

**REMEDIAL ACTION OPTIMIZATION
&
REVISED CORRECTIVE ACTION PLAN**

CAMPBELL STREET FUEL FARM

**MARINE CORPS AIR STATION
NEW RIVER, NORTH CAROLINA**

MAY 9, 2005

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LIST OF ACRONYMS

2000 Guidelines	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater
2001 Guidelines	Guidelines for Assessment and Corrective Action, North Carolina Underground Storage Tank Section (Effective July 1, 2001)
2L GWQS	NCAC T15A:02L Groundwater Quality Standards
ARO	Asheville Regional Office
AS	Air Sparge
AST	Aboveground Storage Tank
BDL	Below Detection Limit
BN	Base/Neutral (extractables)
BNA	Base/Neutral/Acid (extractables)
BQL	Below Quantitation Limit
BLS	Below Land Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAP	Corrective Action Plan
CATLIN	CATLIN Engineers and Scientists (Formerly RC&A)
CFR	Code of Federal Regulations
Cr	Chromium
CSA	Comprehensive Site Assessment
CNP	Carbon Nitrogen Phosphorous
CPT	Cone Penetrometer Test
DEM	Division of Environmental Management
DIPE	Diisopropyl Ether
DO	Dissolved Oxygen
DOD	Department of Defense
DPT	Direct Push Technology
DWQ	Division of Water Quality
DWM	Division of Waste Management
DTW	Depth to Water
EAD	Environmental Affairs Department
EDB	Ethylene di-bromide
EMD	Environmental Management Division
EPA	Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
EQB	Environmental Quality Branch
Fe	Iron
FID	Flame Ionization Detector
FOD	Foreign Object Debris
FRO	Fayetteville Regional Office
FT	Feet
GCL	Gross Contaminant Level
GIS	Geographic Information System
GPS	Global Positioning System

Guidelines Vol. I	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks (May 1998)
Guidelines Vol. II	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume II, Petroleum Underground Storage Tanks (January 2, 1998)
HDPE	High Density Polyethylene
I/C	Industrial/Commercial
ID	Identification
I&E	Installations and Environment Department
IGWQS	Interim Groundwater Quality Standards
IPE	Isopropyl Ether
LANTDIV	Atlantic Division
LSA	Limited Site Assessment
LUST	Leaking Underground Storage Tank
m-	meta
m	meter
MADEP	Massachusetts Department of Environmental Protection
MCALF	Marine Corps Auxiliary Landing Field
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCOLF	Marine Corps Outlying Landing Field
MDL	Method Detection Limit
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
MRO	Mooresville Regional Office
MSCC	Maximum Soil Contaminant Concentration
MSL	Mean Sea Level
MTBE	Methyl tertiary butyl ether
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
NA	Not Analyzed
N/A	Not Applicable
NC	North Carolina
NCAC	North Carolina Administrative Code
NCDENR	North Carolina Department of Environment and Natural Resources
NCDOC	North Carolina Department of Corrections
NCDOT	North Carolina Department of Transportation
NCSP	North Carolina State Plane
NCSPA	North Carolina State Ports Authority
NE	None Established
NM	Not Measured
NMT	No Measurable Thickness
NS	Not Sampled
o-	ortho
OVA	Organic Vapor Analyzer

p-	para
PAH	Polynuclear Aromatic Hydrocarbons
Pb	Lead
PPB	Parts Per Billion
PPM	Parts Per Million
PID	Photo Ionization Detector
PQL	Practical Quantitation Limit
PVC	Polyvinyl chloride
RBCA	Risk-Based Corrective Action
RCRA	Resource Conservation and Recovery Act
Res	Residential
ROI	Radius of Influence
RRO	Raleigh Regional Office
SOW	Scope of Work
STGW	Soil-to-Groundwater
SVE	Soil Vapor Extraction
SVOC	Semi Volatile Organic Compound
TDHF	Toxicologically Defined Hydrocarbons Fractions
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TOC	Top of Casing
TPH	Total Petroleum Hydrocarbons
US	United States
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
VPH	Volatile Petroleum Hydrocarbons
WaRO	Washington Regional Office
WiRO	Wilmington Regional Office
WSRO	Winston-Salem Regional Office

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CATLIN PROJECT NO. 203-063

MAY 9, 2005

EXECUTIVE SUMMARY

This report is intended to provide information relevant to address and review the effectiveness of current remedial actions being conducted at the Campbell Street Fuel Farm (CSFF) project site and to make revisions to the Corrective Action Plan (CAP) in order to move towards site closeout. The project site is located along White Street aboard the Marine Corps Air Station (MCAS), New River in Onslow County, North Carolina. The CSFF project site consists of two general areas: the Fuel Farm/Building AS-143 area and the Building AS-4151 area. Each area was treated as a separate site during the initial assessment activities. Currently, both areas are considered part of the CSFF project site due to the utilization of a common remedial system.

Various site assessments were completed at the CSFF project site in the early 1990s to determine the integrity of the various Underground Storage Tank (UST) systems and delineate the extent, if applicable, of soil and groundwater petroleum contamination, and the presence of free-phase product. Petroleum impact was substantiated during the assessment activities and was attributed to leaks from the former USTs and associated piping at the Fuel Farm/Building AS-143 area and from the abandoned JP-5 pipeline that transected the Building AS-4151 area.

The results of these assessments were utilized in the preparation of one CAP for each area of the CSFF project site. Both CAPs were prepared by Baker and are dated July 1994. The groundwater remedial system proposed in each CAP consisted of a pump and treat system. It is our understanding that one remediation system was installed covering both areas. Recovered groundwater/free-phase product is pumped from recovery wells associated with three individual interceptor trenches, to an oil/water separator followed by an air stripper, carbon adsorption units and then discharged to a drainage ditch. The system reportedly began operation in 1996. The CAPs also recommended excavation and ex-situ treatment of a portion of the soils at the CSFF project site. The excavation and ex-situ treatment of the contaminated soils has not been completed.

A Remedial Action Operation Optimization Case Study Report dated January 2000 was prepared for the CSFF project site by Radian International (Radian). Radian recommended discontinuing the operation of the pump and treat system at the CSFF project site and implementing the use of Aggressive Fluid Vapor Recovery (AFVR) events for the remediation of hot spot groundwater contamination in conjunction with monitored natural attenuation (MNA), if applicable to site conditions, to reduce groundwater contamination to the meet the site rehabilitation goals. Radian also recommended that the groundwater monitoring program be modified. Radian did not recommend additional remedial actions for addressing soil contamination.

It is our understanding that from 1996 through March 2002, J.A. Jones Environmental Services Company (JA Jones) operated, maintained and monitored the CSFF project site. Based on the recommendations proposed in the Radian Remedial Action Operation Optimization Case Study Report, JA Jones discontinued groundwater recovery at the interceptor trenches in the vicinity of the Fuel Farm and Building AS-4151 on January 3, 2000. JA Jones reportedly continued to recover groundwater in the vicinity of Building AS-143 and treated the groundwater through the pump and treat system until they stopped operation in March 2002. JA Jones reactivated the interceptor trench at Building AS-4151 in late February 2001 due to the presence of free-phase product. Engineering & Environment, Inc. (E&E) has monitored and maintained the CSFF project site since early 2003. Shaw monitored and maintained the CSFF project site between operations by JA Jones and E&E.

Current applicable remedial requirements are defined by the Risk Based Corrective Action (RBCA) rules for USTs per 15A NCAC 2L .0115 effective date January 2, 1998 and document entitled *"Guidelines for Assessment and Corrective Action"* (2001 Guidelines) as released by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management, UST Section, effective July 1, 2001. A risk classification, as presented in the 2001 Guidelines was completed as part of this work to present the data necessary to allow NCDENR to assess the site's applicable risk classification. Based on the findings, CATLIN Engineers and Scientist (CATLIN) concludes that the subject site meets the criteria for classification as an Intermediate Risk and Industrial/Commercial (I/C) Land Use site. The Intermediate Risk is based on the location of a surface water body within 1,500 feet of the subject source area and the presence of deep groundwater contamination.

In order to effectively evaluate the current remediation system suitability, additional investigations are required. Based on CATLIN's optimization work, the presence of soil contamination needs to be investigated and the horizontal and vertical extent of groundwater contamination needs to be established. Specific recommendations are included within Section 6.0 of this report.

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1.0 BACKGROUND

1.1 PURPOSE OF REPORT

The purpose of this report is to provide information relevant to address and review the effectiveness of current remedial actions being conducted at the Campbell Street Fuel Farm project site located on the MCAS, New River. Additionally, this report revises two CAPs and provides recommendation for continuing remediation activities in order to achieve site closure. This report has been formatted according to the Naval Facilities Engineering Command (NAVFACENGCOM) "Guidance for Optimizing Remedial Action Operation" document prepared by Radian International and dated April 2001 with the ultimate purpose to "achieve environmentally protective site closeout at the least cost."

The work conducted herein was conducted in general accordance with the Workplan titled Remediation System Optimization Plans at the Various Sites, Marine Corps Base, Camp Lejeune, North Carolina dated July 16, 2003. CATLIN was authorized to perform this investigation by the Atlantic Division (LANTDIV) NAVFACENGCOM in accordance with the Order of Supplies Contract Number N62470-01-D-3009, Delivery Order Number 0079.

1.2 SCOPE OF WORK

This RAO & RCAP was developed in general accordance with the NAVFACENGCOM "Guidance for Optimizing Remedial Action Operation" document dated April 2001 and the 2001 Guidelines. Specific methods utilized to develop the RAO & RCAP included a site visit and a thorough collection and review of available reports and field data. Data was then reviewed and the RAO & RCAP was developed.

2.0 SITE HISTORY

The CSFF project site is located along White Street aboard the MCAS, New River in Onslow County, North Carolina. The CSFF project site consists of two general areas: the Fuel Farm/Building AS-143 area and the Building AS-4151 area. Each area was treated as a separate site during the initial assessment activities. Currently, both areas are considered part of the CSFF project site. Herein, the project site is addressed as CSFF with the two identified areas within the CSFF project site. The Fuel Farm/Building AS-143 area is located at the north side of the intersection of White Street and Campbell Street. The Building AS-4151 area is located approximately 500 feet south of the intersection of White Street and Campbell Street along the western edge of White Street. The site vicinity of each area is presented on the attached Figures 1, 1A and 1B, respectively.

The Fuel Farm portion of the Fuel Farm/Building AS-143 area of the project site is an active fuel storage facility, which stores JP-5 fuel in four steel ASTs with capacities of 215,000 gallons each. These ASTs are connected by an aboveground fuel transfer line that enters a filter building before fuel is pumped to the flightline through an underground pipeline located along White Street. These ASTs replaced a system of eight USTs in 1985. The former USTs were reported to contain JP-5 fuel and aviation gasoline (AVGAS) and were of varying capacities ranging from unknown (two USTs) to 120,000 gallons. Seven of the eight USTs were excavated and removed, and one AVGAS UST was reportedly filled with sand and abandoned in place. The AVGAS UST filled with sand and abandoned in-place is reportedly located behind the filter building, the exact location is unknown. It is our understanding that E&E will attempt to locate this tank in the near future. A portion of the soil excavated during the removal of the former USTs was stockpiled on-site and has historically been identified as a soil mound. The approximate location of the soil mound is illustrated on the attached Figure 2A.

The Building AS-143 portion of the Fuel Farm/Building AS-143 area of the project site is an active gasoline fueling station that services only government-owned vehicles. (Refer to Figure 2A) The fueling station stores unleaded gasoline in an AST that was installed in March 2000. The existing AST replaced a 10,000-gallon, fiberglass UST in December 2000. The 10,000-gallon, fiberglass UST replaced a 10,000-gallon, steel UST in October 1994. The former USTs were properly abandoned and disposed of in 1994 and 2000. The approximate location of these former USTs and the associated excavation is illustrated in the attached Figure 2A. Upon removal of the UST in 2000, Law Engineering and Environmental Services, Inc. (LAW) performed a Phase I Limited Site Assessment (LSA). Based on the soil samples collected by LAW as part of the Phase I LSA activities, no laboratory analytical results were in excess of the applicable I/C MSCCs. A groundwater sample collected from the monitoring well installed during the Phase I LSA investigation, exhibited three compounds greater than the 2L GWQS. Therefore, a Phase II LSA investigation was completed by CATLIN to assess the groundwater contamination identified during the Phase I LSA. CATLIN concluded that No Further Action was required for this site because no soil contamination exists at the site in excess of the applicable MSCCs and no groundwater contamination was detected in excess of established GCLs.

An additional UST was removed from the Fuel Farm portion of the Fuel Farm/Building AS-143 area in May 2000. This UST, identified as UST AS-146, was a 5,000-gallon concrete tank that stored JP-5. The approximate location of this former UST is illustrated on Figure 2A. Upon removal of the UST, CATLIN performed a Phase I LSA dated August 2001 to characterize the cause, significance, and extent of possible groundwater and soil contamination from the former UST system. Based on the findings of this Phase I LSA, CATLIN concluded that the Building AS-146 UST meets the criteria for classification as Low Risk and requested a notification of "No Further Action".

Additionally, CATLIN was informed during a site visit on August 29, 2004 that a surface spill occurred at the Fuel Farm portion of the Fuel Farm/Building AS-143 area in August 2004. The spill consisted of an overflow of a manhole connected to the truck containment area. The surface area soils were excavated during the week of August 23, 2004. The approximate location of the excavation is illustrated on Figure 2A. Results from confirmatory samples taken will be submitted to the GWS under separate cover in the near future.

The Building AS-4151 area consists of a steam generating plant, three 100,000-gallon ASTs containing No. 6 fuel oil and one 1,000-gallon UST containing No. 2 fuel oil. The site reportedly also utilized a waste oil AST, which has been removed. The Building AS-4151 area is also transected by the JP-5 pipeline from the Fuel Farm/Building AS-143 area en route to the flightline. This pipeline, installed in 1985 replaced a former leaking JP-5 pipeline, which was abandoned in place. JA Jones completed the closure of the abandoned fuel line in October 2000.

Various site assessments were completed at the CSFF project site in the early 1990s identifying soil and groundwater petroleum contamination, and the presence of free-phase product. The contamination was reportedly due to leaks from the former USTs and associated piping at the Fuel Farm/Building AS-143 area and from the abandoned JP-5 pipeline that transected the Building AS-4151 area. The findings of the previous assessments have been summarized in reports submitted to NCDENR, Division of Waste Management, UST Section in the Wilmington Regional Office (WiRO). The results of these assessments were utilized in the preparation of one CAP for each area of the CSFF project site. Both CAPs were prepared by Baker and are dated July 1994.

The recommended remediation strategy for site restoration presented within the Fuel Farm/Building AS-143 area CAP was as follows:

- Excavation and ex-situ treatment of a portion of the previously identified soil mound.
- Installation of interceptor recovery trenches to recover contaminated groundwater. Sumps were to be located within the trenches to accumulate and remove groundwater from the trenches. The recovered groundwater was proposed to be treated by an oil/water separator, an air stripper and carbon adsorption prior to discharge to a drainage ditch.

The recommended remediation strategy for site restoration presented within the Building AS-4151 area CAP was as follows:

- Clean and abandon the JP-5 pipeline.
- Excavation and ex-situ treatment of a portion of the soils located beneath the JP-5 line area that transects the Building AS-4151 area.
- Installation of interceptor recovery trenches to recover contaminated groundwater. Sumps were to be located within the trenches to accumulate and remove groundwater from the trenches. The recovered groundwater was proposed to be treated by an oil/water separator, air stripper and carbon adsorption prior to discharge to the storm sewer.

The excavation and ex-situ treatment of the previously identified portion of the contaminated soils associated with the Fuel Farm and the area that transects the Building AS-4151 has not been completed

A pump and treat system was installed in 1996 to remediate contaminated groundwater recovered from interceptor trenches located on the Fuel Farm/Building AS-143 and Building AS-4151 areas. Please note that only one system was installed for both areas rather than two systems as proposed within the CAPs. The location of these interceptor trenches and the remediation system are provided on the attached Figures 2A and 2B. The recovered groundwater was to be treated by an oil/water separator, air stripper and carbon adsorption prior to discharge to a drainage ditch located south of the remediation system building. In early 1999, extraction wells were added to the extraction system at both the Fuel Farm/Building AS-143 area and the Building AS-4151 area to enhance the removal of the contaminant mass from hot spots within the groundwater contaminant plumes.

A Remedial Action Operation Optimization Case Study Report dated January 2000 was prepared for the CSFF project site by Radian International. This report, referred to herein as the Radian Optimization Report, evaluated and assessed the on-going remedial action operation program at the CSFF project site as of mid-1999. Radian recommended discontinuing the operation of the pump and treat system at the CSFF project site and implementing the use of AFVR events for the remediation of hot spot groundwater contamination in conjunction with monitored natural attenuation (MNA), if applicable to site conditions, to reduce groundwater contamination to meet the site rehabilitation goals. Radian also recommended that the groundwater monitoring program be modified. Radian did not recommend additional remedial actions for addressing soil contamination.

It is our understanding that from 1996 through March 2002, JA Jones operated, maintained and monitored the CSFF project site. Based on the recommendations proposed in the Radian Optimization Report, JA Jones discontinued groundwater recovery at the interceptor trenches in the vicinity of the Fuel Farm and Building AS-4151 on January 3, 2000. JA Jones reportedly continued to recover groundwater in the vicinity of Building AS-143 and treated through the implemented pump and treat system until they stopped monitoring and

maintenance activities in March 2002, due to an end to their contractual period. JA Jones reactivated the interceptor trench at Building AS-4151 in late February 2001 due to the presence of free-phase product.

Engineering & Environment, Inc. (E&E) has monitored and maintained the CSFF project site since early 2003. E&E has provided a portion of the 2003 and 2004 data referenced within this report. Shaw Environmental, Inc. (Shaw) prepared an Annual Monitoring Report dated January 2004 that documented JA Jones' activities between December 1996 and June 2002, which has also been referenced in preparation of this report. Shaw monitored and maintained the CSFF project site between operations by JA Jones and E&E.

