955 SBI (3/4) 0.0 NA SSI 0955 SBI (3/4) 0.0 0.0 0.0 NA SSI 0955 SBI (3/4) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0			Topsoil									Star	t time=	1
Sitty clay, brown 7.5yR ⁴ /3, dry, medium plasticity, medium consistency 3 Sandy silt, light brown 7.5YR ⁶ /4, dry, no to trace plasticity, soft consistency 0.0 NA SSI 0935 SBI (3/4) 0.0 NA SSI 0935 SBI (3/4) 0.0 NA SSI 0935 SBI (3/4) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0		, _=				0	6					095	2	
Silty clay, brown 7.5484/3, 0.0 dry, medium plasticity, medium consistency Sandy silt, light brown 7.5486/4, dry, no to trace plasticity, soft consistency 0.0 0.0 NA SSI 0955 SBI (3/4) 0.0 0.0 NA SSI 0955 SBI (3/4) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0		' =	Fill											į
dry, medium plasticity, medium consistency O.D NA SSI 0955 SSI (3/4) Sandy silt, light brown 7.54R6/4, dry, no to trace plasticity, soft consistency O.O NA SSI 0955 SSI (3/4) O.O NA SSI 0955 O.O NA SSI 0955 O.O NA SSI 0955 O.O O.O O.O O.O O.O O.O O.O		2 =	· 			0.	6	v						
dry, medium plasticity, medium consistency O.D NA SSI 0955 SSI (3/4) Sandy silt, light brown 7.54R6/4, dry, no to trace plasticity, soft consistency O.O NA SSI 0955 SSI (3/4) O.O NA SSI 0955 O.O NA SSI 0955 O.O NA SSI 0955 O.O O.O O.O O.O O.O O.O O.O		~=	Silty cl	ay, brown 7.	5YR4/3	_	^						•	Ė
Medium consistency		- -				0.	U							
Sandy silt, light brown 7.54R6/4, dry, no to trace plasticity, soft consistency 0.0 0.0 NA SSI 0995 S81 (3/4) 0.3 0.0 0.0 NA SSI 0995 S81 (3/4)]] =					_							Ė
Sandy silt, light brown 7.5486/4, dry, ho to trace Plasticity, soft consistency 0.0 0.0 NA SS2 0959			_			0.	\boldsymbol{v}	NA		SSI	OORE	501	(24)	F
5—7.54R6/4, dry, no to trace 6—8—9		4 =	Sandy	silt. light br	own				``		<u> </u>	351	(5/4)	Ė
Plasticity, soft consistency 0.0 0.0 NA SS2 0959 0.0 0.0		_ =	7.54R 6/2	dry ho	to trace		2							F
6 = consistency 0.0 0.0 0.0 NA SS2 0959 0.0 0.0			Plasticit	v. soft		0.	ر			·				þ
0.0 0.0 NA S\$2 0959 0.0 0.0		, =				ρ .	0		:					F
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		الم الم						<u> </u>		34 4	0131			þ
]					0							F
O.0		9-				0.	•			· .				E
						0.	6					503	(0/-)	E
10			P	ROJECT		1.		<u> </u>	!	<u>l</u>	HOLE NO.	၂၁၁၅	(1/16)	1

·		HTW DRILL	ING LO	G			HOLE NO. DCFB124
ROJECT	USF	RDCFA	SPECTOR J. Ki	dwell			SHEET 2 OF 3 SHEETS
ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS	REMARKS h
	11 —	Silt, trace clay, brown 7.54R4; dry, trace plasticity, medium consistency Silt, trace sand, brown 7.54R dry, non plastic, soft to medium consistency	0.0	NA	S \$3	1004	
	13-	Silt, traces of sand and clay, dark brown 7.5483/2, dry to damp, no to trace	0.0				·
	14-	plasticity, medium consistency	0.0				
	15 —	·	0.0				
	16-	·	0.0	NA	SSU	1009	554 (15/16)
	17 —		0.0			•	
	18 <u> </u>		0.0				
	19 -		0.0				
	20-		0.0	NA	\$\$5	1015	
	21 —	Silt, some day, light brown 7.5 yr 6/4, damp,	0.3				
	22-	trace to medium plasticity medium consistency	0.0				556 (21/22)
	23-		0.0				
	24		0.0	NA	5S6	1019	
	25-	Clay, some silt, light brown 7.54R6/4, damp,	0.0			0615	11/17/2000
		high to medium plasticity, stiff consistency	0.1				
	27_	Sand iens from 260 to 26.3' ogs	0.0				
	28		0.1	NA	5 \$7	0623	ss7 (27/28)

USFRDCFA

DCFR124

		HTW DRILL	ING LO	G			HOLE NO. DCFB124
PROJECT	USFI	RDCFA	SPECTOR J.K	idwell			SHEET 3 OF 3 SHEETS
∴LEV.	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
		Clay, some silt, light brown 7.5 YR 6/4, damp, nigh to medium plasticity, stiff consistency	0.0			·	
	30-	Sand, some clay, some cher gravel: light brown 7.54R%					
	32—	damp, trace to no plasticity medium consistency		NΑ	\$ 58	0632	
		Silt: light brownish grey 10 YR6/z, moist to wet,	0.0				
	311 -	trace to medium plasticity medium consistency	, 0.6				599 (33/34)
	35 =	Sand, trace chert gravel:	0.0				
1	36-	Sand, trace chert gravel: light brown 754R6/4; moist, nonplastic, soft consistency Sand, very fine, well sorted,	0.0	NA	<u>599</u>	0645	
	37-	with silt, light brown 7.5486/4, maist to wet, nanplastic, soft Limey silt with clay, light brown grey 10486/2, maist, high plasticity 150	0.0				₩ 37 Gw (36/30)
	3% 	Bottom of hole	0.0	NA	5510	0700 GW	58no (37/38) TD=38'bgs
	39—		·			. **	wL=37.4' bgs End time= 0710
	40—	·					
	HI — H2—						
	43-						
	44-					·	
	45—		·				
MRK J	16 - ORM 55	PROJECT -2 USFRDCFA				HOLE NO.	FB124

