

**FINAL
ANNUAL MONITORING REPORT
SOIL AND GROUNDWATER REMEDIATION
CAMPBELL STREET FUEL FARM
MARINE CORPS BASE CAMP LEJEUNE
ONSLOW COUNTY, NORTH CAROLINA**

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APPENDIX B: GROUNDWATER LABORATORY ANALYTICAL REPORTS

ACRONYM LIST

AFVR	aggressive fluid-vapor recovery
AST	aboveground storage tank
bls	below land surface
Baker	Baker Environmental, Inc.
BQL	Below Laboratory Quantitation Limits
CAP	Corrective Action Plan
CSFF	Campbell Street Fuel Farm
ERC	Environmental and Regulatory Consultants, Inc
GAC	Liquid-phase Granular Activated Carbon
GTGS	Groundwater Technology Government Services
J.A. Jones	J.A. Jones Environmental Services Company
LNAPL	light non-aqueous phase liquid
Law	Law Engineering and Environmental Services, Inc.
µg/l	micrograms per liter
mg/kg	milligrams per kilogram
MCAS	Marine Corps Air Station
MSCC	Maximum Soil Contaminant Concentration
MTBE	Methyl tert-butyl ether
NAVFACENGCOM	Navy Atlantic Division, Naval Facilities Engineering Command
NCAC	North Carolina Administrative Code
NCDENR	North Carolina Department of Environment and Natural Resources
Paradigm	Paradigm Analytical Laboratories, Inc.
PVC	polyvinyl chloride
SAR	Site Assessment Report
TPH	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
UST	underground storage tank

1.0 INTRODUCTION

From December 1996 through June 2002, J.A. Jones Environmental Services Company (J.A. Jones) implemented the selected approach as outlined in the Corrective Action Plan (CAP) for the JP-5 Line Area submitted by O'Brian & Gere Engineers in June of 1991. Based upon the recommendations of the CAP, a free product recovery system and a groundwater extraction and treatment system were installed in February of 1994. A long-term monitoring (LTM) program was also recommended in the CAP.

Annual monitoring reports have not been completed for this site. The Department of the Navy Atlantic Division, Naval Facilities Engineering Command (NAVFACENGCOM), has retained Shaw Environmental, Inc. to complete this Annual Monitoring Report.

This annual monitoring report describes system operation and monitoring results collected from December 1996 through June 2002 from the groundwater recovery and treatment system installed at the Campbell Street Fuel Farm site to remediate a release of petroleum. The report is being submitted in accordance with the Corrective Action Plan dated July 24, 1994 for the UST System AS-143 and the CAP dated July 29, 1994 for the Building AS-4151 site and is in compliance with Division of Waste Management, Underground Storage Tank Section Guidelines for Assessment and Corrective Action, dated April 2001 published by the State of North Carolina's Department of Environment and Natural Resources (NCDENR) Division of Waste Management.

The report provides a brief history of the environmental history of the site, summarizes the corrective action plan, and describes the installation and operation of the recommended remedial alternative. The report provides a discussion of monitoring results of the groundwater recovery and treatment system operation and the status of groundwater quality compared to baseline data.

1.1 CAMP LEJEUNE MARINE CORPS BASE LOCATION AND DESCRIPTION

Located in Onslow County, North Carolina, Marine Corps Base (MCB) Camp Lejeune is a training base for the United States Marine Corps. The base covers approximately 236 square miles (153,000 acres) and includes 14 miles of coastline. MCB Camp Lejeune is bound to the southeast by the Atlantic Ocean and to the northeast by State Route 24. Wooded areas are located north, east, and west of the site. The town of Jacksonville, North Carolina is located north of the base (*Figure 1.1*).

1.2 CAMPBELL STREET FUEL FARM SITE DESCRIPTION

The Campbell Street Fuel Farm UST System AS-143 and Building AS-4151 site is located at the Marine Corps Air Station (MCAS) New River, Camp Lejeune, North Carolina. *Figures 1-2 and 1-2a* provide a layout of the Campbell Street Fuel Farm UST System AS-143 and Building AS-4151 sites, respectively.

According to the Site Assessment Investigation (SAI) Building AS-4151, dated June 8, 1994, prepared by Baker Environmental, Inc. (Baker), the presence of hydrocarbon compounds were identified at Building AS-4151 during the JP-5 fuel line investigation in July 1992. Baker completed additional site assessments at the Campbell Street Fuel Farm UST system AS-413 and Building AS-4151 to evaluate the impact to the groundwater and unsaturated soil caused by the release of petroleum hydrocarbon contaminants.

1.2.1 Campbell Street Fuel Farm and UST System AS-143

According to the Site Assessment Report (SAR) Additional Assessment Activities at the Campbell Street Fuel Farm and UST AS-143 dated April 29, 1994, the Campbell Street Fuel Farm (CSFF) consists of four aboveground steel storage tanks (AST) The AST's were installed in 1985. Each AST contained JP-5 aviation fuel and has a capacity of 215,000 gallons.

The ASTs are replacement tanks for a system of eight USTs of varying capacities reportedly used prior to 1985 at the CSFF. Six of the eight USTs were used for the storage of JP-5. Three of these six USTs had capacities of 120,000 gallons, 106,000 gallons and 100,000 gallons. Three of the USTs had capacities of 50,000 gallons each. The capacity of the other two USTs are unknown. Seven of the USTs and associated piping systems were removed and replaced by the existing AST system in 1985. One aviation gasoline (AVGAS) UST was filled with sand and remains in place. This UST is directly behind the filter building that services the loading rack inside the fuel farm.

1.2.2 Building AS-4151

According to the Site Assessment Investigation for Building AS-4151, dated June 8, 1994, written by Baker, Building AS-4151 operates three 100,000 gallon ASTs that store No. 2 fuel oil used in the steam generating boilers. These ASTs (AS-4152, AS-4153 and AS-4154) are located west of Building AS-4151. The facility also operates a 1,000 gallon UST system located on the western side of Building AS-4151. This UST stores No. 2 fuel oil for an emergency generator on site. According to information provided by facility personnel in 1994, the tank was approximately 14 years old and still in service.

Facility personnel also indicated that there are two empty 30,000 gallons ASTs that were used to store used oil. The used oil was used for fuel for the steam generating boilers. That practice has been discontinued and the oil is sent off-site.

2.0 CONTAMINATION INVESTIGATION HISTORY

According to the CAPs for the CSFF UST System AS-143 and Building AS-4151 site, dated July 22 and 29, 1994, prepared by Baker, the primary soil contaminants identified at the site were TPH - per EPA Method 5030 (low range petroleum) and TPH - per EPA Method 3550 (high range petroleum). The clean-up goal established for TPH concentrations in soil at the Building AS-4151 site was not to exceed 40 mg/kg, while the clean-up goal for TPH at the CSFF UST System AS-143 was 180 mg/kg. The remediation endpoint for free product is less than 0.01 feet of free product in all monitoring wells at the site.

Groundwater cleanup goals would be dissolved petroleum compounds in accordance with requirements established by the 15A NCAC 2L groundwater quality standards. *Table 2.1* presents the analytes of concern, their respective target concentrations, and contaminant concentrations at the site as of June 2002.

Dissolved petroleum hydrocarbon constituents were detected in groundwater samples collected from the CSFF UST System AS-143 and Building AS-4151 sites. According to the CAPs, the primary groundwater contaminants identified at the CSFF UST System AS-143 and Building AS-4151 sites were methyl-tert-butyl ether (MTBE), benzene, toluene, ethylbenzene, xylenes, ethylene dibromide (EDB), chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, naphthalene, and acenaphthylene. The maximum detected groundwater concentrations of these contaminants, as presented in the CAP, with their corresponding site rehabilitation levels, as established in NCAC Title 15A Subchapter 2L, are provided in *Table 2.1*.

2.1 CAMPBELL STREET FUEL FARM and UST SYSTEM AS-143

In December 1991, Baker conducted the first phase of field activities at the CSFF. Field activities included the installation of seven Type II shallow monitoring wells, three Type III deep monitoring wells, four soil borings and 15 hydropunch penetrometers (hydropunches). During this first phase of assessment activities, Baker identified several areas impacted by petroleum contamination. However, the full extent of soil and groundwater contamination was not completely defined.

A second phase of field activities was performed at the CSFF from November 16, 1992 through December 7, 1992. The services performed during the second phase of

assessment activities included: installation of 18 Type II shallow monitoring wells, three Type III deep monitoring wells, eight soil borings, one six-inch monitoring well, and an aquifer test.

2.1.1 Campbell Street Fuel Farm and UST System AS-143 Soil Assessment

During the December 1991 field activities, two samples were collected from each soil boring for a total of 30 soil samples. Of these 30 samples, six were non-detect for low-medium range TPH, while only one sample was below laboratory detection limits for medium to high TPH.

During the December 1992 field activities, a total of 66 soil samples were collected. The soil samples were collected from the following locations:

- Two samples from SB-5 through SB-10, SB-12, MW-8 through MW-11, MW-13, MW-15 through MW-20, MW-22 through MW-24, DW-5, DW-6 and RW-1; and
- Three samples collected from SB-11, MW-12, MW-14, MW-21, MW-25 and DW-4.

All samples were analyzed according to EPA Method 8015/5030 (low to medium range petroleum) and EPA Method 8015/3550 (medium to high range petroleum). Of the 66 soil samples collected, 36 were below laboratory detection limits for low-medium boiling point TPH and 34 were below laboratory detection limits for medium-high boiling point TPH.

The highest TPH concentrations were found at soil boring locations MW-13, SB-11 and DW-2, which are located on the eastern base of the soil mound. The highest TPH concentrations in this area ranged from 147,000 mg/kg (medium to high) in boring MW-13 (2.0 to 4.0 feet) to 1,900 mg/kg (medium to high) in boring SB-11 (3.0 to 4.0 feet). In the vicinity of UST AS-143, the highest soil TPH concentration was detected in soil boring DW-6, which had a TPH concentration of 204 mg/kg (medium to high) at 2.0 to 4.0 feet bls. The remaining borings around UST-143 identified low TPH concentrations.

Soil contamination at the site was characterized as weathered jet fuel, jet fuel, gasoline, and motor oil. Baker concluded that the most likely source of soil contamination was from releases from the USTs formerly located at the site, and more recent periodic releases of JP-5 from daily operations of the fuel farm.

2.1.2 Campbell Street Fuel Farm and UST System AS-143 Groundwater Assessment

During the two separate phases of assessment activities completed in the early 1990's, groundwater samples were collected from hydropunch penetrometers and monitoring wells. The samples were analyzed in accordance with EPA Method 601 (purgeable halocarbons), 602 (volatile organic compounds), 625 (polynuclear aromatic hydrocarbons) and 7421 (total lead). Based on the results from the groundwater sample analysis, it appeared that groundwater had been adversely impacted in several isolated areas. Groundwater samples from monitoring wells MW-4, DW-2 and MW-16 and hydropunch HP-10, contained high concentrations of benzene. A benzene plume was estimated to begin at the base of the soil mound and extend southeast (downgradient).

On the east side of the CSFF, groundwater from monitoring well MW-3 and hydropunch HP-12 had elevated benzene concentrations as well. This impacted area is located directly over the JP-5 pipeline as it exits the fuel farm.

Several monitoring wells (RW-1, MW-21, MW-24, and MW-25) and hydropunch HP-15, near UST AS-143 also showed evidence of petroleum contaminated groundwater. High benzene concentrations in MW-8 indicated that this area had been affected by contamination from the off-loading area within the fuel farm. High levels of petroleum contamination were also detected in deep monitoring wells DW-2, DW-3 and DW-6. On December 30, 1992, 0.02 feet of free product was observed in monitoring well MW-13.

2.1.3 Corrective Action Plan: Campbell Street Fuel Farm and UST System AS-143

According to the Site Assessment Report titled "*Additional Assessment Activities at the Campbell Street Fuel Farm and UST AS-143*" dated April 29, 1994, the following areas required soil and/or groundwater remediation:

- Soil mound located in the center of the CSFF
- Area south of the tanker loading area along Campbell Street
- UST located at Building AS-143

Based on the results of the site assessment, the following actions were recommended by the SAR and the Corrective Action Plan for each of the areas designated above:

- *The soil mound:* The soils in the eastern portion of the mound were to be excavated and transported to a disposal facility. No free product recovery was

recommended at the time of the SAR. It was anticipated that free product and saturated soils would be removed during the excavation activities. Any free product or contaminated groundwater present after the excavation activities were completed would be recovered by the proposed groundwater recovery system for the other portions of the site.

- *Area south of the tanker loading area along Campbell Street:* Numerous subsurface utilities were present at the site, which impacted the number of remediation alternatives. It was recommended that an interceptor trench be excavated from the eastern side of the loading facility access driveway. The trench would extend westward toward monitoring well MW-12. This activity would assist in removing soils with elevated levels of petroleum contamination and create a hydraulic barrier to reduce the migration of contaminated materials. The groundwater recovered in the trench would be treated and discharged to the drainage ditch located east of Building AS-143. The water collected from the interceptor trench would be combined with groundwater generated from recovery operations located at Building AS-143. A NPDES permit would be required for the treated groundwater discharge required by this remediation alternative.
- *Building AS-143:* The UST located at Building AS-143 would be removed along with all associated piping and be replaced with a system consistent with current UST requirements. During the UST and the associated piping removal, it was recommended that a groundwater interceptor trench be constructed. The trench would use the natural flow direction of the groundwater to intercept and recover contaminated groundwater in that portion of the site. The existing recovery well, RW-1, would be used as a recovery sump to remove groundwater from the trench. The recovered groundwater would be treated using an oil/water separator followed by a carbon adsorption treatment prior to being discharged to the drainage stream located east of Building AS-143.

An evaluation of appropriate remedial alternatives for Campbell Street Fuel Farm and UST AS-143 was documented in the CAP, dated July 22, 1994. The selected remedial approach at CSFF UST System AS-143 site consisted of excavating the contaminated soil mound located in the center of the CSFF, excavating the UST at Building AS-143 along with all associated piping. In addition an interceptor trench for the recovery of free product and petroleum-contaminated groundwater was installed south of the tanker loading area along Campbell Street and the Building AS-143 UST excavation area.

An oil/water separator was recommended to remove any free product that might be recovered by the interceptor trenches. Because of the low flow rates that were anticipated from the combined discharge of the interceptor trenches and the low concentrations of organic compounds present, it was anticipated that carbon adsorption treatment would adequately reduce volatile organic hydrocarbon concentrations to levels that would meet discharge requirements. This treatment system was to be used to treat free product and contaminated groundwater recovered by the Building AS-4151 remedial system.

2.2 BUILDING AS-4151

According to the Site Assessment Investigation for Building AS-4151, dated June 8, 1994, Building AS-4151 operates three 100,000 gallon ASTs that store No. 6 fuel oil used in the steam generating boilers. These ASTs (AS-4152, AS-4153 and AS-4154) are located west of Building AS-4151. The facility also operates a 100,000 gallon UST system located on the western side of Building AS-4151. This UST stores No. 2 fuel oil for an emergency generator on site. According to information provided by facility personnel in 1994, the tank was approximately 14 years old and still in service. Facility personnel also indicated that a waste-oil AST was formerly located on the west side of Building AS-4151, however, it was removed in 1989.

2.2.1 Building AS-4151 Soil Assessment

December 9, 1991 Baker initiated an investigation of the JP-5 pipeline that extends from the CSFF to the rapid refueling stations. During this investigation three hydropunches were completed, one Type II monitoring well and one Type III monitoring well were installed in the vicinity of Building AS-4151. As a result of these activities, soil and groundwater contamination was detected in the Building AS-4151 area. VOCs and PAHs were detected above regulatory limits in the groundwater, while TPH was detected in the soil.

On June 15, 1992, Baker initiated assessment activities in the vicinity of Building AS-4151. During this investigation, Baker installed seven shallow groundwater monitoring wells (122MW-1 through 122MW-7), two deep groundwater monitoring wells (122DW-1 and 122DW-2), and collected selected soil and groundwater samples for chemical analysis.

During the Phase I investigation, the Baker drilling subcontractor, ATEC, struck and damaged the active JP-5 pipeline. Baker repaired the pipeline and obtained four additional soil samples from the excavation to document the condition of the soils. It was estimated that less than 50 gallons of JP-5 fuel was released during the incident. Soil contamination, not related to the pipeline damage, was observed in the excavation. During the repair operations, Baker excavated and disposed of 27.61 tons of soil.

Phase II field investigation activities commenced on January 11, 1993, Baker performed five soil test borings (122SB-1 through 122SB5), installed seven shallow groundwater monitoring wells (122MW-8 through 122MW-14), installed one 6-inch diameter monitoring well (122RW-1), attempted an aquifer test, collected select soil and groundwater samples for chemical analysis, and performed in-situ hydraulic conductivity tests in select monitoring wells.

Both gasoline range and diesel range TPHs were detected in Building AS-4151 soils. TPH concentrations increased with depth, with the highest concentration detected just above the water table. Of the 52 soil samples analyzed from the soil borings and excavation, 17 were found to have TPH contamination and 15 samples had TPH contamination greater than the site cleanup level of 40 ppm.

2.2.2 Building AS-4151 Groundwater Assessment

Phase I groundwater samples collected June 25, 1992 from groundwater monitoring wells 122MW-1 through 122MW-7, 122DW-1 and 122DW-2, were analyzed using EPA Method 602 (VOCs). The samples from monitoring wells 122MW-4, 122MW-5 and 122MW-7 were also analyzed using EPA Method 625 (PAHs).

During Phase II field investigations completed in January 1993, groundwater samples were collected from groundwater monitoring wells 122MW-2, 122MW-3, 122MW-4, 122MW-8 through 122MW-14, and 122RW-1. These samples were analyzed in accordance with EPA Method 602 (VOCs) and EPA Method 610 (PAHs). Concentrations of VOCs were detected in the following eight monitoring wells sampled; 122MW-2, 122MW-4, 122MW-7, 122MW-8, 122MW-9, 122MW-12, 122MW-14, and 122RW-1. The VOCs detected were benzene, toluene, ethylbenzene, xylene, ethylene dibromide (EDB), methyl tertiary butyl ether (MTBE), 1,3-dichlorobenzene, 1,4-dichlorobenzene, and 1,2-dichlorobenzene. PAHs were detected in wells 122MW-9 and 122MW-12.

It should be noted that weathered free product was observed in monitoring well 122MW-9 (0.19 feet) and on the groundwater surface seeping into the excavation during repair of the fuel line.

Building AS-4151 Corrective Action Plan

A Corrective Action Plan (CAP) for the Building AS-4151 area was submitted by Baker Environmental in July 1994. Based on recommendations of the CAP, a free product recovery system and a groundwater extraction and treatment system were installed in December 1996. A long-term monitoring (LTM) program was also recommended in the CAP.

The following three remedial goals were developed for the site:

- Remove free-phase product from the subsurface to the extent practicable,
- Prevent further migration of contaminated groundwater,
- Rehabilitate groundwater by removing any dissolved petroleum constituents in concentrations exceeding North Carolina's groundwater quality standards.

An evaluation of appropriate remedial alternatives for the Building AS-4151 site was documented in the CAP, dated July 29, 1994. The selected remedial approach at Building AS-4151 consisted of cleaning the abandoned JP-5 pipeline of any remaining petroleum products, removing the portion of the abandoned pipeline and excavating soils beneath the pipeline in the vicinity of Building AS-4151. In addition, an interceptor trench was installed within the excavation area for the recovery of free product and petroleum-contaminated groundwater.

Recovered product and contaminated groundwater from both interceptor trench systems was treated using an oil/water separator, low-profile air stripper, suspended soil/iron removal filter, and carbon adsorption treatment. The treated groundwater was discharged to the Base sanitary sewer system. This extraction and treatment system was to be coupled with quarterly groundwater monitoring to evaluate the migration and attenuation of dissolved petroleum hydrocarbon constituents from the contaminated area.

3.0 REMEDIAL SYSTEM OPERATION AND MONITORING

The selected remedy for the removal of free product and the treatment of contaminated groundwater consists of a series of interceptor trenches, designed to intercept and prevent further migration of free-phase product and contaminated groundwater. The remedial system consists of three recovery trenches with six recovery wells installed in the trenches. The groundwater recovery wells will produce a hydraulic gradient toward the recovery trenches, causing contaminated groundwater and free product to flow into the trenches.

The recovered groundwater is pumped to a treatment system consisting of an oil/water separator, a low-profile air stripper, suspended solids/iron removal filter, and two liquid phase granular activated carbon canisters prior to being discharged into a storm sewer manhole located east of the site. This extraction and treatment system was designed to prevent migration of the dissolved petroleum hydrocarbon plume and reduce groundwater contaminant concentrations in the area of the CSFF UST System AS-143 and Building AS-4151. Any free product discovered in monitoring wells and/or recovery wells in measurable thickness was removed during periodic aggressive fluid-vapor recovery (AFVR) events.

On March 9 and 10, 1999, Mann Drilling Corporation installed three 6-inch diameter recovery wells at a depth of 15.5 feet bls and one 6-inch diameter recovery well to a depth of 28 feet bls in accordance with system modification specifications. March 15 through 22, 1999, J.A. Jones completed system modifications including trenching and installation of new groundwater recovery lines. The new recovery wells were designated CSTRW-1, 143RW-1, 143RW-2 and 4151RW-1.

Based on Radian's optimization report for the system (2000), on January 3, 2000, J.A. Jones discontinued groundwater recovery from the recovery wells in the area of the Building 4151 and Campbell Street recovery trenches. Inactive recovery pumps from the Campbell Street trench and AS-4151 trench were subsequently moved to storage on January 12, 2000. Groundwater recovery continued at the AS-143 area.

3.1 GROUNDWATER RECOVERY/TREATMENT SYSTEM OPERATION

Groundwater remediation is accomplished by pumping contaminated groundwater from a total of six recovery wells located within the three groundwater recovery trenches. These 12 feet deep groundwater recovery trenches are identified as the Campbell Street Trench,

the Building AS-143 Trench, and the Building AS-4151 Trench. The contaminated groundwater extracted from the trenches is pumped through an oil/water separator to a low profile air stripper. The treated groundwater is pumped from the aerator sump through a suspended solid/iron removal filter into two activated carbon canisters prior to discharge to the on-site storm water distribution system. Iron precipitate forms when the air stripper aerates the recovered groundwater. To avoid plugging the activated carbon canisters, the suspended solid/iron removal filter removes iron precipitate.

Each of the trenches is 12 feet deep and three feet wide. The Campbell Street trench is 170 feet long; the Building AS-143 trench is 185 feet long; and the Building AS-4151 trench is 155 feet long. The Campbell Street trench contains four 6-inch diameter 12-foot deep recovery wells and is located across the access drive to Building AS-146, which is an active JP-5 truck fueling station. The trench at Building AS-143 is located across one of the access drives to Building AS-143. The building is an active gasoline dispensing station. The Building AS-4151 trench is located east of Building AS-4151 along the western side of White Street and contains two 6-inch diameter recovery wells that are 12 feet deep.

During construction, the trenches were backfilled with gravel suitable for the well screen and geologic conditions. The gravel backfill extended 0.5 feet above the top of the recovery well screen. Geotextile fabric was placed over the gravel fill to prevent overlying soil from migrating into the gravel zone. At the recovery well locations, the trench was excavated to a depth of 14 feet bbs to allow installation of a 2-foot sump at the bottom of each recovery well. A pneumatic pump was installed in each of the recovery wells. These pumps were designed to recover free product and petroleum contaminated groundwater. A single air compressor is used to operate all six groundwater recovery wells.

The groundwater treatment system consists of the following components:

- The pneumatic pumps recover groundwater and delivers it to the treatment system.
- The groundwater passes through an oil/water separator.
- Effluent from the oil/water separator goes to a low-profile air stripper.
- Effluent from the air stripper is pumped through a suspended solid/iron removal filter, which consists of a series of replaceable filter bags. This filtration system removes suspended soils prior to the carbon adsorption system.

- Effluent from the filter is pumped through two liquid-phase GAC canisters. The GAC reduces any remaining volatile and semivolatile compounds in the groundwater to acceptable discharge requirements.
- The treated groundwater is pumped to the storm sewer located east of the site.

System effluent samples were collected monthly and analyzed for Ethylene Dibromide according to EPA Method 504.1, VOCs by EPA Method 601, volatile aromatic hydrocarbons by EPA Method 602, polynuclear aromatic hydrocarbons by EPA Method 610, inorganic compounds, total dissolved solids, total suspended solids, and total hardness. Samples are collected from the Campbell Street groundwater recovery trench effluent (CST-E), Building 4151 groundwater recovery trench effluent (4151T-E), Building 143 groundwater recovery trench effluent (143T-E), air stripper influent (AS-I), air stripper effluent (AS-E), activated carbon adsorption unit number one effluent (ACA1-E), and activated carbon adsorption unit number two effluent (ACA2-E).

3.1.1 System Monitoring, Troubleshooting and Repair

Scheduled operation and maintenance inspections were performed weekly to maintain the performance and operation of the treatment equipment and to collect and record instrumentation readings. Instrumentation readings include flow meter readings and flow rate at the recovery wells and the treatment system. As stipulated in the NPDES General Permit, weekly readings of effluent flow as well as monthly samples of treated effluent were collected. The frequency of the scheduled operations and maintenance inspections are presented as follows.

<u>Event Description</u>	<u>Frequency</u>
Record Instrumentation Readings	Monthly
Service Equipment	As Required by the Manufacturer's Instructions
Measure and Record Groundwater Elevations	Monthly
Measure for Monitoring Wells for Free Product	Monthly
Collect Groundwater Monitoring Well Samples	Quarterly
Collect Groundwater Treatment Effluent Sample	Monthly

Non-scheduled operations and maintenance events were periodically required to troubleshoot equipment and to repair and adjust remedial system equipment. Maintenance work performed on the system included cleaning the air stripper and recovery pumps due to iron fouling, the replacement of product recovery lines and

recovery well pumps, and air compressor repairs. These replacements, along with the routine maintenance schedule were required to maximize the effectiveness and efficiency of the free product recovery and groundwater treatment system.

3.1.2 Aggressive Fluid/Vapor Recovery (AFVR)

In addition to routinely monitoring the groundwater recovery system's operation, select monitoring wells that have displayed the presence of free-phase product were monitored for the presence of product. If free-phase product is observed in a well, an AFVR event is completed to remove the product from the well by vacuum lift using a vacuum recovery truck. An AFVR event consists of the removal of total fluids from an existing well that has demonstrated the presence of free-phase product.

An estimated 30 gallons of free product was recovered during 2000 from monitoring wells MW-21, MW-24 and recovery well 122RW-1. A total of seven AFVR events were completed in 2000. During 2001 and 2002 LNAPL, not exceeding 0.02 feet thick, was observed in monitoring wells 122MW-1, 122RW-1 and 122MW-9. Because of the small volume of product observed in the well, product recovery absorbent socks were placed in these wells rather than completion of an AFVR event.

3.1.3 System Derived Waste

From February 27, 1996 to November 11, 2001 approximately 16,400 gallons of water and 1,230 tons of soil were removed from the CSFF UST System AS-143 and Building AS-4151 site. Soil Reclaiming, Inc disposed of the majority of the excavated soil

The transportation and disposal log, presented as *Table 3.1*, provides the complete history of the waste material accumulated during construction activities and derived during treatment system operation including the transporter, waste treatment destination, date of shipment, volume and/or weight of the material.

3.2 REMEDIAL SYSTEM MONITORING

3.2.1 Groundwater Elevation Measurements

Depth to groundwater measurements were collected under static (i.e., system not operating) groundwater conditions following a one week period of treatment system shut down in preparation for the groundwater sampling event. The depth to groundwater measurement results are presented in *Table 3.2*.

3.2.2 Groundwater Treatment System Monitoring

In addition to the monitoring activities performed at the recovery and monitoring wells, samples were collected monthly from the effluent of the oil-water separator, the air stripper, the first activated carbon adsorption unit, and the second activated carbon adsorption unit (i.e., treatment system effluent).

Samples were collected monthly from the Campbell Street groundwater recovery trench effluent (CST-E), Building 4151 groundwater recovery effluent (4151T-E), Building 143 groundwater recovery trench effluent (143T-E), air stripper influent (AS-I), air stripper effluent (AS-E), activated carbon adsorption unit number one effluent (ACA1-E), and activated carbon adsorption unit number two effluent (ACA2-E).

The treatment system samples were delivered by overnight courier to Paradigm and analyzed for Ethylene Dibromide according to EPA Method 504.1, VOCs by EPA Method 601, volatile aromatic hydrocarbons by EPA Method 602, polynuclear aromatic hydrocarbons by EPA Method 610, inorganic compounds, total dissolved solids, total suspended solids, and total hardness.

3.2.3 Groundwater Sampling and Analyses Monitoring

To monitor the effectiveness of the groundwater interceptor trenches in the reduction of dissolved petroleum hydrocarbon constituents in the groundwater, J.A. Jones collected quarterly groundwater samples from seventeen monitoring wells in the period from December 1996 through June 2002. Samples collected from January 1996 to February 1999 were sent to PAR Laboratories, while all samples collected after February 1999 were delivered to Paradigm Analytical Laboratories, Inc. (Paradigm). The samples were analyzed for volatile aromatic hydrocarbons using USEPA Method 602. Samples from monitoring well 13DW-1 and 122MW-9 were also analyzed for PAHs using USEPA Method 610 analyte list of polynuclear aromatic hydrocarbons.

The groundwater analytical results were used to evaluate the migration of dissolved petroleum hydrocarbon constituents from the contamination source areas. Review of the analytical results from these quarterly groundwater samples indicated that there were detected concentrations above groundwater quality standards in some of the monitoring wells.

Monitoring Well Analytical Results

Groundwater monitoring well samples were collected quarterly. Groundwater samples collected from January 1996 to February 1999 were delivered by overnight carrier to PAR Laboratories, while all samples collected after February 1999 were delivered by overnight carrier to Paradigm.

The following monitoring wells were analyzed for volatile aromatic hydrocarbons using USEPA Method 602 and polynuclear aromatic hydrocarbons using USEPA Method 625 (USEPA Method 610 analyte list):

- MW-9, AS4151-MW-1 and DW-1

The following monitoring wells were analyzed for volatile aromatic hydrocarbons using USEPA Method 602:

- MW-4, MW-7, MW-8, MW-12, MW-14, MW-16, MW-21, MW-24, AS4151-MW-3, AS4151-MW-11, CSFF-MW-3 and CSFF-MW-11

The following monitoring wells were analyzed for polynuclear aromatic hydrocarbons using USEPA Method 625 (USEPA Method 610 analyte list):

- DW-2 and DW-6

Volatile aromatic and polynuclear aromatic hydrocarbon constituents were not detected above laboratory quantitation limits in monitoring wells MW-4, MW-7, MW-8, MW-14, AS4151-MW-11 and CSFF-MW-11 during any of the quarterly sampling events from December 1996 to June 2002. The only compounds detected above the laboratory quantitation limit in samples collected from monitoring well MW-12 were benzene (1 ug/l) in June 2002 and ethylbenzene (1 µg/l) in December 2001.