As of this RAO & RCAP, groundwater recovery efforts continue in the vicinity of Building AS-143 and Building AS-4151. Please refer to Figures 2A and 2B for the location of the active and inactive recovery wells and interceptor trenches. AFVR techniques are currently being performed on an as needed basis when free-phase product thickness is measured to be equal to or greater than 0.1 feet in any of the monitoring or recovery wells. Free-phase product recovery absorbent socks have reportedly been used on occasion between AFVR events. However, an AFVR event has not been conducted since prior to when E&E began activities in early 2003 at the project site because no measurable amount of free-phase product has been observed.

2.1 CONCEPTUAL SITE MODEL (BASED ON RADIAN OPTIMIZATION REPORT)

As previously discussed, the remedial system installed consisted of one pump and treat system for both areas. The operation of this pump and treat system was modified on January 3, 2000 based on recommendations within the Radian Optimization Report. This conceptual site model was utilized in the development of the Radian Optimization Report.

2.1.1 Site Geology

The topography of the project site is relatively flat with drainage features across each area. Soils in the vicinity of the site have been documented to be intermingled layers of sand, silt, clay, shell and limestone. Generally, silts and clays are located within the near surface (2 to 10 feet BLS). Below this surficial material, a silty clay layer that grades to fine sand extends to an approximate depth of 40 feet BLS. Fine gravel, limey clay and shell fragments are reportedly present below the fine sand layer.

2.1.2 Site Hydrogeology

Radian reported that groundwater flow direction was predominately toward the south at the Fuel Farm, the east at Building AS-143 and toward the south and southeast at Building AS-4151. Depth to groundwater has historically

ranged from approximately 6 to 7 feet BLS at the Fuel Farm/Building AS-143 area and 3 to 4 feet at the Building AS-4151 area. Radian reported that according to the CAPs, an average hydraulic conductivity of 0.14 feet per day existed at the Fuel Farm/Building AS-143 area and 0.46 feet per day at the Building AS-4151 area. The average hydraulic conductivity was based on in-situ permeability tests performed by Baker and presented in the CAPs.

2.1.3 Potential Receptors

Radian reported that according to the CAPs, “no actual or potential human receptors to the contaminated media were identified, except workers facing potential occupational exposure to soil during site remediation.” Please note that the potential receptors as of the preparation of this RAO and RCAP report are discussed in Section 5.2.2 of this report.

2.1.4 Contaminants of Concern

The contaminants of concern reported within the Radian Optimization Report included the following:

- Free-phase product
- Soil contamination with the following site rehabilitation concentrations for TPH which are based on a Site Sensitivity Evaluation completed by Baker as part of the preparation of the each CAP:
 - Fuel Farm/Building AS-143 Area – 40 mg/kg
 - Building AS-4151 Area – 180 mg/kg.
- Groundwater contamination consisting of the following compounds and site rehabilitation concentrations (based on the 2L GWQS at that time):
 - Benzene – 1 µg/L
 - Ethylbenzene – 29 µg/L
 - Toluene – 1,000 µg/L
 - Xylenes (Total) – 530 µg/L
 - 1,4-Dichlorobenzene – 1.8 µg/L
 - Ethylene dibromide – 0.0004 µg/L
 - Acenaphthylene – 80 µg/L
 - Acenaphthylene – 210 µg/L
 - Fluorene – 280 µg/L
 - 1-Methylnaphthalene – Detection Limit
 - 2-Methylnaphthalene – 28 µg/L
 - Naphthalene – 21 µg/L

3.0 REMEDIAL ACTION REVIEW

3.1 REMEDIAL SYSTEM OBJECTIVES

As previously discussed, the remedial system installed consisted of one pump and treat system. The operation of this pump and treat system was modified on January 3, 2000 by discontinuing groundwater recovery at the interceptor trenches in the vicinity of the Fuel Farm and Building AS-4151 based on the recommendations within the Radian Optimization Report. Herein, the remedial action review will be based on the implemented changes after January 3, 2000.

As detailed in the Radian Optimization Report, the remedial objectives were generally to ensure the sources had been removed, ensure that free-phase product had been removed and to reduce groundwater contamination levels. The Radian Optimization Report did not recommend additional remedial actions for addressing soil contamination.

3.2 RECOMMENDED REMEDIAL SYSTEM

Radian recommended discontinuing the operation of the pump and treat system at the CSFF project site and implementing the use of AFVR events for the remediation of hot spot groundwater contamination in conjunction with MNA, if applicable to site conditions, to reduce groundwater contamination to the meet the site rehabilitation goals. Radian also recommended that the groundwater monitoring program be modified. The Radian Optimization Report stated that a sampling program should be implemented to measure parameters that indicate if site conditions are favorable for MNA at the CSFF project site. MNA data was recommended to be collected to confirm that: free-phase product and contaminant sources have been removed or controlled; contaminants have the capacity to degrade or attenuate under current site conditions; contaminant migration can be predicted and contaminants are not calculated to migrate to a receptor at concentrations exceeding applicable standards. The Radian Optimization Report did not recommend a change in the quarterly sampling frequency for monitoring site conditions.

3.3 IMPLEMENTED REMEDIAL SYSTEM

Subsequent to the Radian Optimization Report, JA Jones reportedly implemented the proposed remedial approach of discontinuing groundwater recovery at the interceptor trenches in the vicinity of the Fuel Farm and Building AS-4151 on January 3, 2000. However, JA Jones reactivated the interceptor trench at Building AS-4151 in late February 2001 due to the presence of free-phase product. It is our understanding that the monitoring program recommended by Radian for assessing the potential for natural attenuation and the extent of groundwater contamination has not been implemented.

3.4 REMEDIAL SYSTEM STATUS

As of this RAO & RCAP, groundwater recovery efforts continue in the vicinity of Building AS-143 and Building AS-4151. The recovered groundwater is treated through the implemented pump and treat system. AFVR techniques are currently being performed on an as needed basis when free-phase product thickness is measured to be equal to or greater than 0.1 feet in any of the monitoring or recovery wells. Free-phase product recovery absorbent socks have reportedly been used on occasion between AFVR events.

3.5 MONITORING STATUS

The pump and treat system is currently monitored three times per week for operational status. The effluent of the pump and treat system is sampled quarterly in accordance with an NPDES permit. According to E&E, all monitoring wells at the CSFF site are gauged on a monthly basis. Groundwater sampling and analysis are currently conducted at various frequencies ranging from quarterly to annually from the site monitoring wells. Please refer to Table 2 for the groundwater sampling history of each individual monitoring well. The groundwater samples are analyzed for Base/Neutrals and Acids per EPA Method 625, volatile organic analysis per EPA Method 602 and 1,2-Dibromoethane per EPA Method 504.1. These sampling events are summarized in annual monitoring reports and are on file in the WiRO.

4.0 REMEDIATION EFFECTIVENESS EVALUATION

4.1 CONTAMINANT LEVELS

4.1.1 Free-Phase Product

As per Shaw's Annual Monitoring Report, an estimated 30 gallons of free-phase product was recovered during seven AFVR events performed by JA Jones in 2000 from monitoring wells MW-21, MW-24 and recovery well 122RW-1. However, based on a review of the gauging data provided by Shaw, a measurable thickness of free-phase product has not been reported for monitoring wells MW-21 and MW-24 since the CAP was prepared. As of the preparation of this RAO & RCAP, CATLIN could not confirm the reasons for AFVR events at monitoring wells MW-21 and MW-24. Shaw reported that no free-phase product, exceeding 0.02 feet in thickness, was observed in 2001 and 2002. However, our review of the historical data also revealed the presence of free-phase product in monitoring well 122MW-9 from 1996 to 2002. E&E has not observed any measurable thickness of free-phase product in any monitoring or recovery wells since they began operation in early 2003.

4.2 CONTAMINANT CONCENTRATIONS

4.2.1 Soil

As previously stated, the Radian Optimization Report did not recommend additional remedial actions for addressing soil contamination. No additional soil assessments have been conducted at the CSFF project site since the submittal of the CAPs with the exception of the LSAs performed at the former USTs at Buildings AS-143 and AS-146. A summary of the historical soil laboratory analytical results have been provided in Appendix A and Figure 3A and 3B. Additional soil assessment activities have been recommended in Section 6.2 of this report.

4.2.2 Groundwater

Groundwater contamination data since modifications to the operation of the pump and treat system were implemented on January 3, 2000, has been provided on the attached Figures 4A to 6D. The Radian Optimization Report identified benzene, ethylbenzene, toluene, total xylenes, 1,4-dichlorobenzene, ethylene dibromide, acenaphthylene, acenaphthylene, fluorine, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene as the target contaminants of concern and clean-up concentrations based on the 2L Groundwater Quality Standards (GWQS).

The Radian Optimization Report did not distinguish between the shallow conditions and the deep conditions. In order to effectively evaluate the current remediation system, a discussion of the shallow conditions (Type II monitoring wells that range in total depth from 8.50 feet to 21.28 feet BLS) and the deep conditions (Type III monitoring wells that range in total depth from 31.38 feet to 53.57 feet BLS) is provided in the following sections.

4.2.2.1 Shallow Conditions

The most recent shallow groundwater conditions from the March 2004 sampling event along with the conditions prior to modifications to the operation of the pump and treat system on January 3, 2000 (December 1999 sampling event) are shown for BTEX, Naphthalene and MTBE on Figures 4A, 4C, 5A, 5C, 6A and 6C. As can be seen, the contaminant concentrations of the shallow groundwater illustrate an overall slight decrease at the Fuel Farm/Building AS-143 area but are still in excess of the 2L GWQS, and have remained below the 2L GWQS at the Building AS-4151 area. Tables 3A and 3B summarize the historical groundwater contaminants of concern for the Type II shallow monitoring wells and Tables 2A and 2B summarize the last date an individual monitoring well-exhibited groundwater

contaminant concentrations above the 2L GWQS. Please note that a site wide sampling event has not been recently conducted; therefore, the horizontal extents of groundwater contamination are currently not defined.

4.2.2.2 Deep Conditions

The most recent deep groundwater conditions from the March 2004 sampling event along with the conditions prior to modifications to the operation of the pump and treat system on January 3, 2000 (December 1999 sampling event) are shown for BTEX, Naphthalene and MTBE on Figures 4B, 4D, 5B, 5D, 6B, and 6D. Tables 3A and 3B summarize the historical groundwater contaminants of concern for the Type III deep monitoring wells and Tables 2A and 2B summarize the last date an individual monitoring well-exhibited groundwater contaminant concentrations above the 2L GWQS. As can be seen, the concentrations of the deep groundwater illustrate levels below the 2L GWQS at the Fuel Farm/Building AS-143 area and levels above the 2L GWQS at the Building AS-4151 area for the selected monitoring wells. Please note that a site wide sampling event has not been recently conducted; therefore, the deep groundwater conditions are currently not defined.

4.3 SYSTEM SUITABILITY

4.3.1 Free-Phase Product

As previously stated, free-phase product has historically been reported present within monitoring wells 122RW-1 and 122MW-9 by JA Jones. As per Shaw's Annual Monitoring Report, an estimated 30 gallons of free-phase product was recovered during seven AFVR events in 2000 from monitoring wells MW-21, MW-24 and recovery well 122RW-1 as performed by JA Jones. No measurable thickness of free-phase product has been identified in any of the monitoring wells at the subject site since E&E began operation of the system in 2003. Due to the intermittent presence of free-phase product at the CSFF project site, it appears that AFVR events are a suitable method for the removal of free-phase product, if present, at this time.

4.3.2 Soil

As previously stated, no additional soil assessments have been conducted at the CSFF project site since the with the exception of the LSAs performed at the former USTs at Buildings AS-143 and AS-146.

4.3.3 Groundwater

In order to effectively evaluate the current remediation system suitability in regards to groundwater quality, a discussion of the shallow and deep conditions is provided in the following sections.

4.3.3.1 Shallow Conditions

A site wide sampling event has not recently been performed and thus shallow groundwater contamination extent is not well defined. However, pump and treat coupled with monitored natural attenuation is a method that has historically been successful in restoring groundwater to the 2L GWQS if the contaminant levels and site conditions are favorable.

4.3.3.2 Deep Conditions

The concentrations of the deep groundwater illustrate conditions below the 2L GWQS at the Fuel Farm/Building AS-143 area and conditions above the 2L GWQS at the Building AS-4151 area for the selected monitoring wells. However, a site wide sampling event has not recently been performed. Based on the shallow depth of the groundwater recovery system, the current pump and treat system is not an effective means in the reduction of the COCs at depth. However, based on an evaluation of the trend of the historical groundwater contaminants of concern, the deep contamination appears to be naturally attenuating and degrading.

5.0 REMEDIATION MODIFICATIONS AND ALTERNATIVES

5.1 REGULATORY FRAMEWORK EVALUATION

The remedial goals for the site were presented in the Radian Optimization Report. Current applicable remedial requirements for the contamination associated with the CSFF project site are based on the corrective action requirements per 15A NCAC 2L.0115 which became effective on January 2, 1998 and the requirements in the NCDENR 2001 Guidelines. As such, reclassification of the site based on current risk factors was necessary.

A Risk Classification and Land Use Form, as presented in the 2001 Guidelines was completed as part of this work to present the data necessary to allow NCDENR to assess the site's applicable risk classification. The completed form is included in Appendix D. Based on the findings of this Risk Classification and Land Use Form, CATLIN concludes that the subject site meets the criteria for classification as an Intermediate Risk and Industrial/Commercial Land Use site. The Intermediate Risk

is based on the location of a surface water body within 1,500 feet of the subject source area and the presence of deep groundwater contamination.

5.2 REVISED CONCEPTUAL SITE MODEL

5.2.1 Site Hydrogeology

JA Jones, Shaw and E&E obtained depth to groundwater measurements from selected Type II (shallow) monitoring wells during the numerous sampling and gauging events that have been conducted at the subject site. Since modifications to the operation of the pump and treat system on January 3, 2000, groundwater elevation contours for the shallow monitoring wells, as interpreted and reported by JA Jones and Shaw, have historically indicated general groundwater flow trends toward the south at the Fuel Farm, the east at Building AS-143 and toward the south and southeast at Building AS-4151. Therefore, no change to the groundwater flow characteristics is necessary in the revised conceptual model.

5.2.2 Potential Receptors

Potential receptors have been re-evaluated during the preparation of this RAO & RCAP using the Risk Classification and Land Use Form in Appendix D. The receptor survey performed as part of this plan identified the following receptors within 1,500 feet of the site:

- The Wellhead Protection Plan Update (2002) indicated no active water supply wells within 1,500 feet of the site. There are water supply wells within 1,500 feet of the subject site listed as “closed” in the latest database provided by Camp Lejeune.
- Based on the Type III monitoring well data, deep groundwater contamination exists, and the site is located within the Coastal Plain. Therefore, recharge to an unconfined or semi-confined deeper aquifer is a possibility.
- A retention pond is located within 500 feet of the project site.
- There are numerous surface water bodies located outside of 500 feet and within 1,500 feet of the source areas.
- Numerous underground utilities are present throughout the site.
- Athletic fields are located within 1,500 feet of the site.

Based on information provided by MCB, Camp Lejeune, these potential receptors have not been reported to have been impacted by the potentially contaminated soils and/or groundwater. The potential receptors are presented on the Site Location Maps on Figures 1A and 1B.

5.2.3 Contaminants of Concern

The groundwater contaminants of concern (COC) as established in the Radian Optimization Report are still relevant; however, JA Jones and Shaw have historically reported additional contaminants in their annual monitoring reports above the 2L GWQS. Therefore, the COCs have been expanded to include the additional contaminants reported by JA Jones and Shaw. The revised COCs have been summarized on Table 4.

5.3 ALTERNATIVE REGULATORY MECHANISMS

5.3.1 Revised Target Cleanup Goals

Soil contamination at the CSFF site has not been assessed in accordance with the 2001 Guidelines (I/C MSCCs). As such, additional soil sampling for risk-based analysis is recommended (see Sections 6.2 and 7.1 of this report) within the areas of the assumed sources. The Revised Target Cleanup Concentrations are shown on Table 4.

Additionally, based on the Intermediate risk classification, groundwater quality must be restored to levels protective of surface water, wellhead protection areas and aquifers that could be used for drinking water. If these requirements are met then the RBCA Gross Contaminant Levels (GCLs) are applicable. Surface waters are considered a risk at the Fuel Farm/Building AS-143 area of this site based on the historical surficial groundwater contaminant plume location. The deeper groundwater conditions at the Building AS-4151 area of this site have illustrated contamination above the 2L GWQS. In addition, the deeper groundwater conditions have not been delineated as of this RAO and RCAP. Therefore, based on the risk of the surface water and potentially the drinking water aquifer, the applicable clean-up concentrations for groundwater are the 2L GWQS as shown on Table 4.

5.3.2 Notice of Residual Petroleum

A Notice of Residual Petroleum (NRP) is not required at this time for this site. However, in the event that the site is re-classified as low risk, a NRP may be required as part of a request for No Further Action (NFA).

Marine Corps Base, Camp Lejeune is currently in the process of developing a legal document designated as a Land Use Restriction (LUR) that is being designed as an acceptable document to both State and Federal Government agencies to accomplish the intent of the NRP.

5.4 ALTERNATIVE REMEDIAL TECHNOLOGIES

As previously stated, the implemented remedial approach may be an effective method for the remediation of shallow groundwater. However, the effectiveness of the remedial approach for the remediation of deep groundwater conditions and/or soil cannot be determined at this time. The extent of soil contamination, shallow groundwater contamination and deep groundwater contamination has not been delineated in a number of locations at the CSFF project site. Therefore, an alternative remedial technology may be necessary to address the soil and groundwater contamination. This alternative remedial technology will be based on the approval and results of the optimization recommendations presented within the Section 6.0 of this report.