			HTW [RILL	ING	LC	G				HOLE	NO. CFB 125	
1. COMPA	NY NAME	- 0 • 4		2.	DRILLING	SUBCONT	RACTOR	_	•	<u> </u>	SHEE	T 1	1
ROJEC		rns & M	· Donnell		Envi				iority				\dashv
<u> </u>		FROCEA	1	-		For	mer	Dr	y Clea	ning Bi	aildia	la Locati	dn
5. NAME (of driller Da	+ Mart	ti o			6. MANU	IFACTURER'S D	ESIGN.	ed Ge	aproba	. GL	1-40 J	
	AND TYPES O	F DRILLING 4	-foot mace	o core	Samp	L8_HOLE	LOCATION		•	•	•		7
AND SA	IMPLING EQU	 	-foot aceta	te sle	eve		414244 ACE ELEVATION		93	E 2267	449,7	6	4
			ontinuous		<u>;</u>	4	82.70	•					
							STARTED / 17/2			11. DATE COM	PLETED		
12. OVER	BURDEN THIC				·····		TH GROUNDWA			11/	17/2	000	-
			1.0'				VA						4
13. DEPTH	H DRILLED IN		2.01	•			TH TO WATER /)でv	AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		
14. TOTAL	. DEPTH OF I	HOLE			• • • •	17. OTH	ER WATER LEV	EL ME	ASUREMENTS (SF	PECIFY)			1
18 GEOTI	ECHNICAL SA		DISTURBED	LIND	ISTURBED		9. TOTAL NUMI	RER O	CORE BOYES				-
TO. GEOTI	NA	WIII LLO	NA		VA.		NA	JEN O	CORE BOXES				
		EMICAL ANALYSIS	VOC	META	LS	OTHE	R (SPECIFY)	01	THER (SPECIFY)	OTHER (S	PECIFY)	21. TOTAL CORE	E
Uns	ite A	nalytical	PCE, TCE, DCE	NA		<u> </u>	ſΑ		NA	NA	ι	NA %	
22. DISPO	SITION OF H	OLE	BACKFILLED	MONITORING	3 WELL	OTHE	R (SPECIFY)	23. \$	SIGNATURE OF IN	ISPECTOR			7
			Bentonite	NA			VA		Hidu	rell			
LEV.	DEPTH	DES	SCRIPTION OF MATERIALS			CREENING SULTS	GEOTECH SA OR CORE BO		ANALYTICAL SAMPLE NO.	BLOW	F	REMARKS	1
<u>a</u>	b	Topsoil_	С			d	е		f	TIME		h	<u> </u>
			ark brown	7.5YR.3/2						·	I -	t time=	E
	<u> </u>		nedium plas		0.	0					0715	•	E
			nsistency	,,	0.	n							F
	2 -	-	· .	·····	0.	U							E
	-		rk brown 7.5		0.	n							þ
	3-	ary, med.	plasticity,	5+iff	0.								E
		Silt, lia	ht brown 7	5YR %,									E
	4		ice plastic		0.	0	NA		SSI	0720	951	3/4)	F
	' 3		ft consisted										E
	5 —		um consiste		0.	D							F
] =												E
					0.	0							F
	6 =	Silty tra	ice clay, di	ark.	0.					٠		-	E
	_ =	1	54R3/2, d		0.	0							E
	7 -		to medium	• •					,				F
	=				0	.0			_SS 2	072E			E
ı	8 =		ity, stiff				NA		334	0725			F
]] =	consist	ency		၂ ပ	.0							E
	9 —					-							
	10				0.	0					6	(0.1.5	F
		PR	OJECT		l		<u> </u>			HOLE NO.	223	(9/10)	匚
MRK J	ORM JN 89 55		USFRDO	FA						4 .	CFRI	2.5	

		HTW DRILL	ING LO	G			HOLE NO. DCF B 125
PROJECT	USF	RDCFA	SPECTOR J.K	idwell	· - · · · · · · · · · · · · · · · · · ·		SHEET 2 OF 3 SHEETS
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIELD SCREENING RESULTS d	GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTS TIME	REMARKS h
	11 - 11 - 12 - 12 - 1	Silt, trace clay, dark brown 7.5 yR3/2, damp, trace to medium plastice stiff consistency	0.0	NA	SS3	0735	
	13-		0.0				
	M-		0.0	·			
	15 = = = = = = = = = = = = = = = = = = =	Silty sand, light brown	0.0	NA	<i>Pez</i>	0742	554 (15/16)
	17-	7.54R 6/4, damp, nonplastic, soft	0.5				
	18—		0.1	·			
	20-		0.5	NA	<u>\$\$5</u>	0752	
	21	Silt, trace clay, light	0.1				
	22-	brown 7.54R6/4, damp, medium plasticity, medium consistency	0.5		·		556 (21/22)
	24-	Silty sand, light brownish g 104R6/2, damp, trace plasticity, med. consistence Sandy Silt, light brown	0.5	NA	SSG	0800	
	25	7.5 YR 6/4, damp to moisi medium plasticity, soft consistency					
	26— 27—		0.5				
	28	Sand, well sorted, trace Silt, light brown 7.54R6/4, damp to moist, nonplastic, so PROJECT	1. 0.5	NA	557	0810 HOLE NO.	SS7 (27/28)

PROJECT

HOLE NO.
DCF B125

	HTW DRILLING LOG HOLE NO. DCFB 125											
PROJECT	USFI		INSPEC	CTOR	idwell			SHEET 3 OF 3 SHEETS	1			
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS	FIE		GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	BLOW COUNTO TIME	REMARKS h				
		Sitt, trace cizy, light browning ray 10486/2, damp, medium plasticity, medium consistent Sand, well sorted, some s lenses, light brown 7.548 damp, nonplastic, soft	y iit	9.5 0.1 0.5								
	32,—	Silt and fine sand, light brown 7.54R6/4, dampo nonplastic, soft		0.5	NA	<u>5</u> 58	0825					
	33— 34—	Silt, light brownish grey 104R6/z, damp to moist, medium to trace plasticity medium consistency	y צי	0.5 0.1			,					
	35— = = = 36—	Shale, olive grey 545/2		0.5 0.5	NA	589	0838	859 (3 <i>3/</i> 34)				
	37—	Bottom of hole						End time= 0843 TD=36'bgs WL=Dry				
	38 — = = 39 —							WE Dig				
	40-											
	42											
	43-											
	45				,	·	,	·				
MRK 5	MRK JUN 89 55-2 PROJECT USFRDCFA DCFB125											

			HTW I	DRILL	ING	LC	G				1	ENO. CERIZL	
1. COMP	ANY NAME		1.4	2.	DRILLING	SUBCONT	RACTOR				QUE:	7 1	۵_
00010		ourns &	McDonne	<u> </u>	<u>Eny</u>	icor	menta	al E	riority	Servi	ce of	3 SHEETS	_
PROJE		SERDC	ΕΔ			4. LOCA	TION	D.,	C i -		× : 1.1		
5. NAME	OF DRILLER	SF NDC				6. MANL	IFACTURER'S D	ESIGNA"	TION OF DRILL	ming t	πια	ing Los	<u> </u>
		Pat Mar	tin			Va	n- mou	un t	ed Ge	probe	GH	-40	
	AND TYPES C	F DRILLING 4	-foot macro			8. HOLE&	LOCATION		•	•	•		
AND S	ampling Equ	그	-foot aceta	ate Sla					37 E	226747	7.49		_
		<u> </u>	ontinuous				ACE ELEVATION	V					
							STARTED	·		11. DATE COM	PLETED		_
							11/17/				2/20	06	
12. OVEF	RBURDEN THK	CKNESS スレ	· · ·		ĺ	15. DEP	TH GROUNDWA	TER EN	COUNTERED	7 -	/		_
13 DEPT	'H DRILLED IN	31.4	1	·		16 DED	NA TU TO WATER A	AND FLA	DOED THAT AE				_
IS. DEFI	n Uniccep in	O,	'ما				Dry	AND ELA	APSED TIME AFT	TER DRILLING CO	MPLETED		
14. TOTA	L DEPTH OF	HOLE						EL MEAS	SUREMENTS (SI	PECIFY)			-
		32.	o'				VA						
18. GEOT	TECHNICAL SA	AMPLES	DISTURBED	I.	ISTURBED	19). TOTAL NUME	BER OF	CORE BOXES				
20. SAMF	PLES FOR CHI	EMICAL ANALYSIS	VOC	META	NA I	OTHE	R (SPECIFY)	OTL	IER (SPECIFY)	OTHER (S	DECIEVA	21. TOTAL COF	_
			PCE, TCE, DCE					- "				RECOVERY	
							IA		NA	NA	\	NA %	_
22. DISP(osition of H	OLE .	BACKFILLED	MONITORING	G WELL	OTHER	R (SPECIFY)	1	GNATURE OF IN	_			
			Bentonite	NA	.	N	A	9	Kidw	II			
ELEV.	DEDT		CONDICTION		FIELD SCI	REENING	GEOTECH SA		ANALYTICAL	BLOW-			_
FLEV. a	DEPTH b	DES	SCRIPTION OF MATERIALS		RESU	JLTS 1	OR CORE BOX	X NO.	SAMPLE NO.	OOUNTS TIME		REMARKS h	
	_	Topsoil					1		,	1 (1941)	R.t.	t time=	_ z
	=	clay, da	irk brown T	7.5YR3/2	0.	i					0950	•	
		damp, m	ed. plasticit	· y ,	0.	•		- 1			ال ا		
	=	medium	consistenc	X									
	2 _=	clay, da	ark brown 7	5 YR3k	0.	l [•			
*	- =	dry, me	dium plastic consisten	uty,									
	1 =	1		,	0.	1							
	3 -	clay an	d silt, bro	Wn									
	=	7.5 YR 4/	3, dry, med	dium					ş.,				
	<u> </u>	plastici	ty, soft co	nsistem	0.	1	NA		SSI	0953	551	(3/4)	
				0.0110	1			T	-			,	
	_ =				0.	5			·				
	5-		•	•	0.	J					,		
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	4-												
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	, 7				0.	J		.	·				
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	l E												
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	آ ما				0.1				ļ		 -		
	ц <u>с</u>]) DD	OJECT		<i>U</i> .	•	-			1,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>553</u>	(9/10)	_
IRK J	ORM 55	Trin	USFRDO	· EA						HOLE NO.	En.		
		•	COTEIN	TH						1 1)(FRI	710 -	