Bis(2-ethylhexyl)phthalate has been detected intermittently in groundwater samples collected from monitoring wells DW-2 and DW-6 dating back to June 1999. Bis(2-ethylhexyl)phthalate is primarily used as a plasticizer in polyvinyl chloride resins and as a non plasticizer used as a replacement for PCBs in dielectric fluids for electric capacitors. It is also found in analytical results as a false positive caused by one of the following sources: sample containers, handling plastics during extractions, plastic sheeting and gloves used in the field and laboratory, plastic wrapping of pipets and other

lab supplies, and tygon tubing. Also, the occurrence of the compound appears to be inconsistent for these wells. For this reason, Shaw does not believe that the source of bis(2-ethylhexyl)phthalate is related to the Campbell Street Fuel Farm area.

DW-1 The following compounds have been detected in groundwater samples above the North Carolina Groundwater Quality Standard (GQS) during quarterly sampling events:

- Benzene has consistently exceeded the GQS and has ranged from 11 µg/l (September 2001) to BQL. Benzene was detected at a concentration of 9 µg/l during the December 2002 sampling event.
- Naphthalene has consistently exceeded the GQS and has ranged from 2,400 µg/l (June 2002) to BQL. Naphthalene was detected at a concentration of 1,700 µg/l during the December 2002 sampling event.
- 1-methylnaphthalene has consistently exceeded the GQS and has ranged from 100 µg/l (September 2000) to BQL. 1-methylnaphthalene was detected at a concentration of 66 µg/l during the December 2002 sampling event.
- 2-methylnaphthalene has consistently exceeded the GQS and has ranged from 150 µg/l (September 2001) to BQL. 2-methylnaphthalene was detected at a concentration of 110 µg/l during the December 2002 sampling event.
- Acenaphthene has exceeded the GQS on three occasions dating back to April 2000, and has ranged from 120 µg/l (March 2001) to BQL. Acenaphthene was detected at a concentration of 68 µg/l during the December 2002 sampling event.

AS4151-MW-1 The following compounds have been detected in groundwater samples above the GQS during quarterly sampling events:

- Naphthalene has consistently exceeded the GQS and has ranged from 2,960 µg/l (September 1998) to 49 µg/l (December 2001). Naphthalene was detected at a concentration of 170 µg/l during the December 2002 sampling event.
- 1-methylnaphthalene has consistently exceeded the GQS and has ranged from 82 µg/l (June 1999) to 34 µg/l (June 2001). 1-methylnaphthalene was detected at a concentration of 80 µg/l during the December 2002 sampling event.
- 2-methylnaphthalene has consistently exceeded the GQS and has ranged from 140 µg/l (December 2001) to 34 µg/l (June 2001). 2-methylnaphthalene was detected at a concentration of 86 µg/l during the December 2002 sampling event.

MW-9 The following compounds have been detected in groundwater samples above the GQS during quarterly sampling events:

- Benzene has exceeded the GQS four times dating back to December 1997, and has ranged from 2.1 µg/l (March 1998) to BQL. Benzene was detected at a concentration of 1 µg/l during the December 2002 sampling event.
- Naphthalene has consistently exceeded the GQS and has ranged from 1,100 µg/l (June 1999) to BQL. Naphthalene was detected at a concentration of 120 µg/l during the December 2002 sampling event.
- 1-methylnaphthalene has consistently exceeded the GQS and has ranged from 3,500 µg/l (June 1999) to BQL. 1-methylnaphthalene was detected at a concentration of 160 µg/l during the December 2002 sampling event.
- 2-methylnaphthalene has consistently exceeded the GQS and has ranged from 1,800 µg/l (June 1999) to BQL. 2-methylnaphthalene was detected at a concentration of 18 µg/l during the December 2002 sampling event.

MW-16 The following compounds have been detected in groundwater samples above the GQS during quarterly sampling events:

- Benzene has consistently exceeded the GQS and has ranged from 130 µg/l (September 1999) to BQL. Benzene was detected at a concentration of 66 µg/l during the December 2002 sampling event.
- Ethylene dibromide exceeded the GQS one time, 3.5 µg/l (September 1997). Since that time, all other sampling event analytical results have been BQL.

MW-21 The following compounds have been detected in groundwater samples above the GQS during quarterly sampling events:

- Benzene has consistently exceeded the GQS and has ranged from 2,545 µg/l (December 1996) to 12 µg/l (September 2000). Benzene was detected at a concentration of 110 µg/l during the December 2002 sampling event.
- Ethylbenzene has consistently exceeded the GQS and has ranged from 1,383 µg/l (March 1998) to BQL. Ethylbenzene was detected at a concentration of 17 µg/l during the December 2002 sampling event.
- Toluene has intermittently exceeded the GQS and has ranged from 2,500 µg/l (December 1996) to BQL. Toluene was detected at a concentration of 9 µg/l during the December 2002 sampling event.

- MTBE exceeded the GQS one time, 230 µg/l (June 2001). MTBE was detected at a concentration of 90 µg/l during the December 2002 sampling event.
- Total Xylenes have intermittently exceeded the GQS and have ranged from 3,785 µg/l (September 1998) to BQL. Total xylenes were detected at a concentration of 24 µg/l during the December 2002 sampling event.

MW-24 The following compounds have been detected in groundwater samples above the GQS during quarterly sampling events:

- Benzene has consistently exceeded the GQS and has ranged from 1,822 µg/l (September 1997) to 42 µg/l (December 1998). Benzene was detected at a concentration of 180 µg/l during the December 2002 sampling event.
- Ethylbenzene has consistently exceeded the GQS and has ranged from 590 µg/l (September 1999) to 9 µg/l (December 1998). Ethylbenzene was detected at a concentration of 85 µg/l during the December 2002 sampling event.
- Toluene has intermittently exceeded the GQS and has ranged from 1,300 µg/l (December 1999) to 4 µg/l (December 1998). Toluene was detected at a concentration of 64 µg/l during the December 2002 sampling event.
- MTBE exceeded the GQS one time, 210 µg/l (June 1999). MTBE was not detected above the laboratory quantitation limit during the December 2002 sampling event.
- Total Xylenes have consistently exceeded the GQS and have ranged from 1,500 µg/l (June 1999) to 35 µg/l (December 1998). Total xylenes were detected at a concentration of 86 µg/l during the December 2002 sampling event.

Table 4.2 presents a summary of the detected contaminant concentrations in groundwater samples collected from the monitoring wells. *Figures 4-5(a)* through *4-9(a)* present groundwater analytical results beginning in December 1996 through December 2002. *Appendix B* provides copies of the laboratory analytical reports from the groundwater monitoring well sampling events.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Analytical results from groundwater samples collected from monitoring wells AS4151-MW-1, MW-9, MW-16, MW-21, MW-24, and DW-1 indicated a persistent presence of dissolved petroleum hydrocarbon constituent concentrations above NCDENR groundwater quality standards. Groundwater samples collected from monitoring wells MW-12, AS4151-MW-3, CSFF-MW-3 and DW-2 indicated a limited presence of dissolved petroleum hydrocarbon constituent concentrations. Monitoring wells MW-4, MW-7, MW-8, MW-14, AS4151-MW-11 and CSFF-MW-11 had no detected concentrations of dissolved petroleum hydrocarbon constituents above laboratory quantitation limits during the groundwater sampling events conducted from December 1996 to April 2002.

During the most recent quarterly groundwater sampling event (December 3, 2002), the interpreted aerial extent of the dissolved volatile aromatic hydrocarbon contamination, above the 15A NCAC 2L groundwater quality standards, encompassed only MW-16, MW-21, MW-24, and DW-1. Overall, dissolved phase VOCs concentrations have demonstrated a decrease since implementation of the groundwater extraction and treatment system beginning in August 1996. The overall reduction in contaminant concentrations within the dissolved petroleum contaminant plume indicates that the groundwater extraction and treatment system is effective in volatilizing the petroleum hydrocarbons present in the groundwater at the CSFF UST System AS-143 and Building AS-4151 site.

According to the groundwater elevation data collected by J.A. Jones, the direction of groundwater flow is estimated to be predominantly toward the southeast. Shaw recommends that the frequency of groundwater level measurements be decreased to quarterly, during the quarterly groundwater sample collection event.

Shaw recommends the following changes to the groundwater treatment system sample collection and analysis protocol:

- Continue collecting monthly water quality samples from the groundwater recovery system effluent after each carbon canister (i.e., two samples).
- Reduce the frequency of sample collection from the recovery trenches, air stripper influent and air stripper effluent to semi-annually.

- The samples will be analyzed for ethylene dibromide (Method 504.1), volatile aromatic hydrocarbons (Method 602), polynuclear aromatic hydrocarbons (Method 610), metals using Method 6010B (As, Ba, Cd, Cr, Fe-total, Fe-dissolved, Mg-total, Mg-dissolved, Pb and Se), total dissolved solids (Method 160.1), total suspended solids (Method 160.2) and total hardness (CaCO₃).

Shaw recommends the following changes to the groundwater monitoring well sample collection and analysis protocol:

- Discontinue groundwater sample collection from MW-04, MW-07, MW-08, MW-11 and MW-14. Analytical results from these wells have not detected contaminants of concern above the laboratory quantitation limit in all sampling events dating back to December 1996.
- Continue sampling MW-9, AS4151-MW-1 and DW-1 on a quarterly schedule. The samples will be analyzed for volatile aromatic hydrocarbons using (Method 602) and polynuclear aromatic hydrocarbons (Method 625, reporting USEPA Method 610 analyte list).
- Continue sampling MW-12, MW-16, MW-21, MW-24, AS4151-MW-3, AS4151-MW-11, and CSFF-MW-3 on a quarterly schedule. The samples will be analyzed for volatile aromatic hydrocarbons (Method 602).
- Continue sampling deep monitoring wells DW-2 and DW-6 on a quarterly schedule. The samples will be analyzed for polynuclear aromatic hydrocarbons (Method 625, reporting Method 610 analyte list):

TABLES

TABLE 2.1

**MCB CAMP LEJEUNE
CAMPBELL STREET FUEL FARM
GROUNDWATER
SITE REHABILITATION GOALS**

ANALYTE	MAXIMUM CONC. BLDG AS- 4151 (ug/l)	2002 MAXIMUM CONC. BLDG AS- 4151 (ug/l)	MAXIMUM CONC. CSFF & BLDG AS-143 (ug/l)	2002 MAXIMUM CONC. CSFF & BLDG AS-143 (ug/l)	TARGET CONCENTRATION (NORTH CAROLINA STANDARDS)* (ug/l)
MTBE	5.08	BQL	1490	90	50
Benzene	11.9	9	73	670	1
Toluene	7.9	2	762	330	1,000
Ethylbenzene	28	7	661	260	29
Xylenes	46	12	5,083	670	530
EDB	0.98	BQL	762	BQL	0.0004
Chlorobenzene	ND	BQL	22.7	BQL	300
1,2-Dichlorobenzene	4.57	BQL	486	BQL	620
1,3-Dichlorobenzene	3.91	BQL	23.65	BQL	62,021
1,4-Dichlorobenzene	3.33	BQL	3,060	BQL	1.8
Naphthalene	313	2,400	258	120	28
Acenaphthylene	10	BQL	46	BQL	21

ug/l = parts per billion

* Goals of remediation are to achieve target concentrations or less

NA = Not Analyzed

BQL = Below Laboratory Quantitation Limit



Table 3.1 TRANSPORTATION AND DISPOSAL LOG
J.A. JONES ENVIRONMENTAL SERVICES COMPANY
CAMP LEJEUNE, NORTH CAROLINA
PROJECT NUMBER: 005-067]

GALLONS TO DATE
TONS TO DATE
DRUMS TO DATE

16414.00
1,229.97
29.00

DATE SHIPPED	DISPOSAL FACILITY	HAULER	TONS	GALLONS	DRUMS	MANIFEST NUMBER	LOAD NUMBER	COMMENTS
2/27/1996	Soil Reclaiming, Inc.	HILCO	17.45			14312	S-001	
2/27/1996	Soil Reclaiming, Inc.	HILCO	18.26			14318	S-002	
2/27/1996	Soil Reclaiming, Inc.	HILCO	15.80			14316	S-003	
2/27/1996	Soil Reclaiming, Inc.	HILCO	18.86			14310	S-004	
2/27/1996	Soil Reclaiming, Inc.	HILCO	19.43			14313	S-005	
2/27/1996	Soil Reclaiming, Inc.	HILCO	18.87			14314	S-006	
2/27/1996	Soil Reclaiming, Inc.	HILCO	20.50			14309	S-007	
2/27/1996	Soil Reclaiming, Inc.	HILCO	18.61			14315	S-008	
2/27/1996	Soil Reclaiming, Inc.	HILCO	18.17			14317	S-009	
2/27/1996	Soil Reclaiming, Inc.	HILCO	15.46			14311	S-010	
2/27/1996	Soil Reclaiming, Inc.	HILCO	23.17			14282	S-011	
2/27/1996	Soil Reclaiming, Inc.	HILCO	21.72			14288	S-012	
2/27/1996	Soil Reclaiming, Inc.	HILCO	23.86			14286	S-013	
2/27/1996	Soil Reclaiming, Inc.	HILCO	20.18			14280	S-014	
2/27/1996	Soil Reclaiming, Inc.	HILCO	23.13			14283	S-015	
2/27/1996	Soil Reclaiming, Inc.	HILCO	21.01			14284	S-016	
2/27/1996	Soil Reclaiming, Inc.	HILCO	24.88			14279	S-017	
2/27/1996	Soil Reclaiming, Inc.	HILCO	22.24			14285	S-018	
2/27/1996	Soil Reclaiming, Inc.	HILCO	25.29			14287	S-019	
2/27/1996	Soil Reclaiming, Inc.	HILCO	24.79			14281	S-020	
2/27/1996	HOH Corporation	HILCO		6000		1	W-001	
2/28/1996	Soil Reclaiming, Inc.	HILCO	23.65			14267	S-021	
2/28/1996	Soil Reclaiming, Inc.	HILCO	25.54			14268	S-022	
2/28/1996	Soil Reclaiming, Inc.	HILCO	21.56			14265	S-023	
2/28/1996	Soil Reclaiming, Inc.	HILCO	20.89			14266	S-024	
2/28/1996	Soil Reclaiming, Inc.	HILCO	27.21			14269	S-025	
2/28/1996	Soil Reclaiming, Inc.	HILCO	28.71			14270	S-026	
2/28/1996	Soil Reclaiming, Inc.	HILCO	24.29			14271	S-027	
2/28/1996	Soil Reclaiming, Inc.	HILCO	26.58			14272	S-028	
2/28/1996	Soil Reclaiming, Inc.	HILCO	23.94			14273	S-029	
2/28/1996	Soil Reclaiming, Inc.	HILCO	26.29			14274	S-030	
2/28/1996	Soil Reclaiming, Inc.	HILCO	23.43			14275	S-031	
2/28/1996	Soil Reclaiming, Inc.	HILCO	28.03			14276	S-032	
2/28/1996	Soil Reclaiming, Inc.	HILCO	25.04			14277	S-033	
2/28/1996	Soil Reclaiming, Inc.	HILCO	35.83			14278	S-034	
2/28/1996	Soil Reclaiming, Inc.	HILCO	26.09			14261	S-035	
2/28/1996	Soil Reclaiming, Inc.	HILCO	24.71			14263	S-036	
2/28/1996	Soil Reclaiming, Inc.	HILCO	27.14			14262	S-037	
2/28/1996	Soil Reclaiming, Inc.	HILCO	24.53			14260	S-038	
2/28/1996	Soil Reclaiming, Inc.	HILCO	26.54			14264	S-039	
2/28/1996	Soil Reclaiming, Inc.	HILCO	24.13			14259	S-040	
2/28/1996	Soil Reclaiming, Inc.	HILCO	19.33			14258	S-041	
2/29/1996	Soil Reclaiming, Inc.	HILCO	22.21			14256	S-042	
2/29/1996	Soil Reclaiming, Inc.	HILCO	21.93			14251	S-043	
2/29/1996	Soil Reclaiming, Inc.	HILCO	24.75			14253	S-044	
2/29/1996	Soil Reclaiming, Inc.	HILCO	25.20			14254	S-045	
2/29/1996	Soil Reclaiming, Inc.	HILCO	23.32			14255	S-046	
2/29/1996	Soil Reclaiming, Inc.	HILCO	21.63			14257	S-047	
2/29/1996	Soil Reclaiming, Inc.	HILCO	22.17			14252	S-048	
2/29/1996	Soil Reclaiming, Inc.	HILCO	27.62			14250	S-049	
10/1/1996	OHM Biocell	Morton	15.00			0401	S-050	Weight is estimated
10/1/1996	OHM Biocell	Morton	15.00			0402	S-051	Weight is estimated
10/1/1996	OHM Biocell	Morton	15.00			0403	S-052	Weight is estimated
10/1/1996	OHM Biocell	Morton	15.00			0404	S-053	Weight is estimated
10/1/1996	OHM Biocell	Morton	16.00			0405	S-054	Weight is estimated
10/1/1996	OHM Biocell	Morton	15.00			0406	S-055	Weight is estimated

DATE SHIPPED	DISPOSAL FACILITY	HAULER	TONS	GALLONS	DRUMS	MANIFEST NUMBER	LOAD NUMBER	COMMENTS
9/9/1997				6,000		0506	W-002	
6/6/1997	OHM Biocell	Morton	5.00			0423	S-057	Weight is estimated
6/6/1997	Shamrock Environmental	Shamrock			11	0427	D-001	9 Sludge/2 Filters
1/9/1998	Shamrock Environmental	Shamrock			3	0453	D-002	Sludge
5/7/1998	Shamrock Environmental	Shamrock		418		483	W-003	Sludge
12/8/1998	TBD	J.A. Jones			4	719	D-003	Drums are being staged at Lot 203
3/29/1999	Building RR-72	J.A. Jones		100		825	W-004	Water
5/27/1999	Fisher Industrial Service Inc. 402 Webster Chapel Rd. Glencoe, AL 35905	Envirochem			11	196	D-004	Empty Drums - Includes Drums Staged at Lot 203 on 12/8/98
3/8/2000	Building RR-72	J.A. Jones		180		1006	W-005	Water
3/29/2000	OHM North Treatment Plant	J.A. Jones		355		821	W-006	AFVR Event
5/9/2000	Building RR-72	J.A. Jones		294		821	W-007	AFVR Event
6/28/2001	Building RR-72	J.A. Jones		425		2598	W-008	Groundwater Accumulated During Treatment System Operation and AFVR Events
9/26/2001	Campbell street	J.A. Jones		2,042		2665	W-009	Groundwater Accumulated During Treatment System Operation and AFVR Events
11/29/2001	Campbell street	J.A. Jones		600		2719	W-010	Backwash pumped
Total as of 6/30/02			1229.97	16414.00	29.00	SOIL:	56	Loads
						WATER:	10	Loads
						DRUMS:	4	Loads



Soil and Groundwater Radiation

Campbell Street, 3rd Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	6/5/2002			5/2/2002			4/4/2002		
		Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)
MW-3	21.69		7.62	14.07		7.16	14.53		5.95	15.74
MW-9	20.45		7.10	13.35		6.32	14.13		5.56	14.89
MW-10	21.17		7.26	13.91		6.42	14.75		5.14	16.03
MW-11	22.03		6.61	15.42		7.85	14.18		6.98	15.05
MW-12	21.41		7.30	14.11		7.22	14.19		6.80	14.61
MW-14	20.07		6.36	13.71		5.97	14.10		5.23	14.84
MW-15	21.08		8.35	12.73		7.70	13.38		6.92	14.16
MW-16	21.45		6.97	14.48		6.87	14.58		6.62	14.83
MW-21	21.76		8.65	13.11		7.68	14.08		7.01	14.75
MW-22	21.69		7.42	14.27		7.23	14.46		6.53	15.16
MW-24	21.56		9.33	12.23		7.78	13.78		7.11	14.45
DW-2	22.91		9.76	13.15		9.00	13.91		8.21	14.70
DW-6	22.83		8.86	13.97		8.17	14.66		7.44	15.39
13MW-1	21.84		5.59	16.25		6.12	15.72		5.90	15.94
13DW-1	22.17		8.85	13.32		8.30	13.87		7.82	14.35
122MW-3	22.23		7.03	15.20		6.27	15.96		5.13	17.10
122MW-4	19.60		3.37	16.23		3.22	16.38		2.84	16.76
122MW-5	18.60		5.24	13.36		4.33	14.27		3.71	14.89
122MW-6	18.38		6.96	11.42		6.86	11.52		6.73	11.65
122MW-7	18.37		4.01	14.36		3.31	15.06		2.98	15.39
122MW-8	21.25		8.50	12.75		6.80	14.45		6.70	14.55
122MW-9	18.94		4.96	13.98		4.79	14.15		4.53	14.41
122MW-11	21.37		6.61	14.76		6.30	15.07		5.87	15.50
122MW-13	20.51		7.06	13.45		5.78	14.73		5.04	15.47
122MW-14	23.41		6.36	17.05		6.65	16.76		6.14	17.27
122RW-1	18.87		4.55	14.32		4.21	14.66		3.75	15.12
RWB-3	17.40		NOT MEASURED			NOT MEASURED			NOT MEASURED	
RWB-4	17.10		NOT MEASURED			NOT MEASURED			NOT MEASURED	

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day
prior to AFVR event** Groundwater elevations collected same day
after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	3/6/2002			2/6/2002			1/3/2002		
		Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69		16.00				15.04			7.82
MW-9	20.45		14.71				14.04			7.32
MW-10	21.17		15.99				15.49			7.51
MW-11	22.03		14.91				14.18			8.91
MW-12	21.41		14.69				14.26			7.71
MW-14	20.07		15.02				14.41			6.41
MW-15	21.08		14.00				13.28			8.47
MW-16	21.45		14.85				14.59			7.43
MW-21	21.76		14.38				12.74			9.24
MW-22	21.69		15.20				14.67			7.53
MW-24	21.56		13.89				11.97			8.90
DW-2	22.91		14.51				13.81			9.98
DW-6	22.83		15.19				14.52			9.15
13MW-1	21.84		15.89				15.49			6.97
13DW-1	22.17		14.20				13.62			9.22
122MW-3	22.23		17.03				16.15			7.33
122MW-4	19.60		16.87				16.90			4.99
122MW-5	18.60		15.15				14.02			4.58
122MW-6	18.38		12.03				11.49			6.88
122MW-7	18.37		15.66				14.87			4.38
122MW-8	21.25		13.35				14.82			8.52
122MW-9	18.94		14.24				14.10	5.10		5.11
122MW-11	21.37		15.67							7.03
122MW-13	20.51		15.67				14.84			6.58
122MW-14	23.41		17.06				16.40			8.07
122RW-1	18.87		15.02				14.59			5.10
RWB-3	17.40			NOT MEASURED				NOT MEASURED		NOT MEASURED
RWB-4	17.10			NOT MEASURED				NOT MEASURED		NOT MEASURED

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day prior to AFVR event

** Groundwater elevations collected same day after AFVR event

Soil and Groundwater Radiation

Campbell Street, Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	12/3/2001			11/7/2001			10/10/2001		
		Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Groundwater Elevation (ft., msl)
MW-3	21.69		13.84		13.45		13.45		7.11	14.58
MW-9	20.45		13.14		13.21		13.21		6.35	14.10
MW-10	21.17		13.38		13.43		13.43		6.68	14.49
MW-11	22.03		13.08		13.19		13.19		7.92	14.11
MW-12	21.41		13.75		13.45		13.45		7.19	14.22
MW-14	20.07		13.77		13.24		13.24		5.80	14.27
MW-15	21.08		12.64		12.53		12.53		7.73	13.35
MW-16	21.45		14.04		13.90		13.90		7.01	14.44
MW-21	21.76		12.98		12.34		12.34		8.40	13.36
MW-22	21.69		14.19		13.96		13.96		7.13	14.56
MW-24	21.56		11.94		11.22		11.22		10.19	11.37
DW-2	22.91		12.90		12.99		12.99		9.02	13.89
DW-6	22.83		13.72		13.79		13.79		8.22	14.61
13MW-1	21.84		14.82		14.94		14.94		6.40	15.44
13DW-1	22.17		12.99		13.09		13.09		8.35	13.82
122MW-3	22.23		14.84		14.48		14.48		7.18	15.05
122MW-4	19.60		14.82		14.15		14.15		3.09	16.51
122MW-5	18.60		13.56		12.65		12.65		5.00	13.60
122MW-6	18.38		11.54		11.03		11.03		6.72	11.66
122MW-7	18.37		14.15		13.91		13.91		3.82	14.55
122MW-8	21.25		12.74		12.64		12.64		8.28	12.97
122MW-9	18.94	4.89	14.03		13.74		13.74	4.78	4.81	14.13
122MW-11	21.37		13.77		14.04		14.04		6.38	14.99
122MW-13	20.51		14.00		13.82		13.82		5.96	14.55
122MW-14	23.41		15.09		15.07		15.07		7.91	15.50
122RW-1	18.87	4.85	14.01		13.65		13.65		4.40	14.47
RWB-3	17.40								NOT MEASURED	
RWB-4	17.10								NOT MEASURED	

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day prior to AFVR event

** Groundwater elevations collected same day after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	9/6/2001			8/7/2001			7/11/2001		
		Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69	6.09	15.60		6.42	15.27		6.49	15.20	
MW-9	20.45	5.33	15.12		5.90	14.55		5.55	14.90	
MW-10	21.17	5.58	15.59		5.89	15.28		5.91	15.26	
MW-11	22.03	7.41	14.62		7.42	14.61		7.05	14.98	
MW-12	21.41	6.90	14.51		6.83	14.58		6.79	14.62	
MW-14	20.07	5.31	14.76		5.45	14.62		5.59	14.48	
MW-15	21.08	7.33	13.75		7.35	13.73		7.10	13.98	
MW-16	21.45	6.85	14.60		6.80	14.65		6.82	14.63	
MW-21	21.76	7.84	13.92		9.23	12.53		7.62	14.14	
MW-22	21.69	6.86	14.83		6.95	14.74		6.89	14.80	
MW-24	21.56	9.33	12.23		9.40	12.16		7.42	14.14	
DW-2	22.91	8.62	14.29		8.58	14.33		8.22	14.69	
DW-6	22.83	7.81	15.02		7.80	15.03		7.42	15.41	
13MW-1	21.84	5.93	15.91		5.69	16.15		5.67	16.17	
13DW-1	22.17	7.97	14.20		7.84	14.33		7.48	14.69	
122MW-3	22.23	6.24	15.99		6.00	16.23		6.12	16.11	
122MW-4	19.60	2.63	16.97		2.64	16.96		2.68	16.92	
122MW-5	18.60	4.10	14.50		4.20	14.40		4.24	14.36	
122MW-6	18.38	6.58	11.80		6.70	11.68		6.67	11.71	
122MW-7	18.37	3.28	15.09		3.12	15.25		3.28	15.09	
122MW-8	21.25	8.03	13.22		8.13	13.12		7.13	14.12	
122MW-9	18.94	4.58	14.36	4.52	4.60	14.34	4.48	4.59	14.35	
122MW-11	21.37	6.02	15.35		5.92	15.45		5.94	15.43	
122MW-13	20.51	5.30	15.21		5.13	15.38		5.35	15.16	
122MW-14	23.41	6.95	16.46		6.52	16.89		6.15	17.26	
122RW-1	18.87	4.25	14.62		4.15	14.72		6.05	12.82	
RWB-3	17.40	NOT MEASURED			NOT MEASURED			NOT MEASURED		
RWB-4	17.10	NOT MEASURED			NOT MEASURED			NOT MEASURED		

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day
prior to AFVR event** Groundwater elevations collected same day
after AFVR event

Soil and Groundwater Radiation

Campbell Street, arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	6/6/2001			5/9/2001			4/11/2001		
		Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69		15.83				14.68		6.65	
MW-9	20.45		14.02				14.05		5.32	
MW-10	21.17		14.68				14.87		5.21	
MW-11	22.03		15.18				14.99		6.64	
MW-12	21.41		14.89				14.31		6.88	
MW-14	20.07		14.89				13.98		5.49	
MW-15	21.08		14.23				13.27		6.98	
MW-16	21.45		14.80				14.41		6.64	
MW-21	21.76		13.80				12.75		9.05	
MW-22	21.69		15.09				14.39		6.97	
MW-24	21.56		13.59				11.64		9.12	
DW-2	22.91		14.79				13.96		7.96	
DW-6	22.83		15.45				14.70		7.23	
13MW-1	21.84		16.37				15.42		5.95	
13DW-1	22.17		14.61				13.90		7.47	
122MW-3	22.23		16.88				16.76		5.34	
122MW-4	19.60		17.20				16.24		2.72	
122MW-5	18.60		14.81				13.45		3.98	
122MW-6	18.38		11.97				11.40		6.55	
122MW-7	18.37		15.52				14.62		3.25	
122MW-8	21.25		13.39				12.65		8.53	
122MW-9	18.94	4.19	14.70		4.87		13.99	4.65	4.86	
122MW-11	21.37		15.47				14.54		6.28	
122MW-13	20.51		15.61				14.34		5.26	
122MW-14	23.41		16.51				16.61		5.88	
122RW-1	18.87		14.91				13.97		4.35	
RWB-3	17.40			NOT MEASURED		NOT MEASURED			NOT MEASURED	
RWB-4	17.10			NOT MEASURED		NOT MEASURED			NOT MEASURED	