5.5 COST EFFICIENCY EVALUATION

A detailed cost efficiency evaluation was not performed for this site based on the recommendations within Section 6.0 of this report. A cost efficiency evaluation will be required in the future if the remediation system requires expansion based on the results from the completion of the recommendations for additional assessment activities within this report.

6.0 OPTIMIZATION RECOMMENDATIONS

6.1 FREE-PHASE PRODUCT

As previously stated, no measurable thickness of free-phase product has been identified in any of the monitoring wells gauged at the subject site since E&E began operation of the system in 2003. Therefore, CATLIN recommends that AFVR events continue to be utilized for the removal of free-phase product, if present. However, in the event that more than five AFVR events are conducted within one year then an alternative remedial approach should be considered for the removal of free-phase product.

6.2 SOIL

As previously stated, no soil assessments of the vadose zone soils have been conducted at the CSFF project site since the CAP with the exception of the LSAs performed at the former USTs at Buildings AS-143 and AS-146. Therefore, CATLIN recommends collecting additional soil samples in the vicinity of the locations presented on Figure 7. These locations previously had TPH concentrations in excess of the cleanup levels presented in the CAP and UST Closure Reports for Building AS-143 and AS-146 and have not been re-sampled in accordance with the Risk-Based criteria. Please note that the soil samples recommended in the vicinity of monitoring wells MW-04 and MW-14 maybe within the extent of the previously referenced surface spill that has been remediated by excavation. In the event that these proposed samples are within an excavated/backfilled area then

the proposed soil samples should not be collected at these locations. The recommended Risk Based analyses to be performed for each sample are as follows: EPA Method 8260 with IPE and MTBE, EPA Method 8270 plus 10 tics, MADEP VPH and EPH.

The results of these soil samples should be presented within a Report of Findings (ROF) in general accordance with the 2001 Guidelines for soil assessment activities. Pending the results presented within the ROF, this RAO & RCAP should be revised accordingly.

6.3 GROUNDWATER

6.3.1 Shallow Conditions

Based on the Remedial Effectiveness Evaluation and the Revised Target Cleanup Concentrations discussed within Sections 4.2.2.1 and 5.3.1, respectively of this report, CATLIN recommends the continued operation of the groundwater recovery system in the vicinity of only Building AS-143 until the additional delineation activities are completed and an alternative remedial approach is evaluated.

Specific details to complete this recommendation are as follows:

- As previously stated, the area downgradient of the Fuel Farm/Building AS-143 area has not historically been monitored. Therefore, CATLIN recommends that a shallow groundwater monitoring well be installed and sampled within the area as illustrated on the attached Figure 8.
- As previously stated, a site wide sampling event has not been recently conducted. Therefore, in order to get a clearer understanding of the shallow groundwater contamination at this site, CATLIN recommends that all existing shallow monitoring wells at the CSFF project site be sampled. This event could coincide with a planned quarterly sampling event to save money. These shallow monitoring wells should be sampled for the contaminants of concern listed in Table 4 by use of the following methods: EPA Method 602 (extended list) with xylenes, EPA Method 625 Base/Neutrals for PAH and bis(2-ethylhexyl)phthalate compounds only and lead using Standard Prep Method 3030C.
- The groundwater samples collected for lead should be collected using low-flow sampling techniques.
- Upon installation of the recommended additional monitoring well and performance of the comprehensive sampling event, a ROF or Annual Groundwater Monitoring Report should be prepared with recommendations for additional assessment activities, if necessary to

define the limits of the dissolved contaminant plume, and this RAO & RCAP should be revised accordingly.

- At the conclusion of the comprehensive sampling event, the current monitoring well sampling and reporting schedule should be re-implemented until a revised sampling schedule is approved.

6.3.2 Deep Conditions

CATLIN recommends the following to address the deep groundwater contamination at the Building AS-4151 area within the CSFF project site:

- As previously stated, a site wide sampling event has not been recently conducted. Therefore, in order to define the deep groundwater contaminant plume, CATLIN recommends that all existing deep monitoring wells at the Building AS-4151 area be sampled. This event could coincide with a planned quarterly sampling event to save money. These deep monitoring wells should be sampled for the contaminants of concern listed in Table 4 by use of the following methods: EPA Method 602 (extended list) with xylenes, EPA Method 625 Base/Neutrals for PAH and bis(2-ethylhexyl)phthalate compounds only and lead using Standard Prep Method 3030C.
- The groundwater samples collected for lead should be collected using low-flow sampling techniques.
- Upon installation of the recommended additional monitoring well and performance of the comprehensive sampling event, a ROF or Annual Groundwater Monitoring Report should be prepared with recommendations for additional assessment activities, if necessary to define the limits of the dissolved contaminant plume, and this RAO & RCAP should be revised accordingly.
- At the conclusion of the comprehensive sampling event, the current monitoring well sampling and reporting schedule should be re-implemented until a revised sampling schedule is approved.

7.0 IMPLEMENTATION

7.1 IMPLEMENTATION PLAN

The following is a suggested implementation plan for obtaining site closure:

- Submittal of RAO & RCAP to the UST Section of NCDENR for approval of recommendations.
- Continue to operate the groundwater recovery system in the vicinity of only Building AS-143 until the additional delineation activities are completed and an alternative remedial approach is evaluated.
- Continue with the use of AFVR events for the removal of free-phase product,

if present. However, in the event that more than five (5) AFVR events are conducted within one year then an alternative remedial approach should be considered for the removal of free-phase product.

- Collection of recommended soil samples.
- Install the recommended monitoring well.
- Implementation of the recommended comprehensive groundwater sampling strategy.
- Preparation of a Report of Findings or Annual Groundwater Monitoring Report. This report may include the findings of the additional soil assessment activities, the activities associated with the installation of the proposed monitoring well and the findings of the comprehensive groundwater sampling event. If additional soil contamination is detected and the extent of groundwater contamination is significantly different then conditions presented within this report, then this RAO & RCAP should be revised accordingly; otherwise, proceed with site closure activities.
- At the conclusion of the comprehensive sampling event, the current monitoring well sampling and reporting schedule should be re-implemented until a revised sampling schedule is approved.

7.2 SCHEDULE FOR IMPLEMENTATION

The groundwater recovery system modifications, collection of the additional soil samples, installation of the additional monitoring well and implementation of the groundwater sampling strategy are recommended to commence upon plan approval by appropriate State authorities. The ROF or Annual Groundwater Monitoring Report and revised RAO & RCAP, if necessary, should be prepared following the collection of the applicable soil and groundwater data. At the conclusion of the comprehensive sampling event, the current monitoring well sampling and reporting schedule should be re-implemented until a revised sampling schedule is approved.

8.0 LIMITATIONS

The field and groundwater data evaluated as part of this report provide isolated data points and may not represent conditions at every location in the project area. Analyses and conclusions of this report, being based on interpolation between data points at the project area, may not be completely representative of all site conditions. Conclusions and recommendations from this report are based on the best available data in an effort to comply with current regulatory requirements.

9.0 REFERENCES

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- North Carolina Department of Environment and Natural Resources, Division of Waste Management, UST Section, 2001, *Guidelines for Assessment and Corrective Action*. Effective July 1, 2001.
- North Carolina Department of Environment and Natural Resources, Division of Water Quality, 2002, *Title 15A Subchapter 2L-Classifications and Water Quality Standards Applicable To The Groundwaters of North Carolina*. Effective as of December 2002.
- Radian International, *Final Marine Corps Base Camp Lejeune Campbell Street Fuel Farm Remedial Action Operation (RAO) Optimization Case Studies*. January 2000.
- Shaw Environmental Inc., *Final Annual Monitoring Report, Soil and Groundwater Remediation, Campbell Street Fuel Farm, Marine Corps Base Camp Lejeune, Onslow County, North Carolina*. January 2004.

TABLES

TABLE 1A					
WELL CONSTRUCTION DATA					
FUEL FARM AND BUILDING AS-143 AREA					
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN					
CAMPBELL STREET FUEL FARM					
MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA					
WELL I.D.	DATE CONSTRUCTED	TOP OF CASING (Feet)	TOTAL DEPTH (Feet Below TOC)	CASING INTERVAL (Feet Below TOC)	SCREEN INTERVAL (Feet Below TOC)
TYPE II MONITORING WELLS					
MW-1	12/10/1991	23.24	17.64	0.00 - 7.64	7.64 - 17.44
MW-2	12/10/1991	22.83	17.73	0.00 - 7.73	7.73 - 17.53
MW-3	12/12/1991	21.69	17.39	0.00 - 7.39	7.39 - 17.19
MW-4	12/12/1991	22.77	18.17	0.00 - 8.17	8.17 - 17.97
MW-5	12/12/1991	23.85	18.25	0.00 - 8.45	8.45 - 17.85
MW-6	12/13/1991	20.40	18.10	0.00 - 8.10	8.10 - 17.90
MW-7	12/13/1991	21.04	17.54	0.00 - 7.54	7.54 - 17.34
MW-8	11/19/1992	20.45	15.65	0.00 - 5.55	5.55 - 15.05
MW-9	11/19/1992	20.45	16.45	0.00 - 6.35	6.35 - 15.95
MW-10	11/19/1992	21.17	17.77	0.00 - 7.67	7.67 - 17.17
MW-11	11/18/1992	22.03	18.73	0.00 - 8.63	8.63 - 17.33
MW-12	11/19/1992	21.41	16.51	0.00 - 6.41	6.41 - 16.01
MW-13	11/20/1992	22.80	17.80	0.00 - 7.68	7.68 - 17.30
MW-14	11/20/1992	20.07	15.77	0.00 - 5.87	5.87 - 15.77
MW-15	11/21/1992	21.08	18.68	0.00 - 8.58	8.58 - 18.08
MW-16	11/20/1992	21.45	17.65	0.00 - 7.55	7.55 - 17.15
MW-17	11/20/1992	22.51	15.71	0.00 - 5.91	5.91 - 15.31
MW-18	11/22/1992	18.69	12.79	0.00 - 2.89	2.89 - 12.49
MW-19	11/23/1992	19.10	13.80	0.00 - 3.90	3.90 - 13.40
MW-20	11/23/1992	19.40	14.30	0.00 - 4.30	4.30 - 13.80
MW-21	11/21/1992	21.76	16.66	0.00 - 6.56	6.56 - 16.16
MW-22	11/23/1992	21.69	15.79	0.00 - 5.69	5.69 - 15.29
MW-23	11/21/1992	21.35	15.45	0.00 - 5.35	5.35 - 14.95
MW-24	11/22/1992	21.56	13.56	0.00 - 5.36	5.36 - 13.36
MW-25	11/23/1992	21.17	16.57	0.00 - 6.47	6.47 - 16.07
TYPE III MONITORING WELLS					
DW-1	12/18/1991	20.79	32.49	0.00 - 27.49	27.49 - 32.29
DW-2	1/7/1992	22.91	33.41	0.00 - 28.41	28.41 - 33.21
DW-3	1/7/1992	22.98	31.38	0.00 - 28.38	28.38 - 31.18
DW-4	11/22/1992	21.07	53.57	0.00 - 48.17	48.17 - 52.97
DW-5	11/19/1992	22.79	45.79	0.00 - 40.59	40.59 - 45.29
DW-6	12/2/1992	21.83	45.23	0.00 - 40.03	40.03 - 44.73
RECOVERY WELLS					
RW-1	11/23/1992	21.79	25.69	0.00 - 5.69	5.69 - 25.09
RWA-1	UKN	UKN	UKN	UKN	UKN
RWA-2	UKN	UKN	UKN	UKN	UKN
RWB-1	UKN	UKN	UKN	UKN	UKN
RWB-2	UKN	UKN	UKN	UKN	UKN
RWB-3	UKN	UKN	UKN	UKN	UKN
RWB-4	UKN	UKN	UKN	UKN	UKN

1. Well data obtained from CAP by Baker Environmental, Inc, dated July 22, 1994.

2. UKN = Unknown.

3. TOC = Top Of Casing.

4. Shading indicates well not located or abandoned. Data from these wells is from previously submitted reports.

TABLE 1B					
WELL CONSTRUCTION DATA					
BUILDING AS-4151 AREA					
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN					
CAMPBELL STREET FUEL FARM					
MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA					
WELL I.D.	DATE CONSTRUCTED	TOP OF CASING (Feet)	TOTAL DEPTH (Feet Below TOC)	CASING INTERVAL (Feet Below TOC)	SCREEN INTERVAL (Feet Below TOC)
TYPE II MONITORING WELLS					
13MW-1	12/1991	21.84	UKN	UKN	UKN
122MW-1	6/18/1992	22.75	18.75	0.00 - 8.75	8.75 - 18.75
122MW-2	6/18/1992	22.48	21.28	0.00 - 10.58	10.58 - 20.58
122MW-3	6/18/1992	22.23	17.43	0.00 - 7.23	7.23 - 17.23
122MW-4	6/18/1992	19.60	14.00	0.00 - 3.80	3.80 - 13.80
122MW-5	6/19/1992	18.60	13.10	0.00 - 2.90	2.90 - 12.90
122MW-6	6/20/1992	18.38	13.58	0.00 - 3.28	3.28 - 13.28
122MW-7	6/20/1992	18.37	13.87	0.00 - 3.67	3.67 - 13.67
122MW-8	1/14/1993	21.25	14.37	0.00 - 4.37	4.37 - 14.37
122MW-9	1/13/1993	18.94	13.46	0.00 - 3.46	3.46 - 13.46
122MW-10	1/12/1993	21.48	14.57	0.00 - 4.57	4.57 - 14.57
122MW-11	1/13/1993	21.37	8.50	0.00 - 3.50	3.50 - 8.50
122MW-12	1/14/1993	20.72	16.46	0.00 - 6.46	6.46 - 16.46
122MW-13	1/14/1993	20.51	15.44	0.00 - 5.44	5.44 - 15.44
122MW-14	1/13/1993	23.41	17.61	0.00 - 7.61	7.61 - 17.61
MW-2A	UKN	UKN	UKN	UKN	UKN
TYPE III MONITORING WELLS					
13DW-1	12/1991	22.17	UKN	UKN	UKN
122DW-1	6/23/1992	18.72	43.72	0.00 - 38.42	38.42 - 43.42
122DW-2	6/24/1992	22.68	44.78	0.00 - 39.58	39.58 - 44.58
RECOVERY WELLS					
122RW-1	1/31/1993	18.87	14.96	0.00 - 1.96	1.96 - 11.46
RWC-1	UKN	UKN	UKN	UKN	UKN
RWC-2	UKN	UKN	UKN	UKN	UKN
4151RW-1	UKN	UKN	UKN	UKN	UKN

1. Well data obtained from CAP by Baker Environmental, Inc. dated July 29, 1994.

2. UKN = Unknown.

3. TOC = Top Of Casing.

4. Shading indicates well not located or abandoned. Data from these wells is from previously submitted reports.

TABLE 2A																
GROUNDWATER SAMPLING HISTORY																
FUEL FARM AND BUILDING AS-143 AREA																
REMEDIAL ACTION OPTIMIZATION & CORRECTIVE ACTION PLAN																
CAMPBELL STREET FUEL FARM																
MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA																
WELL I.D.	DATE INSTALLED															LAST DATE ABOVE 2L GWQS
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004		
TYPE II MONITORING WELLS																
MW-1	12/10/1991	X											X		3/26/2003	
MW-2	12/10/1991	X													NON-CONCLUSIVE	
MW-3	12/12/1991	X				X	X	X	X	X	X	X	X	X	9/6/2000	
MW-4	12/12/1991	X													NON-CONCLUSIVE	
MW-5	12/12/1991	X													NON-CONCLUSIVE	
MW-6	12/13/1991	X													NON-CONCLUSIVE	
MW-7	12/13/1991	X													NON-CONCLUSIVE	
MW-8	11/19/1992	X													NON-CONCLUSIVE	
MW-9	11/19/1992	X													NON-CONCLUSIVE	
MW-10	11/19/1992	X													NON-CONCLUSIVE	
MW-11	11/18/1992	X				X	X	X	X	X	X	X	X	X	NEVER ABOVE	
MW-12	11/19/1992	X				X	X	X	X	X	X	X	X	X	12/16/2003	
MW-13	11/20/1992	X													NON-CONCLUSIVE	
MW-14	11/20/1992	X				X	X	X	X	X	X	X	X	X	NEVER ABOVE	
MW-15	11/21/1992	X													NON-CONCLUSIVE	
MW-16	11/20/1992	X				X	X	X	X	X	X	X	X	X	3/18/2004	
MW-17	11/20/1992	X													NON-CONCLUSIVE	
MW-18	11/22/1992	X													NON-CONCLUSIVE	
MW-19	11/23/1992	X													NON-CONCLUSIVE	
MW-20	11/23/1992	X													NON-CONCLUSIVE	
MW-21	11/21/1992	X				X	X	X	X	X	X	X	X	X	3/18/2004	
MW-22	11/23/1992	X													NON-CONCLUSIVE	
MW-23	11/21/1992	X													NON-CONCLUSIVE	
MW-24	11/22/1992	X				X	X	X	X	X	X	X	X	X	3/18/2004	
MW-25	11/23/1992	X													NON-CONCLUSIVE	

TABLE 2A															
GROUNDWATER SAMPLING HISTORY															
FUEL FARM AND BUILDING AS-143 AREA															
REMEDIAL ACTION OPTIMIZATION & CORRECTIVE ACTION PLAN															
CAMPBELL STREET FUEL FARM															
MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA															
WELL I.D.	DATE INSTALLED														
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	LAST DATE ABOVE 2L GWQS
TYPE III MONITORING WELLS															
DW-1	12/18/1991	X													NON-CONCLUSIVE
DW-2	1/7/1992	X				X	X	X	X	X	X	X	X	X	12/16/2003
DW-3	1/7/1992	X													NON-CONCLUSIVE
DW-4	11/22/1992	X													NON-CONCLUSIVE
DW-5	11/19/1992	X													NON-CONCLUSIVE
DW-6	12/2/1992	X				X	X	X	X	X	X	X	X	X	3/26/2003
RECOVERY WELLS															
RW-1	11/23/1992	X													NON-CONCLUSIVE
RWA-1	UNKNOWN														NO DATA
RWA-2	UNKNOWN														NO DATA
RWB-1	UNKNOWN														NO DATA
RWB-2	UNKNOWN														NO DATA
RWB-3	UNKNOWN														NO DATA
RWB-4	UNKNOWN														NO DATA

1. The information presented within for 1992 to 2002 is based on data obtained from the following reports:

Corrective Action Plan, Campbell Street Fuel Farm and UST System AS-143, MCAS New River, North Carolina, Baker Environmental, Inc., July 22, 1994.