		HTW DRILL	ING LO	G			HOLE NO. DCFB 126	
PROJECT	USFR	DCFA	SPECTOR J. Kie	dwell			SHEET 2 OF 3 SHEETS	l
ELEV.	DEPTH b	DESCRIPTION OF MATERIALS		GEOTECH SAMPLE OR CORE BOX NO. e	ANALYTICAL SAMPLE NO. f	COUNTS TIME	REMARKS h	L
		Silt and clay, brown dark 7.54R3/4, dry, medium plasticity, medium	0.5					
	12,—	consistency	0.5	NA	553	1004		Ē
	13—		0.1	·				
	14		0.5					Ē
	15 -		0.1				*	
	16-		0.5	NA	554	1008	554 (15/16) 11/20/2000	Ē
	17 =	Sand and silt, light brown 7.54R6/4, dry	0.0				11/20/200	
	18 -	to damp, nonplastic, Soft to medium	0.3					`
	19-	consistency	0.3				·	Ē
	20-		0.3	NA	585	0728		Ē
	=	Sand, well sorted, fine to medium grain,	0.0					Ē
		light brown 7.5486/4,	0.3				ا ر	Ē
	[]	damp, non plastic, soft consistency; silty clay	0.0				886 (21/22)	
] =	lenses from 21.0' to 21.3' bgs, from 25.0' to	0.0	NA	536	0734		Ē
	25	25.3' bgs, and from 27.2' to 27.5' bgs	0.0					
	26-		0.0					=
	27—		0.3					- - -
	28	PROJECT	0.0	NA	SS7	0745 HOLE NO.	557 (27/28)	<u>-</u>

USFROCFA

DCFB126

		HTW DRILL	ING LO	G			DCFB126
PROJECT	USF	RDCFA	U. K	idwell			SHEET 3 OF 3 SHEETS
ELEV.	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,	0.0				
	30	nonplastic, soft; silty clay lens from 30.0' to	0.0		-	·	
	31-	30.3'bgs	0.0				, <u> -</u> - -
	32-	Shale, olive grey 54 \$/2 Bottom of hole	0.0	NA	SSS	0753	558(31/32)
	33	Bottem of Hote					TD = 32'bgs = WL= Dry =
	34-						
	₹5	· ·					<u> </u>
	36						<u> </u>
	37 			·			<u> </u>
	3 8—						<u></u>
	<i>3</i> 9−∃						<u>-</u>
	40						<u> </u>
	41-						<u> </u>
	42-						<u> </u>
·	43						<u> -</u> - -
	<i>44</i> = = = = = = = = = = = = = = = = = =						<u> </u>
	45						<u>-</u>
ADV FG	46 -	PROJECT				HOLE NO.	<u></u>

USFRDCFA

HOLE NO.