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day

after AFVR event

Soil and Groundwater Radiation

Campbell Street 1 arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	3/7/2001			2/20/2001			1/11/2001		
		Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)
MW-3	21.69		5.35	16.34		5.83	15.86		6.90	14.79
MW-9	20.45		4.86	15.59		5.26	15.19		5.66	14.79
MW-10	21.17		5.81	15.36		4.69	16.48		5.34	15.83
MW-11	22.03		6.05	15.98		6.44	15.59		7.03	15.00
MW-12	21.41		6.52	14.89		6.62	14.79		7.12	14.29
MW-14	20.07		4.85	15.22		5.04	15.03		5.75	14.32
MW-15	21.08		6.98	14.10		6.99	14.09		7.26	13.82
MW-16	21.45		6.44	15.01		6.44	15.01		6.92	14.53
MW-21	21.76		6.58	15.18		7.33	14.43		8.03	13.73
MW-22	21.69		6.58	15.11		6.59	15.10		7.04	14.65
MW-24	21.56		7.05	14.51		7.89	13.67		7.70	13.86
DW-2	22.91		7.51	15.40		7.92	14.99		8.35	14.56
DW-6	22.83		6.82	16.01		7.20	15.63		7.62	15.21
13MW-1	21.84		5.56	16.28		5.63	16.21		6.13	15.71
13DW-1	22.17		7.20	14.97		7.54	14.63		7.88	14.29
122MW-3	22.23		4.56	17.67		4.86	17.37		5.76	16.47
122MW-4	19.60		2.02	17.58		2.33	17.27		3.15	16.45
122MW-5	18.60		3.67	14.93		3.74	14.86		4.01	14.59
122MW-6	18.38		6.54	11.84		6.55	11.83		6.75	11.63
122MW-7	18.37		2.60	15.77		2.86	15.51		3.46	14.91
122MW-8	21.25		8.10	13.15		8.45	12.80		6.84	14.41
122MW-9	18.94	4.34	4.44	14.50	4.43	4.89	14.05	4.70	4.92	14.02
122MW-11	21.37		5.68	15.69		5.96	15.41		6.45	14.92
122MW-13	20.51		4.92	15.59		4.90	15.61		5.55	14.96
122MW-14	23.41		6.01	17.40		5.87	17.54		6.67	16.74
122RW-1	18.87	3.67	3.69	15.18		3.65	15.22	4.34	4.40	14.47
RWB-3	17.40	NOT MEASURED			NOT MEASURED			NOT MEASURED		
RWB-4	17.10	NOT MEASURED			NOT MEASURED			NOT MEASURED		

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day prior to AFVR event

** Groundwater elevations collected same day after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street 1 arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	12/7/2000				11/17/00**				11/17/00*			
		Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)
MW-3	21.69	5.07	16.62			7.23	14.46		7.22		14.47		14.47
MW-9	20.45	4.92	15.53			6.33	14.12		6.33		14.12		14.12
MW-10	21.17	4.42	16.75			6.84	14.33		6.84		14.33		14.33
MW-11	22.03	6.27	15.76			7.90	14.13		7.91		14.12		14.12
MW-12	21.41	6.54	14.87			7.21	14.20		7.25		14.16		14.16
MW-14	20.07	4.90	15.17			5.72	14.35		5.79		14.28		14.28
MW-15	21.08	6.55	14.53			7.87	13.21		7.78		13.30		13.30
MW-16	21.45	6.58	14.87			7.10	14.35		7.11		14.34		14.34
MW-21	21.76	7.76	14.00			12.84	8.92		9.30		12.46		12.46
MW-22	21.69	6.53	15.16			7.36	14.33		7.37		14.32		14.32
MW-24	21.56	8.29	13.27			8.83	12.73		8.83		12.73		12.73
DW-2	22.91	7.58	15.33			9.01	13.90		9.02		13.89		13.89
DW-6	22.83	6.88	15.95			8.21	14.62		8.22		14.61		14.61
13MW-1	21.84	5.48	16.36			6.32	15.52		6.36		15.48		15.48
13DW-1	22.17	7.20	14.97			8.27	13.90		8.30		13.87		13.87
122MW-3	22.23	5.05	17.18			7.21	15.02		7.21		15.02		15.02
122MW-4	19.60	2.25	17.35			3.22	16.38		3.22		16.38		16.38
122MW-5	18.60	3.65	14.95			4.34	14.26		4.36		14.24		14.24
122MW-6	18.38	6.52	11.86			6.78	11.60		6.81		11.57		11.57
122MW-7	18.37	2.78	15.59			3.78	14.59		3.85		14.52		14.52
122MW-8	21.25	6.49	14.76			6.78	14.47		6.91		14.34		14.34
122MW-9	18.94	4.92	14.02	4.81	5.00	5.05	13.89	5.00	5.06		13.88		13.88
122MW-11	21.37	5.75	15.62			6.81	14.56		6.81		14.56		14.56
122MW-13	20.51	4.84	15.67			5.97	14.54		6.03		14.48		14.48
122MW-14	23.41	6.42	16.99			7.72	15.69		7.74		15.67		15.67
122RW-1	18.87	3.77	15.09			4.89	13.98		4.89		13.98		13.98
RWB-3	17.40	NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED	
RWB-4	17.10	NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED	

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day

after AFVR event

**Soil and Groundwater Radiation
Campbell Street
UST System AS-143 and Building AS-4151**

Sample Point	Top of Casing Elevation (ft., msl)	11/9/2000			10/10/2000			9/7/2000		
		Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft. msl)
MW-3	21.69		7.49	14.20		6.18	15.51		4.78	16.91
MW-9	20.45		6.36	14.09		5.01	15.44		4.41	16.04
MW-10	21.17		6.92	14.25		5.28	15.89		3.75	17.42
MW-11	22.03		7.91	14.12		6.46	15.57		5.78	16.25
MW-12	21.41		7.47	13.94		6.77	14.64		5.80	15.61
MW-14	20.07		6.30	13.77		5.35	14.72		4.29	15.78
MW-15	21.08		7.87	13.21		6.92	14.16		5.98	15.10
MW-16	21.45		7.16	14.29		6.78	14.67		6.32	15.13
MW-21	21.76		9.36	12.40		7.74	14.02		7.57	14.19
MW-22	21.69		7.48	14.21		6.90	14.79		6.10	15.59
MW-24	21.56		9.00	12.56		8.15	13.41		6.23	15.33
DW-2	22.91		9.00	13.91		7.72	15.19		7.13	15.78
DW-6	22.83		8.22	14.61		6.95	15.88		6.35	16.48
13MW-1	21.84		6.32	15.52		5.69	16.15		4.77	17.07
13DW-1	22.17		8.26	13.91		7.04	15.13		6.55	15.62
122MW-3	22.23		7.30	14.93		5.97	16.26		4.60	17.63
122MW-4	19.60		3.34	16.26		2.48	17.12	NOT MEASURED		
122MW-5	18.60		4.63	13.97		3.87	14.73		3.92	14.68
122MW-6	18.38		7.05	11.33		6.67	11.71		6.12	12.26
122MW-7	18.37		4.04	14.33		3.33	15.04		1.86	16.51
122MW-8	21.25		7.08	14.17		6.51	14.74		5.63	15.62
122MW-9	18.94		5.04	13.90	4.81	4.87	14.07	4.90	5.02	13.92
122MW-11	21.37		6.73	14.64		6.03	15.34		4.93	16.44
122MW-13	20.51		6.24	14.27		5.44	15.07		3.92	16.59
122MW-14	23.41		6.72	16.69		6.73	16.68		6.21	17.20
122RW-1	18.87		4.88	13.99		4.42	14.45		4.20	14.67
RWB-3	17.40	NOT MEASURED				NOT MEASURED			NOT MEASURED	
RWB-4	17.10	NOT MEASURED				NOT MEASURED			NOT MEASURED	

Notes:
 ft = feet
 toc = top of casing elevation
 msl = mean sea level
 * Groundwater elevations collected same day
 prior to AFVR event
 ** Groundwater elevations collected same day
 after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Station

Campbell Street 1 arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	8/1/00**			8/1/00*			7/20/00**		
		Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Groundwater Elevation (ft., msl)
MW-3	21.69	5.06	16.63		5.01	16.68		7.50	16.68	14.19
MW-9	20.45	4.56	15.89		4.56	15.89		7.15	15.89	13.30
MW-10	21.17	3.85	17.32		3.75	17.42		7.60	17.42	13.57
MW-11	22.03	5.90	16.13		5.91	16.12		8.75	16.12	13.28
MW-12	21.41	5.85	15.56		5.82	15.59		7.47	15.59	13.94
MW-14	20.07	4.30	15.77		4.25	15.82		6.26	15.82	13.81
MW-15	21.08	7.04	14.04		6.05	15.03		8.54	15.03	12.54
MW-16	21.45	6.39	15.06		6.35	15.10		7.05	15.10	14.40
MW-21	21.76	7.90	13.86		5.21	16.55		9.33	16.55	12.43
MW-22	21.69	6.03	15.66		5.95	15.74		7.87	15.74	13.82
MW-24	21.56	6.18	15.38		5.94	15.62		8.14	15.62	13.42
DW-2	22.91	7.20	15.71		7.23	15.68		9.84	15.68	13.07
DW-6	22.83	6.45	16.38		6.46	16.37		8.91	16.37	13.92
13MW-1	21.84	4.59	17.25		4.57	17.27		6.30	17.27	15.54
13DW-1	22.17	6.71	15.46		6.76	15.41		8.87	15.41	13.30
122MW-3	22.23	4.41	17.82		4.41	17.82		7.35	17.82	14.88
122MW-4	19.60	NOT MEASURED			NOT MEASURED			NOT MEASURED		
122MW-5	18.60	2.86	15.74		2.81	15.79		5.12	15.79	13.48
122MW-6	18.38	6.15	12.23		6.10	12.28		7.25	12.28	11.13
122MW-7	18.37	1.68	16.69		1.54	16.83		4.40	16.83	13.97
122MW-8	21.25	5.60	15.65		5.53	15.72		6.82	15.72	14.43
122MW-9	18.94	4.78	14.16		4.78	14.16		7.14	14.16	11.80
122MW-11	21.37	4.75	16.62		4.60	16.77		6.72	16.77	14.65
122MW-13	20.51	3.70	16.81		3.59	16.92		6.75	16.92	13.76
122MW-14	23.41	5.94	17.47		5.94	17.47		7.22	17.47	16.19
122RW-1	18.87	4.25	14.62		4.26	14.61		9.00	14.61	9.87
RWB-3	17.40	NOT MEASURED			NOT MEASURED			NOT MEASURED		
RWB-4	17.10	NOT MEASURED			NOT MEASURED			NOT MEASURED		

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day
prior to AFVR event** Groundwater elevations collected same day
after AFVR event

Soil and Groundwater Monitoring Station
Campbell Street 1 Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	7/20/00*			7/12/2000			6/21/00**		
		Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)
MW-3	21.69		7.47	14.22		7.47	14.22		6.48	15.21
MW-9	20.45		7.14	13.31		7.00	13.45		6.43	14.02
MW-10	21.17		7.57	13.60		7.37	13.80		6.23	14.94
MW-11	22.03		8.74	13.29		8.61	13.42		8.03	14.00
MW-12	21.41		7.47	13.94		7.39	14.02		6.80	14.61
MW-14	20.07		6.25	13.82		6.31	13.76		5.39	14.68
MW-15	21.08		8.54	12.54		8.45	12.63		7.85	13.23
MW-16	21.45		7.08	14.37		7.04	14.41		6.81	14.64
MW-21	21.76		9.32	12.44		7.96	13.80		12.14	9.62
MW-22	21.69		7.55	14.14		7.73	13.96		7.15	14.54
MW-24	21.56		8.12	13.44		8.16	13.40		7.73	13.83
DW-2	22.91		9.84	13.07		9.73	13.18		9.12	13.79
DW-6	22.83		8.90	13.93		8.80	14.03		8.28	14.55
13MW-1	21.84		6.30	15.54		6.24	15.60		5.96	15.88
13DW-1	22.17		8.85	13.32		8.77	13.40		8.30	13.87
122MW-3	22.23		7.36	14.87		7.19	15.04		6.27	15.96
122MW-4	19.60		NOT MEASURED			3.26	16.34		2.60	17.00
122MW-5	18.60		5.08	13.52		5.03	13.57		4.31	14.29
122MW-6	18.38		7.18	11.20		7.26	11.12		6.80	11.58
122MW-7	18.37		4.37	14.00		4.32	14.05		3.60	14.77
122MW-8	21.25		6.81	14.44		7.09	14.16		6.60	14.65
122MW-9	18.94		4.93	14.01		4.89	14.05		4.80	14.14
122MW-11	21.37		6.74	14.63		6.58	14.79		6.43	14.94
122MW-13	20.51		6.74	13.77		6.64	13.87		5.80	14.71
122MW-14	23.41		7.25	16.16		7.02	16.39		6.31	17.10
122RW-1	18.87		4.64	14.23	4.50	4.62	14.25	4.50	4.53	14.34
RWB-3	17.40		NOT MEASURED			NOT MEASURED			NOT MEASURED	
RWB-4	17.10		NOT MEASURED			NOT MEASURED			NOT MEASURED	

Notes:
ft = feet
toc = top of casing elevation
msl = mean sea level
* Groundwater elevations collected same day prior to AFVR event
** Groundwater elevations collected same day after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Station

Campbell Street 1 Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	6/21/00*			6/8/2000			6/1/00**		
		Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toc)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toc)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toc)
MW-3	21.69		15.49	6.20		14.62	7.07		14.32	7.37
MW-9	20.45		13.96	6.49		13.47	6.98		14.01	6.44
MW-10	21.17		14.98	6.19		14.22	6.95		14.30	6.87
MW-11	22.03		13.95	8.08		14.04	7.99		14.07	7.96
MW-12	21.41		14.71	6.70		14.34	7.07		14.07	7.34
MW-14	20.07		14.90	5.17		14.02	6.05		13.85	6.22
MW-15	21.08		13.31	7.77		13.11	7.97		13.11	7.97
MW-16	21.45		14.72	6.73		14.56	6.89		14.45	7.00
MW-21	21.76		14.66	7.10		12.63	9.13		9.36	12.40
MW-22	21.69		14.71	6.98		14.29	7.40		14.24	7.45
MW-24	21.56		13.98	7.58		13.61	7.95		13.48	8.08
DW-2	22.91		13.74	9.17		13.79	9.12		13.81	9.10
DW-6	22.83		14.52	8.31		15.80	7.03		14.60	8.23
13MW-1	21.84		15.77	6.07		15.80	6.04		15.71	6.13
13DW-1	22.17		13.79	8.38		13.90	8.27		13.87	8.30
122MW-3	22.23		16.03	6.20		15.16	7.07		15.25	6.98
122MW-4	19.60		17.15	2.45		16.66	2.94		16.46	3.14
122MW-5	18.60		14.47	4.13		13.88	4.72		13.75	4.85
122MW-6	18.38		11.76	6.62		10.13	8.25		11.18	7.20
122MW-7	18.37		14.85	3.52		14.45	3.92		14.34	4.03
122MW-8	21.25		14.73	6.52		14.61	6.64		14.35	6.90
122MW-9	18.94		14.30	4.64		14.04	4.90		13.99	4.95
122MW-11	21.37		14.94	6.43		14.92	6.45		14.68	6.69
122MW-13	20.51		14.81	5.70		14.28	6.23		14.21	6.30
122MW-14	23.41		17.06	6.35		16.37	7.04		16.40	7.01
122RW-1	18.87	4.50	14.34	4.53		14.18	4.69		NOT MEASURED	NOT MEASURED
RWB-3	17.40			NOT MEASURED			NOT MEASURED		NOT MEASURED	NOT MEASURED
RWB-4	17.10			NOT MEASURED			NOT MEASURED		NOT MEASURED	NOT MEASURED

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day
prior to AFVR event** Groundwater elevations collected same day
after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Contamination

Campbell Street Farm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	6/1/00*			5/9/00**			5/9/00*		
		Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69		14.36		15.44		15.44		15.49	
MW-9	20.45		14.05		15.27		15.27		15.30	
MW-10	21.17		14.32		15.92		15.92		15.94	
MW-11	22.03		14.09		15.52		15.52		15.53	
MW-12	21.41		14.10		14.61		14.61		14.61	
MW-14	20.07		13.85		14.62		14.62		14.66	
MW-15	21.08		13.11		14.07		14.07		14.08	
MW-16	21.45		14.47		14.83		14.83		14.84	
MW-21	21.76		13.72		9.45		9.45		14.21	
MW-22	21.69		14.26		14.69		14.69		14.67	
MW-24	21.56		13.43		13.54		13.54		14.10	
DW-2	22.91		13.81		15.11		15.11		15.11	
DW-6	22.83		14.60		15.77		15.77		15.76	
13MW-1	21.84		15.69		16.86		16.86		16.82	
13DW-1	22.17		13.87		14.92		14.92		14.88	
122MW-3	22.23		15.26		16.77		16.77		16.77	
122MW-4	19.60		16.46		17.75		17.75		17.74	
122MW-5	18.60		13.79		14.58		14.58		14.62	
122MW-6	18.38		11.22		11.36		11.36		11.45	
122MW-7	18.37		14.34		15.54		15.54		15.57	
122MW-8	21.25		14.36		14.90		14.90		14.90	
122MW-9	18.94		13.98		14.13		14.13		14.16	
122MW-11	21.37		14.71		15.27		15.27		15.27	
122MW-13	20.51		14.21		15.49		15.49		15.53	
122MW-14	23.41		16.40		17.53		17.53		17.53	
122RW-1	18.87		7.01		14.62		14.62		14.59	
RWB-3	17.40		NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED	
RWB-4	17.10		NOT MEASURED		NOT MEASURED		NOT MEASURED		NOT MEASURED	

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day prior to AFVR event

** Groundwater elevations collected same day after AFVR event

Soil and Groundwater Radiation
Campbell Street 1
UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	4/17/2000			4/10/2000			3/27/00*		
		Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69		16.35		14.79		15.85		15.85	
MW-9	20.45		15.25		14.66		15.26		15.26	
MW-10	21.17		16.69		15.51		16.54		16.54	
MW-11	22.03		15.53		14.81		15.63		15.63	
MW-12	21.41		14.90		14.21		14.68		14.68	
MW-14	20.07		15.22		14.22		13.05		13.05	
MW-15	21.08		14.51		13.90		14.37		14.37	
MW-16	21.45		14.98		14.56		15.85		15.85	
MW-21	21.76		16.00		12.80		15.39		15.39	
MW-22	21.69		15.34		14.46		14.91		14.91	
MW-24	21.56		14.92		12.97		14.57		14.57	
DW-2	22.91		15.09		14.47		15.16		15.16	
DW-6	22.83		15.72		15.12		15.77		15.77	
13MW-1	21.84		16.52		15.71		16.30		16.30	
13DW-1	22.17		14.79		14.36		14.81		14.81	
122MW-3	22.23		17.38		16.11		17.13		17.13	
122MW-4	19.60		17.53		16.30		16.97		16.97	
122MW-5	18.60		15.41		14.51		14.90		14.90	
122MW-6	18.38		11.94		11.40		12.35		12.35	
122MW-7	18.37		15.97		15.09		15.42		15.42	
122MW-8	21.25		15.17		14.50		14.77		14.77	
122MW-9	18.94		14.44		13.02		14.16		14.16	
122MW-11	21.37		15.59		14.88		15.25		15.25	
122MW-13	20.51		16.11		14.89		15.57		15.57	
122MW-14	23.41		17.36		16.87		17.64		17.64	
122RW-1	18.87	4.63	14.52		14.23		14.45		14.45	
RWB-3	17.40	NOT MEASURED			NOT MEASURED			NOT MEASURED		
RWB-4	17.10	NOT MEASURED			NOT MEASURED			NOT MEASURED		
								6.03		
								11.07		

Notes:
 t = feet
 oc = top of casing elevation
 nsl = mean sea level
 * Groundwater elevations collected same day prior to AFVR event
 ** Groundwater elevations collected same day after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street 1

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft. msl)	3/27/00**			3/8/00*			3/8/00**			Depth to Hydrocarbon Product	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product
		Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product					
MW-3	21.69	5.84	15.85		6.90	14.79		6.90	14.79				6.90	14.79	
MW-9	20.45	5.19	15.26		5.65	14.80		5.65	14.80				5.65	14.80	
MW-10	21.17	4.63	16.54		5.60	15.57		5.60	15.57				5.60	15.57	
MW-11	22.03	6.40	15.63		7.01	15.02		7.01	15.02				7.01	15.02	
MW-12	21.41	6.73	14.68		7.15	14.26		7.15	14.26				7.15	14.26	
MW-14	20.07	7.02	13.05		5.75	14.32		5.79	14.28				5.79	14.28	
MW-15	21.08	6.71	14.37		7.33	13.75		7.33	13.75				7.33	13.75	
MW-16	21.45	5.60	15.85		6.83	14.62		6.85	14.60				6.85	14.60	
MW-21	21.76	8.15	13.61		8.51	13.25		12.66	9.10				12.66	9.10	
MW-22	21.69	6.78	14.91		7.15	14.54		7.15	14.54				7.15	14.54	
MW-24	21.56	8.05	13.51		7.70	13.86		8.08	14.83				8.08	14.83	
DW-2	22.91	7.76	15.15		8.28	14.63		7.60	15.23				7.60	15.23	
DW-6	22.83	7.07	15.76		5.98	15.86		5.98	15.86				5.98	15.86	
13MW-1	21.84	5.54	16.30		7.78	14.39		7.79	14.38				7.79	14.38	
13DW-1	22.17	7.36	14.81		5.80	16.43		5.80	16.43				5.80	16.43	
122MW-3	22.23	5.10	17.13		3.10	16.50		3.10	16.50				3.10	16.50	
122MW-4	19.60	2.63	16.97		3.75	14.85		3.80	14.80				3.80	14.80	
122MW-5	18.60	3.70	14.90		6.93	11.45		6.98	11.40				6.98	11.40	
122MW-6	18.38	6.03	12.35		3.35	15.02		3.42	14.95				3.42	14.95	
122MW-7	18.37	2.95	15.42		6.75	14.50		6.75	14.50				6.75	14.50	
122MW-8	21.25	6.48	14.77		4.92	14.02		4.92	14.02				4.92	14.02	
122MW-9	18.94	4.78	14.16		6.45	14.92		6.45	14.92				6.45	14.92	
122MW-11	21.37	6.13	15.24		5.50	15.01		5.50	15.01				5.50	15.01	
122MW-13	20.51	4.94	15.57		6.42	16.99		6.40	17.01				6.40	17.01	
122MW-14	23.41	5.79	17.62		NOT MEASURED			NOT MEASURED					NOT MEASURED		
122RW-1	18.87	4.42	14.45												
RWB-3	17.40	NOT MEASURED				8.20		9.20	8.20				9.20	8.20	
RWB-4	17.10	NOT MEASURED				10.79		6.31	10.79				6.31	10.79	

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day
prior to AFVR event** Groundwater elevations collected same day
after AFVR event

Soil and Groundwater Radiation
Campbell Street
UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	2/8/2000			1/5/2000			12/9/1999		
		Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69	5.86	15.83		7.30	14.39		7.24	14.45	
MW-9	20.45	4.98	15.47		6.10	14.35		7.52	12.93	
MW-10	21.17	4.58	16.59		5.96	15.21		7.18	13.99	
MW-11	22.03	6.30	15.73		7.57	14.46		4.00	18.03	
MW-12	21.41	6.83	14.58		7.31	14.10		7.34	14.07	
MW-14	20.07	5.27	14.80		7.96	12.11		5.98	14.09	
MW-15	21.08	6.58	14.50		7.42	13.66		7.29	13.79	
MW-16	21.45	6.60	14.85		7.19	14.26		7.15	14.30	
MW-21	21.76	8.83	12.93		9.50	12.26		9.36	12.40	
MW-22	21.69	6.64	15.05		7.36	14.33		9.26	12.43	
MW-24	21.56	7.20	14.36		8.81	12.75		8.82	12.74	
DW-2	22.91	7.61	15.30		8.77	14.14		8.55	14.36	
DW-6	22.83	6.90	15.93		8.04	14.79		7.80	15.03	
13MW-1	21.84	5.63	16.21		8.44	13.40		7.38	14.46	
13DW-1	22.17	7.25	14.92		8.24	13.93		7.99	14.18	
122MW-3	22.23	5.21	17.02		5.90	16.33		6.65	15.58	
122MW-4	19.60	2.46	17.14		3.15	16.45		3.02	16.58	
122MW-5	18.60									
122MW-6	18.38	6.73	11.65		6.91	11.47		9.34	9.04	
122MW-7	18.37	2.90	15.47		3.46	14.91		3.75	14.62	
122MW-8	21.25	6.57	14.68		7.02	14.23		7.05	14.20	
122MW-9	18.94	4.96	13.98		5.16	13.78		5.02	13.92	
122MW-11	21.37	6.08	15.29		6.70	14.67		6.66	14.71	
122MW-13	20.51	4.93	15.58		5.42	15.09		4.06	16.45	
122MW-14	23.41	5.97	17.44		6.88	16.53		7.86	15.55	
122RW-1	18.87	4.48	14.39		5.03	13.84		7.01	11.86	
RWB-3	17.40									
RWB-4	17.10									

Notes:
 ft = feet
 toc = top of casing elevation
 msl = mean sea level
 * Groundwater elevations collected same day
 prior to AFVR event
 ** Groundwater elevations collected same day
 after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street, Farm

UST System AS-143 and Building AS-4151

Sample Point	11/22/1999				10/7/1999				9/9/1999			
	Top of Casing Elevation (ft., msl)	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Hydrocarbon Product
MW-3	21.69	6.76	14.93		3.43	18.26		17.34	4.35			
MW-9	20.45	5.50	14.95		3.82	16.63		15.75	4.70			
MW-10	21.17	5.65	15.52		3.42	17.75		16.87	4.30			
MW-11	22.03	6.97	15.06		5.12	16.91		15.94	6.09			
MW-12	21.41	7.09	14.32		4.99	16.42		15.43	5.98			
MW-14	20.07	5.75	14.32		3.22	16.85		16.03	4.04			
MW-15	21.08	7.17	13.91		4.93	16.15		15.15	5.93			
MW-16	21.45	6.97	14.48		5.72	15.73		14.91	6.54			
MW-21	21.76	9.07	12.69		4.37	17.39		16.57	5.19			
MW-22	21.69	7.18	14.51		4.60	17.09		16.28	5.41			
MW-24	21.56	8.51	13.05		4.87	16.69		15.67	5.89			
DW-2	22.91	8.14	14.77		6.50	16.41		15.60	7.31			
DW-6	22.83	7.41	15.42		5.36	17.47		16.26	6.57			
13MW-1	21.84	6.73	15.11		4.33	17.51		16.70	5.14			
13DW-1	22.17	7.63	14.54		5.85	16.32		15.30	6.87			
122MW-3	22.23	6.35	15.88		3.76	18.47		17.66	4.57			
122MW-4	19.60	2.95	16.65		0.91	18.69		18.58	1.02			
122MW-5	18.60											
122MW-6	18.38	5.61	12.77		4.48	13.90		13.09	5.29			
122MW-7	18.37	5.51	12.86		0.92	17.45		17.47	0.90			
122MW-8	21.25	6.90	14.35		4.62	16.63		15.81	5.44			
122MW-9	18.94	5.00	13.94		3.70	15.24		14.43	4.51			
122MW-11	21.37	6.47	14.90		3.53	17.84		17.03	4.34			
122MW-13	20.51	5.67	14.84		2.72	17.79		16.98	3.53			
122MW-14	23.41	6.94	16.47		5.80	17.61		16.80	6.61			
122RW-1	18.87	4.71	14.16		4.83	14.04		13.23	5.64			
RWB-3	17.40											
RWB-4	17.10											

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day

after AFVR event

UST System AS-143 and Building AS-4151

[illegible]

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

- * Groundwater elevations collected same day

**UPONWARD: CLEVELAND
prior to AEPB event**

**** Groundwater elevations collected same day prior to AFVK event**

→ Groundwater elevation after AET/D event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street, 1st Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	4/7/1999			3/9/1999			2/9/1999		
		Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69	6.29	15.40		7.62	14.07		6.46	15.23	
MW-9	20.45	5.28	15.17		5.72	14.73		5.12	15.33	
MW-10	21.17	4.83	16.34		5.15	16.02		4.61	16.56	
MW-11	22.03	6.68	15.35		7.30	14.73		6.50	15.53	
MW-12	21.41	6.89	14.52		8.13	13.28		7.82	13.59	
MW-14	20.07	5.41	14.66		6.31	13.76		5.71	14.36	
MW-15	21.08	6.89	14.19		6.58	14.50		6.53	14.55	
MW-16	21.45	6.77	14.68		9.06	12.39		9.30	12.15	
MW-21	21.76	6.70	15.06		7.76	14.00		6.94	14.82	
MW-22	21.69	6.95	14.74		6.51	15.18		6.49	15.20	
MW-24	21.56	7.21	14.35		8.79	12.77		8.76	12.80	
DW-2	22.91	7.91	15.00		8.48	14.43		7.75	15.16	
DW-6	22.83	7.23	15.60		7.74	15.09		7.07	15.76	
13MW-1	21.84	5.81	16.03		6.38	15.46		5.72	16.12	
13DW-1	22.17	7.56	14.61		8.02	14.15		7.39	14.78	
122MW-3	22.23	5.26	16.97		5.53	16.70		5.16	17.07	
122MW-4	19.60	NOT MEASURED			2.45	17.15		1.95	17.65	
122MW-5	18.60									
122MW-6	18.38	3.44	14.94		4.48	13.90		4.10	14.28	
122MW-7	18.37	NOT MEASURED			3.32	15.05		2.91	15.46	
122MW-8	21.25	6.70	14.55		8.80	12.45		6.02	15.23	
122MW-9	18.94	4.89	14.07		5.18	13.76	4.30	4.31	14.64	
122MW-11	21.37	6.12	15.25		6.65	14.72		1.73	19.64	
122MW-13	20.51	5.24	15.27		5.24	15.27		5.03	15.48	
122MW-14	23.41	5.80	17.61		6.28	17.13		6.00	17.41	
122RW-1	18.87	4.68	14.19		5.08	13.79		NOT MEASURED		
RWB-3	17.40									
RWB-4	17.10									

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day after AFVR event

Soil and Groundwater Radiation

Campbell Street, Arm

UST System AS-143 and Building AS-4151

Sample Point	1/4/1999			12/7/1998			11/12/1998		
	Top of Casing Elevation (ft., msl)	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69	5.24	16.45		8.28	13.41	8.46	13.23	
MW-9	20.45	5.28	15.17		7.20	13.25	7.20	13.25	
MW-10	21.17	3.92	17.25		7.34	13.83	7.29	13.88	
MW-11	22.03	6.65	15.38		8.76	13.27	8.85	13.18	
MW-12	21.41	6.45	14.96		8.54	12.87	8.52	12.89	
MW-14	20.07	4.74	15.33		6.76	13.31	6.92	13.15	
MW-15	21.08	6.50	14.58		8.48	12.60	8.27	12.81	
MW-16	21.45	6.64	14.81		9.53	11.92	9.51	11.94	
MW-21	21.76	5.56	16.20		8.76	13.00	8.23	13.53	
MW-22	21.69	5.62	16.07		7.75	13.94	7.19	14.50	
MW-24	21.56	6.26	15.30		9.75	11.81	8.09	13.47	
DW-2	22.91	7.95	14.96		9.88	13.03	9.88	13.03	
DW-6	22.83	7.22	15.61		9.10	13.73	9.12	13.71	
13MW-1	21.84	5.87	15.97		7.08	14.76	7.01	14.83	
13DW-1	22.17	7.66	14.51		9.16	13.01	9.11	13.06	
122MW-3	22.23	4.56	17.67		7.26	14.97	8.62	13.61	
122MW-4	19.60	1.74	17.86		3.68	15.92	4.56	15.04	
122MW-5	18.60								
122MW-6	18.38	3.28	15.10		2.45	15.93	3.90	14.48	
122MW-7	18.37	1.49	16.88		4.30	14.07	4.36	14.01	
122MW-8	21.25	6.21	15.04		8.73	12.52	8.08	13.17	
122MW-9	18.94	4.51	14.43		5.73	13.21	5.02	13.92	5.02
122MW-11	21.37	5.17	16.20		7.11	14.26	NOT MEASURED		
122MW-13	20.51	4.22	16.29		6.46	14.05	6.65	13.86	
122MW-14	23.41	6.37	17.04		7.72	15.69	8.38	15.03	
122RW-1	18.87	4.45	14.42	5.60	5.65	13.27	5.07	13.80	
RWB-3	17.40								
RWB-4	17.10								