Final Annual Monitoring Report, Campbell Street Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina, Shaw Environmental, Inc, January 2004.

2. 2003 and 2004 data provided by Engineering and Environment, Inc.

3. Last date above 2L GWQS = The last date in which a contaminant of concern was above the 2L GWQS for each monitoring well.

4. NO DATA = No sampling records available for these wells.

5. Shading indicates well not located or abandoned. Data from these wells is from previously submitted reports.

TABLE 2B																
GROUNDWATER SAMPLING HISTORY																
BUILDING AS-4151 AREA																
REMEDIAL ACTION OPTIMIZATION & CORRECTIVE ACTION PLAN																
CAMPBELL STREET FUEL FARM																
MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA																
WELL I.D.	DATE INSTALLED															LAST DATE ABOVE 2L GWQS
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004		
TYPE II MONITORING WELLS																
13MW-1	12/1991		X					X	X	X	X	X		X	12/3/2002	
122MW-1	6/18/1992	X													NON-CONCLUSIVE	
122MW-2	6/18/1992	X	X												NON-CONCLUSIVE	
122MW-3	6/18/1992	X	X			X	X	X	X	X	X	X	X	X	NEVER ABOVE	
122MW-4	6/18/1992	X				X	X	X	X	X	X	X	X	X	6/1992	
122MW-5	6/19/1992	X													NON-CONCLUSIVE	
122MW-6	6/20/1992	X													NON-CONCLUSIVE	
122MW-7	6/20/1992	X				X	X	X	X	X	X	X	X	X	NEVER ABOVE	
122MW-8	1/14/1993		X			X	X	X	X	X	X	X	X	X	NEVER ABOVE	
122MW-9	1/13/1993		X				X	X	X	X	X	X	X	X	3/18/2004	
122MW-10	1/12/1993		X												NON-CONCLUSIVE	
122MW-11	1/13/1993		X			X	X	X	X	X	X	X	X	X	NEVER ABOVE	
122MW-12	1/14/1993		X												NON-CONCLUSIVE	
122MW-13	1/14/1993		X												NON-CONCLUSIVE	
122MW-14	1/13/1993		X												NON-CONCLUSIVE	
MW-2A	UNKNOWN														NON-CONCLUSIVE	

TABLE 2B															
GROUNDWATER SAMPLING HISTORY															
BUILDING AS-4151 AREA															
REMEDIAL ACTION OPTIMIZATION & CORRECTIVE ACTION PLAN															
CAMPBELL STREET FUEL FARM															
MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA															
WELL I.D.	DATE INSTALLED														
		1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	LAST DATE ABOVE 2L GWQS
TYPE III MONITORING WELLS															
13DW-1	12/1991		X			X	X	X	X	X	X	X	X	X	3/17/2004
122DW-1	6/23/1992	X													NON-CONCLUSIVE
122DW-2	6/24/1992	X													NON-CONCLUSIVE
RECOVERY WELLS															
122RW-1	1/31/1993		X												1/1993
RWC-1	UNKNOWN														NO DATA
RWC-2	UNKNOWN														NO DATA
4151RW-1	UNKNOWN														NO DATA

1. The information presented within for 1992 to 2002 is based on data obtained from the following reports:

Corrective Action Plan, Building AS-4151, MCAS New River, North Carolina, Baker Environmental, Inc., July 29, 1994.

Final Annual Monitoring Report, Campbell Street Fuel Farm, Marine Corps Base Camp Lejeune, North Carolina, Shaw Environmental, Inc, January 2004.

2. 2003 and 2004 data provided by Engineering and Environment, Inc.

3. Last date above 2L GWQS = The last date in which a contaminant of concern was above the 2L GWQS for each monitoring well.

4. NO DATA = No sampling records available for these wells.

5. Shading indicates well not located or abandoned. Data from these wells is from previously submitted reports.

TABLE 3A

**SUMMARY OF HISTORICAL GROUNDWATER CONTAMINANTS OF CONCERN
FUEL FARM AND BUILDING AS-143 AREA**

**REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM**

MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA

COMPOUND	2L GWQS (µg/L)	MAXIMUM CONCENTRATIONS (µg/L)									
		CAP DATA	1996	1997	1998	1999	2000	2001	2002	2003	2004
TYPE II MONITORING WELLS											
Benzene	1	73.0	2,545	2,105.4	2,500	2,100	1,500	1,600	670	520	576.0
Methyl Tert-Butyl Ether	200	1,490	BQL	BQL	BQL	210	150	230	90	259	153.0
Ethylbenzene	29	661	1,025	621.8	1,383	770	460	500	260	347	251.0
Total Xylenes	530	5,083	3,130	2,567.4	5,214	2,030	1,300	1,293	670	1,060	869.0
Toluene	1,000	762	2,500	2,370.2	3,050	1,300	420	1,400	330	549	264.0
Naphthalene	21	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
1-Methylnaphthalene	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	300	1.73	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620	486	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	620	10.64	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	3,060	BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA	NA
Ethylene Dibromide	0.0004	762	BQL	3.5	BQL	0.04	BQL	BQL	BQL	NA	NA
Acenaphthene	80	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2,100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NE	NA	NA	NA	NA	NA	NA	NA	NA	<0.019	<0.019
Lead	15	3.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
TYPE III MONITORING WELLS											
Bcnzene	1	2.05	NA	NA	NA	NA	NA	NA	NA	3.3	<1.0
Methyl Tert-Butyl Ether	200	ND	NA	NA	NA	NA	NA	NA	NA	<1.0	<1.0
Ethylbenzene	29	0.36	NA	NA	NA	NA	NA	NA	NA	4.0	<1.0
Total Xylenes	530	22.70	NA	NA	NA	NA	NA	NA	NA	5.0	<3.0
Toluene	1,000	0.94	NA	NA	NA	NA	NA	NA	NA	<1.0	<1.0
Naphthalene	21	258	BQL	BQL	BQL	BQL	BQL	40	12	36.9	11.0
1-Methylnaphthalene	NE	NA	NA	NA	NA	BQL	19	BQL	BQL	4.61	<5.1
2-Methylnaphthalene	28	NA	NA	NA	NA	BQL	19	BQL	BQL	<5.4	<5.1
Bis(2-ethylhexyl)phthalate	3	NA	BQL	BQL	BQL	56	65	43	31	NA	NA
Chlorobenzene	300	22.70	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620	2.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	620	23.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	23.35	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylene Dibromide	0.0004	0.94	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	80	46	BQL	BQL	BQL	19	BQL	13	27	35.4	28.5
Acenaphthylene	210	NA	BQL	BQL	BQL	BQL	BQL	BQL	BQL	<5.4	<5.1
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	<5.4	<5.1
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.4	<5.1
Fluorene	280	36	BQL	BQL	BQL	19	BQL	10	20	27.9	24.0
Anthracene	2,100	NA	NA	NA	NA	NA	NA	NA	NA	<5.4	<5.1
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	<5.4	<5.1
Phenanthrene	210	11	NA	NA	NA	NA	NA	NA	NA	<5.4	<5.1
1,2-Dibromoethane	NE	NA	NA	NA	NA	NA	NA	NA	NA	<0.019	<0.019
Lead	15	4.3	NA	NA	NA	NA	NA	NA	NA	NA	NA

1. NE = Not established. Therefore, the NCGWQS for the constituent is the reporting limit.

2. ND = Not detected; see laboratory reports for applicable detection limits.

3. NA= Not Analyzed

4. J = Estimated concentration less than reporting limit.

5. BQL = Below Quantitation Limits.

6. Shading represents concentrations above 2L GWQS.

7. CAP data provided by Baker Environmental, Inc., dated July 22, 1994.

8. 1996 through 2002 data obtained from the Shaw Environmental, Inc. Annual Monitoring Report, dated January 2004.

9. 2003 & 2004 Data provided by Engineering & Environment, Inc.

10. All other compounds analyzed were below laboratory method/quantitation detection limits or historically below 2L GWQS.

TABLE 3B
SUMMARY OF HISTORICAL GROUNDWATER CONTAMINANTS OF CONCERN
BUILDING AS-4151 AREA
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM
MARINE CORPS AIR STATION, NEW RIVER, NORTH CAROLINA

COMPOUND	2L GWQS (µg/L)	MAXIMUM CONCENTRATIONS (µg/L)									
		CAP DATA	1996	1997	1998	1999	2000	2001	2002	2003	2004
TYPE II MONITORING WELLS											
Benzene	1	11.90	1	1.1	2.1	BQL	BQL	2	2	<1.0	0.87J
Methyl Tert-Butyl Ether	200	5.08	BQL	BQL	BQL	BQL	BQL	BQL	BQL	<1.0	<1.0
Ethylbenzene	29	26	BQL	7	16	18	10	15	4	1.4	1.6
Total Xylenes	530	46	BQL	BQL	8	11	9	9	7	5.0	5.7
Toluene	1,000	7.9	BQL	BQL	BQL	BQL	BQL	BQL	BQL	<1.0	2.6
Naphthalene	21	313	BQL	19.9	2,960	1,100	130	300	180	84.1	21.6J
1-Methylnaphthalene	NE	NA	NA	NA	41	3,500	260	260	160	65.0	16.0J
2-Methylnaphthalene	28	NA	NA	NA	42	1,800	200	320	18	41.0	<25
Bis(2-ethylhexyl)phthalate	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	300	2.75	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620	70.85	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	620	63.75	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	63.75	BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA	NA
Ethylene Dibromide	0.0004	0.98	BQL	BQL	BQL	0.02	BQL	BQL	BQL	NA	NA
Acenaphthene	80	3	NA	BQL	BQL	BQL	BQL	BQL	BQL	<20	<5.1
Acenaphthylene	210	10	NA	BQL	BQL	120	BQL	BQL	BQL	<20	<5.1
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	<5.7	<5.1
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.7	<5.1
Fluorene	280	4	NA	BQL	BQL	BQL	BQL	BQL	BQL	<5.7	3.1J
Anthracene	2,100	2	NA	NA	NA	NA	NA	NA	NA	<5.7	<5.1
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	<5.7	<5.1
Phenanthrene	210	2	NA	NA	NA	NA	NA	NA	NA	<5.7	<5.1
1,2-Dibromoethane	NE	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.019
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TYPE III MONITORING WELLS											
Benzene	1	3.16	8.2	6.4	7.1	7	9	11	9	9.1	9.3
Methyl Tert-Butyl Ether	200	ND	BQL	BQL	BQL	BQL	BQL	BQL	BQL	<1.0	<1.0
Ethylbenzene	29	1.88	8.9	8.9	9.9	10	14	13	7	7.9	8.7
Total Xylenes	530	2.05	10.2	6.1	7.2	8	19	13	12	13.9	14.5
Toluene	1,000	7.35	4.9	2.5	2.3	2	3	2	2	2.0	2.1
Naphthalene	21	NA	2.8	1.1	2,020	1,400	1,900	2,100	2400	1,730	1370
1-Methylnaphthalene	NE	NA	NA	NA	NA	84	100	100	82.0	70.2	65.4
2-Methylnaphthalene	28	NA	NA	NA	NA	100	140	150	140	118	85.3
Bis(2-ethylhexyl)phthalate	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	300	2.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	620	5.29	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	620	18.28	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	18.28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA	NA
Ethylene Dibromide	0.0004	7.35	BQL	BQL	BQL	BQL	BQL	BQL	BQL	NA	NA
Acenaphthene	80	NA	BQL	BQL	BQL	55	83	120	98.0	<260	72.8
Acenaphthylene	210	NA	BQL	BQL	BQL	BQL	BQL	BQL	BQL	<260	<26
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	<260	<5.1
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<260	<5.1
Fluorene	280	NA	BQL	BQL	BQL	12	BQL	39	33.0	<260	29.0
Anthracene	2,100	NA	NA	NA	NA	NA	NA	NA	NA	<260	<5.1
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	<260	<5.1
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<260	<5.1
1,2-Dibromoethane	NE	NA	NA	NA	NA	NA	NA	NA	NA	<0.019	<0.019
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

1. NE = Not established. Therefore, the NCGWQS for the constituent is the reporting limit.

2. ND = Not detected; see laboratory reports for applicable detection limits.

3. NA= Not Analyzed

4. J = Estimated concentration less than reporting limit.

5. BQL = Below Quantitation Limits.

6. Shading represents concentrations above 2L GWQS.

7. CAP data provided by Baker Environmental, Inc., dated July 29, 1994.

8. 1996 through 2002 data obtained from the Shaw Environmental, Inc. Annual Monitoring Report, dated January 2004.

9. 2003 & 2004 Data provided by Engineering & Environment, Inc.

10. All other compounds analyzed were below laboratory method/quantitation detection limits or historically below 2L GWQS.

TABLE 4				
REVISED TARGET CLEANUP CONCENTRATIONS				
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN				
CAMPBELL STREET FUEL FARM				
MARINE CORPS AIR STATION, NEW RIVER, NC				
MEDIUM	CONTAMINANT OF CONCERN	CURRENT CONDITIONS	TARGET CLEANUP	
Free Product	Gasoline/Diesel	NMT	<1/8"	
Vadose Zone Soil	TPH - Diesel	Unknown	40	
	TPH - Gasoline	Unknown	10	
	EPA Method 8260, EPA Method 8270, MADEP VPH/EPH	Unknown	Residential Maximum Soil Contaminant Concentrations	
TYPE II MONITORING WELLS				
GROUNDWATER			2B .0200 *10	2L GWQS
	Benzene	576.0	714	1
	Methyl Tert-Butyl Ether	153.0	NE	200
	Ethylbenzene	251.0	NE	29
	Total Xylenes	869.0	NE	530
	Toluene	2.6	110	1,000
	Naphthalene	21.6J	NE	21
	1-Methylnaphthalene	16.0J	NE	NE
	2-Methylnaphthalene	<25	NE	28
	Bis(2-ethylhexyl)phthalate	NA	NE	3
	Chlorobenzene	NA	NE	300
	1,2-Dichlorobenzene	NA	NE	620
	1,3-Dichlorobenzene	NA	NE	620
	1,4-Dichlorobenzene	NA	NE	75
	Ethylene Dibromide	NA	NE	0.004
	Acenaphthene	<5.1	NE	80
	Acenaphthylene	<5.1	NE	210
	Benzo(a)anthracene	<5.1	NE	0.05
	Pyrene	<5.1	NE	210
	Fluorene	3.1J	NE	280
	Anthracene	<5.1	NE	2,100
	Fluoranthene	<5.1	NE	280
	Phenanthrene	<5.1	NE	210
	1,2-Dibromoethane	<0.019	NE	NE
	Lead	NA	250	15
TYPE III MONITORING WELLS				
GROUNDWATER			2B .0200 *10	2L GWQS
	Benzene	9.3	714	1
	Methyl Tert-Butyl Ether	<1.0	NE	200
	Ethylbenzene	8.7	NE	29
	Total Xylenes	14.5	NE	530
	Toluene	2.1	110	1,000
	Naphthalene	1,370.0	NE	21
	1-Methylnaphthalene	65.4	NE	NE
	2-Methylnaphthalene	85.3	NE	28
	Bis(2-ethylhexyl)phthalate	NA	NE	3
	Chlorobenzene	NA	NE	300
	1,2-Dichlorobenzene	NA	NE	620
	1,3-Dichlorobenzene	NA	NE	620
	1,4-Dichlorobenzene	NA	NE	75
	Ethylene Dibromide	NA	NE	0.004
	Acenaphthene	72.8	NE	80
	Acenaphthylene	<26	NE	210
	Benzo(a)anthracene	<5.1	NE	0.05
	Pyrene	<5.1	NE	210
	Fluorene	29.0	NE	280
	Anthracene	<5.1	NE	2,100
	Fluoranthene	<5.1	NE	280
	Phenanthrene	<5.1	NE	210
	1,2-Dibromoethane	<0.019	NE	NE
	Lead	NA	250	15