COMPANNINE SILVINS & PLO, MILE OF SHEETS POLECT US-POLETA ALCOHOM BY A PARCH N BY A PARCH N SUBSINITY OF CRUBB BY A PARCH N SUBSINITY OF CRUBB BY A PARCH N SUBSINITY PROCEEDING OF THE SHEETS SUBSINITY PROCEEDING SHAPE SHAPE SHEETS SUBSINITY PROCEEDING SHAPE SHAPE SHAPE SHEETS SUBSINITY PROCEEDING SHAPE SHAPE SHAPE SHAPE SHEETS SUBSINITY SHAPE			<u>.</u>		HTW I	DRILL	ING	LO	G	-				ENO.	
AUGSTON S. MANN OF ORLET PAT MODENN S. SEES AND THESE OF DRILLING AND SAMPLINE SOUTHWATT AND SAMPLINE SOUTH AND SAMPLINE SOUTHWATT AND SAMPLINE SOUTH AND	1. COMPA	NY NAME	Sums	ية در ين ك	Dennell	2.	DRILLING	SUBCONT	RACTOR	دع	<u> </u>	· · · · · ·	SHE	ET 1	7
Sees and three of drillers Pat March in Sees and three of drillers And Sampling Economics And Samp	ROJE									٠.	I'm A R		101	SHEETS	7
1. SIZES AND THESE OF DRILLING WAS SAMPLING EQUIPMENT WO SAMPLING EQUIPMENT WO SAMPLING EQUIPMENT WAS SAMPLING ELEVATION 1.0 DATE SAMPLING 1.1 DATE COMPLETED 1.1 DATE COMPLANT COMPLETED 1.1 DATE COMPLETED 1.1 DATE COMPLETED 1.1 DATE COMPLETED 1.1 DATE COMPLETED 1.1 DATE COMPLETED 1.1 DATE COMP	5. NAME (· · · · · · · · · · · · · · · · · · ·						6. MANU	FACTURER'S D	ESIGN	ATION OF DRILL			:	\dashv
AND SAMPLES EQUIPMENT 14 COT ALEXANDER SURVIVE 10 DATE STARTED 11 DATE COMPLETED 12 DATE COMPLETED 12 DATE COMPLETED 12 DATE COMPLETED 12 DATE COMPLETED 13 DATE COMPLETED 14 DATE COMPLETED 14 DATE COMPLETED 12 DATE COMPLETE	7. SIZES /	AND TYPES C				u Silm	100			V.7 #	ed bec	purhe C	ip -4	0	\dashv
10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DATE STATES 10. DEPTH OF MODE TO THE ATTER DATEING COMPLETED 11. DATE COMPLETED 11. DAT	AND SA	AMPLING EQL	IPMENT	4-100	sutati		,, -44	NI	<u> 11930</u>	<u>33</u>	38 8	22672	202.8	34	_
10. DATE SAMPLES 11. DEPTH POPULED WITO PRODE 12. OVERBLEDEN THICKNESS 13. DEPTH DRULED WITO PRODE 14. TOTAL CEPTH OF HOLE 15. DEPTH POPULED WITO ROOK 16. DEPTH OF HOLE 17. OTHER WATERLY PELL MEASUREMENTS (SPECPT) 18. DECITE CHANCAL SAMPLES 19. DOTAL MUNIER OF CORE BOXES 10. SAMPLES FOR CHEMICAL ANALYSIS 10. SAMPLES FOR CHEMICAL ANALYSIS 11. DIVAL CEPTH OF HOLE 12. TOTAL CHEMICAL SAMPLES 13. DEPTH OF HOLE 14. TOTAL CHEMICAL MALYSIS 15. DEPTH OF HOLE 16. DEPTH OF HOLE 17. OTHER WATERLY PELL MEASUREMENTS (SPECPT) 18. DECITE CHEMICAL MALYSIS 18. DECITE CHEMICAL MALYSIS 19. DOTAL MUNIER OF CORE BOXES 10. SAMPLES FOR CHEMICAL MALYSIS 10. SAMPLES FOR CHEMICAL MALYSIS 10. SAMPLES FOR CHEMICAL MALYSIS 10. DEPTH OF HOLE 10. DEPTH OF HOLE 11. TOTAL CORE 12. TOTAL CORE 12. TOTAL CORE 13. TOTAL CORE 14. DEPTH OF MALYSIS 15. DEPTH OF HOLE 16. DEPTH OF MALYSIS 16. DEPTH OF MALYSIS 17. DEPTH OF MALYSIS 18. DEPTH OF MALYSIS 19. DEPTH OF MALYSIS 19. DEPTH OF MALYSIS 19. DEPTH OF MALYSIS 19. DEPTH OF MALYSIS 10. DEPTH OF MALYSIS 10. DEPTH OF MALYSIS 10. DEPTH OF MALYSIS 11. DEPTH OF MALYSIS 15. DEPTH OF MALYSIS 16. DEPTH OF MALYSIS 17. DEPTH OF MALYSIS 18. DEPTH OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT OF MALYSIS 19. DEPHT				Cos	ntidous										ı
15. DEPTH GROUNDWETE SNOWNED STORED THE AFTER GRILLING COMPLETED 16. DEPTH OF WATER NOT CHARGE THE AFTER GRILLING COMPLETED 17. OTHER WATERLEYEL MEASUREMENTS (SPECIFY) 18. GEOTECHNICAL SMAPLES 10. DURINGED 1								10. DATE	STARTED	ومردر	4 1				
18. GEOTECHNICAL SMAPLES 19. DISTURGED 19. O	12. OVER	BURDEN THI	CKNESS	9.8	3				H GROUNDWA	TER E		1759	2000		7
10. OTHER WATERLEYEL MEASUREMENTS (SPECIFY) 18. GEOTECHNICAL SAMPLES DISTURBED WAT UNDISTURBED UNDISTURBED UNDISTURBED OTHER (SPECIFY)	13. DEPTI	H DRILLED IN	TO ROCK		· · · · · · · · · · · · · · · · · · ·			16. DEPT	H TO WATER		APSED TIME AF	TER DRILLING CO	MPLETED		\dashv
18. GEOTECHNICAL SAMPLES DISTURBED NA UNDISTURBED NA UNDISTURBED NA NA NA NA NA NA NA NA NA N	14 TOTA	L DEPTH OF	HOLF		·			17 OTHE		EI ME	ASI IDEMENTS (S	DECIEV)			4
20. SAMPLES FOR CHEMICAL ANALYSIS CHASTILL AND INTERISPECTED PRESCRIPTION OF HOLE BACKFILLED MONITORING WELL OTHER ISPECTED BACKFILLED MONITORING WELL OTHER ISPECTED 23. SIGNATURE OF INSPECTOR WE COLORING BELLOW BELLOW RESULTS FIELD SCREENING OF CORE BOX NO. GROVER SAMPLE NO. CLOY, Clurk Brown, to Clive Cyclin, Clarge, mell plustic contractions is stems O O O U/4 SS 2 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 Contraction O U/4 SS 2 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 Contraction O U/4 SS 2 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING O U/4 SS 3 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING FIELD SCREENING O U/4 SS 3 OG47 CS 3(41,0) FOREM FOREM FOR FIELD SCREENING FIELD SCREENING O U/4 SS 3 OG47 FOREM FOREM FOR FIELD SCREENING FIELD SCREENING O U/4 SS 3 OG47 FIELD SCREENING FIELD SCREENING O U/4 SS 3 OG47 FIELD SCREENING FIELD SCREENING FIELD SCREENING O U/4 SS 3 OG47 FIELD SCREENING FIELD SCREENING FIELD SCREENING O U/4 SS SOMATURE OF RESPECTOR WE SCREENING FIELD SCREENING O O U/4 SS SOMATURE OF RESPECTOR WE SCREENING FIELD SCREENING O O U/4 SS SOMATURE OF RESPECTOR WE SCREENING FIELD SCREENING O O U/4 SS SOMATURE OF RESPECTOR WE SCREENING FIELD SCREENING O O O O O O O O O O O O O				<u> </u>								rediri)		······································	_
ORSIR Analysis RE, TLE, DLE NA NA NA NA NA NA NA NA NA NA NA NA NA	18 GEOT	ECHNICAL SA	AMPLES		DISTURBED	UND	ISTURBED (- 19					•		
DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION DESCRIPTION DESCRIPTION OF MATERIALS FIELD SCREENING DESCRIPTION										0					
Bentenite NA NA WB m=clenden CLEV. DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING GEOTECH SAMPLE MANAYTICAL BLOW COUNTS REMARKS Tours: Tours: Chay, claude brown, to Olive green, clause, met steems O.3 Somet, brown, with fires, first grained, well resulted O.3 Somet, brown, with fires, first grained, well resulted O.3 Chay, brown, with fires, first grained, well resulted O.444 SSI 0938 6SI(3/4)) O.444 SSI 0938 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent O.444 SSI 0943 Chay, brown, damp, med physic and consistent and	· · ·			- 1	·									NA %	
CLEV. DEPTH DESCRIPTION OF MATERIALS FIELD SCREENING GEOTECH SAMPLE AMALYTICAL BLOW COUNTS RESULTS OF CORE BOX NO. SAMPLE NO. COUNTS TO COUNTS ARE COUNTS	22. DISPL	JOHIUN OF IT	ULE	0						1			La		
SLEV. DEPTH DESCRIPTION OF MATERIALS RESULTS OR CORE BOX NO. SAMPLE NO. RECORD OR COUNTS REMARKS 7.7.26:1 Chay, cloude known to Olive green, champ, med places, first grained, well southed of the grained, well southed of the grained, well southed of the grained, well southed of the grained, well southed of the grained, well southed of the grained, well southed of the grained, well southed of the grained, well southed of the grained, well southed of the grained of		1		150	ntonite.	<i>[]()</i> ;				<u> </u>			,		\dashv
7 - Chy, clark brown, to Olive youn, chang, med photo 1 - Grand brown, with firsts, first grained, well southed 0 - Chy, backers, with firsts, first grained, well southed 0 - Chy, backers, damp, med photole 1 - Chy, backers, damp, damp, damp, med photole 1 - Chy, backers, damp, da	CLEV.			DESCRIPTI	ON OF MATERIALS			ULTS	OR CORE BO	X NO.					
Green, change, well starter 2 - 0.3 Servet, brown, w. th. fires, first grained, well southed 0 44 501 0438 651(3/4) \$ 6 - 0 0 7 - 0 0 8 - 0 4/4 552 0943 9 - Chap, barwa, change med proster AND consistent 1 - 1000 1				_				0	,	,			Sto	at .	F
2 - 3 - 5c.net, brain w. th. fires, first grained, well resided 0 414 551 (4138 551(3/4)) \$ 6 - 0 0 4/4 552 0943 9 - 5/197, bacur, distrip, ment prosest of the consistency of the con			chay, c	larle b	rom, to 0 .ireel ples	live He							7.	1 2435°	E
3 - Sand brown, w. th. fires, find grained, well southed 4 - Chy, bacun, damp, med physic and consistent physic form 55 - Shirty PROJECT TA=10.0' HOLE NO.			incl i	لای دسی	eng		:	0							E
3 - Sand brown, w. th. fires, find grained, well southed 4 - Chy, bacun, damp, med physic and consistent physic form 55 - Shirty PROJECT TA=10.0' HOLE NO.		2-			•										E
1 - Clay, baown, damp, med phrists 4 - Clay, baown, damp, med phrists And consistent PROJECT TΔ=10.0' HOLE NO.		=						0.3							E
9 - Chy, beaun, damp, men proste 10 - 3h36		3 —	Send	brown	with fu	ies,									E
0 0 4/4 652 0943 6 Chaf. beaun, giang, med phoste And consistent 10 - 3hay PROJECT TΔ = 10.0° HOLE NO.			line.	ylaine	i, well s	prifed		0	4/4	1	رعک	0438	اکنے	(3/4)*	E
8 - 0 4/4 452 0943 9 - Clay, baown, clamp, med plaste And cons: Steney 10 - 3hay 10 - 1000' PROJECT TΔ=10.0' HOLE NO.		9 =										1,20			E
8 - 0 4/4 452 0943 9 - Clay, baown, clamp, med plaste And cons: Steney 10 - 3hay 10 - 1000' PROJECT TΔ=10.0' HOLE NO.		<u>-</u>						6	,		i	,			F
8 - 0 4/4 452 0443 4 - Clay, bacun, champ, med phaste and consistent β - 3hay PROJECT T = 10.01 HOLE NO.								•							E
8 - 0 4/4 452 0943 6 - Clay, bacun, clamp, med phosts And consistency - 453 0947 PROJECT TO=10.0' HOLE NO.		6						0							E
8 - 0 4/4 452 0943 6 - Clay, bacun, clamp, med phosts And consistency - 453 0947 PROJECT TO=10.0' HOLE NO.		=					ļ								E
G- C1.37, bacus, champ, med plaste And consistency		7-						٥							F
G- C1.37, bacus, champ, med plaste And consistency] =						7	4/4	, :	452	UCU3			F
10 - 3hay PROJECT TO = 10.0' HOLE NO.		ا لا – ا								<u> </u>	3-	0775			F
10 - 3hay PROJECT TO = 10.0' HOLE NO.					·										E
PROJECT $7\Delta = 10.0$ HOLE NO.	•	7 - 3	Clay, b	ROWN, C	Jamp, med	1 11.7512								((15)	F
IDIC FORM CC		10 =									553	0947	653	(4/14)	F
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1RK :	ORM 55		PROJECT				? c				1	a. ~ .	2 - 6:	_