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day prior to AFVR event

** Groundwater elevations collected same day after AFVR event

UST System AS-143 and Building AS-4151

10/8/1998																	9/9/1998					8/12/1998				
Sample Point	Top of Casing Elevation (ft., msl)	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product								
MW-3	21.69	7.28	14.41		16.69		5.00	16.69		6.53	15.16															
MW-9	20.45	6.09	14.36		16.19		4.26	16.19		5.82	14.63															
MW-10	21.17	6.56	14.61		17.27		3.90	17.27		5.61	15.56															
MW-11	22.03	7.62	14.41		16.35		5.68	16.35		7.31	14.72															
MW-12	21.41	7.94	13.47		15.11		6.30	15.11		7.15	14.26															
MW-14	20.07	6.19	13.88		15.46		4.61	15.46		5.75	14.32															
MW-15	21.08	7.66	13.42		15.26		5.82	15.26		7.51	13.57															
MW-16	21.45	9.29	12.16		12.03		9.42	12.03		8.18	13.27															
MW-21	21.76	7.73	14.03		16.42		5.34	16.42		7.18	14.58															
MW-22	21.69	7.33	14.36		15.57		6.12	15.57		7.09	14.60															
MW-24	21.56	8.05	13.51		15.45		6.11	15.45		7.85	13.71															
DW-2	22.91	8.76	14.15		16.07		6.84	16.07		8.48	14.43															
DW-6	22.83	7.96	14.87		16.64		6.19	16.64		7.72	15.11															
13MW-1	21.84	6.33	15.51		15.36		6.48	15.36		5.96	15.88															
13DW-1	22.17	8.01	14.16		17.00		5.17	17.00		7.91	14.26															
122MW-3	22.23	6.80	15.43		17.76		4.47	17.76		5.92	16.31															
122MW-4	19.60	3.01	16.59		18.15		1.45	18.15		2.71	16.89															
122MW-5	18.60																									
122MW-6	18.38	NOT MEASURED			NOT MEASURED		NOT MEASURED						NOT MEASURED													
122MW-7	18.37	3.83	14.54		16.42		1.95	16.42		3.40	14.97															
122MW-8	21.25	7.95	13.30		14.81		6.44	14.81		7.78	13.47															
122MW-9	18.94	5.03	13.92		14.60		4.34	14.60		4.74	14.20						Trace									
122MW-11	21.37	6.53	14.84		16.40		4.97	16.40		6.01	15.36															
122MW-13	20.51	5.99	14.52		16.46		4.05	16.46		5.61	14.90															
122MW-14	23.41	7.23	16.18		17.25		6.16	17.25		6.55	16.86															
122RW-1	18.87	4.70	14.17		14.96		3.91	14.96		NOT MEASURED						5.04										
RWB-3	17.40																									
RWB-4	17.10																									

Notes:

ft = feet**toc = top of casing elevation**

msl = mean sea level

* Groundwater elevations collected same day

**GROWING WATER EFFICIENCY
prior to AFVR event**

**** Groundwater elevations collected same day prior to ATRVK event**

Groundwater elevations after AFVR event

UST System AS-143 and Building AS-4151

[illegible]

Notes:

ft = feet

toc = top of casing elevation

m.s.l. = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

**** Groundwater elevations collected same day**

after AFVR event

Soil and Groundwater Radiation

Campbell Street, Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	4/8/1998			3/10/1998			2/11/1998		
		Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product
MW-3	21.69	7.04	14.65		5.40	16.29		5.90	15.79	
MW-9	20.45	5.36	15.09		4.54	15.91		4.37	16.08	
MW-10	21.17	4.51	16.66		3.70	17.47		4.12	17.05	
MW-11	22.03	6.51	15.52		5.80	16.23		5.70	16.33	
MW-12	21.41	7.95	13.46		6.54	14.87		6.82	14.59	
MW-14	20.07	5.92	14.15		4.88	15.19		5.10	14.97	
MW-15	21.08	6.89	14.19		6.12	14.96		6.02	15.06	
MW-16	21.45	9.40	12.05		6.66	14.79		6.86	14.59	
MW-21	21.76	6.79	14.97		5.92	15.84		6.03	15.73	
MW-22	21.69	6.95	14.74		6.23	15.46		6.45	15.24	
MW-24	21.56	7.39	14.17		6.70	14.86		6.69	14.87	
DW-2	22.91	7.74	15.17		7.13	15.78		6.97	15.94	
DW-6	22.83	6.98	15.85		6.42	16.41		6.26	16.57	
13MW-1	21.84	6.20	15.64		5.69	16.15		5.57	16.27	
13DW-1	22.17	6.98	15.19		6.65	15.52		6.50	15.67	
122MW-3	22.23	5.28	16.95		4.53	17.70		4.63	17.60	
122MW-4	19.60	3.54	16.06		2.57	17.03		2.31	17.29	
122MW-5	18.60									
122MW-6	18.38	1.79	16.59		3.29	15.09		3.24	15.14	
122MW-7	18.37	3.23	15.14		2.61	15.76		2.81	15.56	
122MW-8	21.25	8.80	12.45		6.68	14.57		7.49	13.76	
122MW-9	18.94	4.83	14.11		4.68	14.26		4.67	14.27	
122MW-11	21.37	6.31	15.06		5.81	15.56		5.93	15.44	
122MW-13	20.51	5.40	15.11		4.54	15.97		4.78	15.73	
122MW-14	23.41	5.97	17.44		5.53	17.88		5.49	17.92	
122RW-1	18.87	4.27	14.60		4.38	14.49		4.31	14.56	
RWB-3	17.40									
RWB-4	17.10									

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day

after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street, 2 arm

UST System AS-143 and Building AS-4151

Sample Point	1/26/1998				12/11/1997				11/26/1997			
	Top of Casing Elevation (ft., msl)	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69	4.58	17.11		5.77	15.92		6.17	15.52			
MW-9	20.45	4.25	16.20		4.97	15.48		5.32	15.13			
MW-10	21.17	3.75	17.42		3.81	17.36		4.30	16.87			
MW-11	22.03	5.57	16.46		6.35	15.68		6.69	15.34			
MW-12	21.41	7.61	13.80		6.77	14.64		6.86	14.55			
MW-14	20.07	5.17	14.90		5.05	15.02		5.24	14.83			
MW-15	21.08	5.85	15.23		6.48	14.60		6.84	14.24			
MW-16	21.45	9.28	12.17		6.74	14.71		6.93	14.52			
MW-21	21.76	5.87	15.89		7.15	14.61		7.36	14.40			
MW-22	21.69	6.12	15.57		6.78	14.91		6.95	14.74			
MW-24	21.56	7.63	13.93		8.81	12.75		8.82	12.74			
DW-2	22.91	6.86	16.05		7.61	15.30		7.95	14.96			
DW-6	22.83	6.13	16.70		6.92	15.91		7.26	15.57			
13MW-1	21.84	5.45	16.39		5.81	16.03		5.85	15.99			
13DW-1	22.17	6.46	15.71		7.29	14.88		7.61	14.56			
122MW-3	22.23	4.45	17.78		5.05	17.18		5.48	16.75			
122MW-4	19.60	2.04	17.56		1.92	17.68		2.33	17.27			
122MW-5	18.60											
122MW-6	18.38	3.25	15.13		3.52	14.86		3.71	14.67			
122MW-7	18.37	2.39	15.98		2.90	15.47		3.50	14.87			
122MW-8	21.25	8.07	13.18		7.99	13.26		8.22	13.03			
122MW-9	18.94	4.48	14.46		4.83	14.11		5.01	13.93			5.13
122MW-11	21.37	5.65	15.72		5.98	15.39		5.98	15.39			
122MW-13	20.51	4.35	16.16		4.68	15.83		5.03	15.48			
122MW-14	23.41	5.57	17.84		6.29	17.12		6.39	17.02			
122RW-1	18.87	4.42	14.45		4.71	14.16	Trace	5.00	13.87			5.25
RWB-3	17.40											
RWB-4	17.10											

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day prior to AFVR event

** Groundwater elevations collected same day after AFVR event

Soil and Groundwater Radiation

Campbell Street, arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	10/13/1997			9/16/1997			8/12/1997			Depth to Hydrocarbon Product	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product
		Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product							
MW-3	21.69	7.42	14.27				5.15	16.54		7.91	13.78						
MW-9	20.45	6.29	14.16				6.69	13.76		7.17	13.28						
MW-10	21.17	5.90	15.27				3.99	17.18		6.79	14.38						
MW-11	22.03	7.78	14.25				8.16	13.87		8.73	13.30						
MW-12	21.41	8.24	13.17				6.91	14.50		8.40	13.01						
MW-14	20.07	6.31	13.76				4.80	15.27		6.75	13.32						
MW-15	21.08	7.78	13.30				7.49	13.59		8.63	12.45						
MW-16	21.45	9.43	12.02				7.33	14.12		9.46	11.99						
MW-21	21.76	7.96	13.80				5.71	16.05		9.23	12.53						
MW-22	21.69	7.36	14.33				5.88	15.81		7.66	14.03						
MW-24	21.56	9.14	12.42				6.88	14.68		9.59	11.97						
DW-2	22.91	8.96	13.95				9.43	13.48		9.86	13.05						
DW-6	22.83	8.17	14.66				8.63	14.20		8.99	13.84						
13MW-1	21.84	6.38	15.46				5.48	16.36		7.04	14.80						
13DW-1	22.17	8.37	13.80				8.75	13.42		9.05	13.12						
122MW-3	22.23	6.52	15.71				7.56	14.67		7.33	14.90						
122MW-4	19.60	3.03	16.57				2.66	16.94		4.46	15.14						
122MW-5	18.60																
122MW-6	18.38	3.42	14.96				3.53	14.85		3.57	14.81						
122MW-7	18.37	3.68	14.69				2.32	16.05		4.29	14.08						
122MW-8	21.25	8.34	12.91				7.83	13.42		8.53	12.72						
122MW-9	18.94	5.14	13.81				NOT MEASURED			5.55	5.67						
122MW-11	21.37	6.12	15.25				4.71	16.66		6.21	15.16						
122MW-13	20.51	5.84	14.67				4.17	16.34		6.53	13.98						
122MW-14	23.41	7.36	16.05				7.25	16.16		7.30	16.11						
122RW-1	18.87	5.92	13.62				NOT MEASURED			5.57	6.32						5.15
RWB-3	17.40																
RWB-4	17.10																

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day

after AFVR event

Table 3-2 Groundwater Level Measurement Summary

Soil and Groundwater Radiation

Campbell Street arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	7/22/1997			6/30/1997			6/12/1997		
		Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product
MW-3	21.69	7.40	14.29		8.01	13.68		7.05	14.64	
MW-9	20.45	7.00	13.45		6.70	13.75		5.82	14.63	
MW-10	21.17	6.56	14.61		6.56	14.61		5.60	15.57	
MW-11	22.03	8.45	13.58		8.16	13.87		7.21	14.82	
MW-12	21.41	8.29	13.12		8.34	13.07		7.82	13.59	
MW-14	20.07	6.33	13.74		6.68	13.39		5.86	14.21	
MW-15	21.08	8.36	12.72		8.26	12.82		7.29	13.79	
MW-16	21.45	9.54	11.91		9.44	21.45		9.43	12.02	
MW-21	21.76	8.92	12.84		8.47	13.29		7.67	14.09	
MW-22	21.69	7.48	14.21		7.58	14.11		7.20	14.49	
MW-24	21.56	9.47	12.09		8.50	13.06		9.17	12.39	
DW-2	22.91	9.91	13.00		9.38	13.53		8.49	14.42	
DW-6	22.83	8.77	14.06		8.57	14.26		7.79	15.04	
13MW-1	21.84	7.03	14.81		6.93	14.91		6.62	15.22	
13DW-1	22.17	8.86	13.31		8.69	13.48		8.02	14.15	
122MW-3	22.23	7.01	15.22		6.90	15.33		6.14	16.09	
122MW-4	19.60	4.34	15.26		4.43	15.17		3.14	16.46	
122MW-5	18.60									
122MW-6	18.38	3.66	14.72		3.34	15.04		NOT MEASURED		
122MW-7	18.37	4.09	14.28		4.10	14.27		3.43	14.94	
122MW-8	21.25	8.44	12.81		8.59	12.66		8.45	12.80	
122MW-9	18.94	5.56	13.38		5.27	13.67		NOT MEASURED		
122MW-11	21.37	6.20	15.17		6.47	14.90		5.98	15.39	
122MW-13	20.51	6.21	14.30		6.24	14.27		5.47	15.04	
122MW-14	23.41	6.73	16.68		6.46	16.95		6.54	16.87	
122RW-1	18.87	6.25	13.72		5.13	13.74		5.08	13.79	5.13
RWB-3	17.40									
RWB-4	17.10									

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day

after AFVR event

Soil and Groundwater Radiation

Campbell Street Arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	5/14/1997			4/29/1997			3/12/1997		
		Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toc)	Groundwater Elevation (ft. msl)	Depth to Hydrocarbon Product
MW-3	21.69	7.12	14.57		6.16	15.53		5.47	16.22	
MW-9	20.45	6.04	14.41		5.71	14.74		NOT MEASURED		
MW-10	21.17	5.49	15.68		4.42	16.75		NOT MEASURED		
MW-11	22.03	7.45	14.58		7.16	14.87		6.34	15.69	
MW-12	21.41	7.94	13.47		7.72	13.69		6.89	14.52	
MW-14	20.07	6.04	14.03		5.54	14.53		5.59	14.48	
MW-15	21.08	7.57	13.51		7.17	13.91		NOT MEASURED		
MW-16	21.45	9.53	11.92		9.44	12.01		6.89	14.56	
MW-21	21.76	8.44	13.32		7.68	14.08		6.78	14.98	
MW-22	21.69	7.38	14.31		6.94	14.75		NOT MEASURED		
MW-24	21.56	9.23	12.33		8.20	13.36		7.26	14.30	
DW-2	22.91	7.93	14.98		7.67	15.24		NOT MEASURED		
DW-6	22.83	6.80	16.03		6.82	16.01		6.98	15.85	
13MW-1	21.84	8.14	13.70		7.92	13.92		NOT MEASURED		
13DW-1	22.17	6.29	15.88		6.34	15.83		NOT MEASURED		
122MW-3	22.23	3.71	18.52		3.74	18.49		NOT MEASURED		
122MW-4	19.60	NOT MEASURED			5.68	13.92		2.56	17.04	
122MW-5	18.60									
122MW-6	18.38	3.31	15.07		NOT MEASURED			NOT MEASURED		
122MW-7	18.37	3.74	14.63		3.39	14.98		3.24	15.13	
122MW-8	21.25	8.56	12.69		7.96	13.29		7.03	14.22	
122MW-9	18.94	5.50	13.66		5.26	13.68		NOT MEASURED		
122MW-11	21.37	6.45	14.92		5.98	15.39		6.23	15.14	
122MW-13	20.51	5.79	14.72		3.94	16.57		NOT MEASURED		
122MW-14	23.41	6.52	16.89		6.62	16.79		NOT MEASURED		
122RW-1	18.87	6.10	13.74		5.10	13.77		NOT MEASURED		4.15
RWB-3	17.40									
RWB-4	17.10									

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day

prior to AFVR event

** Groundwater elevations collected same day

after AFVR event

Soil and Groundwater Radiation
Campbell Street
arm

UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	2/28/1997			1/25/1997			12/17/1996		
		Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	
MW-3	21.69	4.63	17.06		NOT MEASURED			6.79	14.90	
MW-9	20.45	6.18	14.27			15.82		5.41	15.04	
MW-10	21.17	4.07	17.10		5.74	15.43		4.69	16.48	
MW-11	22.03	6.69	15.34		NOT MEASURED			7.02	15.01	
MW-12	21.41	6.22	15.19		NOT MEASURED			7.07	14.34	
MW-14	20.07	4.49	15.58		NOT MEASURED			5.59	14.48	
MW-15	21.08	NOT MEASURED			NOT MEASURED			6.86	14.22	
MW-16	21.45	6.59	14.86		NOT MEASURED			7.34	14.11	
MW-21	21.76	5.23	16.53			15.58		6.70	15.06	
MW-22	21.69	6.01	15.68		NOT MEASURED			NOT MEASURED		
MW-24	21.56	6.09	15.47			14.57		6.97	14.59	
DW-2	22.91	7.86	15.05			16.59		7.92	14.99	
DW-6	22.83	7.11	15.72		6.81	16.02		7.24	15.59	
13MW-1	21.84	5.28	16.56			16.35		6.38	15.46	
13DW-1	22.17	7.41	14.76			14.96		7.59	14.58	
122MW-3	22.23	4.98	17.25		NOT MEASURED			5.64	16.59	
122MW-4	19.60	1.71	17.89		NOT MEASURED			3.34	16.26	
122MW-5	18.60									
122MW-6	18.38	3.62	14.76		NOT MEASURED			3.27	15.11	
122MW-7	18.37	1.98	16.39			15.54		3.45	14.92	
122MW-8	21.25	5.63	15.62			14.63		7.78	13.47	
122MW-9	18.94	4.53	14.41		NOT MEASURED		5.04	5.06	13.90	
122MW-11	21.37	4.45	16.92		NOT MEASURED			6.33	15.04	
122MW-13	20.51	3.95	16.56		NOT MEASURED			5.46	15.05	
122MW-14	23.41	6.63	16.78		NOT MEASURED			6.59	16.82	
122RW-1	18.87	4.22	14.72			12.84	4.94	5.51	13.93	
RWB-3	17.40									
RWB-4	17.10									

Notes:

ft = feet

toc = top of casing elevation

msl = mean sea level

* Groundwater elevations collected same day prior to AFVR event

** Groundwater elevations collected same day after AFVR event



Table 4

Notes: Methylene Chloride is a commonly found contaminant in laboratory. Regulatory limits for 1,4-Dichlorobenzenes and Toluene Xylene were established in the Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc. Detected concentrations are indicated in bold type. Detected concentrations above the regulatory limits are indicated by shading. OMA indicates that the sample was not analyzed for the constituent.

QC = Below Laboratory Quantitation Limit
* = Below Laboratory detection limit
verified with laboratory data package

NC2470-93-D-3043

Table 4-

Note

² Some (some) studies for 14 N-Hydroxybenzamide and Total Yields were published in the *Journal of Polymer Science* in 1964.

Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.

Detected concentrations above the regulatory limits are indicated by shading.

FCM - Below Inventory Constitution Limit

• AVOID WITH THESE

CST-E: Campbell Street Groundwater Recovery Trench Effluent

143T-B: Building 143 Groundwater Recovery Trench Effluent

ASLE Air Skipper **Imminent**
1987-1988 1989-1990 1991-1992

ACAJ-E: Activated Carbon Adsorption Unit Number One Effluent

1000

1996-2000

Table 4
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 067

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	CST-E									
			USTCST-E-PTD3 12/9/1997	USTCST-E-PTD2 11/13/1997	24-CST-E-M10-97-13 10/9/1997	24-CST-E-M9-97-12 9/16/1997	24-CST-E-M8-97-11 8/12/1997	24-CST-E-M7-97-10 7/14/1997	24-CST-E-M6-97-9 6/12/1997	24-CST-E-M5-97-8 5/14/1997		
Volatiles Organic Compounds by USEPA Method 801, mg/L	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Volatiles Organic Compounds by USEPA Method 801, mg/L	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA		
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Benzene	1		2.4	3.5	BQL	BQL	1.8	2.4	2.3	2.4		
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Ethylbenzene	20		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Total Xylenes	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L												
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
1-Methylphenanthrene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
2-Methylphenanthrene												
Inorganic Compounds, mg/L												
Ammonia	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Barium	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Cadmium	0.005		BQL	0.002	BQL	0.003	0.003	0.003	0.003	0.003		
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Iron, dissolved			13.44	1.89	3.56	4.32	3.13	3.46	3.16	4.49		
Manganese, dissolved			0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04		
Iron	0.3		24.25	4.8	53.7	14.85	13.45	13.45	8.85	13.78		
Manganese	0.05		0.31	0.12	0.17	0.15	0.17	0.14	0.09	0.15		
Lead	0.015		1.82	BQL	0.67	0.68	0.60	0.63	0.62	0.63		
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Methanol, mg/L												
TD5	500		600	725	750	631	655	664	664	664		
TDS			223	BQL	30	19	23	5	25	26		
Total Hardness, CaCO₃/L			NA	NA	NA	NA	NA	NA	NA	NA		

NOTE:
¹ Methylene Chloride is a commonly found contaminant in Missouri.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package
 CST-E: Campbell Street Groundwater Recovery Trunk Effluent
 4151T-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trunk Effluent
 A4-E: Air Stripper Effluent
 A4-E: Air Stripper Effluent
 A4-E: Activated Carbon Adsorption Unit Number One Effluent
 A4-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 067

Parameter	NCDENR Regulatory Limit	Sample ID Event Sample Date	24-CST-8-44-97-1 4/15/1997	24-CST-8-43-97-1-180 3/19/1997	24-CST-8-42-97-1-150 2/12/1997	24-CST-8-890 12/18/1996	24-CST-8-875 12/21/1996	24-CST-8-860 1/15/1996	24-CST-8-943 10/17/1996	24-CST-8-830 10/17/1996
Hydrocarbon Delineation	0.0004									
Volatiles Organic Compounds by USEPA Method 811, mg/L	5.0 ¹									
Methylene Chloride			NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		4.3	4.9	4.5	2.4	3.3	3.9	4.7	5.1
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromobenzene	29		2.1	7.3	4.3	4.1	6.7	7.3	14.7	16.6
MTHBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	4.9	3.4	1.4	4.3	6.1	139.3	74.1
Total Xylenes	400 ³		BQL	1.6	7.6	BQL	1.3	5.1	6.7	22.3
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L										
Naphthalene	21		5.3	7	BQL	BQL	BQL	16	21	62
1-Methyl-naphthalene			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methyl-naphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Inorganic Compounds, mg/L										
Arsenic	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			17.0	10.05	11.44	11.1	10.35	7.99	6.95	6.47
Manganese, dissolved			0.07	0.11	0.14	0.17	0.14	0.13	0.13	0.11
Iron	0.3		24.75	10.60	23.39	31.4	28.09	25.7	25.8	20.8
Manganese	0.05		0.39	0.54	0.54	0.38	0.45	0.44	0.33	0.31
Lead	0.015		0.40	0.40	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Microelements, mg/L										
TDSS	500		621	632	634	667	1,234	578	1,083	804
TSS			43	29	23	38	13	13	6	17
Total Hardness, CaCO ₃ L			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Toluene Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package
 CST-8: Campbell Street Groundwater Recovery Trench Effluent
 4151T-8: Building 4151 Groundwater Recovery Effluent
 143T-8: Building 143 Groundwater Recovery Trench Effluent
 AS-2: Air Stripper Effluent
 AS-3: Air Stripper Effluent
 ACAL-2: Activated Carbon Adsorption Unit Number One Effluent
 ACAL-3: Activated Carbon Adsorption Unit Number Two Effluent

Table 4.

Notes

CST-E: Campbell Street Groundwater Recovery Trench Effluent
 415T-E: Building 4151 Groundwater Recovery Effluent
 140T-E: Building 140 Groundwater Recovery Trench Effluent
 AS-E: Air Stripper Effluent
 AS-E: Air Stripper Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-

Methylene Chloride is a commonly found contaminant in laboratories. Regulatory limits for 1,4-Dichlorobenzene and Toluene were established in the Cumulative Action Plan, dated July 1994, by Baker Environmental, Inc. Contaminated concentrations are indicated in boldface type. Detected concentrations above the regulatory limits are indicated by shading. AQA indicates that the sample was not analyzed for the constituent.

MSDC - Below Laboratory Quantitation Limit

QC - verified with laboratory data and/or

CST-3: Campbell Street Groundwater Recovery Trunk Effluent
CST-4: Campbell Street Groundwater Recovery Trunk Effluent
CST-5: Building 4151 Groundwater Recovery Effluent
CST-6: Building 4151 Groundwater Recovery Effluent
CST-7: Building 143 Groundwater Recovery Trunk Effluent
CST-8: Air Stripper Inflow
CST-9: Air Stripper Effluent
CST-10: Activated Carbon Adsorption Unit Number One Effluent
CST-11: Activated Carbon Adsorption Unit Number Two Effluent
CST-12: Activated Carbon Adsorption Unit Number One Effluent
CST-13: Activated Carbon Adsorption Unit Number Two Effluent

Table 4
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 067

Parameter		Sample ID Event Sample Date	4151T-2									
NCDBNR Regulatory Limit		Sample Date	USTCSPF-4151T-B-01D2 11/7/2001	USTCSPF-4151T-B-01D1 10/10/2001	USTCSPF-4151T-B-01C3 9/5/2001	USTCSPF-4151T-B-01C2 8/8/2001	USTCSPF-4151T-B-01C1 7/11/2001	USTCSPF-4151T-B-01B3 6/4/2001	USTCSPF-4151T-B-01B2 5/10/2001	USTCSPF-4151T-B-01B1 4/1/2001		
0.0004	Hydrocarbon Distillates by USEPA Method 844.1, mg/L		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
5.0 ¹	Volatiles Organic Compounds by USEPA Method 801, mg/L		NA	NA	NA	NA	NA	NA	NA	NA		
620	Polycyclic Aromatic Hydrocarbons by USEPA Method 816, mg/L		BQL	BQL	NA	BQL	BQL	BQL	NA	BQL		
1.8 ²	1,2-Dichlorobenzene		BQL	BQL	NA	BQL	BQL	BQL	NA	BQL		
1	1,4-Dichlorobenzene		180	91	4	13	BQL	6	BQL	BQL		
50	Benzene		BQL	BQL	NA	BQL	BQL	BQL	NA	BQL		
29	Chlorobenzene		BQL	BQL	BQL	2	BQL	BQL	BQL	BQL		
200	Biphenylbenzene		13	8	3	5	BQL	8	BQL	BQL		
1000	MTBE		60	20		2	BQL	4	BQL	BQL		
	Toluene		16	7		2	BQL	4	BQL	BQL		
400 ³	Total Xylenes		92	32		7	BQL	7	BQL	BQL		
21	Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
	Naphthalene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
	1-Methylanthracene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
28	2-Methylanthracene		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
0.05	Inorganic Compounds, mg/L		0.0191	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
2.0	Arsenic		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
0.005	Barium		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
0.05	Cadmium		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
	Chromium		BQL	BQL	BQL	38	5.78	2.3	7.35	13.7		
	Iron, dissolved		BQL	4.19	BQL	BQL	5.78	2.3	7.35	13.7		
	Manganese, dissolved		0.053	0.0752	BQL	0.128	0.128	0.099	0.116	0.123		
0.3	Iron		19.1	16.2	2.49	7.86	6.43	20.2	23.8	31.4		
0.05	Manganese		0.0948	0.0756	0.0097	0.0643	0.0419	0.0914	0.1239	0.133		
0.015	Lead		BQL	BQL	0.0104	BQL	BQL	BQL	BQL	BQL		
0.05	Selenium		BQL	BQL	0.0121	BQL	BQL	0.0120	0.0168	BQL		
500	Miscellaneous, mg/L		356	459	477	561	966	617	667	689		
	TDS		102	7.4	7.8	98	15	47	106	38		
	TSS		NA	NA	NA	NA	NA	NA	NA	NA		
	Total Hardness CaCO ₃ /L		NA	NA	NA	NA	NA	NA	NA	NA		

¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package

Abbreviations
 CSTR: Campbell Street Groundwater Recovery Tank Effluent
 4151T-B: Building 4151 Groundwater Recovery Effluent
 140T-E: Building 140 Groundwater Recovery Tank Effluent
 AS-2: Air Stripper Effluent
 AS-3: Air Stripper Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
 ACAG-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 067

Parameter	NCDENR Regulatory Limit	Sample ID Event Sample Date	4151T-2									
			USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3
Hydrocarbon Dithionite by USEPA Method 844.1 mg/L	0.0004		3/6/2001 *	12/8/1999 *	11/17/1999 *	9/9/1999 *	10/7/1999 *	9/17/1999 *	7/6/1999	6/9/1999	USTCSPF-4151T-2-01A3	USTCSPF-4151T-2-01A3
Hydrocarbon Dithionite by USEPA Method 844.1 mg/L	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatiles Organic Compounds by USEPA Method 8161 mg/L												
1,2-Dichlorobenzene	600		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.5 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bromobenzene	20		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polynuclear Aromatic Hydrocarbons by USEPA Method 8161 mg/L												
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methyl-naphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methyl-naphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Inorganic Compounds mg/L												
Arsenic	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron	0.3		315	28.7	33.5	46.2	33.5	33.5	33.5	33.5	33.5	33.5
Manganese	0.05		0.125	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066
Lead	0.015		0.0154	0.0143	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Selenium	0.05		0.0184	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Aluminum, mg/L												
TDS	500		497	241	438	443	390	443	443	443	443	443
TSS			466	71.4	156	123	280	123	123	123	123	123
Total Hardness, CaCO ₃ L			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
³ Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package

GT2-E: Campbell Street Groundwater Recovery Treats Effluent
 4151T-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Treats Effluent
 AS-E: Air Stripper Effluent
 AS-E: Air Stripper Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
FOLEAC Task Order 067