1. NMT = No measurable product thickness.

2. NE = Not established. Therefore, the 2L GWQS for the constituent is the reporting limit.

3. NA = Not Analyzed

4. J = Estimated concentration less than reporting limit.

5. CAP data provided by Baker Environmental, Inc., dated July 22, 1994 and July 29, 1994.

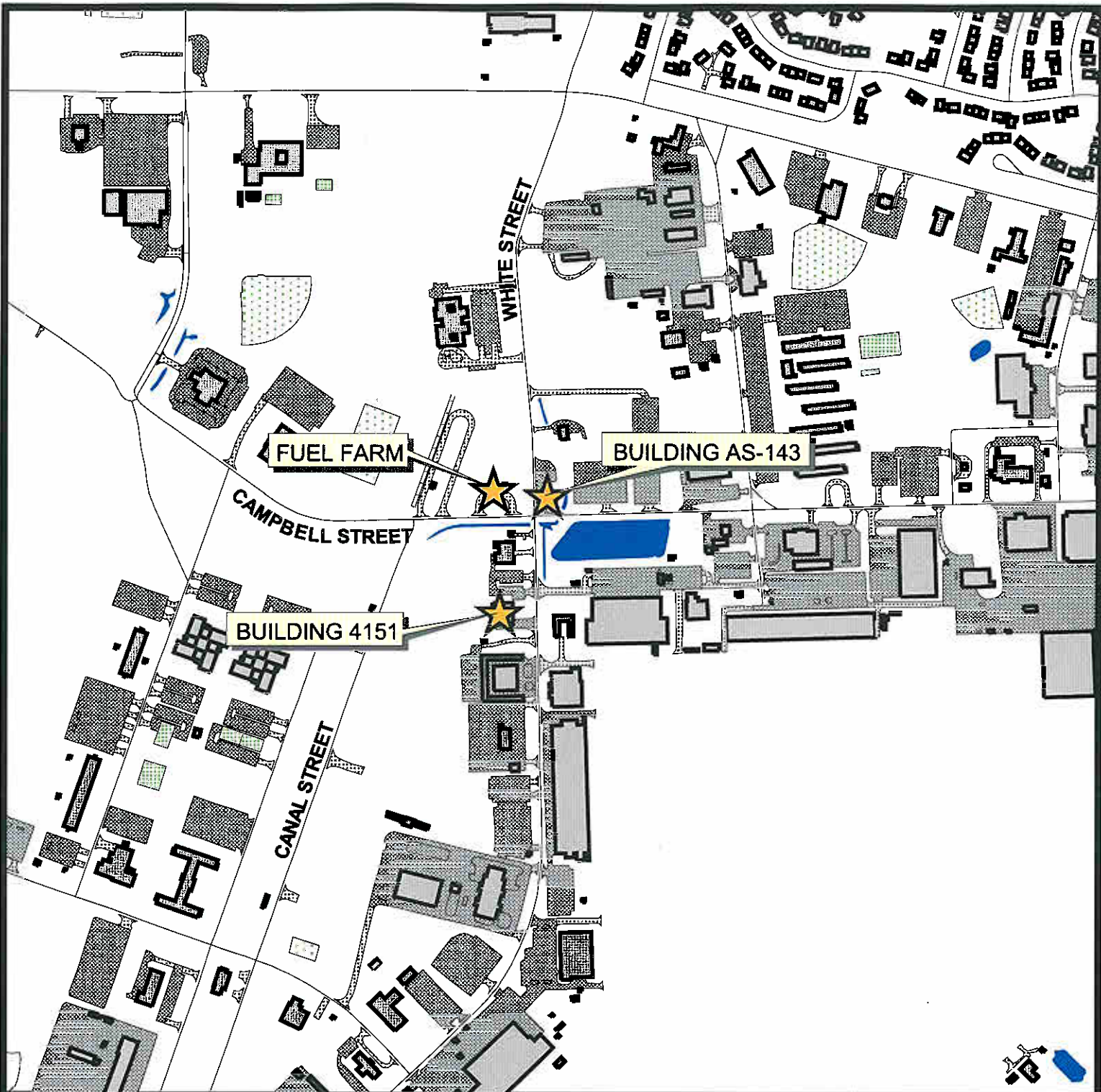
6. Historical data obtained from the Shaw Environmental, Inc. Annual Monitoring Report, dated January 2004.

7. 2003 & 2004 Data provided by Engineering & Environment, Inc.

8. Soil target cleanup concentrations are in mg/kg.

9. Groundwater current conditions and target cleanup concentrations are in ug/L.

FIGURES

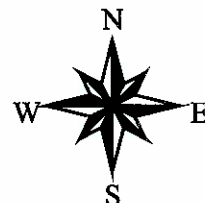


LEGEND

-  Roads
-  Railroads
-  Recreational Horse Trail
-  Buildings and Structures
-  Parking Lots
-  Playgrounds
-  Driveways
-  Athletic Fields
-  Athletic Courts
-  Surface Water
-  Creeks
-  Surface Water

200 0 200 Feet

SCALE



CATLIN
ENGINEERS and SCIENTISTS

DRAWN BY: CHECK BY: APPROVED BY:

THW

JKB

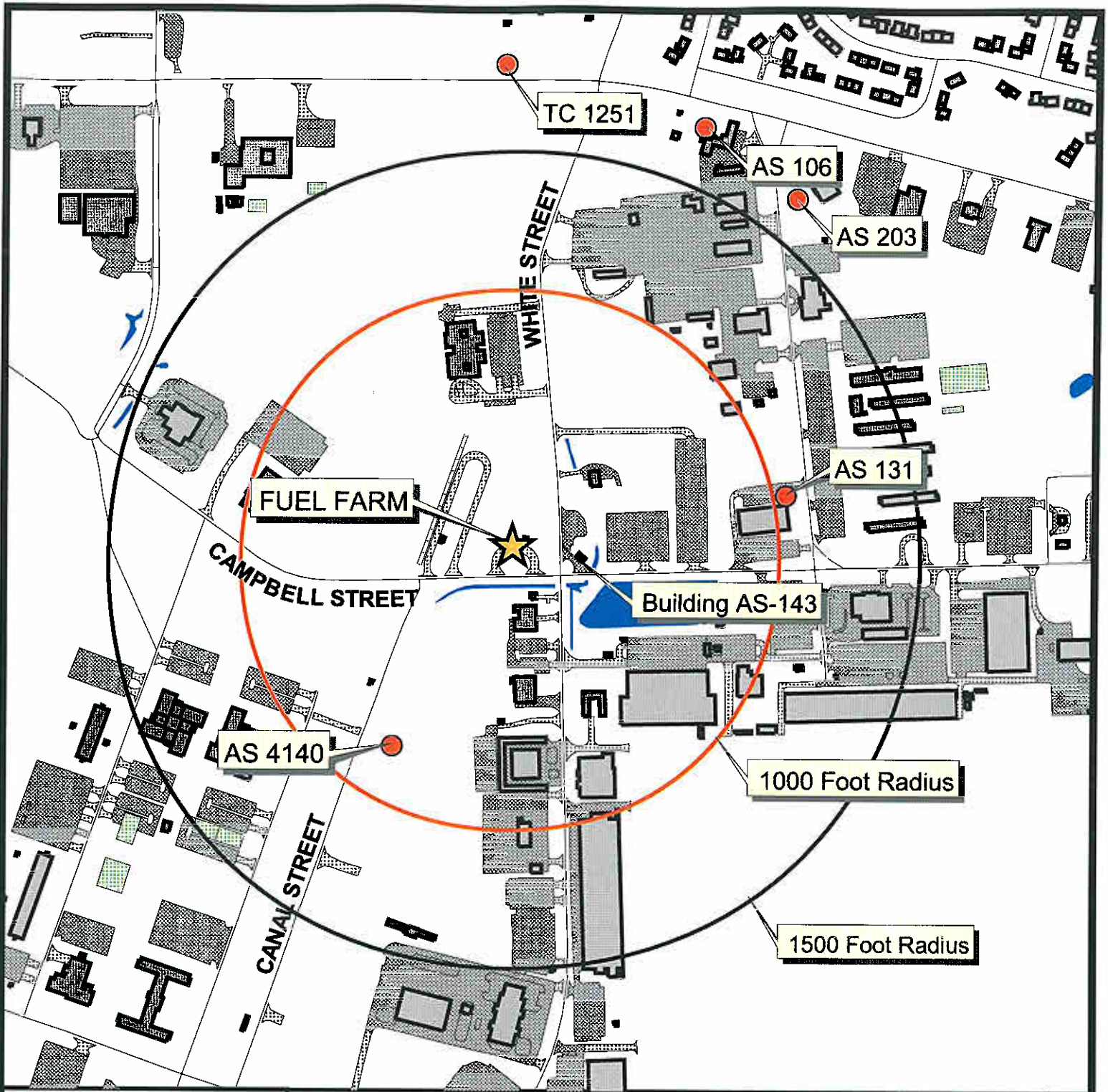
CATLIN PROJECT No.: 204-036

SITE VICINITY MAP

CAMPBELL STREET FUEL FARM

FIGURE

1

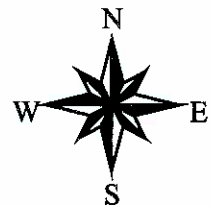
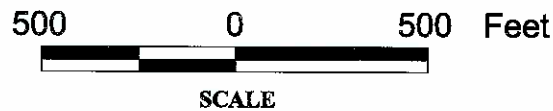


LEGEND

Water Supply Wells

- ACTIVE
- CLOSED
- INACTIVE
- PENDING

- Roads
- Railroads
- Recreational Horse Trail
- Buildings and Structures
- Parking Lots
- Playgrounds
- Driveways
- Athletic Fields
- Athletic Courts
- Surface Water
- Creeks
- Surface Water



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ENGINEERS AND SCIENTISTS

DRAWN BY: CHECK BY: APPROVED BY:

THW

JKB

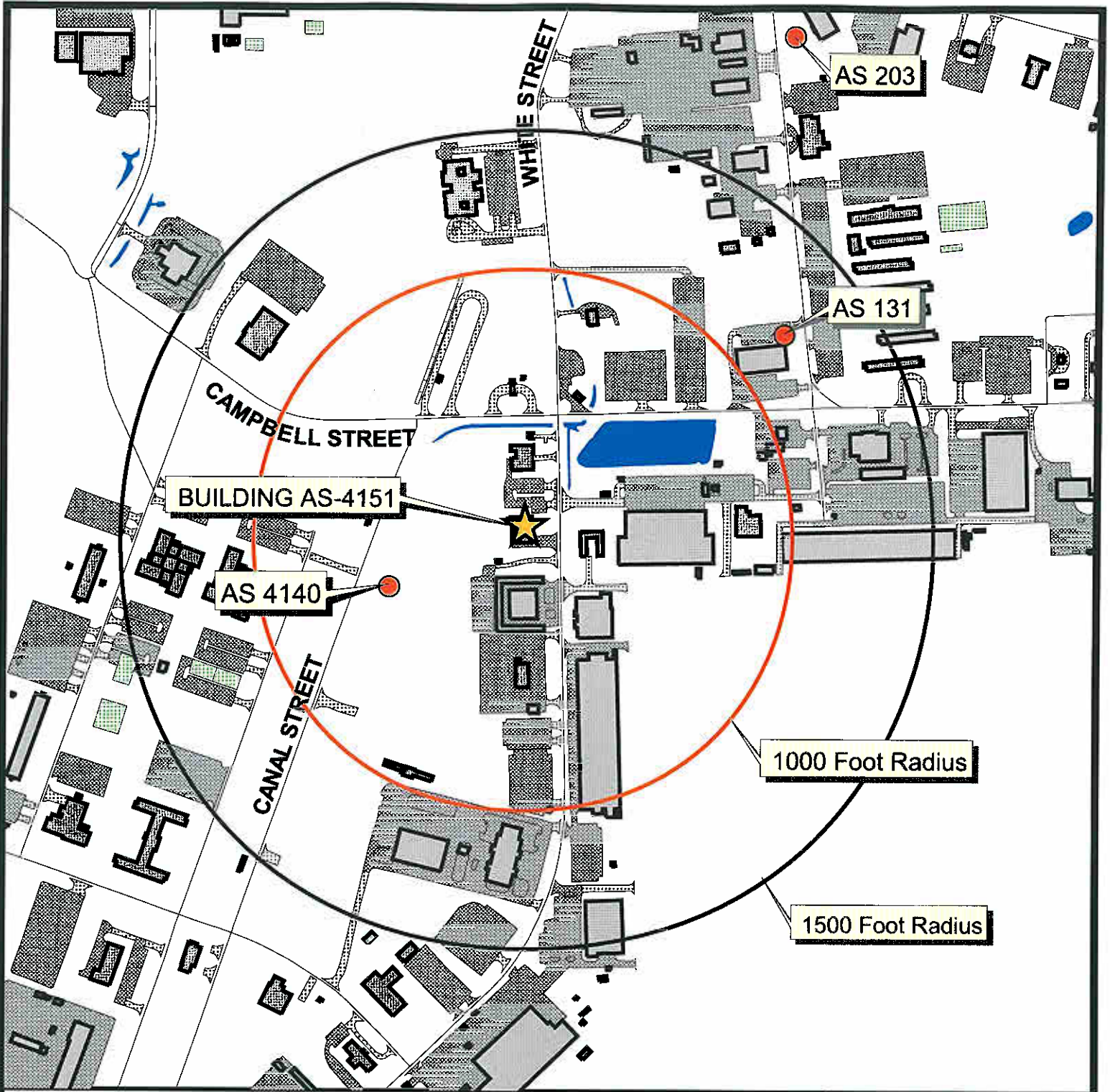
CATLIN PROJECT No.: 203-063

**SITE LOCATION MAP
FOR FUEL FARM & BUILDING AS-143 AREA**

**CAMPBELL STREET FUEL FARM
1500 ft. RADIUS WITH RECEPTORS**

FIGURE

1A



LEGEND

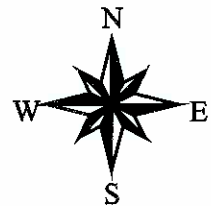
Water Supply Wells

- ACTIVE
- CLOSED
- INACTIVE
- PENDING

- Roads
- Railroads
- Recreational Horse Trail
- Buildings and Structures
- Parking Lots
- Playgrounds
- Driveways
- Athletic Fields
- Athletic Courts
- Surface Water
- Creeks
- Surface Water

500 0 500 Feet

SCALE



CATLIN
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DRAWN BY: CHECK BY: APPROVED BY:

THW

JKB

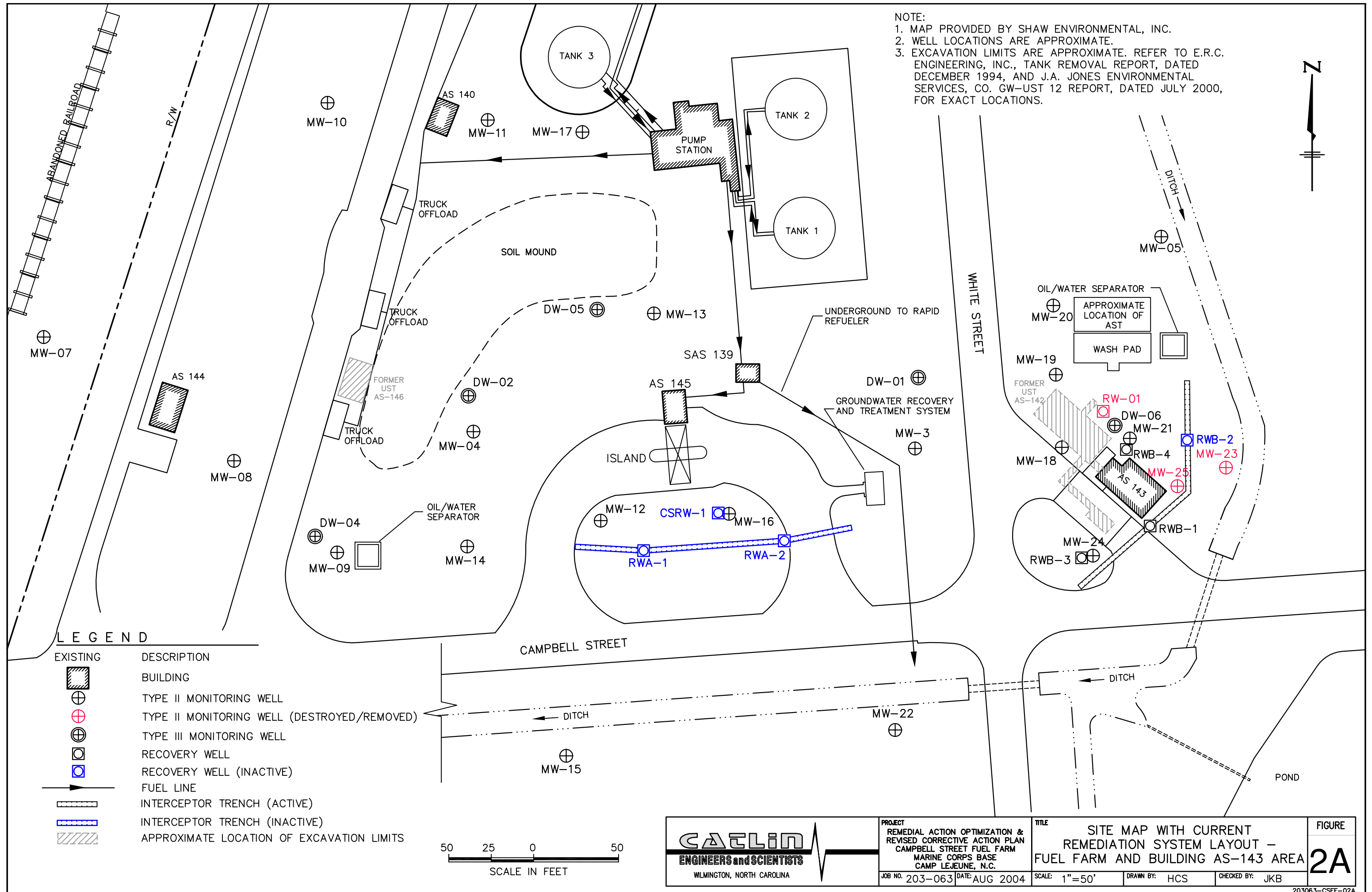
CATLIN PROJECT No.: 203-063

SITE LOCATION MAP FOR BUILDING AS-4151 AREA

**CAMPBELL STREET FUEL FARM
1500 ft. RADIUS WITH RECEPTORS**

FIGURE

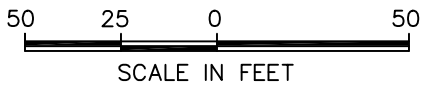
1B



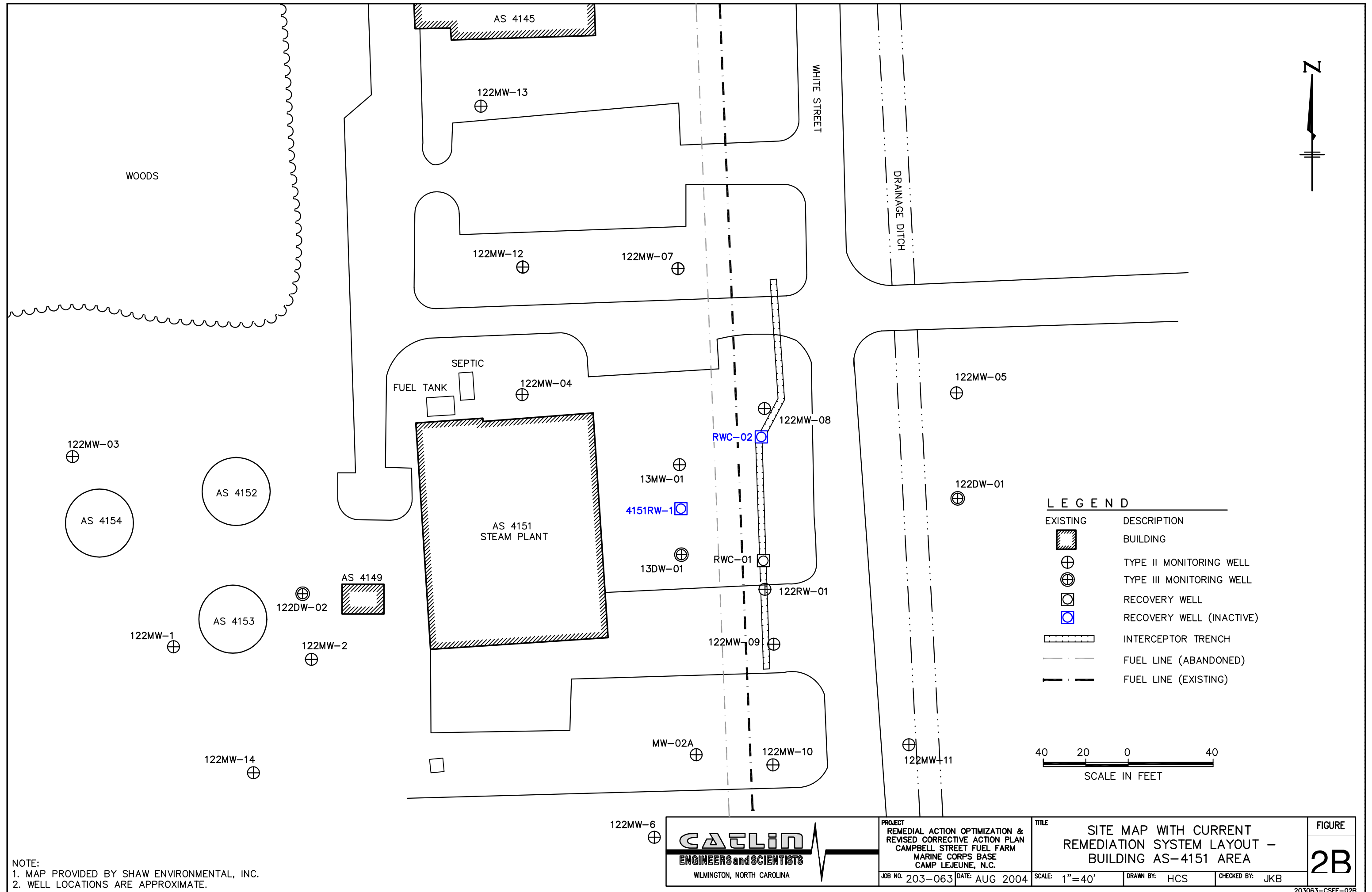
NOTE:
1. MAP PROVIDED BY SHAW ENVIRONMENTAL, INC.
2. WELL LOCATIONS ARE APPROXIMATE.
3. EXCAVATION LIMITS ARE APPROXIMATE. REFER TO E.R.C. ENGINEERING, INC., TANK REMOVAL REPORT, DATED DECEMBER 1994, AND J.A. JONES ENVIRONMENTAL SERVICES, CO. GW-UST 12 REPORT, DATED JULY 2000, FOR EXACT LOCATIONS.

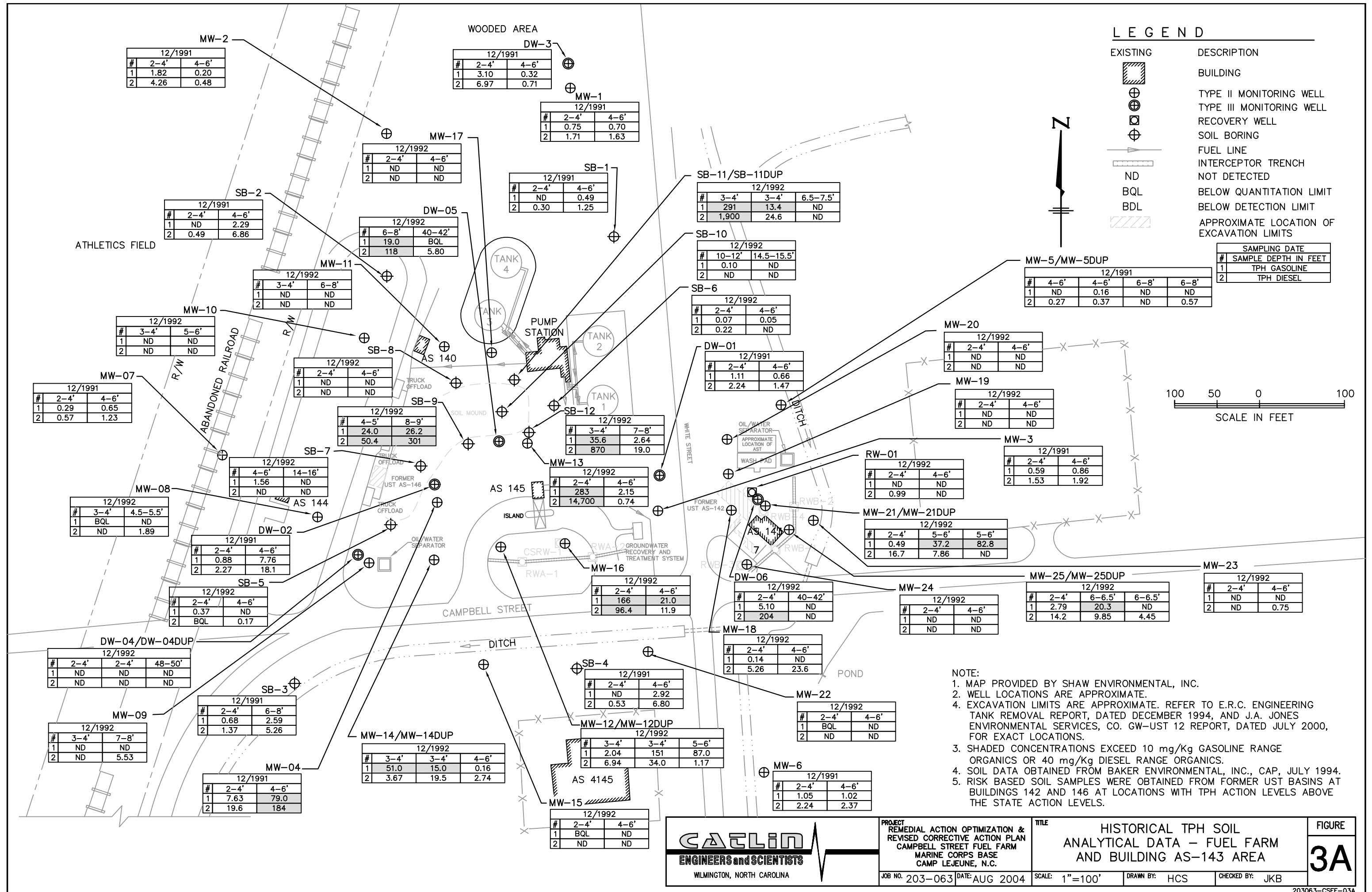
LEGEND

EXISTING	DESCRIPTION
	BUILDING
	TYPE II MONITORING WELL
	TYPE II MONITORING WELL (DESTROYED/REMOVED)
	TYPE III MONITORING WELL
	RECOVERY WELL
	RECOVERY WELL (INACTIVE)
	FUEL LINE
	INTERCEPTOR TRENCH (ACTIVE)
	INTERCEPTOR TRENCH (INACTIVE)
	APPROXIMATE LOCATION OF EXCAVATION LIMITS



 ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN CAMPBELL STREET FUEL FARM MARINE CORPS BASE CAMP LEJEUNE, N.C.	TITLE SITE MAP WITH CURRENT REMEDIATION SYSTEM LAYOUT – FUEL FARM AND BUILDING AS-143 AREA	FIGURE 2A
	JOB NO. 203-063 DATE: AUG 2004	SCALE: 1"=50'	DRAWN BY: HCS CHECKED BY: JKB





LEGEND

EXISTING

DESCRIPTION

BUILDING

TYPE II MONITORING WELL

TYPE III MONITORING WELL

RECOVERY WELL

SOIL BORING

FUEL LINE

INTERCEPTOR TRENCH

ND

NOT DETECTED

BQL

BELOW QUANTITATION LIMIT

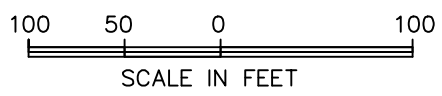
BDL

BELOW DETECTION LIMIT

APPROXIMATE LOCATION OF EXCAVATION LIMITS

SAMPLING DATE	
#	SAMPLE DEPTH IN FEET
1	TPH GASOLINE
2	TPH DIESEL

12/1991		12/1991		12/1991		12/1991	
#	4-6'	#	4-6'	#	6-8'	#	6-8'
1	ND	1	0.16	1	ND	1	ND
2	0.27	2	0.37	2	ND	2	0.57



- NOTE:
1. MAP PROVIDED BY SHAW ENVIRONMENTAL, INC.
 2. WELL LOCATIONS ARE APPROXIMATE.
 3. SHADED CONCENTRATIONS EXCEED 10 mg/Kg GASOLINE RANGE ORGANICS OR 40 mg/Kg DIESEL RANGE ORGANICS.
 4. SOIL DATA OBTAINED FROM BAKER ENVIRONMENTAL, INC., CAP, JULY 1994.
 5. RISK BASED SOIL SAMPLES WERE OBTAINED FROM FORMER UST BASINS AT BUILDINGS 142 AND 146 AT LOCATIONS WITH TPH ACTION LEVELS ABOVE THE STATE ACTION LEVELS.

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PROJECT

REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN

CAMPBELL STREET FUEL FARM

MARINE CORPS BASE

CAMP LEJEUNE, N.C.

TITLE

HISTORICAL TPH SOIL ANALYTICAL DATA – FUEL FARM AND BUILDING AS-143 AREA

FIGURE

3A

JOB NO.

203-063

DATE

AUG 2004

SCALE

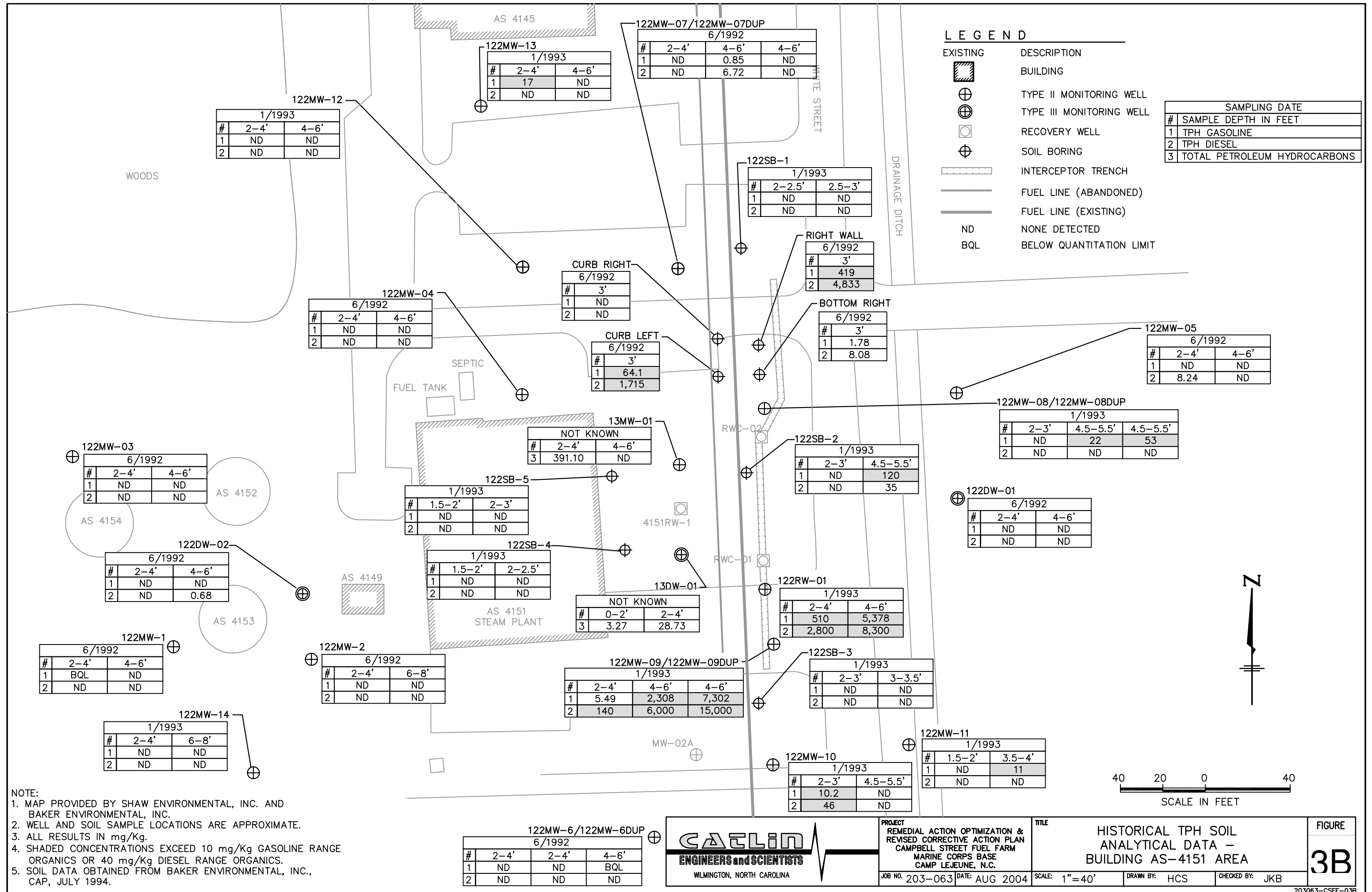
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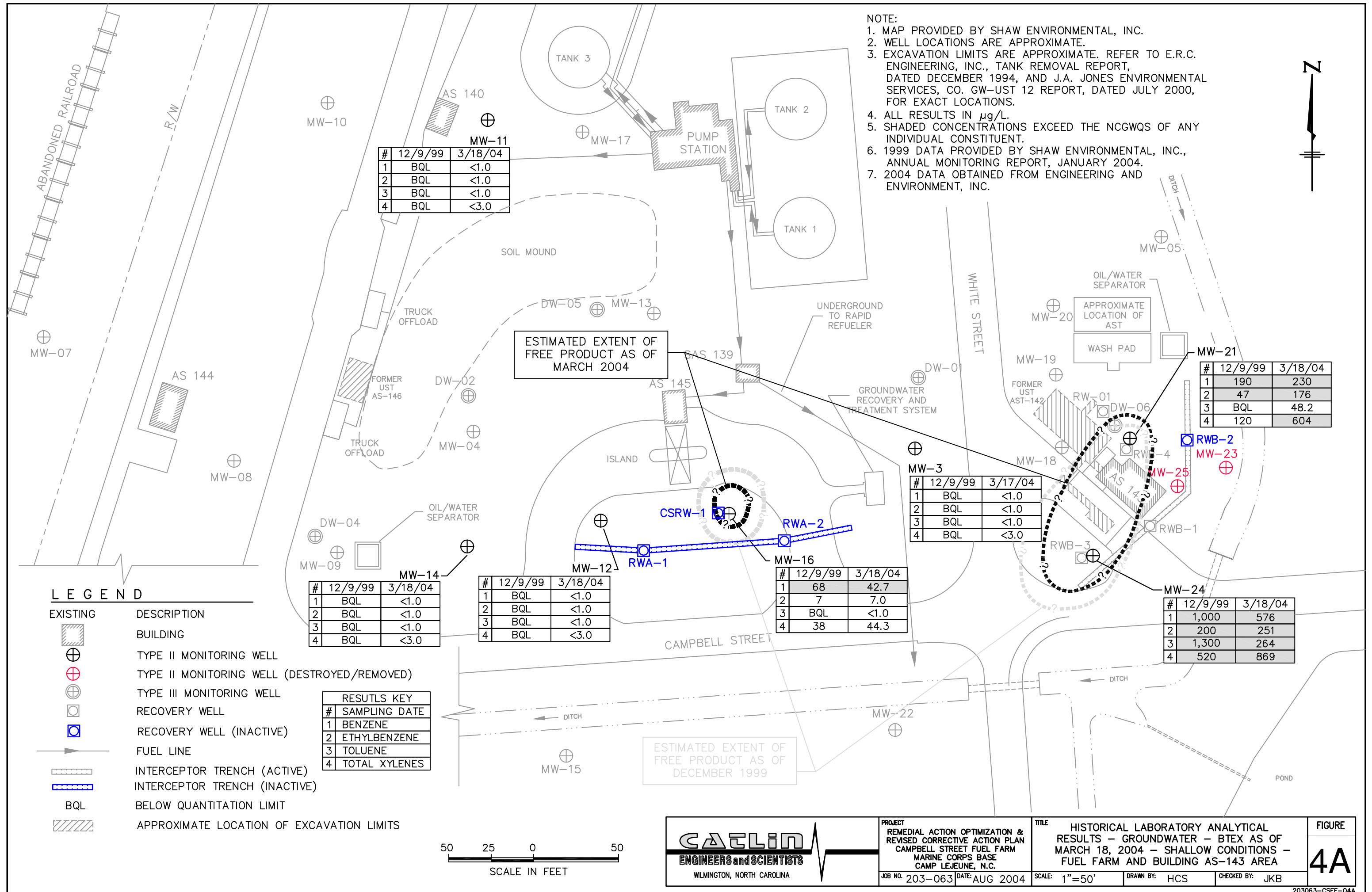
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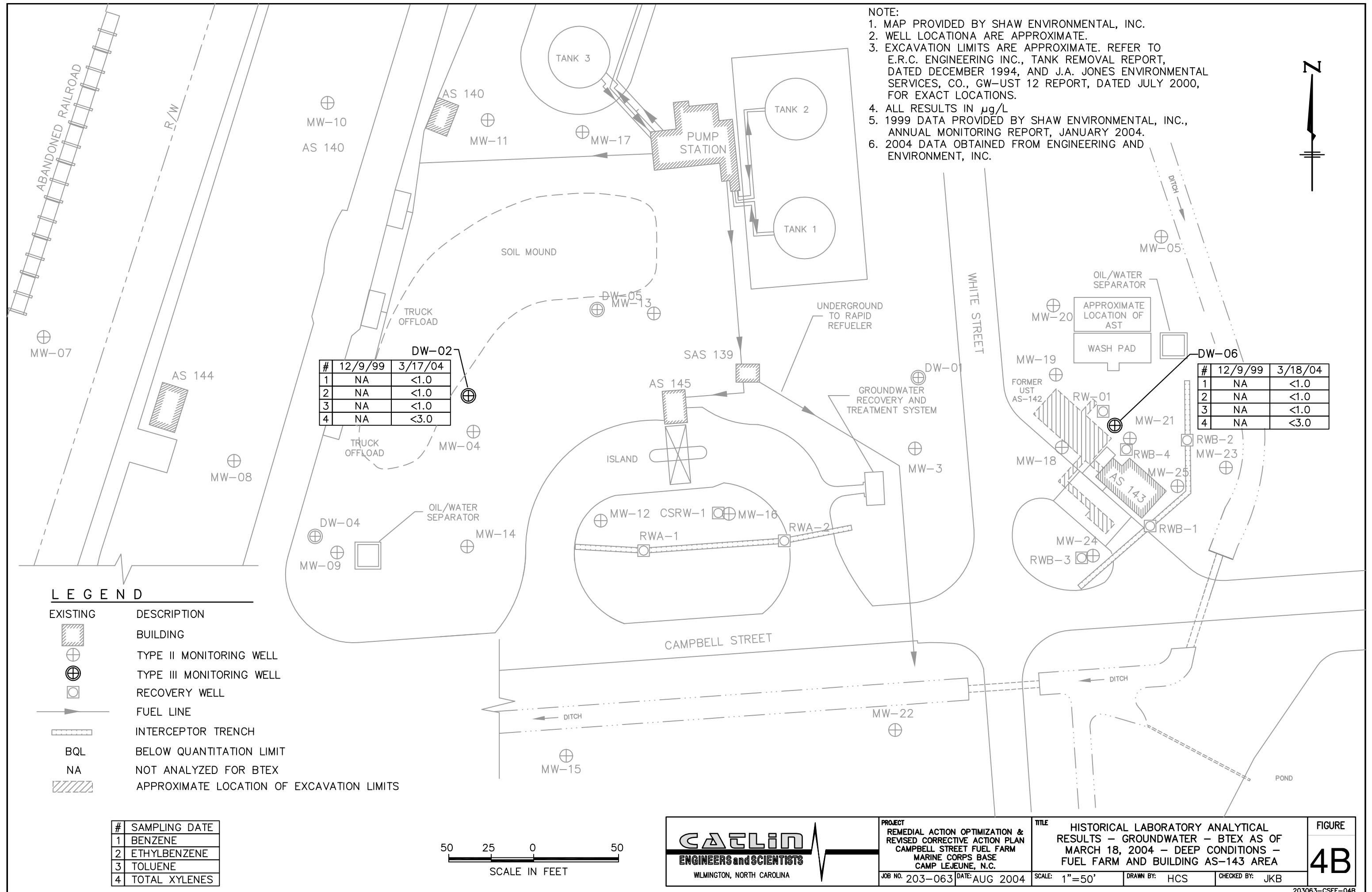
HCS