			HTW [DRILL	ING L	.OG				HOLE	NO. FB 201	7
1. COMPA	NY NAME	B.12.26 1	nc Domell	2.	DRILLING SUB	CONTRACTOR	PEŚ	 		SHEE	T 1	7
PROJEC	CT	FROLFI		24	u	OCATION UEST of MANUFACTURER'S	FOE		F Build		FRIAB	
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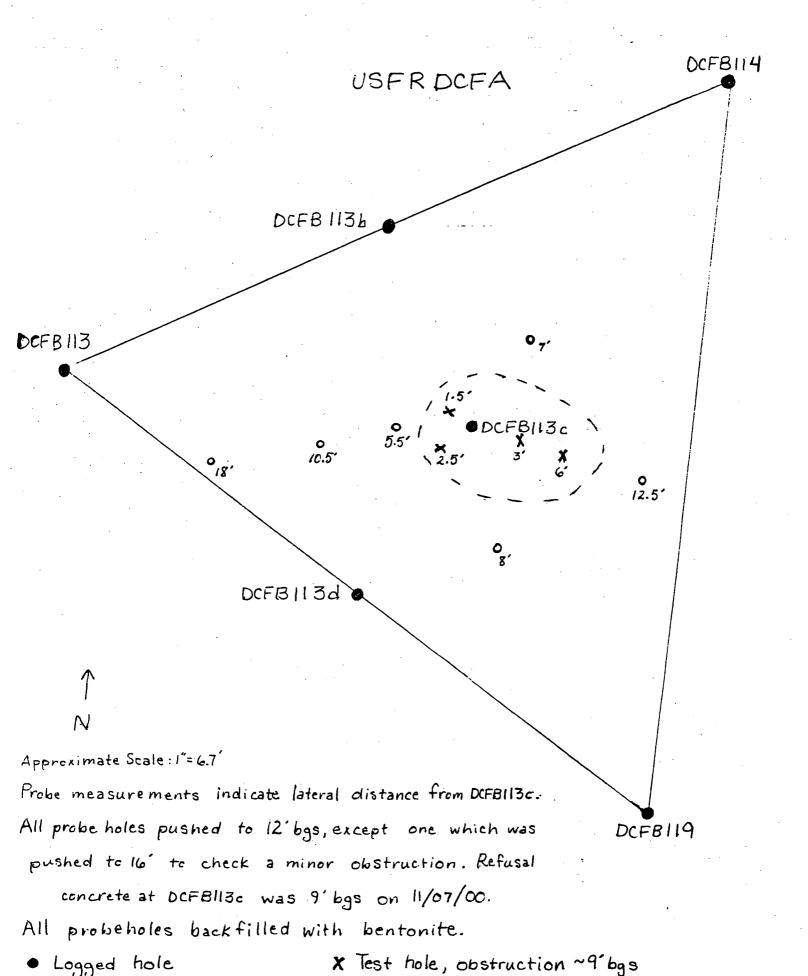
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13. DEPTI	H DRILLED INT	O ROCK	0.4				16. DEPT	H TO WATER	AND EL	APSED TIME AFT	ER DRILLING CO	MPLETED		7
14. TOTA	L DEPTH OF H	HOLE	7.0 .				17. OTHE	R WATER LEV	EL ME	ASUREMENTS (SF	PECIFY)			1
18. GEOT	ECHNICAL SA	MPLES	DISTURBED A		UND	STURBED	19	TOTAL NUMI		F CORE BOXES			-	1
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AND SAMPLING EQUIPMENT 4- Live Autorite Steel	Truck mounted Geope	ish C-H-40
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13. DEPTH	1 DRILLED IN	TO ROCK	0			16. DEPT		AND EI	APSED TIME AFT	TER DRILLING CO	OMPLETED	
14. TOTAL	DEPTH OF	HOLE	4			17. OTHE		EL ME	ASUREMENTS (SI	PECIFY)	-	
18. GEOTI	ECHNICAL SA	MPLES	DISTURBED		DISTURBED	19	. TOTAL NUM		F CORE BOXES			
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	ND TYPES OF	DRILLING 4-	foot macro	core s	ample	B. HOLE	LOCATION		`	• •			٦
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O Test hole, no obstruction -- 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	Top of Casing Elevation ¹	Bottom of Screen Elevation ¹	Water Level Elevation ¹
	Screened			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	NM²
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:

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

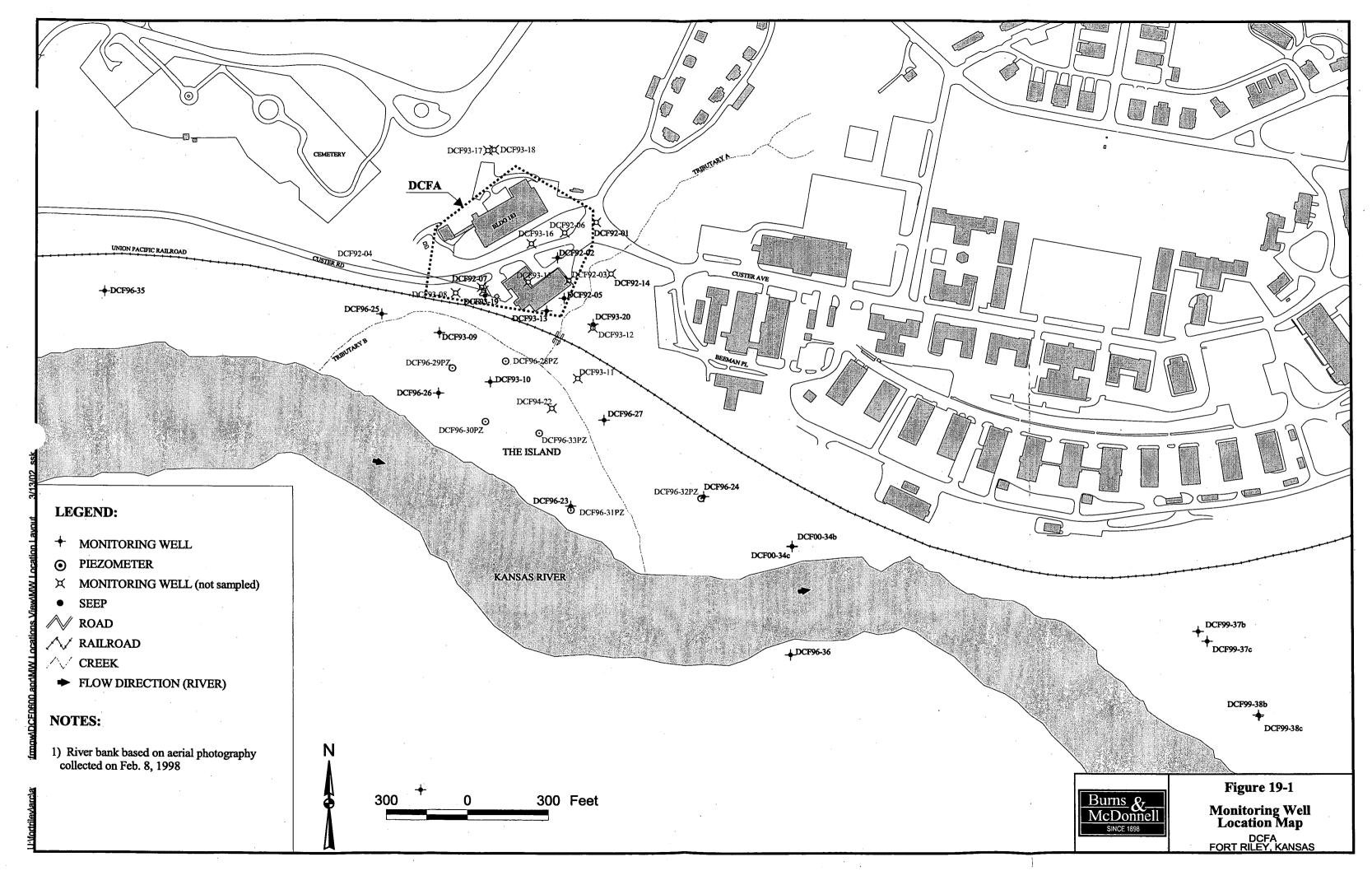
¹ All results shown in feet above mean sea level unless otherwise indicated.