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	4151-E									
			USTCRRF-4151T-B-9B3	USTCRRF-4151T-B-9B2	USTCRRF-4151T-B-9B1	USTCRRF-4151T-B-9B3	USTCRRF-4151T-B-9B2	USTCRRF-4151T-B-9B1	USTCRRF-4151T-B-9B3	USTCRRF-4151T-B-9B2	USTCRRF-4151T-B-9B1	USTCRRF-4151T-B-9B2
Biphenyl Disulfide by USEPA Method 841, $\mu\text{g/L}$	0.004		9/10/1998	8/11/1998	7/8/1998	6/11/1998	5/26/1998	4/9/1998	3/29/1998	2/15/1998		
Volatile Organic Compounds by USEPA Method 811, $\mu\text{g/L}$	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride												
1,2-Dichloroethane	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTHB	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylene	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polynuclear Aromatic Hydrocarbons by USEPA Method 819, $\mu\text{g/L}$												
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylpyrene			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylpyrene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Inorganic Compounds, $\mu\text{g/L}$												
Arsenic	0.05		BQL	BQL	BQL	0.005	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Cadmium	0.005		BQL	0.002	BQL	0.004	BQL	0.004	BQL	0.004	BQL	0.003
Chromium	0.05		BQL	BQL	BQL	0.04	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			0.3	3.66	0.43	0.12	0.41	0.5	5.47	2.11	0.44	0.44
Manganese, dissolved			0.13	0.07	0.06	0.06	0.08	0.06	0.1	0.04	0.04	0.04
Iron	0.3		11.5	6.08	11.51	0.19	0.08	0.04	0.04	0.04	0.04	0.04
Manganese	0.05		0.34	0.09	0.05	0.08	0.1	0.04	0.04	0.04	0.04	0.04
Lead	0.015		BQL	0.02	0.02	0.04	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Miscellaneous, $\mu\text{g/L}$												
TTDS	500		798	794	881	789	789	479	789	789	789	789
TTDS			200	10	27	18	16	29	21	21	21	21
Total Hardness, CaCO_3/L			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in literature.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylene were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
³ verified with laboratory data package
 CST-E: Campbell Street Groundwater Recovery Trench Effluent
 4151-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trench Effluent
 AS-1: Air Stripper Effluent
 AS-2: Air Stripper Effluent
 AC41-E: Activated Carbon Adsorption Unit Number One Effluent
 AC43-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4.
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 067

Parameter	NCIENR Regulatory Limit	Sample ID Event Sample Date	USTCSEF-4151T-B-9A1	USTCSEF-4151T-B-9D3	USTCSEF-4151T-B-9D2	24-4151T-B-410-97-13	24-4151T-B-408-97-12	24-4151T-B-408-97-11	24-4151T-B-407-97-10	24-4151T-B-406-97-9
<i>Hydrocarbon Chlorides</i>	0.0004		1/17/1998	12/9/1997	11/13/1997	10/9/1997	9/16/1997	8/12/1997	7/14/1997	6/12/1997
<i>Volatiles Organic Compounds by USEPA Method 821, mg/L</i>										
Methylene Chloride	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 821, mg/L</i>										
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenylene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Nylons	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methyl-naphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methyl-naphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds, mg/L</i>										
Ammonia	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Borates	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			4.39	6.29	1.84	1.28	0.86	4.33	6.59	3.34
Manganese, dissolved			0.04	0.03	0.04	0.04	0.03	0.03	0.03	0.03
Iron	0.3		12.67	26.01	2.95	4.33	3.63	10.13	48	10.13
Manganese	0.05		0.13	0.11	0.13	0.12	0.11	0.12	0.12	0.12
Lead	0.015		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Hydrocarbons, mg/L</i>										
TD5	500		1,389	360	343	1,050	863	801	722	889
TS5	28		28	46	13	13	13	25	37	23
Total Hydrocarbons, C ₁₀ H ₈ L			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in lubricants.
² Regulatory limits for 1,4-Dichlorobenzene and Total Nylons were established in the
 Consistent Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package
 C17-E: Campbell Street Groundwater Recovery Trunk Effluent
 4151T-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trunk Effluent
 A4-E: Air Stripper Effluent
 A4-E: Air Stripper Effluent
 A4-E: Activated Carbon Adsorption Unit Number One Effluent
 A4-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 067

Parameter	INCIDENT Regulatory Limit	Sample ID Event Sample Date	24-4151T-B-M5-97-4 5/14/1997	24-4151T-B-M4-97-7 4/15/1997	24-4151T-B-M3-97-4-180 3/19/1997	24-4151T-B-M2-97-5-150 2/12/1997	24-4151T-B-990 12/19/1996	24-4151T-B-S75 12/21/1996	24-4151T-B-960 11/15/1996	24-4151T-B-845 10/31/1996
Volatiles Chlorinated Compounds by USEPA Method 824.1, mg/L	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Volatiles Organic Compounds by USEPA Method 801, mg/L	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
Volatiles Aromatic Hydrocarbons by USEPA Method 826, mg/L	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	20		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenylene	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes										
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L	21		BQL	BQL	7	8	BQL	BQL	BQL	35
Naphthalene			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylanthracene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylanthracene										
Inorganic Compounds, mg/L										
Acetate	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	BQL	0.06	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			6.49	26.97	25.13	25.33	26.8	26.97	26.95	12.24
Manganese, dissolved			0.04	0.09	0.14	0.19	0.17	0.15	0.17	0.15
Iron	0.3		14.27	29.37	26.39	26.39	26.1	26.09	26.44	12.26
Manganese	0.05		0.35	0.37	0.44	0.49	0.48	0.46	0.51	0.27
Lead	0.015		0.09	0.09	0.04	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Microorganisms, mg/L										
TDS	500		855	742	761	568	566	1,400	764	1,407
TSS			33	44	94	57	214	53	63	34
Total Hardness, CaCO₃/L			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
 1. Methylene Chloride is a commonly found contaminant in laboratories.
 2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package
 CST-2: Campbell Street Groundwater Recovery Trunk Effluent
 4151T-2: Building 4151 Groundwater Recovery Effluent
 143T-2: Building 143 Groundwater Recovery Trunk Effluent
 AS-2: Air Stripper Effluent
 AS-3: Air Stripper Effluent
 AC41-2: Activated Carbon Adsorption Unit Number One Effluent
 AC43-2: Activated Carbon Adsorption Unit Number Two Effluent

Table 4
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 067

Parameter	NCDEPR Regulatory Limit	Sample ID Event Sample Date	4151T-2	24-4151T-R-501
<i>Hydrocarbons Detectable by USEPA Method 804.1, mg/L</i>	0.0004			
<i>Volatiles Organic Compounds by USEPA Method 601, mg/L</i>	5.0 ¹			
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 603, mg/L</i>	1.8 ²			
1,2-Dichlorobenzene	1			
1,4-Dichlorobenzene	50			
Benzene	200			
Chlorobenzene	1000			
Biphenyls	400 ³			
MTBE				
Toluene				
Total Nylons				
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 616, mg/L</i>				
Naphthalene	21			
1-Methylnaphthalene	28			
2-Methylnaphthalene				
<i>Inorganic Compounds, mg/L</i>				
Arsenic	0.05			
Barium	2.0			
Cadmium	0.005			
Chromium	0.05			
Iron, dissolved				
Manganese, dissolved				
Iron	0.3			
Manganese	0.05			
Lead	0.015			
Selenium	0.05			
<i>Microorganisms, mg/L</i>				
TDS	500			
TSS				
Total Hardness, CaCO ₃ /L				

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Nylons were established in the
 Remedial Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package
 CST-2: Campbell Street Groundwater Recovery Trench Effluent
 4151T-2: Building 4151 Groundwater Recovery Effluent
 143T-2: Building 143 Groundwater Recovery Trench Effluent
 AS-2: Air Stripper Effluent
 ACAL-2: Activated Carbon Adsorption Unit Number One Effluent
 ACQ-2: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)

Notes:
 *Methylene Chloride is a commonly found contaminant in laboratories.
 †Regulatory limits for 1,4-Dichlorobenzene and Toluene were established in the Clean Air Act of 1990.
 ‡Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 §Detected concentrations are indicated in boldface type.
 ¶Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data not shown

15C-78-11-D-1019

Table 4-1 (cont.)

HSV

Notes

Summary I continued

ASCE: Air Stripper Effluent
ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS4151
POLRAC Task Order 067

Parameter	NCDEER Regulatory Limit	Sample ID Sample Date	USTCSPF-AS-140(C) 9/5/2001 *	USTCSPF-AS-140(C) 8/9/2001 *	USTCSPF-AS-140(C) 7/17/2001 *	USTCSPF-AS-140(B) 6/6/2001 *	USTCSPF-AS-140(B) 5/9/2001 *	USTCSPF-AS-140(B) 4/1/2001 *	USTCSPF-AS-140(A) 3/6/2001 *	USTCSPF-AS-140(A) 2/7/2001 *
<i>Biphenyls Detectable by USEPA Method 824.1, mg/L</i>										
Biphenyl Chloride	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 8270, mg/L</i>										
Benzo(a)pyrene	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620		NA	BQL	BQL	BQL	NA	NA	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		NA	BQL	BQL	BQL	NA	NA	BQL	BQL
Benzo(a)anthracene	1		NA	BQL	BQL	BQL	NA	NA	BQL	BQL
Chlorobenzene	50		NA	BQL	BQL	BQL	NA	NA	BQL	BQL
Biphenylene	29		BQL	5	35	BQL	1	2	197	BQL
MTBE	200		7	25	45	17	4	19	66	32
Toluene	1000		BQL	14	160	4	2	13	160	32
Total Xylenes	400 ³		BQL	43	290	10	7	18	260	76
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
Naphthalene	21		NA	NA	NA	NA	NA	NA	NA	NA
1-Methyl-naphthalene	28		NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-naphthalene	28		NA	NA	NA	NA	NA	NA	NA	NA
<i>Emergent Compounds, mg/L</i>										
Aromatic	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloroform	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved	88		1.23	0.53	5.56	1.76	1.76	2.28	2.24	0.904
Manganese, dissolved	0.149		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Iron	0.3		1.19	1.20	1.60	3.1	3.30	11.8	5.83	3.67
Manganese	0.05		0.000	0.000	0.000	0.1	0.107	0.116	0.108	0.0664
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		0.0171	BQL	BQL	0.0183	0.0116	BQL	0.0108	BQL
<i>Atrazine, mg/L</i>										
ATZ	500		487	496	681	394	715	694	354	269
ATZ	500		4.3	8.9	27	7	18	253	34	32
Total Herbicides, Co-Only			367.1	352.7	449	487	520	349	148	147

Notes:
1. Methylphenyl Chloride is a commonly found contaminant in lubricants.
2. Regulatory limit for 1,4-Dichlorobenzene and Total Xylenes was established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

Sample Locations:
CST-6: Campbell Street Groundwater Recovery Truck Effluent
431T-6: Building 431 Groundwater Recovery Effluent
437T-6: Building 437 Groundwater Recovery Truck Effluent
AS-2: Air Stripper Effluent
AS-6: Air Stripper Effluent
ACAI-6: Activated Carbon Adsorption Unit Number One Effluent
ACAP-6: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)

APPY

Notes:
Medicine Note is a commonly found contaminant in laboratories.

² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the 1960s.

Corrective Action Plan, dated July 1994, prepared by ERDC ENVIRONMENTAL, INC.

NA indicates that the sample was not analyzed for the constituent.

• verified with laboratory data package

Sample Locations
CST-3: Campbell Street Groundwater Recovery Trench Effluent

4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent

AS-L: Air Stripper Inflow
AS-E: Air Stripper Effluent

ACA1-E: Activated Carbon Adsorption Unit Number One Effluent
ACA2-E: Activated Carbon Adsorption Unit Number Two Effluent

EX-103

MS2670-93-D-3019

Thank Order No. 67/Campbell St. Pool Pavers

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Food Farm
UST System AS-143 and Building AS4151
POLRAC Tank Order 067

Parameter	NCDEMR Regulatory Limit 0.0004	Sample ID Event Sample Date	USTCSPF-AS-1-0082 5/10/2000 *	USTCSPF-AS-1-0081 4/10/2000 *	USTCSPF-AS-1-00A3 3/0/2000 *	USTCSPF-AS-1-00A3 2/0/2000 *	USTCSPF-AS-1-00A3 1/5/2000 *	USTCSPF-AS-1-00D3 12/0/1999 *	USTCSPF-AS-1-00D2 11/1/1999 *	USTCSPF-AS-1-00D1 10/7/1999 *
<i>Hydrocarbon Metabolites by USEPA Method 846.1, mg/L</i>										
<i>Benzene</i>			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Phenols Organic Compounds by USEPA Method 801, mg/L</i>										
<i>Phenols Aromatic Hydrocarbons by USEPA Method 802, mg/L</i>										
<i>Phenols Chloride</i>	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
<i>1,2-Dichlorobenzene</i>	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1,4-Dichlorobenzene</i>	1.5 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	1		400	318	1,000	1,100	500	270	400	610
<i>Chlorobenzene</i>	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Biphenyls</i>	29		74	25	BQL	BQL	30	BQL	700	440
<i>MTBE</i>	200		130	87	200	BQL	88	BQL	BQL	BQL
<i>Toluene</i>	1000		250	98	600	1,300	120	99	1,300	1,000
<i>Total Xylenes</i>	400 ³		910	340	1,700	2,400	311	256	1,000	1,110
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
<i>Naphthalene</i>	21		NA	NA	NA	NA	NA	NA	NA	NA
<i>1-Methylpyrene</i>	21		NA	NA	NA	NA	NA	NA	NA	NA
<i>2-Methylpyrene</i>	21		NA	NA	NA	NA	NA	NA	NA	NA
<i>Isopropyl Compounds, mg/L</i>										
<i>Acetone</i>	0.05		BQL	BQL	0.011	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	2.0		BQL	0.117	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzene</i>	0.005		BQL	0.0108	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzene</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>lim, dissolved</i>			7.99	4.34	23.5	14.8	3.03	14.3	25.3	19
<i>Manganese, dissolved</i>			0.0099	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053
<i>Iron</i>	0.3		51.7	103	20.1	14.5	7.08	10.3	20.5	20.5
<i>Manganese</i>	0.05		0.0048	0.0043	0.0039	0.0041	0.0041	0.0041	0.0041	0.0041
<i>Lead</i>	0.015		BQL	0.0133	BQL	BQL	BQL	BQL	BQL	BQL
<i>Selenium</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Aluminum, mg/L</i>										
<i>7130</i>	500		145	133	236	112	244	272	76.8	487
<i>7130</i>			81.7	208	78	27	18	28.9	25.1	71.1
<i>Total Hardness, CaCO₃/L</i>			87	103	104	101	119	93.6	97.4	70.3

Note:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Conservative Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

Sample Location:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
1457-E: Building 145 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AS-E: Air Stripper Effluent
ACM-E: Activated Carbon Adsorption Unit Number One Effluent
ACM-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS4151
FOLRAC Task Order 067

Parameter	NCBER Regulatory Limit 0.0004	Sample ID Street Sample Date	USTCERF-AS-143C3 5/1/1999 *	USTCERF-AS-143C2 8/11/1999 *	USTCERF-AS-143C1 7/1/1999	USTCERF-AS-143B2 5/12/1999	USTCERF-AS-143B1 4/7/1999	USTCERF-AS-143A2 3/18/1999	USTCERF-AS-143A1 2/17/1999
Hydrocarbon Interferents by USEPA Method 804.1, mg/L									
Benzene	1.8 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Volatiles Organic Compounds by USEPA Method 601, mg/L									
Methylene Chloride	5.0 ¹		NA	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons by USEPA Method 601, mg/L									
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenyls	25		BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polynuclear Aromatic Hydrocarbons by USEPA Method 610, mg/L									
Naphthalene	21		NA	NA	NA	BQL	BQL	BQL	BQL
1-Methyl-naphthalene	28		NA	NA	NA	BQL	BQL	BQL	BQL
2-Methyl-naphthalene	28		NA	NA	NA	BQL	BQL	BQL	BQL
Inorganic Compounds, mg/L									
Ammonia	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved	40.9		41.2	41.2	11.4	6.18	7.53	1.84	4.37
Manganese, dissolved			0.0644	0.0644	0.137	0.0777	0.125	0.106	0.09
Iron	0.3		63.1	63.1	64.8	109	8.46	8.26	5.96
Manganese	0.05		0.0504	0.0509	0.108	0.0706	0.141	0.097	0.1
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Metals, mg/L									
Copper	500		418	208	311	357	379	304	681
Iron	178		104	123	187	214	24.8	11.5	681
Total Hardness, CaO/L			71.9	83.4	79	133	452	363	NA

Notes:
* Methylene Chloride is a commonly found contaminant in laboratories.
* Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Corrective Action Plan, dated July 1999, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantification Limit
* verified with laboratory data package

Sample Locations:
C31-E: Campbell Street Groundwater Recovery Trench Effluent
4151-E: Building 4151 Groundwater Recovery Effluent
143-E: Building 143 Groundwater Recovery Trench Effluent
AS-2: Air Stripper Effluent
AS-3: Air Stripper Effluent
AC41-E: Activated Carbon Adsorption Unit Number One Effluent
AC43-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont. d)

Notes

Methylene Chloride is a commonly found contaminant in laboratory. Respiratory fluids for 1,4-Dichlorobenzene and Toluene were obtained in the Corrosive Action Test, dated July 1986, prepared by Baker Environmental, Inc. Detected concentrations are indicated in boldface type. Detected concentrations above the respiratory fluids are indicated by *shading*. ND indicates that the sample was not analyzed for the constituent. BQL = Below Laboratory Quantitation Limit as verified with laboratory data and/or

Sample Location:
 CST-E: Campbell Street Groundwater Recovery Trench Effluent
 4151T-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trench Effluent
 AS-E: Air Stripper Effluent
 AS-E: Air Stripper Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
 ACAL2-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS4151
POLRAC Task Order 067

Parameter	NCDEMR Regulatory Limit	Sample ID	USTCSPR-AS-1-9802	USTCSPR-AS-1-9801	USTCSPR-AS-1-9803	USTCSPR-AS-1-9804	USTCSPR-AS-1-9805	USTCSPR-AS-1-9806	USTCSPR-AS-1-9807	USTCSPR-AS-1-9808	USTCSPR-AS-1-9809	USTCSPR-AS-1-9810	USTCSPR-AS-1-9811	USTCSPR-AS-1-9812	USTCSPR-AS-1-9813
<i>Hydrocarbons Detectable by USEPA Method 801.1, mg/L</i>															
<i>Hydrocarbons Detectable by USEPA Method 801.1, mg/L</i>	0.0004														
<i>Volatiles Organic Compounds by USEPA Method 801.1, mg/L</i>															
<i>Volatiles Aromatic Hydrocarbons by USEPA Method 801.1, mg/L</i>															
1,2-Dichlorobenzene	1.8 ¹														
Benzene	1														
Chlorobenzene	50														
Biphenyls	20														
MTBE	200														
Toluene	1000														
Total Xylenes	400 ¹														
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>															
Naphthalene	21														
1-Methylanthracene	28														
2-Methylanthracene	28														
<i>Organic Compounds, mg/L</i>															
Aromatic	0.05														
Benzene	2.0														
Cumylene	0.005														
Chlorobenzene	0.05														
Iron, dissolved	3.31														
Manganese, dissolved	0.07														
Iron	0.3														
Manganese	0.05														
Lead	0.015														
Selenium	0.05														
<i>Microbiological, mg/L</i>															
TDS	500														
TSS	100														
Total Hardness, CaCO ₃ /L															

Notes:
1. Methylene Chloride is a commonly found contaminant in monitoring.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantification Limit
* verified with laboratory data package

Sample Locations:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151-E: Building 4151 Groundwater Recovery Effluent
143-E: Building 143 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AS-E: Air Stripper Effluent
AC41-E: Activated Carbon Adsorption Unit Number One Effluent
AC43-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS4151
POLRAC Task Order 067

Parameter	NCDEMR Regulatory Limit 0.0004	Sample ID Revol Sample Date	24-AS-143-97-12 9/16/1997	24-AS-143-97-11 8/12/1997	24-AS-143-97-10 7/14/1997	24-AS-143-97-9 6/12/1997	24-AS-143-97-8 5/14/1997	24-AS-143-97-7 4/15/1997	24-AS-143-97-6-180 3/19/1997	24-AS-143-97-5-150 2/12/1997
<i>Hydrocarbons Detectable by USEPA Method 804.1, mg/L</i>										
Benzene			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Volatiles Organic Compounds by USEPA Method 801, mg/L</i>										
Methylene Chloride	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
<i>Volatiles Aromatic Hydrocarbons by USEPA Method 802, mg/L</i>										
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenylene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
Naphthalene	21		NA	NA	NA	NA	NA	NA	NA	NA
1-Methylanthracene			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylanthracene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Emergent Compounds, mg/L</i>										
Aromatic	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	2.0		0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Chlorobenzene	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			2.40	4.03	4.03	2.46	4.03	19.43	14.96	13.43
Manganese, dissolved			BQL	0.03	0.03	0.03	0.04	0.09	0.13	0.13
Iron	0.3		2.45	8.7	8.04	7.97	10.25	75.37	14.5	14.97
Manganese	0.05		0.00	0.00	0.00	0.00	0.16	0.1	0.13	0.13
Lead	0.015		0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Microorganisms, mg/L</i>										
Total Hardness, CaCO ₃ /L			678	643	624	597	789	787	716	775
			13	19	23	23	29	35	30	24
			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Curative Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

Sample Locations:
CST-R: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AS-E: Air Stripper Effluent
ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)

Notes:

acetylene C_2H_2 is a commonly found constituent in incinerators. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the Corrective Action Plan, dated July 1994, prepared by Peter Environmental, Inc. Detected concentrations are indicated in boldface type. Detection concentrations above the regulatory limits are indicated by shading. DNA indicates that the sample was not analyzed for the constituent.

BCQL = Below Laboratory Quantification Limit
 * verified with laboratory data package

Simple Location

CST-2: Campbell Street Groundwater Recovery Trench Effluent
C141517T-2: Building 4151 Groundwater Recovery Effluent
C141517T-3: Building 143 Groundwater Recovery Trench Effluent
A9-2: Air Stripper Effluent
ACAI-2: Activated Carbon Adsorption Unit Number One Effluent
ACA2-2: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDENR Regulatory Limit	Sample ID Event Sample Date	USTCSTF-AS-E-03A2 2/6/2003 *	USTCSTF-AS-E-03A1 12/1/2003 *	USTCSTF-AS-E-02D3 12/2/2002 *	USTCSTF-AS-E-02D2 11/4/2002 *	USTCSTF-AS-E-02D1 10/2/2002 *	USTCSTF-AS-E-02C3 9/4/2002 *	USTCSTF-AS-E-02C2 8/2/2002 *	USTCSTF-AS-E-02C1 7/1/2002
<i>Aliphatic Aromatics by USEPA Method 844.1, mg/L</i>	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 844.1, mg/L</i>	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 844.1, mg/L</i>	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 844.1, mg/L</i>	1.5 ²		2.7	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzenes</i>	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Biphenylenes</i>	20		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>MTBE</i>	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Toluene</i>	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Total Xylenes</i>	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
<i>Naphthalene</i>	21		NA	NA	NA	NA	NA	NA	NA	NA
<i>1-Methylnaphthalene</i>	28		NA	NA	NA	NA	NA	NA	NA	NA
<i>2-Methylnaphthalene</i>										
<i>Isopropyl Compounds, mg/L</i>										
<i>Aromatic</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Cumene</i>	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzene</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Iron, dissolved</i>			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Manganese, dissolved</i>			0.0573	0.0256	0.0473	0.0334	0.0377	0.0664	BQL	0.0213
<i>Iron</i>	0.3		1.14	0.7708	1.89	3.79	0.321	0.321	3.04	2.76
<i>Manganese</i>	0.05		0.0441	0.0511	0.09	0.0671	0.0176	0.0776	0.12	0.0977
<i>Lead</i>	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Selenium</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Aluminum, mg/L</i>										
<i>TDS</i>	500		408	435	411	411	308	425	409	
<i>TSS</i>			3.3	9.3	6	26	23	140	27	
<i>Total Hardness, CaCO₃/L</i>			577	357	374	376	207.3	394	349	

Note:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Conservative Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

NOTES:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
41517-E: Building 4151 Groundwater Recovery Effluent
1437-E: Building 143 Groundwater Recovery Trench Effluent
AS-1: Air Stripper Effluent
AS-2: Air Stripper Effluent
ACAI-E: Activated Carbon Adsorption Unit Number One Effluent
ACV2-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
FOIRAC Task Order 024

Parameter	NCDNR Regulatory Limit	Sample ID Event Sample Date	USTCSPF-AS-B-02B3 6/9/2002 *	USTCSPF-AS-B-02A3 3/7/2002 *	USTCSPF-AS-B-02A2 2/6/2002 *	USTCSPF-AS-B-02A1 1/9/2002	USTCSPF-AS-B-01D3 12/2/2001 *	USTCSPF-AS-B-01D2 11/7/2001	USTCSPF-AS-B-01D1 10/10/2001 *	USTCSPF-AS-B-01C3 9/5/2001 *
Volatiles Differentiable by USEPA Method 844.1, mg/L	0.0004									
Ethylene Dichloride										
Volatiles Organic Compounds by USEPA Method 801, mg/L	5.0 ¹									
Methylene Chloride										
1,2-Dichloroethane	620									
1,4-Dichlorobenzene	1.8 ²									
Benzene	1									
Chlorobenzene	50									
Ethylbenzene	29									
M-TOL	200									
Toluene	1000									
Total Xylenes	400 ²									
Polynuclear Aromatic Hydrocarbons by USEPA Method 819, mg/L										
Naphthalene	21									
1-Methylanthracene	Detection Limit									
2-Methylanthracene	28									
Inorganic Compounds, mg/L										
Arsenic	0.05									
Boron	2.0									
Cadmium	0.005									
Chromium	0.05									
Iron, dissolved										
Manganese, dissolved										
Iron	0.3									
Manganese	0.05									
Lead	0.015									
Selenium	0.05									
Minerals, mg/L										
TDS	500									
TSS										
Total Hardness, CaCO ₃ /L										

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * Validated with laboratory data package

Sample Locations:
 CST-1: Campbell Street Groundwater Recovery Trench Effluent
 4151T-1: Building 4151 Groundwater Recovery Effluent
 143T-1: Building 143 Groundwater Recovery Trench Effluent
 AS-1: Air Stripper Effluent
 AS-2: Air Stripper Effluent
 ACAL-1: Activated Carbon Adsorption Unit Number One Effluent
 ACAL-2: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)

Parameter		Sample ID Event Sample Date	AS-2									
NCDNR Regulatory Limit	UFTCSFF-AS-B-01C2 9/2/2001 *		UFTCSFF-AS-B-01C1 7/1/2001 *	UFTCSFF-AS-B-01B3 6/4/2001 *	UFTCSFF-AS-B-01B2 5/9/2001 *	UFTCSFF-AS-B-01B1 4/1/2001 *	UFTCSFF-AS-B-01A3 3/6/2001 *	UFTCSFF-AS-B-01A2 2/7/2001 *	UFTCSFF-AS-B-01A1 1/10/2001 *			
Ethylene Dichloride		0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Volatle Organic Compounds by USEPA Method 601, ug/L		5.0 ¹	NA	NA	NA	NA	NA	NA	NA	NA		
Methylene Chloride												
1,2-Dichloroethane		630	BQL	BQL	BQL	NA	BQL	BQL	BQL	BQL		
1,4-Dichlorobenzene		1.8 ²	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Benzene		1	BQL	BQL	BQL	NA	BQL	BQL	BQL	BQL		
Chlorobenzene		50	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Ethylbenzene		20	BQL	4	BQL	BQL	BQL	BQL	BQL	BQL		
MTBE		200	BQL	23	BQL	BQL	BQL	BQL	BQL	BQL		
Toluene		1000	BQL	17	BQL	BQL	BQL	BQL	BQL	BQL		
Total Xylenes		400 ²	BQL	43	BQL	BQL	BQL	BQL	BQL	BQL		
Polycyclic Aromatic Hydrocarbons by USEPA Method 618, ug/L												
Naphthalene		21	NA	NA	NA	NA	NA	NA	NA	NA		
1-Methylimidazole		Decision Limit	NA	NA	NA	NA	NA	NA	NA	NA		
2-Methylimidazole		28	NA	NA	NA	NA	NA	NA	NA	NA		
Inorganic Compounds, ug/L												
Ammonia		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Barium		2.0	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Cadmium		0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Chromium		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Iron, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Manganese, dissolved			BQL	1.06	BQL	BQL	BQL	BQL	BQL	BQL		
Iron		0.3	0.0220	0.0054	0.0054	0.0057	0.0057	0.0057	0.0057	0.0156		
Iron			0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009		
Manganese		0.05	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073	0.0073		
Lead		0.015	0.0104	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Selenium		0.05	BQL	BQL	0.0153	0.0154	BQL	BQL	BQL	BQL		
Microorganisms, ug/L												
TS28		500	465	630	373	557	551	540	540	284		
TS28		17	17	20	33	65	135	47	47	6.4		
Total Hydrocarbons C10-C17		TS28	338.9	441	414	419	351	376	135	181		

Melexen Chloride is a commonly found contaminant in laboratories. Regulatory limits for 1,4-dichlorobenzene and Tox Nylens were established in the Consumer Action Plan, dated July 1994, published by Baker Environmental, Inc. Detected concentrations are indicated in boldface type. Detected concentrations above the regulatory limits are indicated by shading. DNA indicates that the sample was not analyzed for the constituent.

BQL = Below Laboratory Quantitation Limit
* verified with laboratory data analysis

SAMPLE LOCATIONS:
 CST-8: Campbell Street Groundwater Recovery Trench Effluent
 415T-8: Building 4151 Groundwater Recovery Effluent
 143T-8: Building 143 Groundwater Recovery Trench Effluent
 AS-2: Air Stripper Effluent
 AS-3: Air Stripper Effluent
 ACAC1-8: Activated Carbon Adsorption Unit Number One Effluent
 ACAC2-8: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)

Notes:
Methylene Chloride is a commonly found contaminant in laboratories.
Regulatory limits for 1,4-Dichlorobenzene and Toluene were established in the
Cumulative Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Dissolved concentrations are indicated in boldface type.
Dissolved concentrations above the regulatory limits are indicated by shading.
NDA indicates that the sample was not analyzed for the constituent.
RQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

102-670-93-D-3033

Table 4-1 (cont.)