CHECKED BY

JKB

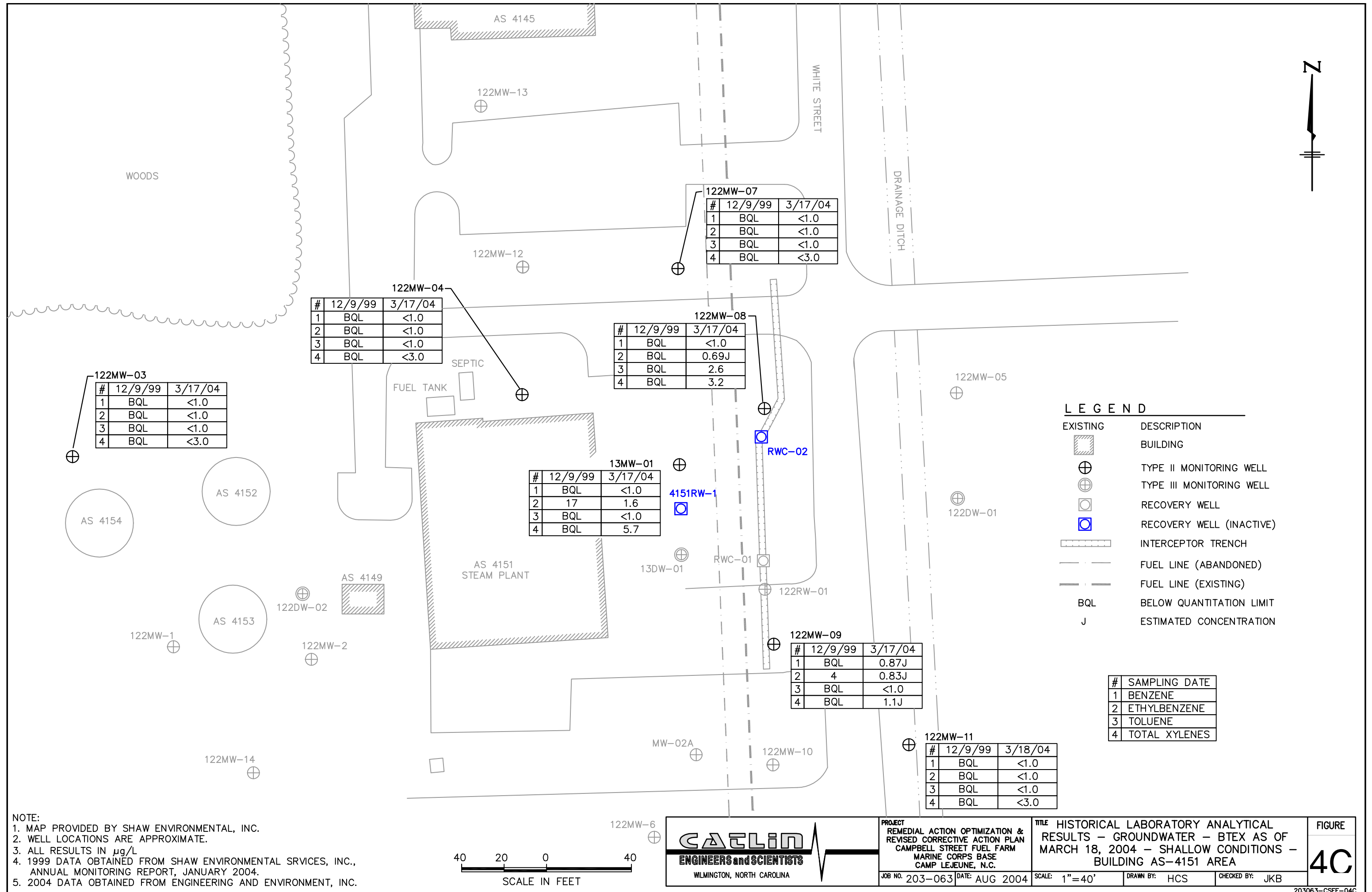


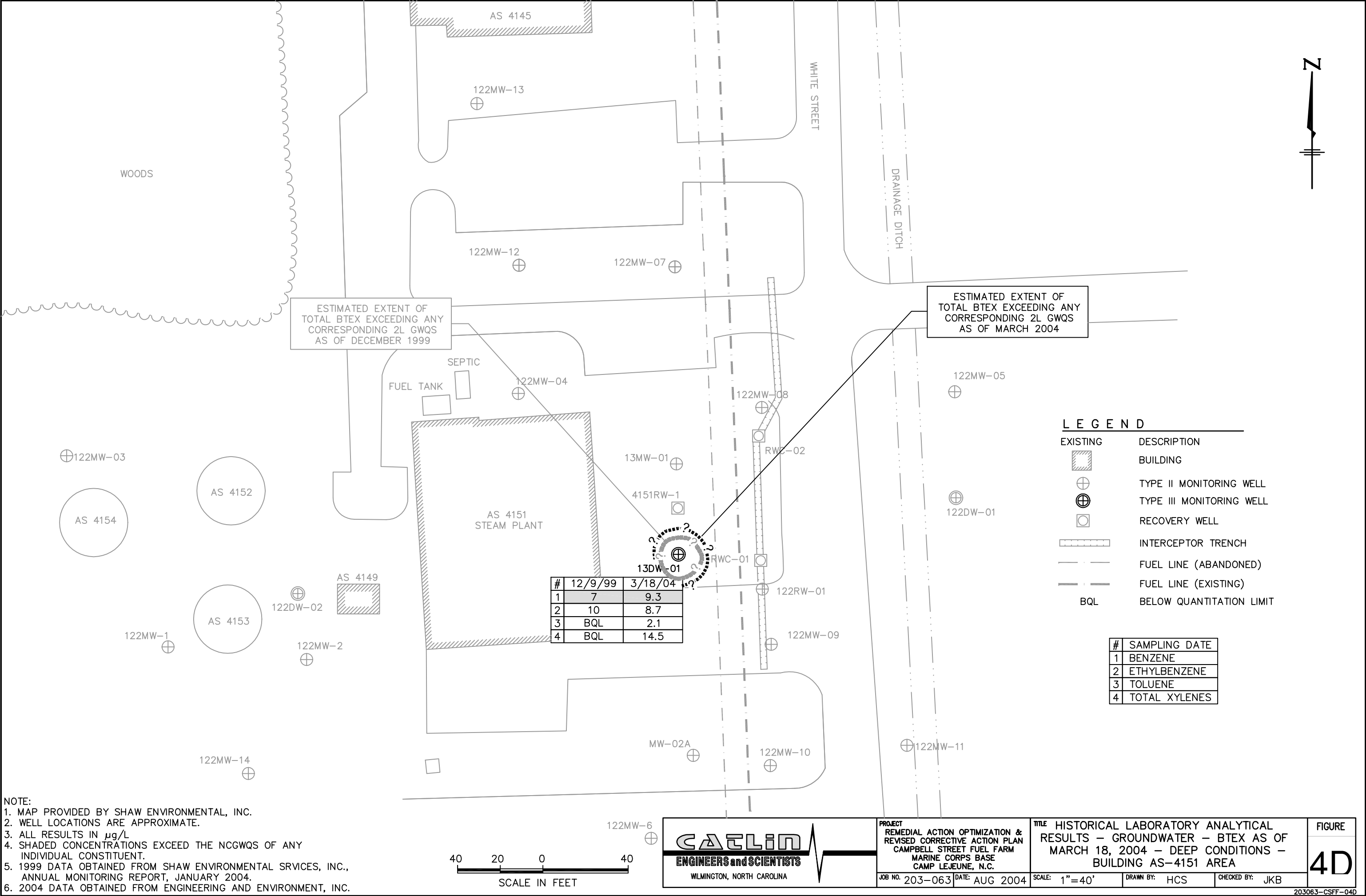


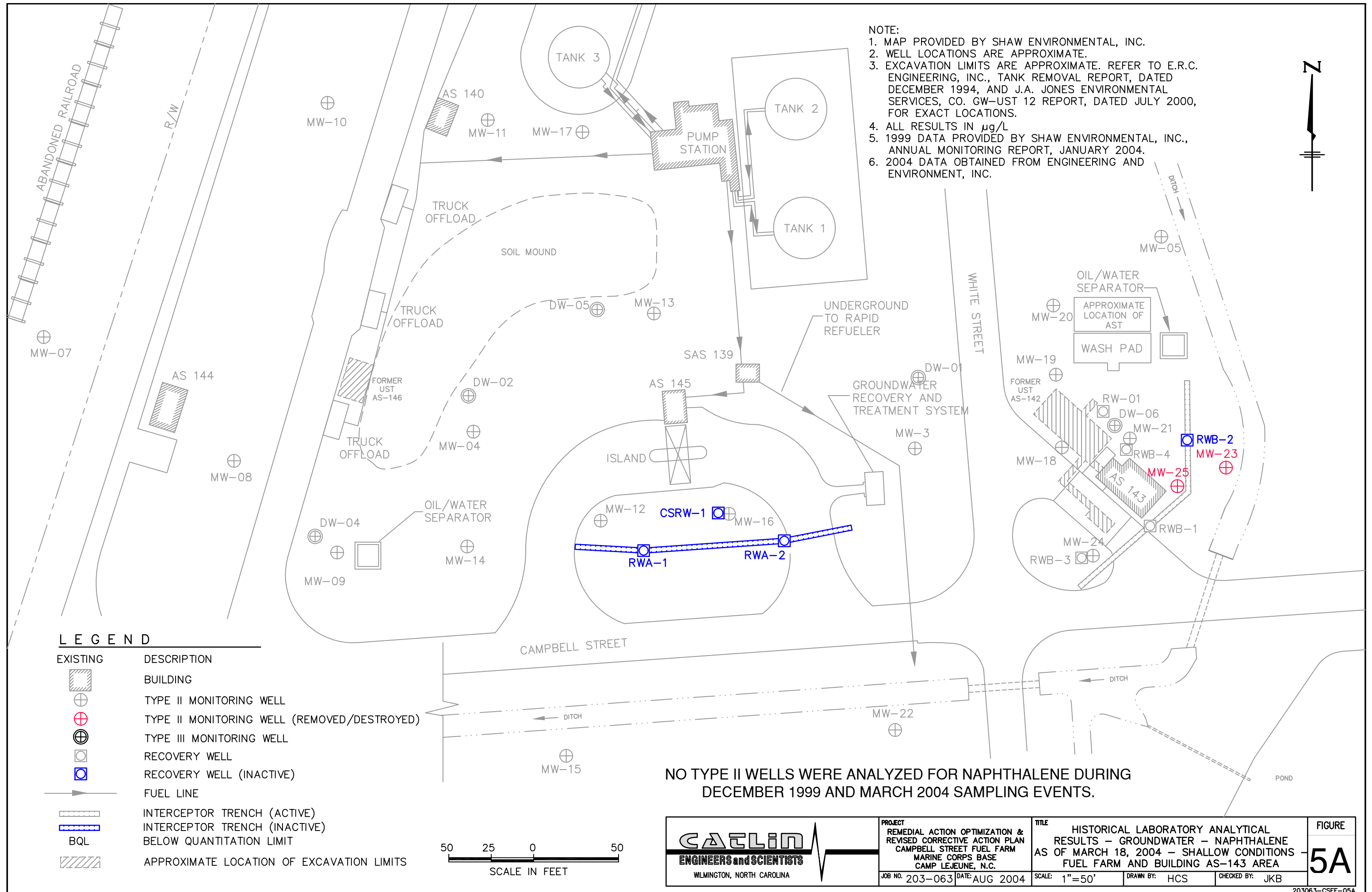


NOTE:
1. MAP PROVIDED BY SHAW ENVIRONMENTAL, INC.
2. WELL LOCATIONA ARE APPROXIMATE.
3. EXCAVATION LIMITS ARE APPROXIMATE. REFER TO E.R.C. ENGINEERING INC., TANK REMOVAL REPORT, DATED DECEMBER 1994, AND J.A. JONES ENVIRONMENTAL SERVICES, CO., GW-UST 12 REPORT, DATED JULY 2000, FOR EXACT LOCATIONS.
4. ALL RESULTS IN µg/L
5. 1999 DATA PROVIDED BY SHAW ENVIRONMENTAL, INC., ANNUAL MONITORING REPORT, JANUARY 2004.
6. 2004 DATA OBTAINED FROM ENGINEERING AND ENVIRONMENT, INC.









- NOTE:
- 1. MAP PROVIDED BY SHAW ENVIRONMENTAL, INC.
 - 2. WELL LOCATIONS ARE APPROXIMATE.
 - 3. EXCAVATION LIMITS ARE APPROXIMATE. REFER TO E.R.C. ENGINEERING, INC., TANK REMOVAL REPORT, DATED DECEMBER 1994, AND J.A. JONES ENVIRONMENTAL SERVICES, CO. GW-UST 12 REPORT, DATED JULY 2000, FOR EXACT LOCATIONS.
 - 4. ALL RESULTS IN $\mu\text{g/L}$
 - 5. 1999 DATA PROVIDED BY SHAW ENVIRONMENTAL, INC., ANNUAL MONITORING REPORT, JANUARY 2004.
 - 6. 2004 DATA OBTAINED FROM ENGINEERING AND ENVIRONMENT, INC.

LEGEND

EXISTING	DESCRIPTION
	BUILDING
	TYPE II MONITORING WELL
	TYPE II MONITORING WELL (REMOVED/DESTROYED)
	TYPE III MONITORING WELL
	RECOVERY WELL
	RECOVERY WELL (INACTIVE)
	FUEL LINE
	INTERCEPTOR TRENCH (ACTIVE)
	INTERCEPTOR TRENCH (INACTIVE)
	BELOW QUANTITATION LIMIT
	APPROXIMATE LOCATION OF EXCAVATION LIMITS

NO TYPE II WELLS WERE ANALYZED FOR NAPHTHALENE DURING DECEMBER 1999 AND MARCH 2004 SAMPLING EVENTS.