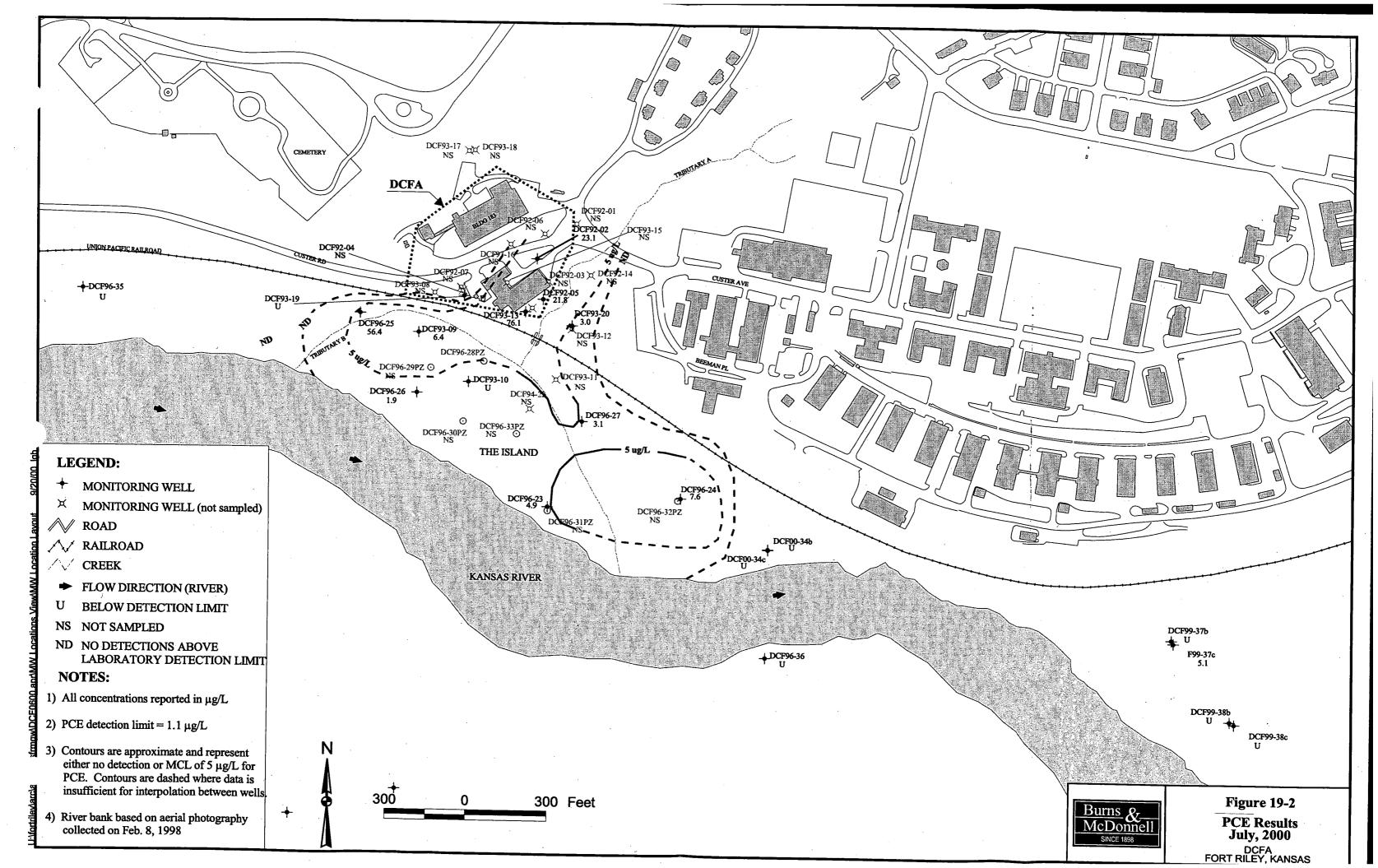
² Dry

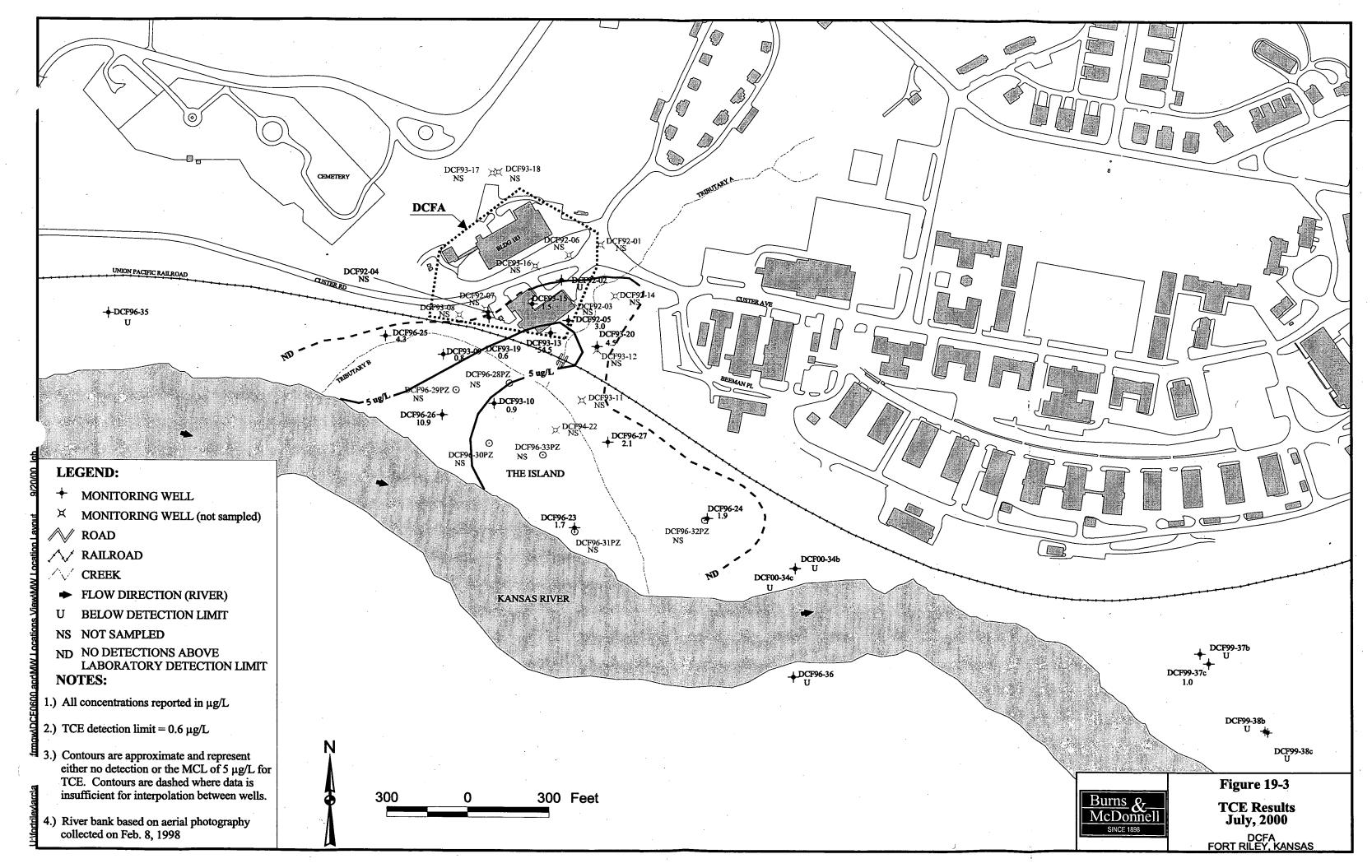
³ Not measured because of obstruction in riser pipe.

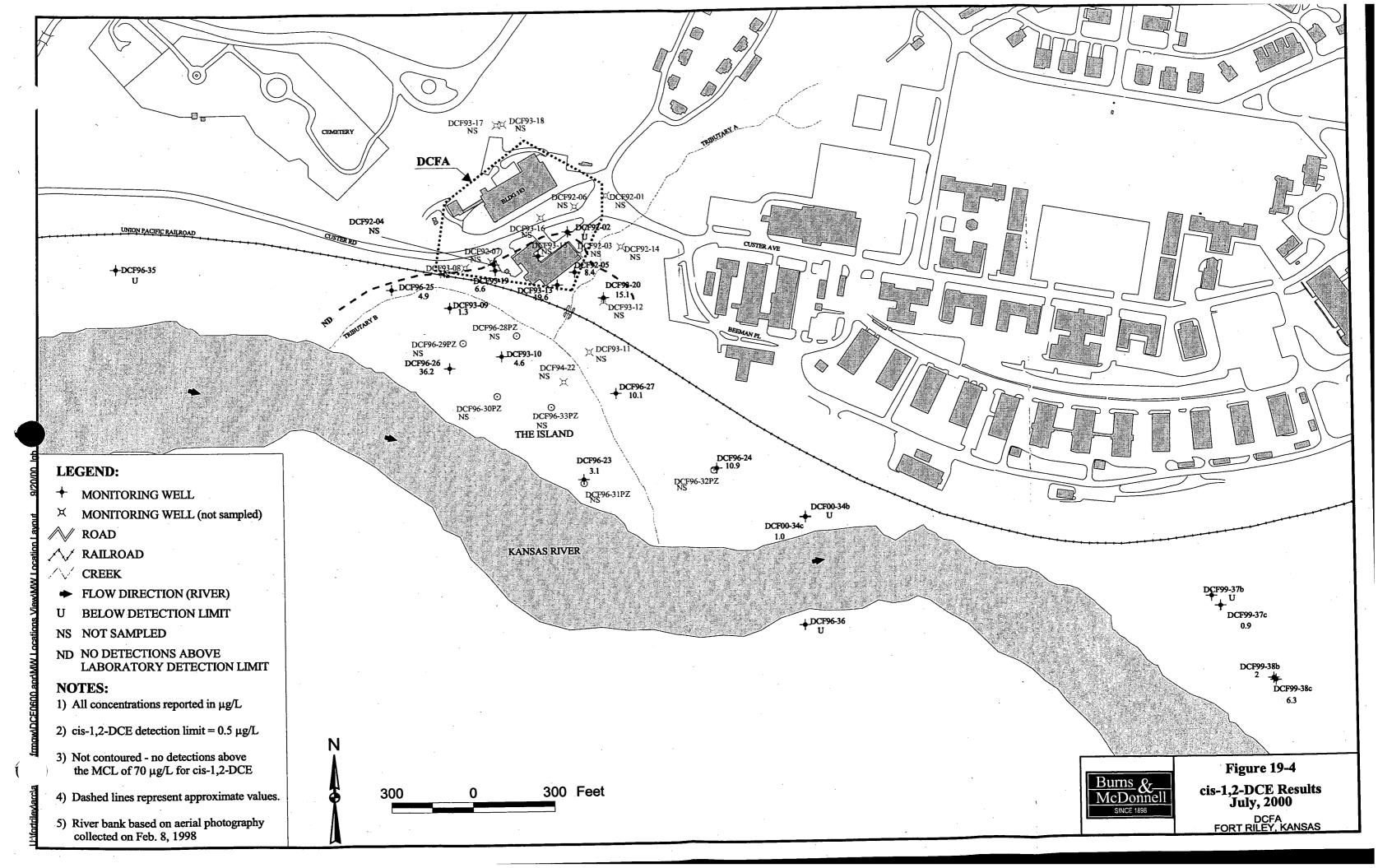
i I	Sample Point: late Sampled: lample Matrix: latory Number:	10/25/00 LIQUID	DCF93-20/03 10/27/00 LIQUID 00102466	DCF96-23/03 10/24/00 LIQUID 00102065	DCF96-23/33 10/24/00 LIQUID 00102070 DCF96-23 Duplicate	DCF96-24/03 10/24/00 LIQUID 00102067	DCF96-25/03 10/24/00 LIQUID 00102062	DCF96-26/03 10/24/00 LIQUID 00102069
Volatiles Benzene cis-1,2-Dichloroethylene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene Trichloroethylene Vinyl Chloride	UNITS ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	0.4 U 5.9 1.1 U 0.4 U 0.5 U 0.6 U 1.1	0.4 U 15.1 1.1 U 0.4 U 0.5 U 4.5 0.8 U	0.4 U 3.1 4.9 0.4 U 0.5 U 1.7 0.8 U	0.4 U 3.1 4.7 0.4 U 0.5 U 1.6 0.8 U	0.4 U 10.9 7.6 0.4 U 0.5 U 1.9	0.4 U 4.9 56.4 0.4 U 0.5 U 4.3 0.8 U	0.4 U 36.2 1.9 0.4 U 0.5 U 10.9 0.8 U
Total Petroleum Hydrocarbons	UNITS	ND	NA NA	NA	NA NA	NA	NA	NA