Notes:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Respiratory limits for 1,4-Dichlorobenzene and Toluene were established in the Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
3. Detected concentrations are indicated in bolded type.
4. Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BCL = Baker Laboratory Quantitation Limit
* verified with laboratory data package

DISCUSSION

Table 4-1 (con. 2)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter		Sample ID Event Sample Date	AS-2							
NCDEPR Regulatory Limit	USTCSTP-AS-B-99C3 8/1/1999 *		USTCSTP-AS-B-99C1 7/8/1999	USTCSTP-AS-B-99B3 6/7/1999	USTCSTP-AS-B-99B2 5/17/1999	USTCSTP-AS-B-99B1 4/7/1999	USTCSTP-AS-B-99A3 3/18/1999	USTCSTP-AS-B-99A2 2/1/1999	USTCSTP-AS-B-99A1 1/4/1999	
Hydrocarbons		0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Volatile Organic Compounds by USEPA Method 801, mg/L										
Methylene Chloride		5.0 ¹	NA	NA	NA	NA	NA	NA	NA	
Volatile Aromatic Hydrocarbons by USEPA Method 802, mg/L										
1,2-Dichlorobenzene		620	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
1,4-Dichlorobenzene		1.8 ²	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Benzene		1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Chlorobenzene		50	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Ethylbenzene		29	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
MTBE		200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Toluene		1000	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Total Xylenes		400 ²	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L										
Naphthalene		21	NA	NA	NA	NA	NA	NA	NA	
1-Methyl-naphthalene		Detected Limit	NA	NA	BQL	BQL	BQL	BQL	BQL	
2-Methyl-naphthalene		28	NA	NA	BQL	BQL	BQL	BQL	BQL	
Isopropyl Compounds, mg/L										
Aroclor		0.05	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Barium		2.0	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Cadmium		0.005	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Chromium		0.05	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Iron, dissolved			0.59	BQL	5.73 ³	1.90	BQL	2.50	2.60	
Manganese, dissolved			0.033	0.0145	0.031 ³	0.005	0.009	0.0045	0.07	
Iron		0.3	7.15	BQL	15.50	15.50	7.23	6.30	5.31	
Manganese		0.05	0.0021	0.0117	0.0033 ³	0.004	0.005	0.003	0.05	
Lead		0.015	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Selenium		0.05	BQL	BQL	BQL ²	BQL	BQL	BQL	BQL	
Microelements, mg/L										
TDS		500	1,660	285	500	301	303	317	360	
TSS			35.5	41	6.9	185	103	29	32	
Total Hardness, CaCO ₃ /L			90.4	105	NA	90.9	450	NA	NA	

Note:
1 Methylene Chloride is a commonly found contaminant in laboratories.
2 Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL - Below Laboratory Quantitation Limit
* Verified with laboratory data package

Source Locations:
CST-R: Campbell Street Groundwater Recovery Trench Effluent
4151T-R: Building 4151 Groundwater Recovery Effluent
1437-R: Building 143 Groundwater Recovery Trench Effluent
AS-2: Air Stripper Effluent
AS-3: Air Stripper Effluent
AC41-R: Activated Carbon Adsorption Unit Number One Effluent
AC43-R: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)

Notes:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Regulatory limits for 1,4-Dichlorobenzene and Toluene Xylenes were established in the Corrective Action Plan, dated July 1994, prepared by their Environment, Inc.
3. Detected concentrations above the regulatory limits are indicated by shading.
4. Detected concentrations above the regulatory limits are indicated by shading.
NAC indicates that this sample was not analyzed for the constituent.
BCL = Below Laboratory Quantitation Limit
* analyzed with laboratory data package

NSA70-58-D-3003

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDB#	Sample ID	USTCSPF-AS-B-98B1	USTCSPF-AS-B-98A3	USTCSPF-AS-B-98A1	USTCSPF-AS-B-97D3	USTCSPF-AS-B-97D2	24-AS-B-M10-97-13	24-AS-B-M9-97-12
Regulatory Limits	0.0004	Sample Date	4/9/1998	2/15/1998	1/14/1998	12/9/1997	11/13/1997	10/9/1997	9/16/1997
Volatiles Organic Compounds by USEPA Method 811, mg/L									
Methylene Chloride	5.0 ¹		NA	NA	NA	NA	NA	NA	NA
Volatiles Aromatic Hydrocarbons by USEPA Method 811, mg/L									
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.5 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL
MXBT	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L									
Naphthalene	21		NA	NA	NA	NA	NA	NA	NA
1-Methylanthracene			BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylanthracene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Inorganic Compounds, mg/L									
Acetic Acid	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		0.003	0.003	0.003	0.003	0.003	0.003	0.003
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved	0.5		0.53	0.53	2.58	2.58	4.99	1.83	1.50
Manganese, dissolved	0.06		0.06	0.03	0.03	0.03	0.03	0.03	0.03
Iron	0.3		3.73	3.48	2.74	2.74	2.74	2.74	2.74
Manganese	0.05		0.04	0.25	0.25	0.04	0.03	0.03	0.03
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Microelements, mg/L									
Thiols	500		497	588	778	599	712	702	581
TSS			75	131	46	41	74	88	48
Total Hardness, CaO/L			NA	NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
³ Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package
 Sample Locations:
 CST-E: Campbell Street Groundwater Recovery Trench Effluent
 4151T-R: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trench Effluent
 AS-E: Air Stripper Effluent
 AS-E: Air Stripper Effluent
 AC41-E: Activated Carbon Adsorption Unit Number One Effluent
 AC42-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
FOLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID	24-AS-B-143-97-11	24-AS-B-143-97-10	24-AS-B-143-97-9	24-AS-B-143-97-3	24-AS-B-143-97-7	24-AS-B-143-97-6-180	24-AS-B-143-97-5-150	24-AS-B-890
Hydrocarbon Deteriorable by USEPA Method 801.1, mg/L	0.0004	Sample Date	8/12/1997	7/14/1997	6/12/1997	5/14/1997	4/15/1997	3/19/1997	2/12/1997	12/19/1996
Volatiles Organic Compounds by USEPA Method 801, mg/L	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
Hydrocarbon Chloride										
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.5 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	20		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenyls	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTHB	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Nylons										
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L										
Naphthalene	21		NA	NA	NA	NA	NA	NA	NA	NA
1-Methyl-naphthalene			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methyl-naphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	0.005		0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Benzo[a]anthracene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Indeno[1,2,3-cd]pyrene			1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Benzo[k]fluoranthene			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[e]pyrene	0.3		1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Benzo[b]fluoranthene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]pyrene	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]anthracene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo[a]fluoranthene			500	477	466	461	461	461	461	461
Total Hardness, CaCO ₃ /L			25	5	15	23	66	49	72	93

Notes:
 1. Hydrocarbon Chloride is a commonly found contaminant in lubricants.
 2. Regulatory limits for 1,4-Dichlorobenzene and Total Nylons were established in the Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 3. Detected concentrations are indicated in boldface type.
 4. Detected concentrations above the regulatory limits are indicated by shading.
 5. NA indicates that the sample was not analyzed for the constituent.
 6. BQL = Below Laboratory Quantitation Limit
 7. * verified with laboratory data package
 8. NCDEMR
 9. CPT-E: Campbell Street Groundwater Recovery Tank Effluent
 10. 4151T-E: Building 4151 Groundwater Recovery Effluent
 11. 143T-E: Building 143 Groundwater Recovery Tank Effluent
 12. AS-E: Air Stripper Effluent
 13. AS-E: Air Stripper Effluent
 14. ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
 15. ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
FOIRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	24-AS-E-575 12/2/1996	24-AS-E-560 11/15/1996	24-AS-E-545 10/31/1996	24-AS-E-530 10/7/1996	24-AS-E-520 10/7/1996	24-AS-E-510 9/25/1996	24-AS-E-501 7/1/1996	ACAL-E USTCERF-ACAL-E-03A2 2/6/2000 *
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 846.1, ng/L</i>	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polycyclic Organic Compounds by USEPA Method 846.1, ng/L</i>	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 846.1, ng/L</i>	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1,4-Dichlorobenzene</i>	1.5 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA
<i>Chlorobenzene</i>	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Ethylbenzene</i>	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>MXCE</i>	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Toluene</i>	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Total Xylenes</i>	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	NA	BQL
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 816, ng/L</i>	21		NA	NA	NA	NA	NA	NA	NA	NA
<i>Naphthalene</i>	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA
<i>1-Methylpyrene</i>	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA
<i>2-Methylpyrene</i>	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA
<i>Isomeric Compounds, ng/L</i>										
<i>Arene</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Cyclohexane</i>	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzene</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Iron, dissolved</i>			20.57	6.34	6.69	4.58	5.81	NA	NA	BQL
<i>Manganese, dissolved</i>			0.13	0.13	0.09	0.1	0.14	NA	NA	BQL
<i>Iron</i>	0.3		75.47	6.71	6.72	4.78	72.31	5.15	25.35	BQL
<i>Manganese</i>	0.05		0.16	0.13	0.09	0.11	0.16	0.16	0.16	BQL
<i>Lead</i>	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Selenium</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Phenanthrene, ng/L</i>										
<i>TDH</i>	500		1.345	569	1.325	335	390	394	1.356	449
<i>TSS</i>			288	59	135	119	171	86	213	4.6
<i>Total Hardness, CaCO₃/L</i>			NA	NA	NA	NA	NA	NA	NA	NA

Note:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Comprehensive Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

Sample Location:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
145T-E: Building 145 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (con. d)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCMBOR Regulatory Limit 0.0004	Sample ID Event Sample Date	ACAL-E									
			USTCSPF-ACAL-E-02A3 3/7/2002 *	USTCSPF-ACAL-E-02A3 2/6/2002 *	USTCSPF-ACAL-E-02A1 1/2/2002	USTCSPF-ACAL-E-02A1 1/2/2002	USTCSPF-ACAL-E-01D3 12/2/2001 *	USTCSPF-ACAL-E-01D2 11/7/2001	USTCSPF-ACAL-E-01D1 10/10/2001 *	USTCSPF-ACAL-E-01C3 9/2/2001 *	USTCSPF-ACAL-E-01C3 8/2/2001 *	
Ethylene Dichloride by USEPA Method 564.1, mg/L			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Ethylene Dichloride by USEPA Method 601, mg/L			NA	NA	NA	NA	NA	NA	NA	NA		
Methylene Chloride by USEPA Method 602, mg/L	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA		
1,2-Dichlorobenzene by USEPA Method 602, mg/L	620		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
1,4-Dichlorobenzene by USEPA Method 602, mg/L	1.3 ²		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
Benzene by USEPA Method 602, mg/L	1		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
Chlorobenzene by USEPA Method 602, mg/L	50		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
Bromobenzene by USEPA Method 602, mg/L	29		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
MTHSE by USEPA Method 602, mg/L	200		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
Toluene by USEPA Method 602, mg/L	1000		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
Total Xylenes by USEPA Method 602, mg/L	400 ²		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA		
Polycyclic Aromatic Hydrocarbons by USEPA Method 615, mg/L			NA	NA	NA	NA	NA	NA	NA	NA		
Naphthalene by USEPA Method 615, mg/L	21		NA	NA	NA	NA	NA	NA	NA	NA		
1-Methylanthracene by USEPA Method 615, mg/L	Detection Limit		NA	NA	NA	NA	NA	NA	NA	NA		
2-Methylanthracene by USEPA Method 615, mg/L	28		NA	NA	NA	NA	NA	NA	NA	NA		
Inorganic Compounds, mg/L												
Arsenic by EPA Method 8130, mg/L	0.05		0.0133	0.0178	BQL	BQL	0.0123	0.0133	BQL	BQL		
Barium by EPA Method 8130, mg/L	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Cadmium by EPA Method 8130, mg/L	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Chromium by EPA Method 8130, mg/L	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Iron, dissolved by EPA Method 8130, mg/L			BQL	BQL	BQL	BQL	0.0131	BQL	BQL	BQL		
Manganese, dissolved by EPA Method 8130, mg/L			BQL	BQL	BQL	BQL	0.175	0.271	NA	0.023		
Iron by EPA Method 8130, mg/L	0.3		BQL	BQL	BQL	BQL	0.017	0.0101	0.0286	0.0101		
Manganese by EPA Method 8130, mg/L	0.05		BQL	BQL	BQL	BQL	0.017	0.0101	0.0286	0.0101		
Lead by EPA Method 8130, mg/L	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Selenium by EPA Method 8130, mg/L	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Microfluorimetry, mg/L												
TDS by EPA Method 8130, mg/L	500		390	439	419	419	390	439	419	444		
TSS by EPA Method 8130, mg/L			BQL	BQL	BQL	BQL	9.4	3.3	20	5.1		
Total Hardness, CaO ₂ /L			NA	NA	NA	NA	NA	NA	NA	NA		

Note:
1 Methylene Chloride is a commonly found contaminant in laboratories.
2 Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Comprehensive Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

Non-Halogenated
CST-E: Campbell Street Groundwater Recovery Trench Effluent
415T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AS-E: Air Stripper Effluent
ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	ACAI-E							
			USTCSPF-ACAI-E-01C1 7/11/2001 *	USTCSPF-ACAI-E-01B1 6/4/2001 *	USTCSPF-ACAI-E-01B2 5/9/2001 *	USTCSPF-ACAI-E-01B3 4/11/2001 *	USTCSPF-ACAI-E-01A3 3/6/2001 *	USTCSPF-ACAI-E-01A2 2/7/2001 *	USTCSPF-ACAI-E-00A1 1/10/2001 *	USTCSPF-ACAI-E-00D3 12/6/2000 *
Polychlorinated Biphenyls by USEPA Method 564.1, mg/L	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 601, mg/L	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
Polycyclic Aromatic Hydrocarbons by USEPA Method 602, mg/L	620		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 603, mg/L	1.8 ²		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 604, mg/L	1		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 605, mg/L	50		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 606, mg/L	29		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 607, mg/L	200		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 608, mg/L	1000		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 609, mg/L	400 ³		BQL	BQL	NA	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 610, mg/L	21		NA	NA	NA	NA	NA	NA	NA	NA
Polycyclic Aromatic Hydrocarbons by USEPA Method 611, mg/L	28		NA	NA	NA	NA	NA	NA	NA	NA
Polycyclic Aromatic Hydrocarbons by USEPA Method 612, mg/L	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 613, mg/L	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 614, mg/L	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 615, mg/L	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 616, mg/L	0.0006		BQL	BQL	0.0134	0.0165	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 617, mg/L	0.11		BQL	BQL	0.112	0.113	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 618, mg/L	0.05		0.0057	0.012	0.0177	0.0065	0.0135	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 619, mg/L	0.015		BQL	BQL	BQL	0.005	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 620, mg/L	0.05		BQL	BQL	0.0229	0.0123	BQL	BQL	BQL	BQL
Microelements, mg/L	500		624	561	695	351	499	224	246	223
Total Hardness, CaCO₃/L	785		BQL	BQL	1.1	17	7.6	BQL	BQL	1.3
Total Hardness, CaCO₃/L			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Polychlorinated Biphenyls is a commonly found contaminant in lubricants.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Consent Decree, dated July 1994, prepared by Baker Environmental, Inc.
3. Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* Verified with laboratory data package

Sample Locations:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
ACAI-E: Activated Carbon Adsorption Unit Number One Effluent
ACAI-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCIDRR Regulatory Limit	Sample ID Event Sample Date	USTCSEF-ACAI-B-0022 11/9/2000 *	USTCSEF-ACAI-B-0021 10/10/2000 *	USTCSEF-ACAI-B-0023 9/2/2000 *	USTCSEF-ACAI-B-0023 8/10/2000 *	USTCSEF-ACAI-B-0021 7/10/2000 *	USTCSEF-ACAI-B-0023 6/22/2000 *	USTCSEF-ACAI-B-0022 5/10/2000 *	USTCSEF-ACAI-B-0021 4/10/2000 *
Polycyclic Aromatic Hydrocarbons by USEPA Method 801, mg/L	0.0004									
Benzene	5.0 ¹		NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenyls	25		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L										
Naphthalene	21		NA	NA	NA	NA	NA	NA	NA	NA
1-Methylanthracene	28		NA	NA	NA	NA	NA	NA	NA	NA
2-Methylanthracene	28		NA	NA	NA	NA	NA	NA	NA	NA
Organic Compounds, mg/L										
Arsenic	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese, dissolved			0.0169	0.0169	0.0169	0.0169	0.0169	0.0169	0.0169	0.0169
Iron	0.3		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Aluminum, mg/L										
Aluminum	243		219	219	278	288	287	365	370	368
Total Hardness, CaCO₃, L										
Total Hardness	500		BQL	BQL	19	1.7	1.4	3	BQL	1.3
			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package

NOTES LOCATIONS:
 CST-2: Campbell Street Groundwater Recovery Trench Effluent
 4151T-2: Building 4151 Groundwater Recovery Effluent
 140T-2: Building 143 Groundwater Recovery Trench Effluent
 AS-2: Air Stripper Effluent
 AS-2: Air Stripper Effluent
 ACAL-2: Activated Carbon Adsorption Unit Number One Effluent
 ACAL-2: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Tank Order 024

Parameter	Sample ID	USTCSPF-ACAI-E-00A3	USTCSPF-ACAI-E-00A2	USTCSPF-ACAI-E-00A1	USTCSPF-ACAI-E-99D3	USTCSPF-ACAI-E-99D2	USTCSPF-ACAI-E-99D1	USTCSPF-ACAI-E-99C3	USTCSPF-ACAI-E-99C2
<i>Biphenyl Dithionite</i>	Regulatory Limit 0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 601, mg/L</i>	5.0 ¹	NA	NA	NA	NA	NA	NA	NA	NA
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 601, mg/L</i>	620	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1,2-Dichlorobenzene</i>	1.8 ²	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1,4-Dichlorobenzene</i>	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	50	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzene</i>	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Biphenylene</i>	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>MTBE</i>	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Toluene</i>	400 ²	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Total Nylons</i>	21	NA	NA	NA	NA	NA	NA	NA	NA
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 616, mg/L</i>	28	NA	NA	NA	NA	NA	NA	NA	NA
<i>1-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>2-Methylpyrene</i>	0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>3-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>4-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>5-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>6-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>7-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>8-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>9-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>10-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>11-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>12-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>13-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>14-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>15-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>16-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>17-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>18-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>19-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>20-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>21-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>22-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>23-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>24-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>25-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>26-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>27-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>28-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>29-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>30-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>31-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>32-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>33-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>34-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>35-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>36-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>37-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>38-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>39-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>40-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>41-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>42-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>43-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>44-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>45-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>46-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>47-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>48-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>49-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>50-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>51-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>52-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>53-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>54-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>55-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>56-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>57-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>58-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>59-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>60-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>61-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>62-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>63-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>64-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>65-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>66-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>67-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>68-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>69-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>70-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>71-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>72-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>73-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>74-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>75-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>76-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>77-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>78-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>79-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>80-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>81-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>82-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>83-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>84-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>85-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>86-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>87-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>88-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>89-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>90-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>91-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>92-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>93-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>94-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>95-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>96-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>97-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>98-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>99-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>100-Methylpyrene</i>	0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

Note:
1. Methylpyrene is a commonly found contaminant in lubricants.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Nylons were established in the
Cumulative Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* Verified with laboratory data package

Sample Locations:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent
AS-2: Air Stripper Effluent
AS-3: Air Stripper Effluent
ACAI-E: Activated Carbon Adsorption Unit Number One Effluent
ACAA-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)

Name: Methylene Chloride is a commonly found contaminant in laboratories.
 Respiratory limits for 1,4-Dichlorobenzene and Toluene were established in the
 Executive Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the respiratory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * coded with Laboratory data package

100-438997-1001

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter		Sample ID Event Sample Date	ACAL-E									
NCDBNR Regulatory Limit	USTCSEP-ACAL-E-98D1 10/7/1998		USTCSEP-ACAL-E-98C3 9/10/1998	USTCSEP-ACAL-E-98C2 8/1/98	USTCSEP-ACAL-E-98C1 7/7/1998	USTCSEP-ACAL-E-98B3 6/1/1998	USTCSEP-ACAL-E-98B2 5/26/1998	USTCSEP-ACAL-E-98B1 4/9/1998	USTCSEP-ACAL-E-98A3 3/29/1998			
Hydrocarbon Deteriorants by USEPA Method 564.1, mg/L		0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Volatiles Organic Compounds by USEPA Method 601, mg/L		5.0 ¹	NA	NA	NA	NA	NA	NA	NA	NA		
Polycyclic Aromatic Hydrocarbons by USEPA Method 602, mg/L		620	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
1,2-Dichlorobenzene		1.5 ²	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
1,4-Dichlorobenzene		1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Benzene		50	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Chlorobenzene		29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Ethylbenzene		200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
MTBE		1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Toluene		400 ³	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Total Nylons												
Polynuclear Aromatic Hydrocarbons by USEPA Method 616, mg/L		21	NA	NA	NA	NA	NA	NA	NA	NA		
Naphthalene		Detection Limit	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
1-Methylanthracene		28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
2-Methylanthracene												
Inorganic Compounds, mg/L												
Acetic		0.05	BQL	BQL	BQL	BQL	BQL	BQL	0.005	BQL		
Boric		2.0	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Cadmium		0.005	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Chromium		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Iron, dissolved		0.23	BQL	0.04	0.03	0.19	0.69	0.63	3.85	0.63		
Manganese, dissolved		0.3	BQL	BQL	BQL	BQL	BQL	0.69	0.69	0.63		
Iron		0.3	1.58	0.18	0.23	0.69	1.68	0.69	0.69	0.64		
Manganese		0.05	BQL	BQL	BQL	BQL	BQL	0.64	0.64	0.65		
Lead		0.015	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Selenium		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL		
Microbiologicals, mg/L												
TDS		500	453	463	444	395	412	412	412	462		
TSS			8	8	8	6	8	6	6	6		
Total Hardness, CaCO ₃ L			NA	NA	NA	NA	NA	NA	NA	NA		

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Nylons were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
³ verified with laboratory data package

Sample Locations:
 C37-E: Campbell Street Groundwater Recovery Trench Effluent
 415T-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trench Effluent
 AS-2: Air Stripper Effluent
 AS-3: Air Stripper Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	MOBDEIR Regulatory Limit	Sample ID Event Sample Date	USTCSTP-ACA1-B-9A1 1/1/1998	USTCSTP-ACA1-B-9A2 2/15/1998	USTCSTP-ACA1-B-9A3 12/9/1997	USTCSTP-ACA1-B-9D3 1/1/1997	24-ACA1-B-9D-97-12 10/9/1997	24-ACA1-B-9D-97-11 8/12/1997	24-ACA1-B-9D-97-10 2/12/1997
<i>Hydrocarbons Detectable by USEPA Method 801.1, mg/L</i>	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Volatiles Organic Compounds by USEPA Method 801, mg/L</i>	5.0 ¹		NA	NA	NA	NA	NA	NA	NA
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 801, mg/L</i>	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1,2-Dichlorobenzene</i>	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1,4-Dichlorobenzene</i>	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzene</i>	20		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Biphenylene</i>	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>MTHF</i>	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Toluene</i>	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Total Xylene</i>			BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>			NA	NA	NA	NA	NA	NA	NA
<i>Naphthalene</i>	21		NA	NA	NA	NA	NA	NA	NA
<i>1-Methyl-naphthalene</i>	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>2-Methyl-naphthalene</i>			BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds, mg/L</i>									
<i>Ammonia</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Borates</i>	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Calcium</i>	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chloride</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Iron, dissolved</i>			BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Manganese, dissolved</i>	0.3		0.03	0.03	0.03	0.03	0.03	0.03	0.03
<i>Iron</i>	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05
<i>Manganese</i>	0.015		0.015	0.015	0.015	0.015	0.015	0.015	0.015
<i>Selenium</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Microbiological, mg/L</i>									
<i>TDS</i>	500		620	620	620	620	620	620	620
<i>Total Hardness, CaCO₃/L</i>			BQL	BQL	BQL	BQL	BQL	BQL	BQL

NOTE: Methylene Chloride is a commonly found contaminant in laboratories.
Regulatory limits for 1,4-Dichlorobenzene and Total Xylene were established in the
Corrective Action Plan, dated July 1996, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

REGULATORY LIMITS:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AS-E: Air Stripper Effluent
ACA1-E: Activated Carbon Adsorption Unit Number One Effluent
ACA2-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLREAC Task Order 024

Parameter	NCDEP Regulatory Limit	Sample ID Revised Sample Date	24-ACAI-E-590 12/17/1996	24-ACAI-E-575 12/27/1996	24-ACAI-E-560 11/15/1996	24-ACAI-E-545 10/31/1996	24-ACAI-E-530 10/17/1996	24-ACAI-E-520 10/7/1996	24-ACAI-E-510 9/26/1996
Polycyclic Aromatic Hydrocarbons by USEPA Method 816, ng/L	0.0004								
Benzene	5.0 ¹		NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL
400 ³			BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 819, ng/L									
Naphthalene	21		NA	NA	NA	NA	NA	NA	NA
1-Methyl-naphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methyl-naphthalene			BQL	BQL	BQL	BQL	BQL	BQL	BQL
Emergent Compounds, ng/L									
Aromatic	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved	1.14		1.14	15.00	4.78	0.49	0.47	1.19	NA
Manganese, dissolved	0.04		0.04	0.08	0.08	0.08	0.08	0.08	0.08
Iron	0.3		1.39	14.05	0.59	0.05	0.05	0.05	0.05
Manganese	0.05		0.04	0.1	0.04	0.04	0.04	0.04	0.04
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Microbiological, ng/L									
TSS	500		663	1,354	667	1,313	663	669	665
TSS			6	180	6	6	6	6	17
Total Hardness, CaCO ₃ /L			NA	NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in lubricants.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
³ verified with laboratory data package
 SOURCE: LABORATORY
 CBT-E: Campbell Street Groundwater Recovery Trench Effluent
 4151T-E: Building 4151 Groundwater Recovery Effluent
 1437-E: Building 143 Groundwater Recovery Trench Effluent
 AS-E: Air Stripper Effluent
 AS-E: Air Stripper Effluent
 ACAI-E: Activated Carbon Adsorption Unit Number One Effluent
 ACAI-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter		Sample ID	AC13-2							
NCDRPR Regulatory Limit	Event Sample Date	USTCSPF-ACA13-B-03A2 2/6/2003 *	USTCSPF-ACA13-B-03A1 1/21/2003 *	USTCSPF-ACA13-B-03D3 12/2/2003 *	USTCSPF-ACA13-B-03D2 11/4/2003 *	USTCSPF-ACA13-B-03D1 10/2/2003 *	USTCSPF-ACA13-B-03C3 9/4/2003 *	USTCSPF-ACA13-B-03C2 8/5/2003 *	USTCSPF-ACA13-B-03C1 7/1/2003	
Biphenyl Dibenzenes by USEPA Method 804.1, mg/L										
Ethylene Dibenzide		0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Volatiles Organic Compounds by USEPA Method 801, mg/L										
Methylene Chloride		5.0 ¹	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
1,2-Dichlorobenzene		620	BQL	BQL	BQL	NA	BQL	BQL	BQL	
1,4-Dichlorobenzene		1.8 ²	BQL	BQL	BQL	NA	BQL	BQL	BQL	
Benzene		1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Chlorobenzene		50	BQL	BQL	BQL	NA	BQL	BQL	BQL	
Ethylbenzene		29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
MTBE		200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Toluene		1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Total Xylenes		400 ³	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Polycyclic Aromatic Hydrocarbons by USEPA Method 816, mg/L										
Naphthalene		21	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
1-Methylpyrene		Detection Limit	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
2-Methylpyrene		28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Inorganic Compounds, mg/L										
Arsenic		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Barium		2.0	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Cadmium		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Chromium		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Iron, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Manganese, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Iron		0.3	0.167	BQL	BQL	BQL	BQL	BQL	0.1128	
Manganese		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Lead		0.015	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Selenium		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL	
Microthosaurus, mg/L										
TDS		500	479	408	525	380	401	613	423	
TSS			1.7	1.1	1.3	1.7	2.1	3.4	3.4	
Total Hardness, CaCO ₃ /L			287	311	395	267	351	419	281	

Note:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package

NEEDS ADDRESS
 CTEC: Campbell Street Groundwater Recovery Treatment Effluent
 4151E-3: Building 4151 Groundwater Recovery Effluent
 1437E-3: Building 143 Groundwater Recovery Treatment Effluent
 AS-3: Air Stripper Effluent
 AS-2: Air Stripper Effluent
 AC13-2: Activated Carbon Adsorption Unit Number One Effluent
 AC13-3: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	USTC8FF-ACA3-B-02B3 6/9/2002 *	USTC8FF-ACA3-B-02A3 3/7/2002 *	USTC8FF-ACA3-B-02A3 2/6/2002 *	USTC8FF-ACA3-B-02A1 1/9/2002	USTC8FF-ACA3-B-01D3 12/9/2001 *	USTC8FF-ACA3-B-01D2 1/17/2001	USTC8FF-ACA3-B-01D1 10/10/2001 *	USTC8FF-ACA3-B-01C3 9/9/2001 *
<i>Ethylene Dichloride by USEPA Method 846.1, mg/L</i>	0.004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Yieldable Organic Compounds by USEPA Method 801, mg/L</i>	5.0 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Volatiles, Aromatic Hydrocarbons by USEPA Method 801, mg/L</i>										
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA
1,4-Dichlorobenzene	1.3 ²		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA
Benzene	1		BQL	BQL	BQL	BQL	NA	BQL	BQL	NA
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTHB	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylanthracene	Detection Limit		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylanthracene	23		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Isopropyl Compounds, mg/L</i>										
Aromatic	0.05		BQL	0.0153	BQL	BQL	0.0139	0.0114	BQL	BQL
Benzene	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cumene	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Isopropyl alcohol			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methylcyclohexane, diethyl			BQL	BQL	BQL	BQL	0.0139	BQL	BQL	0.0241
Isopropyl alcohol	0.3		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Methylcyclohexane	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Solvents	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Microbial, mg/L</i>										
TDS	500		413	501	434	400	400	411	430	494
TSS			BQL	BQL	BQL	BQL	21	BQL	1.3	5.7
Total Hardness, CaCO ₃ /L			253	379.9	333.3	280.5	275.7	274	318.5	391.7

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Cumulative Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 NA indicates that the sample was not analyzed for the constituent.
 BQL - Below Laboratory Quantitation Limit
 * verified with laboratory data package

NCDEMR LABORATORY
 C87-E: Campbell Street Groundwater Recovery Trunk Effluent
 147T-E: Building 1451 Groundwater Recovery Effluent
 147T-E: Building 145 Groundwater Recovery Trunk Effluent
 A4-E: Air Stripper Effluent
 A4-E: Air Stripper Effluent
 AC41-E: Activated Carbon Adsorption Unit Number One Effluent
 AC43-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDNR Regulatory Limit	Sample ID Sample Date	USTCSEF-ACA2-B-01C3 9/8/2001 *	USTCSEF-ACA2-B-01C1 7/17/2001 *	USTCSEF-ACA2-B-01B3 6/4/2001 *	USTCSEF-ACA2-B-01B2 5/9/2001 *	USTCSEF-ACA2-B-01B1 4/11/2001 *	USTCSEF-ACA2-B-01A3 3/6/2001 *	USTCSEF-ACA2-B-01A2 2/7/2001 *	USTCSEF-ACA2-B-01A1 1/10/2001 *
<i>Hydrocarbon Nitrates</i>										
<i>Hydrocarbon Nitrates</i>	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	5.0 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	620		BQL	BQL	BQL	NA	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	1.4 ²		BQL	BQL	BQL	NA	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	1		BQL	BQL	BQL	NA	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	50		BQL	BQL	BQL	NA	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Hydrocarbon Nitrates</i>	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
<i>Polynuclear Aromatic Hydrocarbons</i>	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons</i>	Detection Limit		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons</i>	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds, mg/L</i>										
<i>Inorganic Compounds</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	Iron, dissolved		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	Manganese, dissolved		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	Iron		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	Manganese		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	Lead		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Inorganic Compounds</i>	Selenium		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Microbiological, mg/L</i>										
<i>Microbiological</i>	500		448	465	397	325	431	390	223	248
<i>Microbiological</i>	TDS		BQL	BQL	BQL	BQL	32	2.4	BQL	BQL
<i>Microbiological</i>	Total Hardness, CaCO ₃ /L		314.7	494	348	465	339	283	111	120

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Nylons were established in the Remedial Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package

Sample Locations:
 CTR-E: Campbell Street Groundwater Recovery Trench Effluent
 415T-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trench Effluent
 AS-E: Air Stripper Effluent
 ACU-E: Activated Carbon Adsorption Unit Number One Effluent
 ACU-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)

Name: **Methylene Chloride** is a commonly found contaminant in lubrication.
 Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Executive Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 N/A indicates that the sample was not analyzed for the constituent.
 BQL - Below Laboratory Quantitation Limit
 * verified with laboratory data package

Sample Locations:
 CST-1E: Campbell Street Groundwater Recovery Trench Effluent
 4151T-1E: Building 4151 Groundwater Recovery Effluent
 148T-1E: Building 148 Groundwater Recovery Trench Effluent
 AS-1: Air Stripper Effluent
 AS-2: Air Stripper Effluent
 AC1-1E: Activated Carbon Adsorption Unit Number One Effluent
 AC2-1E: Activated Carbon Adsorption Unit Number Two Effluent

10/17/94-04-20-003
 Total Chloride (ppm) 6570/Completed by: Fred Brown

Book Order - No. 8215 - \$1.00

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEPR Regulatory Limit	Sample ID Event Sample Date	USTCSPF-A043-E-0081 4/10/2000 *
Biphenyls Detectable by USEPA Method 584.1, $\mu\text{g/L}$	0.0004		BQL
Biphenyls Detectable by USEPA Method 601, $\mu\text{g/L}$			
Polycyclic Aromatic Hydrocarbons by USEPA Method 602, $\mu\text{g/L}$			
1,2-Dichlorobenzene	5.0 ¹		BQL
1,4-Dichlorobenzene	620		BQL
1,4-Dichlorobenzene	1.8 ²		BQL
Benzene	1		BQL
Chlorobenzene	50		BQL
Biphenyls	29		BQL
MTBE	200		BQL
Toluene	1000		BQL
Total Xylenes	400 ³		BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 610, $\mu\text{g/L}$			
Naphthalene	21		BQL
1-Methylnaphthalene	Detection Limit		BQL
2-Methylnaphthalene	28		BQL
Inorganic Compounds, $\mu\text{g/L}$			
Acetate	0.05		0.0123
Barium	2.0		BQL
Cadmium	0.005		BQL
Chromium	0.05		BQL
Iron, dissolved			BQL
Manganese, dissolved			BQL
Iron	0.3		0.1779
Manganese	0.05		BQL
Lead	0.015		BQL
Selenium	0.05		BQL
Metals, $\mu\text{g/L}$			
TDS	500		421
Total Hardness, CaCO_3/L			4.5
			44.7

Note:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 Detected concentrations above the regulatory limits are indicated by shading.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Below Laboratory Quantitation Limit
 * verified with laboratory data package

NOTES: Location:
 CTE-E: Campbell Street Groundwater Recovery Trench Effluent
 4151T-E: Building 4151 Groundwater Recovery Effluent
 140T-E: Building 140 Groundwater Recovery Trench Effluent
 AS-E: Air Stripper Effluent
 AS-E: Air Stripper Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number One Effluent
 ACAL-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	USTCSEF-ACA2-B-00A3 3/8/2000 *	USTCSEF-ACA2-B-00A2 2/8/2000 *	USTCSEF-ACA2-B-00A1 1/2/2000 *	USTCSEF-ACA2-B-00D1 10/7/1999 *	USTCSEF-ACA2-B-00D2 11/1/1999 *	USTCSEF-ACA2-B-00D3 12/8/1999 *	USTCSEF-ACA2-B-00C3 9/9/1999 *	USTCSEF-ACA2-B-00C2 8/1/1999 *
Phenyls Diisocyanide by USEPA Method 804.1, mg/L										
Phenyls Diisocyanide	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenyls Organic Compounds by USEPA Method 801, mg/L										
Phenyls Chloride	5.0 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenyls Aromatic Hydrocarbons by USEPA Method 801, mg/L										
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenyls	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L										
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylanthracene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylanthracene										
Fluorinated Compounds, mg/L										
Acetic Acid	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Butyric Acid	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadimic Acid	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloroacetic Acid	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved										
Manganese, dissolved										
Iron	0.3		0.0122	0.0178	0.0132	0.0172	0.0108	0.0139	0.0135	0.0135
Manganese	0.05		BQL	0.0113	0.0118	0.0125	BQL	1.14	1.14	0.13
Lead	0.015		0.0113	0.0171	0.0154	0.0172	0.011	0.0177	0.0177	0.0066
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Microorganisms, mg/L										
TSS	500		650	299	610	316	312	775	775	1404
TSS			11	4	5	5	8	6.5	6.5	3
Total Hardness, CaCO ₃ /L			78.3	124	180	69.6	58	57.7	57.7	72.5

Note:
* Methylene Chloride is a commonly found contaminant in laboratories.
* Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL - Below Laboratory Quantitation Limit
* verified with laboratory data package

NOTES LOCATIONS:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AS-E: Air Stripper Effluent
AC1-E: Activated Carbon Adsorption Unit Number One Effluent
AC1-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit 0.0004	Sample ID Event Sample Date	USTCSPF-ACA2-B-99B3 7/8/1999	USTCSPF-ACA2-B-99B2 5/12/1999	USTCSPF-ACA2-B-99B1 4/7/1999	USTCSPF-ACA2-B-99A3 3/18/1999	USTCSPF-ACA2-B-99A2 2/1/1999	USTCSPF-ACA2-B-99A1 1/4/1999	USTCSPF-ACA2-B-99D3 12/7/1998
<i>Biphenyls Detectable by USEPA Method 804.1, mg/L</i>									
<i>Biphenyls Detectable by USEPA Method 804.1, mg/L</i>									
<i>Volatiles Organic Compounds by USEPA Method 601, mg/L</i>									
<i>Methylene Chloride</i>	5.0 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 601, mg/L</i>									
<i>1,2-Dichlorobenzene</i>	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1,4-Dichlorobenzene</i>	1.3 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Benzene</i>	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chlorobenzene</i>	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Biphenyls</i>	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>MTBE</i>	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Toluene</i>	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Total Xylenes</i>	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 618, mg/L</i>									
<i>Naphthalene</i>	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>1-Methylpyrene</i>	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>2-Methylpyrene</i>									
<i>Inorganic Compounds, mg/L</i>									
<i>Ammonia</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Barium</i>	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Calcium</i>	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Chromium</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Iron, dissolved</i>	2.73		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Manganese, dissolved</i>	0.0235		0.0235	0.0115	0.0246	BQL	BQL	BQL	BQL
<i>Iron</i>	0.3		BQL	0.13	BQL	BQL	BQL	BQL	BQL
<i>Manganese</i>	0.05		0.0235	0.0163	0.0263	BQL	BQL	BQL	BQL
<i>Lead</i>	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Selenium</i>	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Microelements, mg/L</i>									
<i>Tris</i>	500		434	434	445	438	445	445	445
<i>TSS</i>			1	3	6	2.5	BQL	BQL	BQL
<i>Total Hardness, CaCO₃/L</i>			79	84.3	473	234	NA	NA	NA

¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Consent Decree, dated July 1994, pursuant to Superfund Remedial, Inc.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

NOTES: CAMPBELL STREET Groundwater Recovery Treatment Effluent
USTCSPF-ACA2-B-99B3 Building 4151 Groundwater Recovery Effluent
USTCSPF-ACA2-B-99B2 Building 143 Groundwater Recovery Treatment Effluent
USTCSPF-ACA2-B-99A3 All Sample Effluent
USTCSPF-ACA2-B-99A2 All Sample Effluent
USTCSPF-ACA2-B-99A1 All Sample Effluent
USTCSPF-ACA2-B-99D3 Activated Carbon Adsorption Unit Number One Effluent
USTCSPF-ACA2-B-99D3 Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	USTCSPF-ACA3-B-98D2 11/9/1998	USTCSPF-ACA3-B-98D1 10/7/1998	USTCSPF-ACA3-B-98C3 9/10/1998	USTCSPF-ACA3-B-98C2 8/11/1998	USTCSPF-ACA3-B-98C1 7/9/1998	USTCSPF-ACA3-B-98B3 6/11/1998	USTCSPF-ACA3-B-98B2 5/26/1998	USTCSPF-ACA3-B-98B1 4/9/1998
Phenols Detectable by USEPA Method 844.1, mg/L	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenols Organic Compounds by USEPA Method 801, mg/L	5.0 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Phenols Aromatic Hydrocarbons by USEPA Method 801, mg/L	600		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,2-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Biphenyls	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
NATB	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes										
Polynuclear Aromatic Hydrocarbons by USEPA Method 814, mg/L										
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylnaphthalene										
Emergent Compounds, mg/L										
Aromatic	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cellulose	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chloroform	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese, dissolved			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron	0.3		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Miscellaneous, mg/L										
TDS	500		463	446	478	724	449	410	589	417
TSS			BQL	BQL	BQL	11	11	BQL	BQL	BQL
Total Hardness, CaCO ₃ /l			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

REMARKS:
CST-E: Campbell Street Groundwater Recovery Trunk Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trunk Effluent
A4-E: Air Stripper Effluent
ACA1-E: Activated Carbon Adsorption Unit Number One Effluent
ACA2-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	USTCRRF-ACA2-B-9A3 3/29/1998	USTCRRF-ACA2-B-9A2 2/15/1998	USTCRRF-ACA2-B-9A1 1/14/1998	USTCRRF-ACA2-B-9T03 12/9/1997	USTCRRF-ACA2-B-9T02 11/13/1997	24-ACA2-B-10-97-13 10/9/1997	24-ACA2-B-10-97-12 9/16/1997	24-ACA2-B-10-97-11 8/12/1997
Polycyclic Aromatic Hydrocarbons by USEPA Method 801, mg/L	0.0004									
Benzo(a)anthracene	5.0 ¹		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo(b)fluoranthene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo(k)fluoranthene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzo(a)pyrene	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chrysene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluoranthene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Indeno(1,2,3-cd)pyrene	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Pyrene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total NPAHs	400 ³		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Polycyclic Aromatic Hydrocarbons by USEPA Method 816, mg/L										
Acenaphthene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthylene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylphenanthrene										
2-Methylphenanthrene										
Inorganic Compounds, mg/L										
Asbestos	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Barium	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Copper			BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron	0.3		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Nickel	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Microbial, mg/L										
Total Hardness, CaCO ₃ /L	500		609	565	795	595	744	795	695	545
TDS			BQL	BQL	2	BQL	BQL	BQL	BQL	BQL
Total Hardness, CaCO ₃ /L			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Regulatory limits for 1,4-Dichlorobenzene and Total NPAHs were established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
3. Detected concentrations are indicated in boldface type.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

URGENT LOCATIONS:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
140T-E: Building 145 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AS-E: Air Stripper Effluent
ACA1-E: Activated Carbon Adsorption Unit Number One Effluent
ACA2-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)

Abstract
Methylene Chloride is a commonly found contaminant in laboratories. Regulatory limits for 1,4-Dichlorobenzene and Total Nylones were established in the Executive Action Plan, dated July 1994, prepared by the Environmental, Inc. Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
The data indicate that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

NC2470-93-D-3013

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDBNR Regulatory Limit	Sample ID Event Sample Date	24-ACA2-S-560 11/15/1996	24-ACA2-S-545 10/31/1996	24-ACA2-S-530 10/17/1996	24-ACA2-S-520 10/7/1996	24-ACA2-S-510 9/26/1996	24-ACA2-S-501 7/1/1996
Hydrocarbons by USEPA Method 816.1, mg/L								
Benzene	0.0004		BQL	BQL	BQL	BQL	BQL	BQL
Volatiles Organic Compounds by USEPA Method 816.1, mg/L								
Methylene Chloride	5.0 ¹		BQL	BQL	BQL	BQL	BQL	BQL
Volatiles Aromatic Hydrocarbons by USEPA Method 816.1, mg/L								
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.8 ²		BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1		BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	20		BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ³		BQL	BQL	BQL	BQL	BQL	NA
Polynuclear Aromatic Hydrocarbons by USEPA Method 816.1, mg/L								
Naphthalene	21		BQL	BQL	BQL	BQL	BQL	BQL
1-Methylpyrene	Detection Limit		BQL	BQL	BQL	BQL	BQL	BQL
2-Methylpyrene	28		BQL	BQL	BQL	BQL	BQL	BQL
Emergent Compounds, mg/L								
Acetic Acid	0.05		BQL	BQL	BQL	BQL	BQL	0.05
Benzene	2.0		BQL	BQL	BQL	BQL	BQL	0.004
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	0.004
Chlorine	0.05		BQL	BQL	BQL	BQL	BQL	NA
Iron, dissolved	0.3		BQL	BQL	BQL	BQL	BQL	NA
Manganese, dissolved	0.3		BQL	BQL	BQL	BQL	BQL	0.39
Iron	0.05		BQL	BQL	BQL	BQL	BQL	0.1
Manganese	0.015		BQL	BQL	BQL	BQL	BQL	0.09
Lead	0.05		BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL
Microbiological, mg/L								
TDS	500		500	1,225	605	505	640	1,200
TSS			BQL	BQL	BQL	BQL	BQL	7
Total Hardness, CaCO ₃ /L			NA	NA	NA	NA	NA	NA

Notes:
¹ Methylene Chloride is a commonly found contaminant in laboratories.
² Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
 Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
 Detected concentrations are indicated in boldface type.
 NA indicates that the sample was not analyzed for the constituent.
 BQL = Baker Laboratory Quantification Limit
 * verified with laboratory data package

Sample Locations:
 C5715: Campbell Street Groundwater Recovery Trunk Effluent
 C5715-1: Building 4151 Groundwater Recovery Effluent
 M5715: Building 441 Groundwater Recovery Trunk Effluent
 M5715-1: Building 441 Groundwater Recovery Trunk Effluent
 M5715-2: Air Stripper Effluent
 M5715-3: Air Stripper Effluent
 M5715-4: Air Stripper Effluent
 M5715-5: Air Stripper Effluent
 M5715-6: Air Stripper Effluent
 M5715-7: Air Stripper Effluent
 M5715-8: Air Stripper Effluent
 M5715-9: Air Stripper Effluent
 M5715-10: Air Stripper Effluent
 M5715-11: Air Stripper Effluent
 M5715-12: Air Stripper Effluent
 M5715-13: Air Stripper Effluent
 M5715-14: Air Stripper Effluent
 M5715-15: Air Stripper Effluent
 M5715-16: Air Stripper Effluent
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 M5715-20: Air Stripper Effluent
 M5715-21: Air Stripper Effluent
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 M5715-23: Air Stripper Effluent
 M5715-24: Air Stripper Effluent
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 M5715-26: Air Stripper Effluent
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 M5715-94: Air Stripper Effluent
 M5715-95: Air Stripper Effluent
 M5715-96: Air Stripper Effluent
 M5715-97: Air Stripper Effluent
 M5715-98: Air Stripper Effluent
 M5715-99: Air Stripper Effluent
 M5715-100: Air Stripper Effluent

Table 4-1 (cont'd)

1437-E

1. Methylene Chloride is a commonly used contaminant in laboratories.

Correction Action Plan, dated July 1994, submitted by Fisher Environmental, Inc.

Detailed concentrations shown the mandatory limits are indicated by shading.

^a BOL = Below Laboratory Quantitation Limit.[illegible]

CST-E: Campbell Street Groundwater Recovery Trench Effluent

143T-E: Building 143 Groundwater Recovery Trench Removal

ALE: Air Skipper Equipment

ACALB: Activated Carbon Adsorption Unit Number Two Exhaust

Table 4-1 (continued)

143T-E

Notes:

Metaphase Chromosome is commonly found contained in laboratories.

Detectable concentrations are indicated in boldface type.

RNA indicates that the sample was not analyzed for the constituent.

BOI - Below Laboratory Quantitation

Simple Learning

CST-E: Campbell Street Groundwater Recovery Trench Effluent

4151 T-B: Building 4151 Groundwater Recovery Effluent

145T-E: Building 143 Groundwater Recovery Trench Effluent

Free Shipping TV 7-9V

ALL-IE Air Skipper Equipment

Material	Activated Carbon	Adsorption	Unit Number	One	Two
Material	Activated Carbon	Adsorption	Unit Number	One	Two

ACAZ-2: Activated Carbon Adsorption Unit Number Two (Hazardous Waste)

N62670-99-D-3603

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
FOLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit 0.0004	Sample ID Event Sample Date	USTCSPF-143T-B-01C2 8/8/2001 *	USTCSPF-143T-B-01C1 7/1/2001 *	USTCSPF-143T-B-01B3 6/4/2001 *	USTCSPF-143T-B-01B2 5/9/2001 *	USTCSPF-143T-B-01B1 4/1/2001 *	USTCSPF-143T-B-01A3 5/6/2001 *	USTCSPF-143T-B-01A2 2/7/2001 *	USTCSPF-143T-B-01A1 1/10/2001 *
<i>Biphenyl Dibenzenes by USEPA Method 804.1, mg/L</i>										
<i>Biphenyl Dibenzenes</i>										
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 801, mg/L</i>										
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 801, mg/L</i>										
<i>1,2-Dichlorobenzene</i>										
<i>1,4-Dichlorobenzene</i>										
<i>Benzene</i>										
<i>Chlorobenzene</i>										
<i>Biphenyls</i>										
<i>MTBE</i>										
<i>Toluene</i>										
<i>Total Xylenes</i>										
<i>Polycyclic Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>										
<i>Naphthalene</i>										
<i>1-Methylnaphthalene</i>										
<i>2-Methylnaphthalene</i>										
<i>Emergent Compounds, mg/L</i>										
<i>Acetic</i>										
<i>Butanol</i>										
<i>Chloroform</i>										
<i>Chloroform</i>										
<i>Iron, dissolved</i>										
<i>Manganese, dissolved</i>										
<i>Iron</i>										
<i>Manganese</i>										
<i>Lead</i>										
<i>Selenium</i>										
<i>Aluminum, mg/L</i>										
<i>TDH</i>										
<i>TSS</i>										
<i>Total Hardness, CaCO₃/L</i>										

Notes:
1. Methylenes Chloride is a commonly found contaminant in this location.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

Sample Locations:
CST-E: Campbell Street Groundwater Recovery Trench Effluent
4151T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trench Effluent
AS-E: Air Stripper Effluent
AC41-E: Activated Carbon Adsorption Unit Number One Effluent
AC143-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
FOURAC Task Order 024

Parameter	NCDEMR Regulatory Limit 0.0004	Sample ID Event Sample Date	USTCSPF-143T-B-0003 12/6/2000 *	USTCSPF-143T-B-0002 11/9/2000 *	USTCSPF-143T-B-0001 10/10/2000 *	USTCSPF-143T-B-0003 9/9/2000 *	USTCSPF-143T-B-0002 8/10/2000 *	USTCSPF-143T-B-0001 7/10/2000 *	USTCSPF-143T-B-0003 6/2/2000 *	USTCSPF-143T-B-0002 5/10/2000 *
<i>Regulatory Limits for 1,4-Dichlorobenzene and Total Xylenes were established in the Consent Decree, dated July 1994, pursuant to Baker Environmental, Inc.</i>										
<i>Detected concentrations above the regulatory limits are indicated by shading.</i>										
<i>NA indicates that the sample was not analyzed for the constituent.</i>										
<i>BQL = Below Laboratory Quantification Limit</i>										
<i>* verified with laboratory data package</i>										
Sample Location										
CBT-2: Campbell Street Groundwater Recovery Tank Effluent										
4151T-2: Building 4151 Groundwater Recovery Effluent										
143T-2: Building 143 Groundwater Recovery Tank Effluent										
AS-2: Air Stripper Effluent										
AS-3: Air Stripper Effluent										
AC41-2: Activated Carbon Adsorption Unit Number One Effluent										
AC41-3: Activated Carbon Adsorption Unit Number Two Effluent										
Parameter										
1,4-Dichlorobenzene, mg/L	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene, mg/L	1.8		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene, mg/L	1		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylcyclopentadiene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylcyclopentadiene	28		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Inorganic Constituents, mg/L										
Ammonia	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Borates	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Cadmium	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chromium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved	3.25		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese, dissolved	0.0599		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron	0.3		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Manganese	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Affluents, mg/L										
TDS	500		179	294	281	156	199	232	179	171
TSS			6.8	18	151	58	221	74	51	24.1
Total Hardness, CaCO ₃ /L			NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1. Methylene Chloride is a commonly found contaminant in laboratories.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Consent Decree, dated July 1994, pursuant to Baker Environmental, Inc.
Detected concentrations above the regulatory limits are indicated by shading.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantification Limit
* verified with laboratory data package

Sample Location
CBT-2: Campbell Street Groundwater Recovery Tank Effluent
4151T-2: Building 4151 Groundwater Recovery Effluent
143T-2: Building 143 Groundwater Recovery Tank Effluent
AS-2: Air Stripper Effluent
AS-3: Air Stripper Effluent
AC41-2: Activated Carbon Adsorption Unit Number One Effluent
AC41-3: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (col. 1)

7-1571

Notes

People Locations:

4151T-E: Building 4151 Groundwater

AS-E Air Stripper Inflow

ACAJ-E: Activated Carbon Adsorption

1. Introduction

NCJ 75-93-D-3403

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Table 4-1 (cont.)

Notes

¹ Methylene Chloride is a commonly found contaminant in laboratories.

² Regulatory limits for 1,4-Dichlorobenzene and Toluene were established in the Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.

³ Distilled concentrations are indicated in boldface type.

⁴ Distilled concentrations above the regulatory limits are indicated by shading.

⁵ NA indicates that the sample was not analyzed for the constituent.

⁶ BCL = Baker Laboratory Quantitation Limit

⁷ * verified with laboratory data on same

NSA-70-44-D-3013

Table 4-1 (continued)

Parameter		Sample ID	1457-2													
NODABNR Regulatory Limit	Event Sample Date	USTCSPF-1457-2-9RD3 12/7/1998	USTCSPF-1457-2-9RD2 11/7/1998	USTCSPF-1457-2-9RD1 10/7/1998	USTCSPF-1457-2-9RD3 9/17/1998	USTCSPF-1457-2-9RD2 8/17/1998	USTCSPF-1457-2-9RD1 7/9/1998	USTCSPF-1457-2-9RD3 6/11/1998	USTCSPF-1457-2-9RD2 5/26/1998							
Ethylene Dichloride		0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
Methylene Chloride		5.0 ¹	NA	NA	NA	NA	NA	NA	NA							
1,2-Dichlorobenzene		620	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
1,4-Dichlorobenzene		1.8 ²	2	20	78.3	2	2	BQL	2.3							
Benzene		1	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
Chlorobenzene		50	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
Ethylbenzene		20	2	1	25.7	1.4	BQL	BQL	BQL							
MTBE		200	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
Toluene		1000	BQL	BQL	46.7	BQL	BQL	BQL	BQL							
Total Nylons		400 ²	BQL	BQL	83	BQL	BQL	BQL	BQL							
Polycyclic Aromatic Hydrocarbons by USEPA Method 618, ppZ		21	BQL	BQL	6	BQL	BQL	BQL	BQL							
1-Methylnaphthalene		Detection Limit	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
2-Methylnaphthalene		28	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
Inorganic Compounds, ppZ																
Amide		0.05	BQL	BQL	BQL	BQL	BQL	BQL	0.005							
Barium		2.0	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
Cadmium		0.005	BQL	BQL	BQL	0.002	BQL	BQL	0.002							
Chromium		0.05	BQL	BQL	BQL	BQL	BQL	0.04	BQL							
Iron, dissolved		4	2.29	0.57	0.73	0.48	0.96	2.9	5.43							
Manganese, dissolved			0.07	0.12	0.06	0.03	0.03	0.05	0.06							
Iron		0.3	2.33	0.49	0.48	0.49	0.49	7.99	6.84							
Manganese		0.05	0.49	0.49	0.49	0.49	0.49	0.49	0.08							
Lead		0.015	BQL	BQL	BQL	BQL	BQL	0.03	BQL							
Selenium		0.05	BQL	BQL	BQL	BQL	BQL	BQL	BQL							
Infrared emissions, ppZ																
TDS		500	891	864	590	864	864	305	283							
Total Hardness Ca+Mg			BQL	110	BQL	BQL	BQL	20	14							
			NA	NA	NA	NA	NA	NA	NA							

Notes

1. Methylene Chloride is a commonly found contaminant in laboratories. Regulatory limits for 1,4-dichlorobenzene and Toluene were established in the Executive Action Plan, dated July 1994, prepared by Baker Environmental, Inc. Detected concentrations are indicated in boldface type.

2. Detected concentrations above the regulatory limits are indicated by shading.

3. BQLs indicate that the sample was not analyzed for the constituent.

4. BQL = Baker Laboratory Quantitation Limit

5. * verified with laboratory data package

Sample Locations:
 C37-E: Campbell Street Groundwater Recovery Trench Effluent
 415T-E: Building 4151 Groundwater Recovery Effluent
 143T-E: Building 143 Groundwater Recovery Trench Effluent
 A3-E: Air Stripper Effluent
 A3-E: Air Stripper Effluent
 AC41-E: Activated Carbon Adsorption Unit Number One Effluent
 AC42-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (cont.)
Summary of Detected Concentrations
Groundwater Recovery and Treatment System Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
POLRAC Task Order 024

Parameter	NCDEMR Regulatory Limit	Sample ID Event Sample Date	USTCSPF-143T-B-94B1 4/9/1998	USTCSPF-143T-B-94A3 2/15/1998	USTCSPF-143T-B-94A1 1/14/1998	USTCSPF-143T-B-97D2 11/13/1997	USTCSPF-143T-B-97D3 12/9/1997	USTCSPF-143T-B-97D4 10/9/1997	USTCSPF-143T-B-97D5 9/16/1997
<i>Hydrocarbons</i>	0.0004		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Volatiles</i>									
<i>Organic Compounds by USEPA Method 811, mg/L</i>									
1,4-Dichlorobenzene	5.0 ¹		NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620		BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1.3 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL
1,4-Dichlorobenzene	1		20.3	15.2	18.4	24.5	24.5	24.5	24.5
Chlorobenzene	50		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	29		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	200		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1000		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400 ²		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Polynuclear Aromatic Hydrocarbons by USEPA Method 816, mg/L</i>									
1-Methylphenanthrene	21		BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylphenanthrene	22		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Emergent Compounds, mg/L</i>									
Acetic Acid	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	2.0		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.005		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Chlorobenzene	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Iron, dissolved	60.3		16.53	16.53	16.53	16.53	16.53	16.53	16.53
Manganese, dissolved	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05
Manganese	0.3		24.19	13.2	24.19	24.19	24.19	24.19	24.19
Manganese	0.05		0.05	0.05	0.05	0.05	0.05	0.05	0.05
Lead	0.015		BQL	BQL	BQL	BQL	BQL	BQL	BQL
Selenium	0.05		BQL	BQL	BQL	BQL	BQL	BQL	BQL
<i>Microbiological, mg/L</i>									
TDS	500		500	500	500	500	500	500	500
TSS	100		100	100	100	100	100	100	100
Total Hardness, CaCO ₃ /L			NA	NA	NA	NA	NA	NA	NA

Notes:
1. Methylene Chloride is a commonly found contaminant in this location.
2. Regulatory limits for 1,4-Dichlorobenzene and Total Xylenes were established in the
Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc.
Detected concentrations are indicated in boldface type.
NA indicates that the sample was not analyzed for the constituent.
BQL = Below Laboratory Quantitation Limit
* verified with laboratory data package

Sample Locations:
CST-E: Campbell Street Groundwater Recovery Trunk Effluent
415T-E: Building 4151 Groundwater Recovery Effluent
143T-E: Building 143 Groundwater Recovery Trunk Effluent
AS-E: Air Stripper Effluent
AC41-E: Activated Carbon Adsorption Unit Number One Effluent
AC43-E: Activated Carbon Adsorption Unit Number Two Effluent

Table 4-1 (continued)

Notes:

Methylene Chloride is a commonly found contaminant in Monorails.

Regulatory limits for 1,4-Dichlorobenzene and Toluene were established in the Corrective Action Plan, dated July 1994, prepared by Baker Environmental, Inc. Detected concentrations are indicated in boldface type.

Detailed concentrations above the regulatory limits are indicated by shading.

MSA indicates that this sample was not analyzed for the constituent.