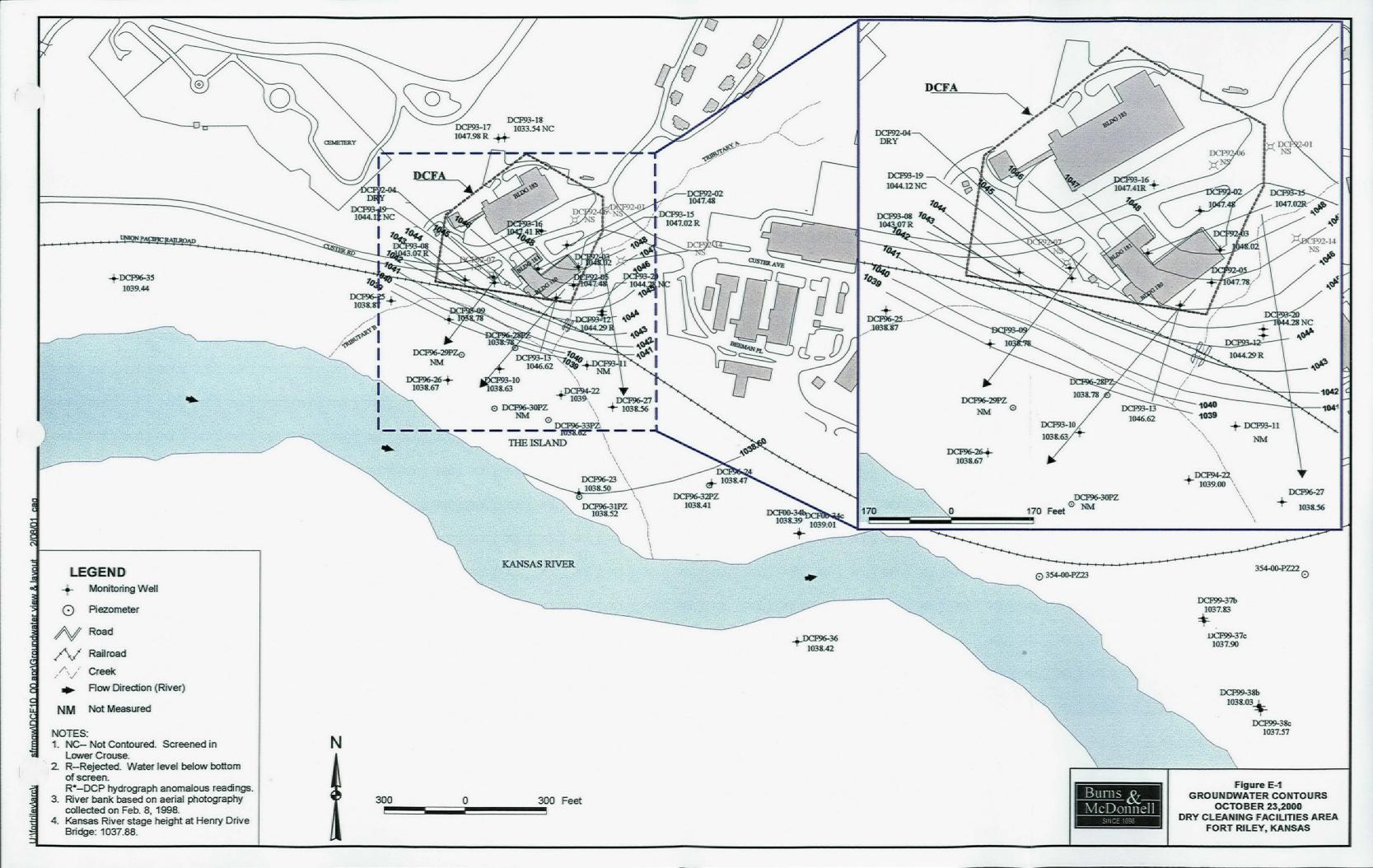
Dal Sar	imple Point: te Sampled: mple Matrix: ory Number:	MCL//KSWQS 10/18/98 LIQUID VALUES	DCF92-02/03 10/25/00 LIQUID 00102209	DCF92-05/03 10/26/00 LIQUID 00102331	DCF93-09/03 10/24/00 LIQUID 00102064	DCF93-10/03 10/24/00 LIQUID 00102066	DCF93-13/03 10/27/00 LIQUID 00102468	DCF93-19/03 10/25/00 LIQUID 00102207
Volatiles	UNITS							
Benzene cis-1,2-Dichloroethylene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene Trichloroethylene Vinyl Chloride	ug/L ug/L ug/L ug/L ug/L ug/L	5 70 5 1,000 100 5	0.4 U 0.5 U 22.7 0.4 U 0.5 U 0.6 U 0.8 U	0.4 U 8.4 21.8 0.4 U 0.5 U 3 0.8 U	0.4 U 1.3 6.4 0.4 U 0.5 U 0.8 0.8 U	0.4 U 4.6 1.1 U 0.4 U 0.5 U 0.9 0.8 U	0.4 U 19.6 76.1 0.4 U 1.5 54.5 0.8 U	0.4 U 6.6 1.1 U 0.4 U 0.5 U 0.6 1.2
Total Petroleum Hydrocarbons	UNITS	· NA	NA	NA	NA NA	NA NA	NA	ND











Date San	mple Point: e Sampled: nple Matrix: rry Number:	DCF96-27 10/24/0 LIQUID 0010206	0 .	DCF00-34 10/24/0 LIQUIE 0010206	0	DCF00-340 10/24/0 LIQUID 0010206	0	DCF96-35 10/24/0 LIQUID 001020	00	DCF96-30 10/24/0 LIQUII 001020	0	DCF99-37 10/27/0 LIQUIE 0010246	0	DCF99-37 10/27/0 LIQUII 001024)0)
Volatiles	UNITS														
Benzene cis-1,2-Dichloroethylene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene Trichloroethylene Vinyl Chloride	ug/L ug/L ug/L ug/L ug/L ug/L	0.4 10.1 3.1 0.4 0.5 2.1 0.8	U U U	0.4 0.5 1.1 0.4 0.5 0.6 0.8	טטטטטט	0.4 1 1.1 0.4 0.5 0.6 0.8	ככככ כ	0.4 0.5 1.1 0.4 0.5 0.6 0.8	טטטטטטט	0.4 0.5 1.1 0.4 0.5 0.6 0.8	U U U U U U	0.4 0.5 1.1 0.4 0.5 0.6 0.8	00000	0.4 0.8 4.7 0.4 0.5 1 0.8	U U U
Total Petroleum Hydrocarbons	UNITS	NA.		NA		NA		NA	·	ŅA		NA		NA.	

	Date San	mple Point: e Sampled: nple Matrix: ry Number:	10/27/0 LIQUI	00 D 67	DCF99-38 10/27/0 LIQUII 001024	00 D	DCF99-38 10/27/0 LIQUII 001024)0 D
Volatiles		UNITS					ļ	
Benzene cis-1,2-Dichloroethylene Tetrachloroethylene Toluene trans-1,2-Dichloroethylene Trichloroethylene Vinyl Chloride	•	ug/L ug/L ug/L ug/L ug/L ug/L	0.4 0.9 5.1 0.4 0.5 1.1 0.8	U U U	0.4 2 1.1 0.4 0.5 0.6 0.8	U U U U U U U U U	0.4 6.3 1.1 0.4 0.5 0.6	U U U U U U
Total Petroleum Hydroca	arbons	UNITS						
·· ——		ľ	NA.		NA		NA.	