NDQ = Below Laboratory Quantitation Limit

* verified with laboratory data package

Sample Locations:

MS-3: Campbell Street Gratehouse Recovery Trench Effluent

MS-4: 15117-E, Building 451 Gratehouse Recovery Effluent

MS-5: Building 143 Gratehouse Recovery Trench Effluent

MS-6: Air Stripper Effluent

MS-7: Air Stripper Effluent

MS-8: Activated Carbon Adsorption Unit Number One Effluent

MS-9: Activated Carbon Adsorption Unit Number Two Effluent



Table 4.2

Well No./Contaminant	NCDENR Regulatory Limit	12/17/1996	3/12/1997	6/12/1997	9/16/1997	12/11/1997	3/7/1998	6/11/1998	9/9/1998	12/7/1998	3/9/1999	6/9/1999	9/9/1999	12/9/1999	4/17/2000	6/7/2000
CSTP-MW-3																
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
CSTP-MW-1																
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
CSTP-MW-12																
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
CSTP-MW-14																
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
CSTP-MW-16																
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	18.1	12.4	BQL	3.5	6.9	12.1	1.2	28.2	BQL	3	36	130	68	49	53

Table 4.2
Summary of Detected Concentrations
Groundwater Monitoring Well Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
MCAS New River, North Carolina

[illegible]

Table 4.2
Summary of Detected Concentrations
Groundwater Monitoring Well Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
MCAS New River, North Carolina

Well No./Contaminant	NCDEMR Regulatory Limit	12/17/1996	3/12/1997	6/12/1997	9/16/1997	12/11/1997	3/10/1998	6/11/1998	9/9/1998	12/7/1998	3/9/1999	6/9/1999	9/9/1999	12/9/1999	4/17/2000	6/7/2000
AS4151-DW-1																
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
AS4151-DW-2																
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	8.2	3.9	6.4	2.8	2.1	4.2	7.1	6.6	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	8.9	6	8.9	BQL	3	6.9	9.9	9.9	2	2	8	7	10	11	11
Toluene	1000	4.9	1.7	2.5	BQL	BQL	1	2.3	1.4	BQL	BQL	1	2	BQL	2	2
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	10.2	4.7	6.1	BQL	BQL	4.5	7.2	6.9	BQL	BQL	5	8	BQL	19	13
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Naphthalene	21	2.8	1.1	BQL	BQL	BQL	9.9	2.028	738	BQL	12	1400	BQL	826	1400	960
1-Methylnaphthalene	Detection Limit	NA	NA	NA	NA	NA	NA	NA	NA	NA	BQL	84	24	45	97	75
2-Methylnaphthalene	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	BQL	100	24	65	120	89
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	55	38	BQL	83	60
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	12	BQL	BQL	BQL
AS4151-DW-3																
1,4-Dichlorobenzene	1.8															
Benzene	1															
Ethylbenzene	29															
Toluene	1000															
MTBE	200															
Total Xylenes	400															
Ethylene Dibromide	0.0004															
Naphthalene	21															
1-Methylnaphthalene	Detection Limit															
2-Methylnaphthalene	28															
Acenaphthylene	210															
Acenaphthene	80															
Fluorene	280															

* verified with laboratory data package.
verified with electronic data deliverables

Table 4.2

[illegible]

Table 4.2

[illegible]

Table 4.2

[illegible]

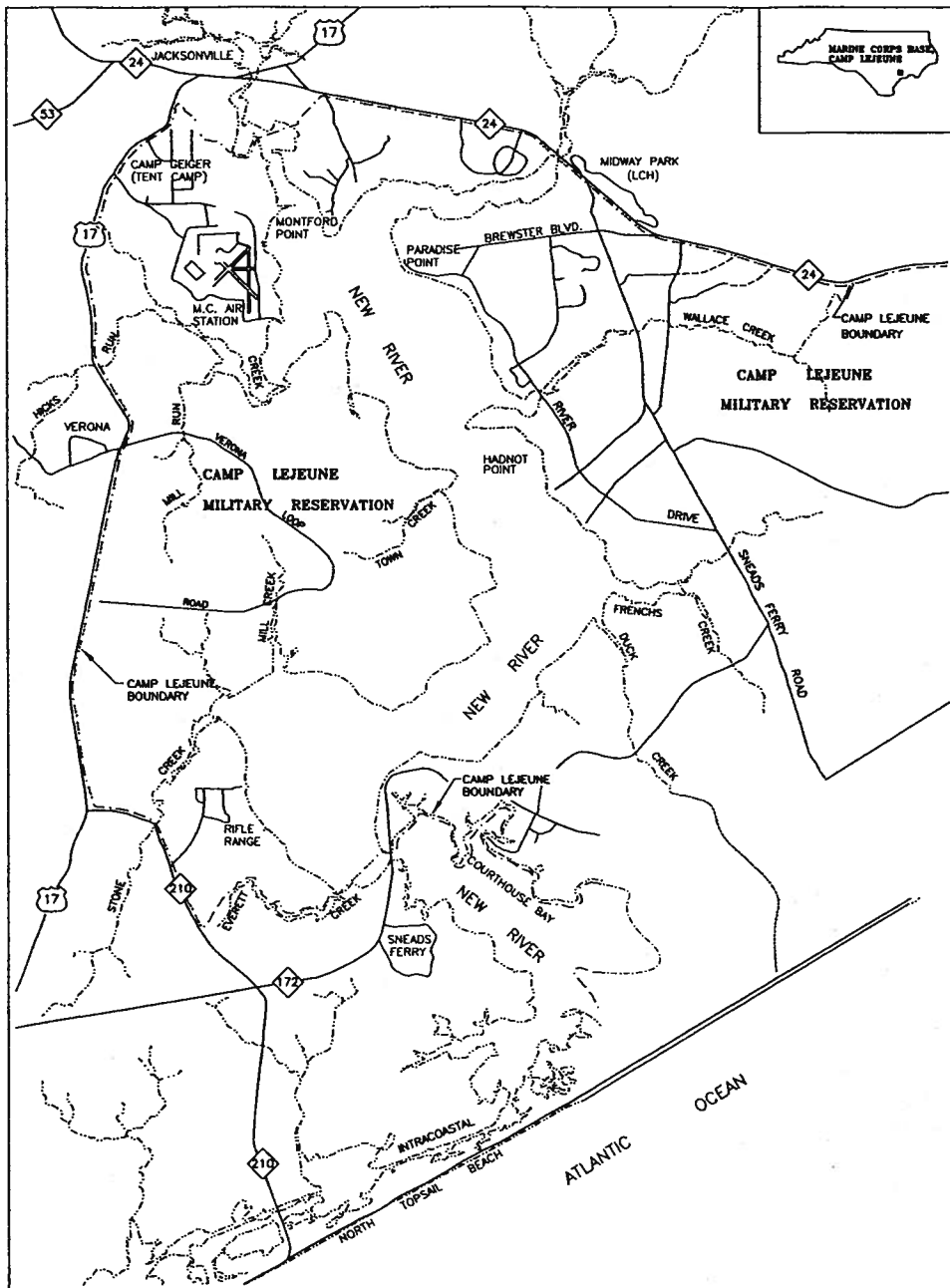
Table 4.2
Summary of Detected Concentrations
Groundwater Monitoring Well Samples
Campbell Street Fuel Farm
UST System AS-143 and Building AS-4151
MCAS New River, North Carolina

Well No./Contaminant	NC DENR Regulatory Limit	9/6/2000 *	12/7/2000 *	3/7/2001 *	6/6/2001 *	9/6/2001 *	12/4/2001 #	3/6/2002 *	6/5/2002 *	10/15/2002 *	12/3/2002 *
AS-143 MW-1											
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Toluene	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
AS-4151 MW-1											
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	9	5	8	7	11	10	7	9	7	9
Ethylbenzene	29	14	5	10	8	13	7	4	7	2	6
Toluene	1000	3	2	2	2	BQL	2	2	BQL	2	2
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	15	8	13	11	BQL	13	8	BQL	12	10
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Naphthalene	21	1,900	690	410	930	2,190	1,900	BQL	2,460	940	1700
1-Methylnaphthalene	Detection Limit	100	56	109	50	BQL	BQL	82.0	BQL	59	66
2-Methylnaphthalene	28	140	62	84	59	150	100	140	130	95	110
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthene	80	73	52	120	53	BQL	BQL	93.0	BQL	59	68
Fluorene	280	BQL	BQL	39	BQL	BQL	BQL	33.0	BQL	20	BQL
AS-4151 MW-2											
1,4-Dichlorobenzene	1.8	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Benzene	1	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Ethylbenzene	29	3	7	2	3	4	5	4	2	2	4
Toluene	1000	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
MTBE	200	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Total Xylenes	400	4	8	5	7	8	9	7	7	5	6
Ethylene Dibromide	0.0004	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Naphthalene	21	110	130	120	81	200	49	170	170	190	170
1-Methylnaphthalene	Detection Limit	53	63	57	34	71	50	64	80	54	80
2-Methylnaphthalene	28	39	53	44	34	85	140	69	71	56	86
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthene	80	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

* verified with laboratory data package
verified with electronic data deliverables

FIGURES

MARINE CORPS BASE, CAMP LEJEUNE NORTH CAROLINA



VICINITY MAP

1" = 1.5 MILES 0 1.5 3 4.5 6 7.5

 Shaw Shaw Environmental, Inc.			
DRAWN BY	J. LANGE	11/21/03	
CHECKED BY	-	-	
APPROVED BY	J. DUNN	-	
REV. 0	SHEET -	PROJECT NO.	845823

FIGURE 1-1
VICINITY MAP
CAMBELL STREET FUEL FARM

PREPARED FOR
MCB CAMP LEJEUNE



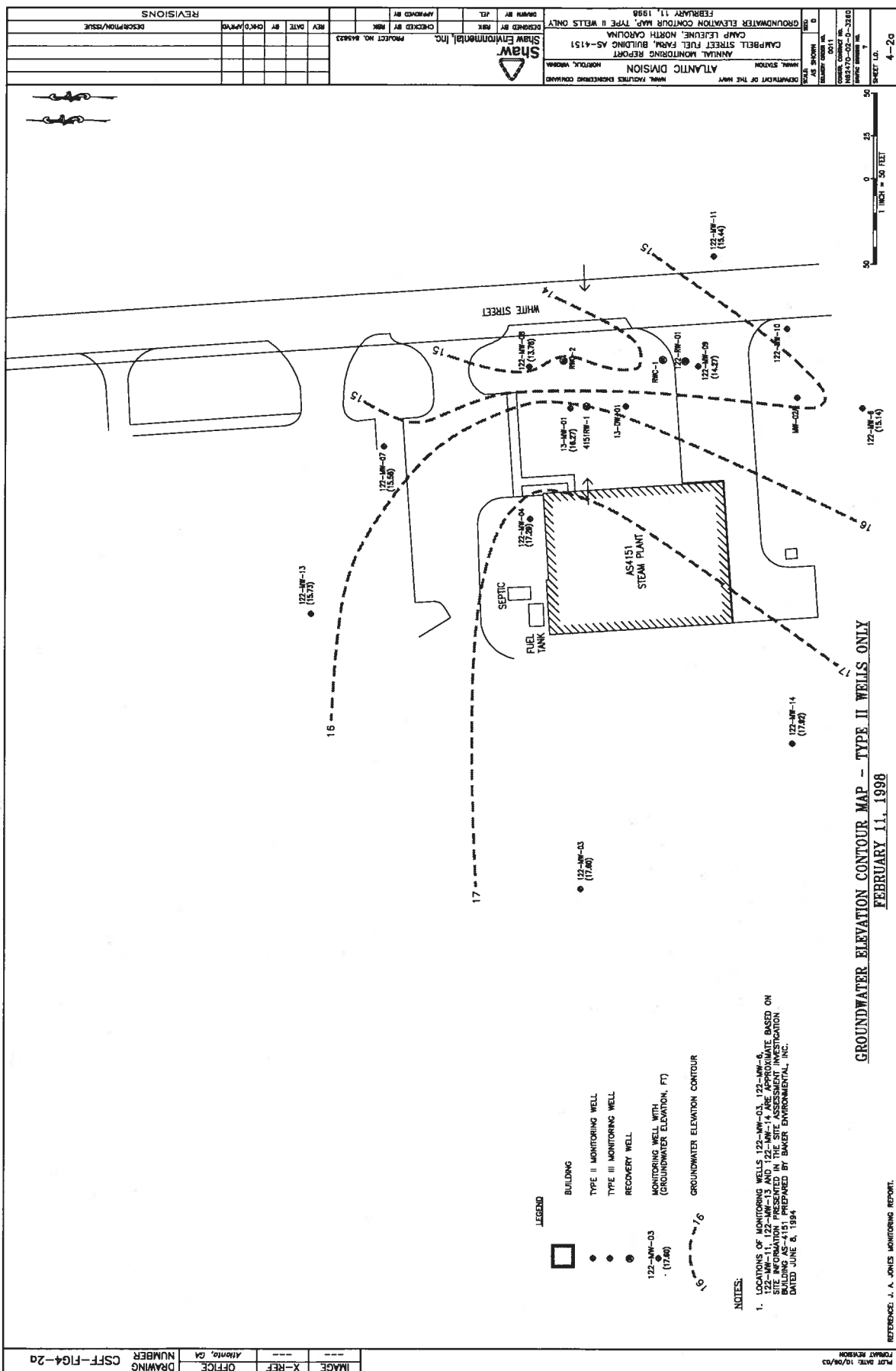
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NOTES:

1. LOCATIONS OF MONITORING WELLS DW-02 AND MW-15 ARE APPROXIMATE BASED ON SITE INFORMATION PRESENTED IN THE APPROPRIATE REPORT. ADDITIONAL INFORMATION ON ACTIVITIES AT THE ASSIGNMENT SITE, INCLUDING A SUMMARY OF ACTIVITIES, IS AVAILABLE FROM THE RECORDS OF THE FIRM PREPARED BY BAKER ENVIRONMENTAL, INC. DATED APRIL 29, 1984.

REFERENCE: J. A. JONES MONITORING REPORT.

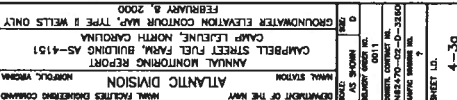


PROT DATE: 10/06/03
FORMAT REVISION

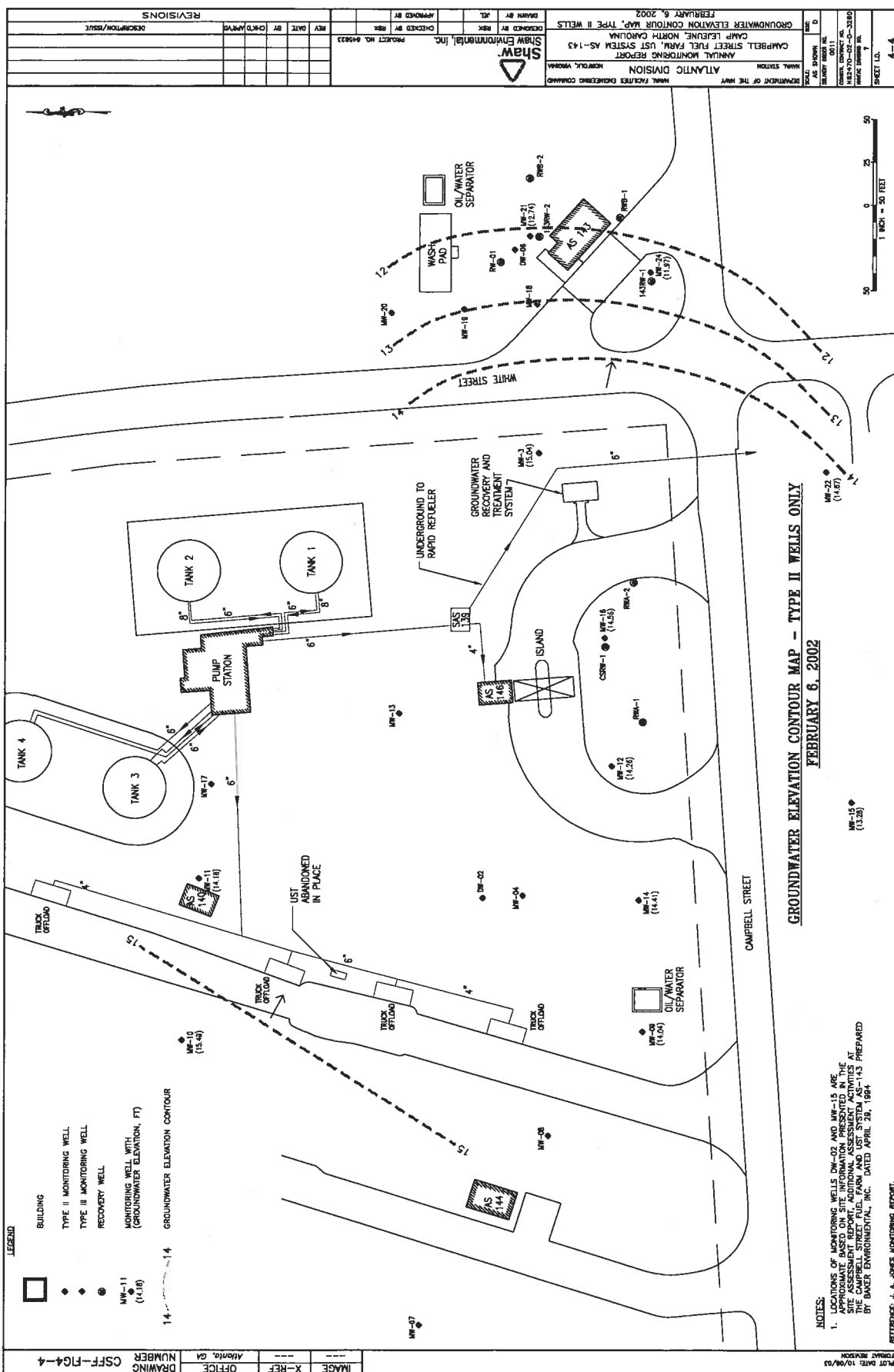
NOTES:

1. LOCATIONS OF MONITORING WELLS 122-MW-03, 122-MW-06, 122-MW-11, 122-MW-13 AND 122-MW-14 ARE APPROXIMATE BASED ON SITE INFORMATION PRESENTED IN THE SITE ASSESSMENT INVESTIGATION BUILDING AS-4151 PREPARED BY BAKER ENVIRONMENTAL, INC. DATED JUNE 8, 1994.

GROUNDWATER ELEVATION CONTOUR MAP - TYPE II WELLS ONLY
FEBRUARY 8, 2000



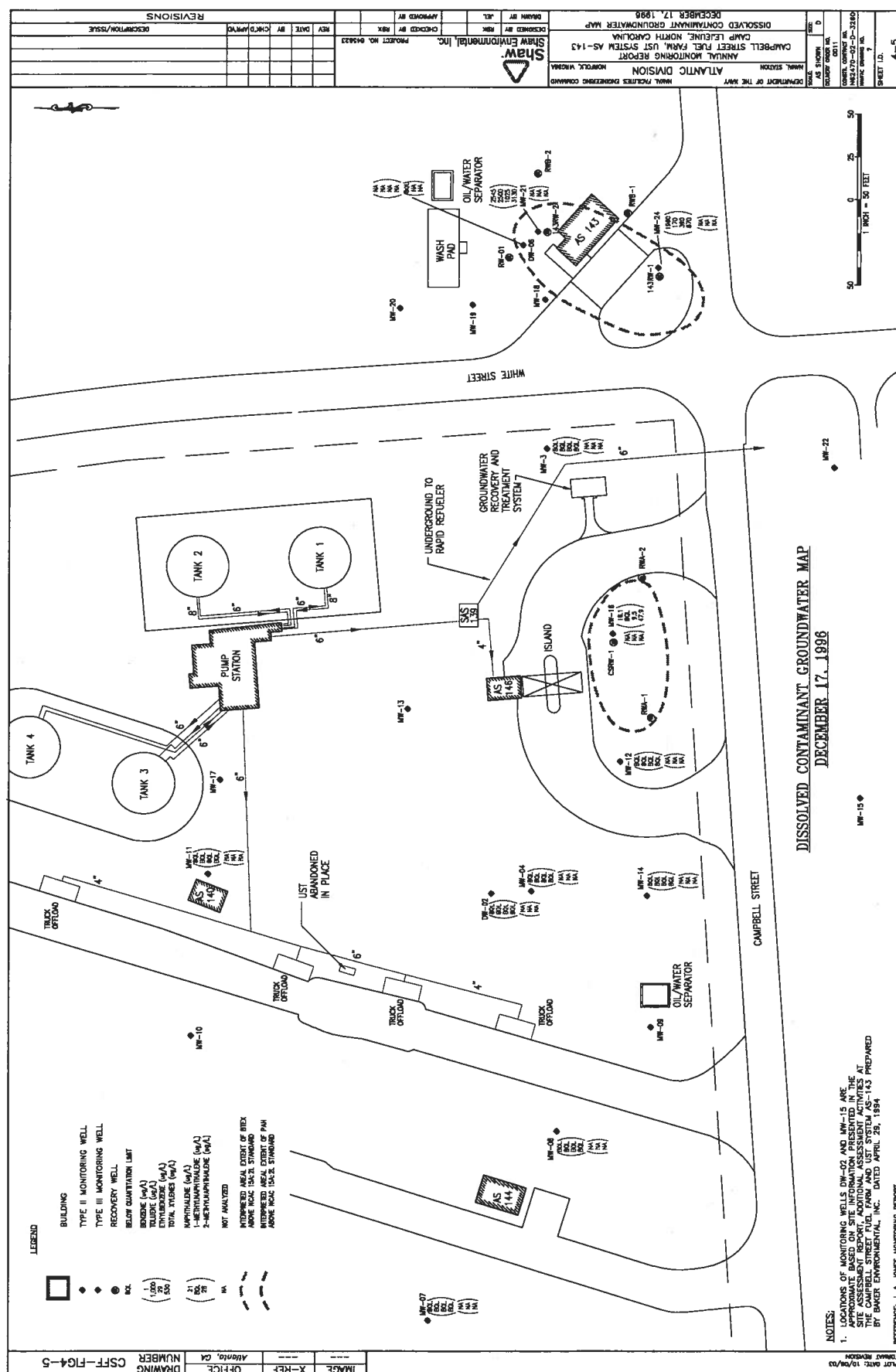
DEPARTMENT OF THE ARMY NATAL FACILITIES DIVISION NATAL STATION	SCALE: AS SHOWN ON PLANS	SHEET NO. 4-30	SHEET 10	DATE FEBRUARY 9, 2000	GROUNDWATER ELEVATION CONTOUR MAP, TYPE II WELLS ONLY
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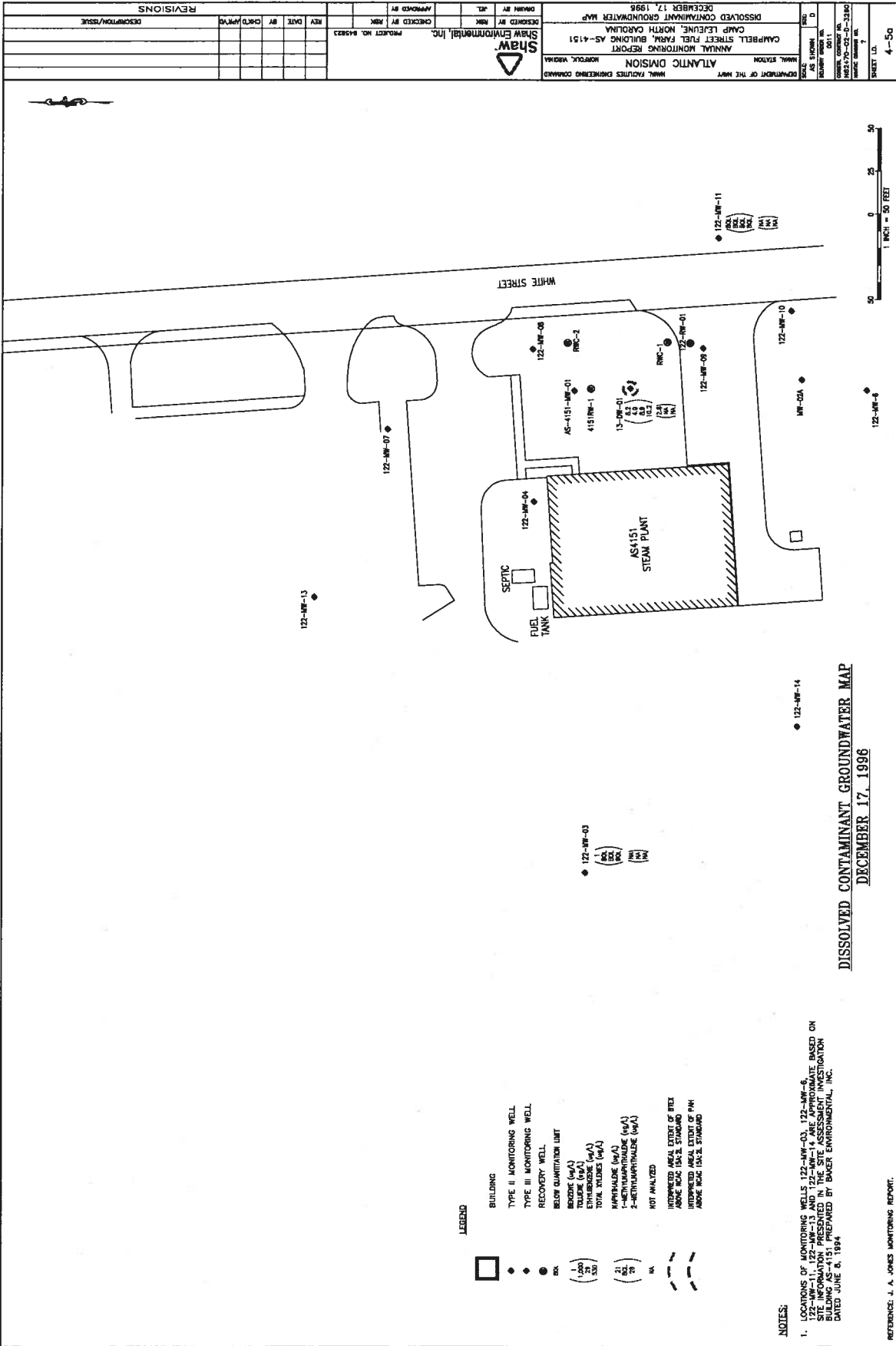


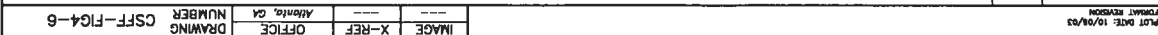
NOTES:

LOCATIONS OF MONITORING WELLS DW-02 AND MW-15 ARE APPROPRIATE BASED ON SITE INFORMATION PRESENTED IN THE SITE ASSESSMENT REPORT, ADDITIONAL ACTIVITIES AT THE WELLS STREET FUEL TANK AND UST SYSTEMS 143 PREPARED BY BAKER ENVIRONMENTAL, INC. DATED APRIL 25, 1994

DISSOLVED CONTAMINANT GROUNDWATER MAP
DECEMBER 17, 1996

[illegible]





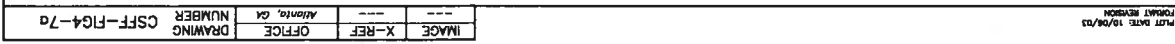
PLT DATE: 10/04/03
FORMAT REVISION

LOCATIONS OF MONITORING WELLS 122-MW-03, 122-MW-06, 122-MW-11, 122-MW-13 AND 122-MW-14 ARE APPROXIMATE BASED ON SITE INFORMATION PRESENTED IN THE SITE ASSESSMENT INVESTIGATION BUILDING AS-4151 PREPARED BY BAKER ENVIRONMENTAL, INC. DATED JUNE 8, 1994.

REFERENCE: J. A. JONES MONITORING REPORT.

4-6a





NOTES:

- LOCATIONS OF MONITORING WELLS 122-MW-03, 122-MW-6, 122-MW-11, 122-MW-13 AND 122-MW-14 ARE APPROXIMATE BASED ON SITE INFORMATION PRESENTED IN THE SITE ASSESSMENT INVESTIGATION BUILDING AS-4151 PREPARED BY BAKER ENVIRONMENTAL, INC. DATED JUNE 8, 1994

DISSOLVED CONTAMINANT GROUNDWATER MAP
MARCH 6, 2002

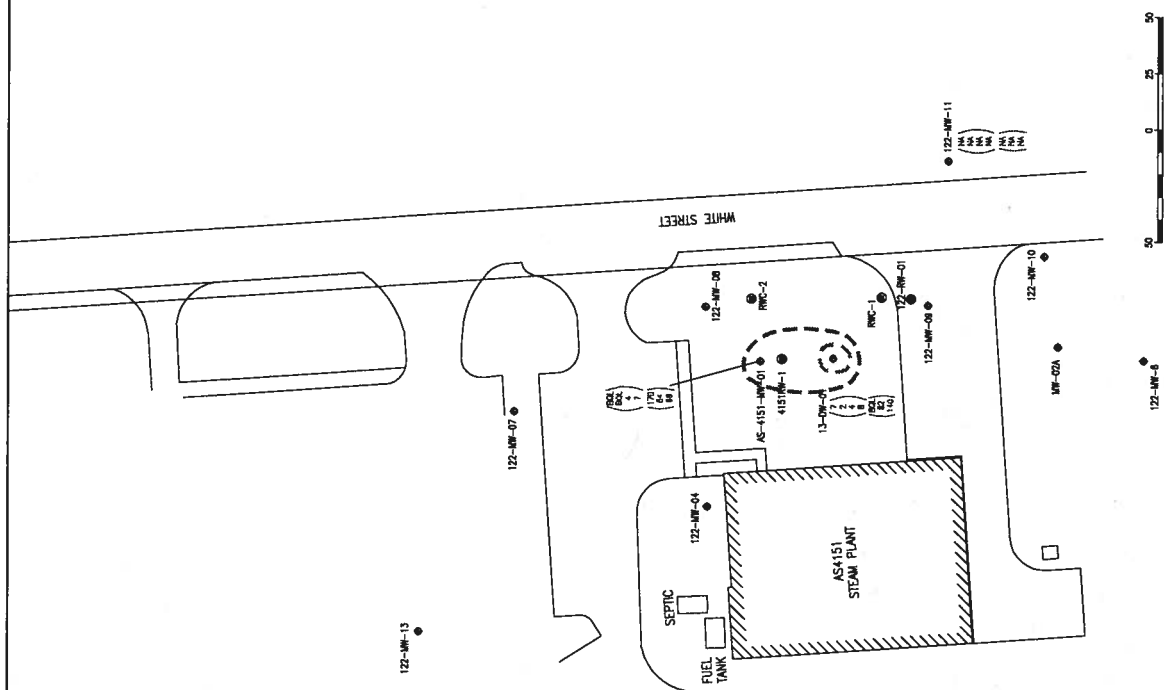
LEGEND



BUILDING	TYPE II MONITORING WELL	TYPE III MONITORING WELL	RECOVERY WELL	BELOW QUANTITATION LIMIT	
				BENZENE ($\mu\text{g/L}$)	AMPHIPHILIC ALKYLENE ($\mu\text{g/L}$)
				TOLUENE ($\mu\text{g/L}$)	1-METHYLBENZOTHIOPHENE ($\mu\text{g/L}$)
				ETHYL BENZENE ($\mu\text{g/L}$)	2-METHYLBENZOTHIOPHENE ($\mu\text{g/L}$)
				TOTAL XYLENES ($\mu\text{g/L}$)	
					NOT ANALYZED

122-144-03

122-WW-14

[illegible]

DATE	APPROVED BY	
REMARKS	CHECKED BY	
PROJECT NO. 445823		

REVISIONS					
REV	DATE	BY	CHKD	APP'D	DESCRIPTION/ISSUE

APPENDIX A

**GROUNDWATER TREATMENT SYSTEM LABORATORY ANALYTICAL
REPORTS**