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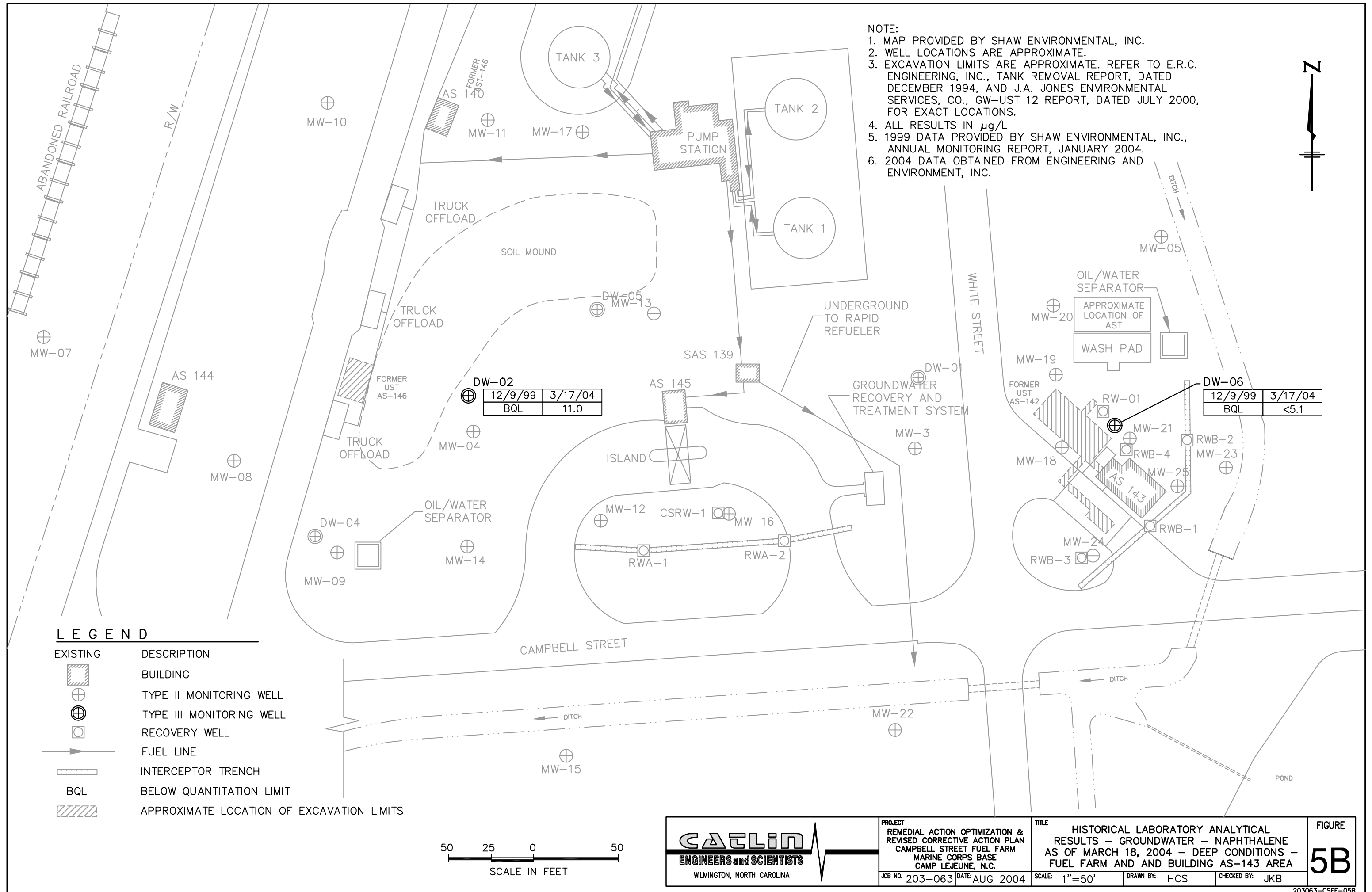
PROJECT
REMEDIAL ACTION OPTIMIZATION &
REVISED CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, N.C.

JOB NO. 203-063 | DATE: AUG 2004

TITLE
HISTORICAL LABORATORY ANALYTICAL
RESULTS - GROUNDWATER - NAPHTHALENE
AS OF MARCH 18, 2004 - SHALLOW CONDITIONS
FUEL FARM AND BUILDING AS-143 AREA

SCALE: 1"=50' | DRAWN BY: HCS | CHECKED BY: JKB

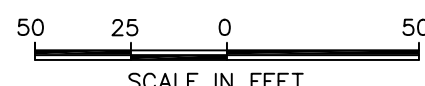
FIGURE
5A



- NOTE:
1. MAP PROVIDED BY SHAW ENVIRONMENTAL, INC.
 2. WELL LOCATIONS ARE APPROXIMATE.
 3. EXCAVATION LIMITS ARE APPROXIMATE. REFER TO E.R.C. ENGINEERING, INC., TANK REMOVAL REPORT, DATED DECEMBER 1994, AND J.A. JONES ENVIRONMENTAL SERVICES, CO., GW-UST 12 REPORT, DATED JULY 2000, FOR EXACT LOCATIONS.
 4. ALL RESULTS IN $\mu\text{g/L}$
 5. 1999 DATA PROVIDED BY SHAW ENVIRONMENTAL, INC., ANNUAL MONITORING REPORT, JANUARY 2004.
 6. 2004 DATA OBTAINED FROM ENGINEERING AND ENVIRONMENT, INC.

LEGEND

EXISTING	DESCRIPTION
	BUILDING
	TYPE II MONITORING WELL
	TYPE III MONITORING WELL
	RECOVERY WELL
	FUEL LINE
	INTERCEPTOR TRENCH
	BELOW QUANTITATION LIMIT
	APPROXIMATE LOCATION OF EXCAVATION LIMITS



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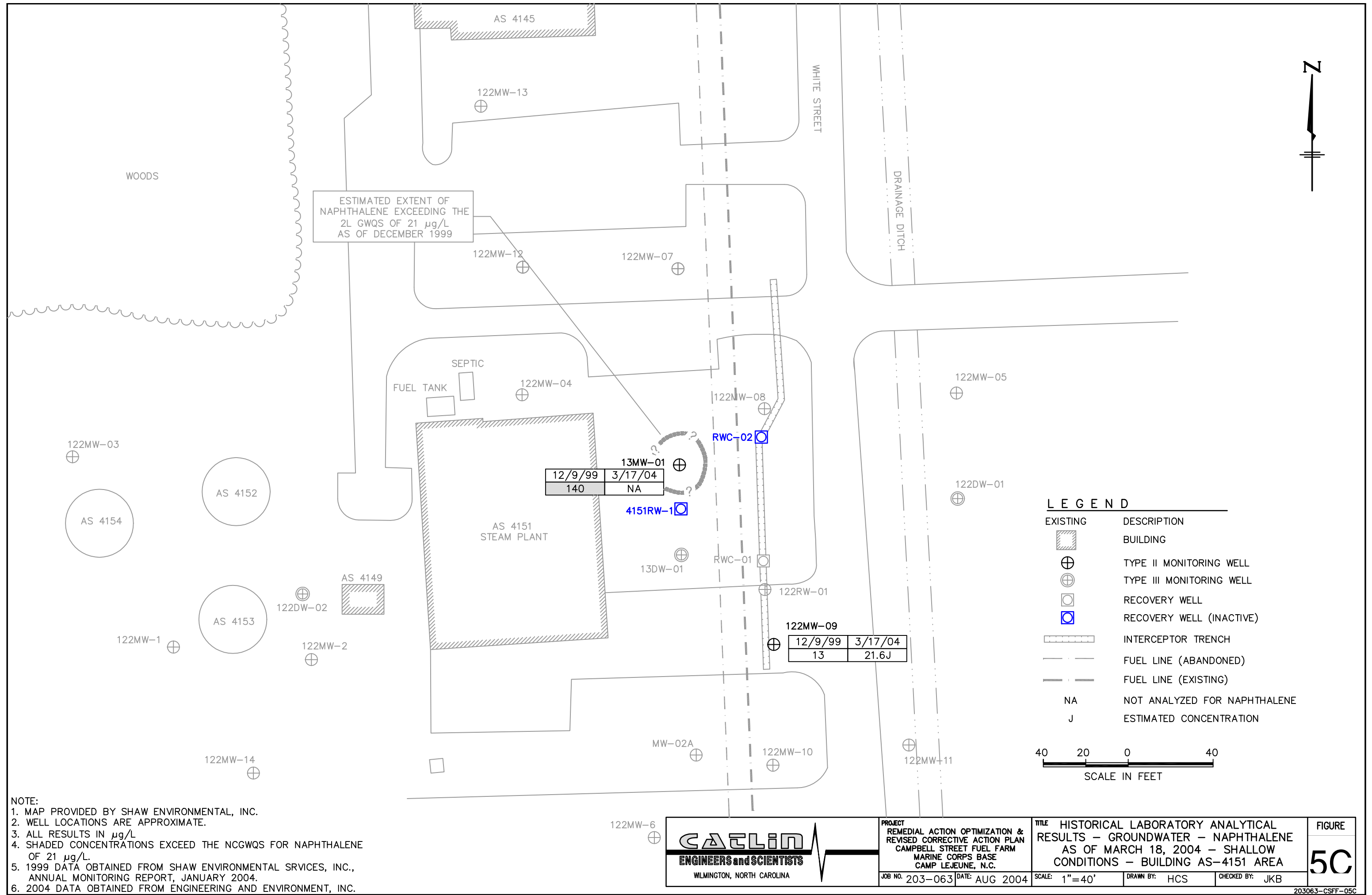
PROJECT
REMEDIAL ACTION OPTIMIZATION &
REVISED CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE, N.C.

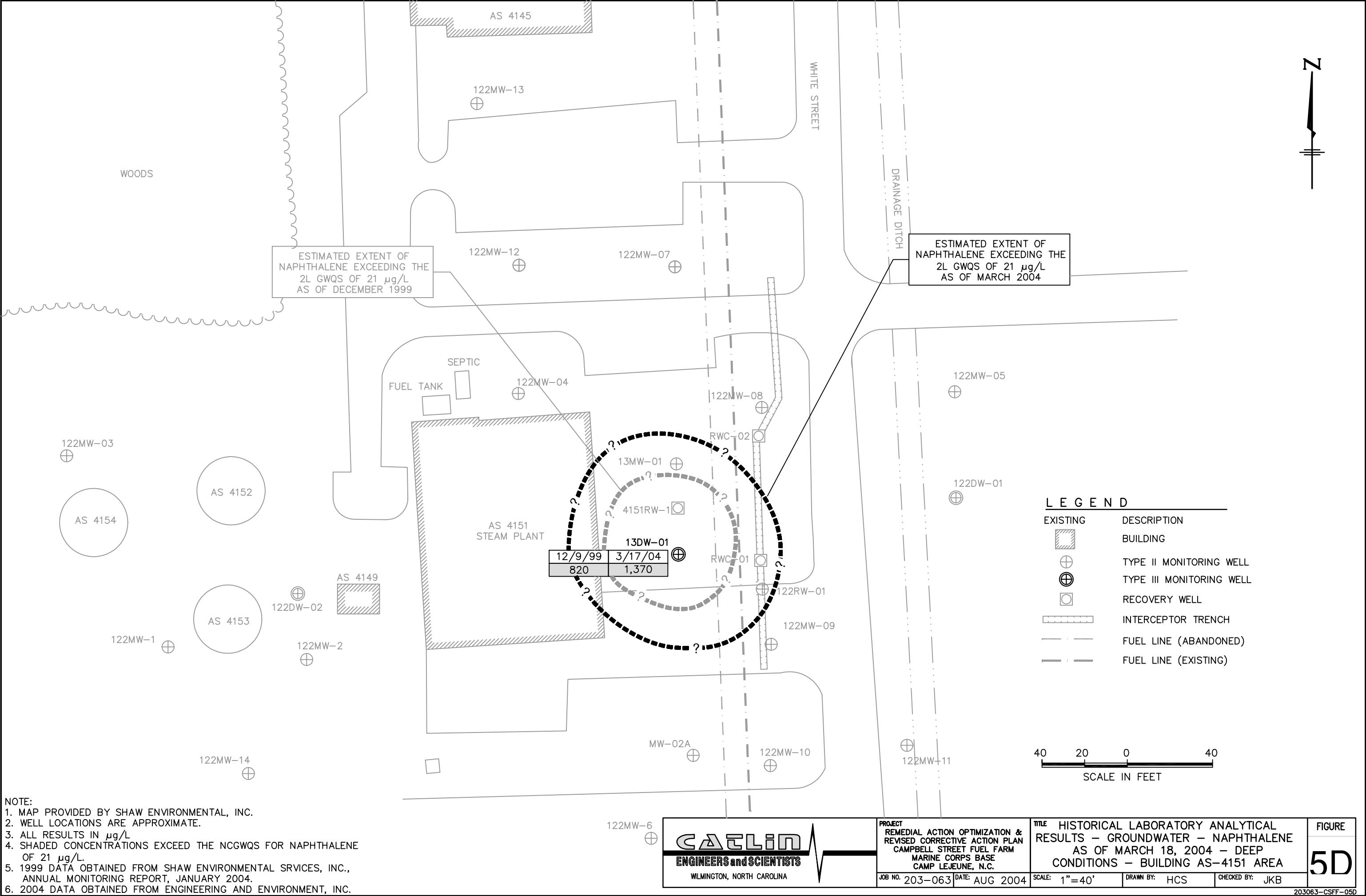
JOB NO. 203-063 DATE: AUG 2004

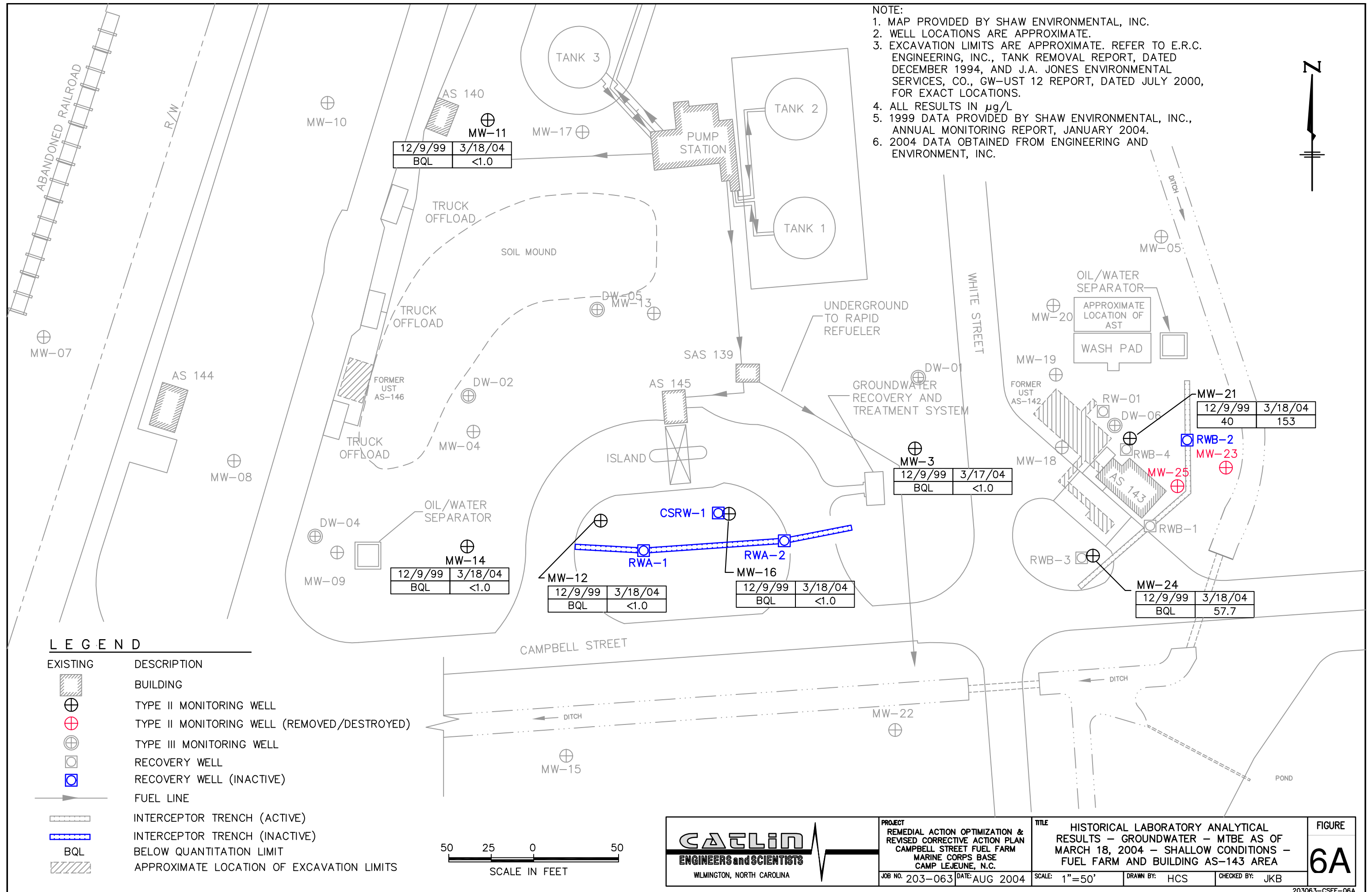
TITLE
HISTORICAL LABORATORY ANALYTICAL
RESULTS - GROUNDWATER - NAPHTHALENE
AS OF MARCH 18, 2004 - DEEP CONDITIONS -
FUEL FARM AND AND BUILDING AS-143 AREA

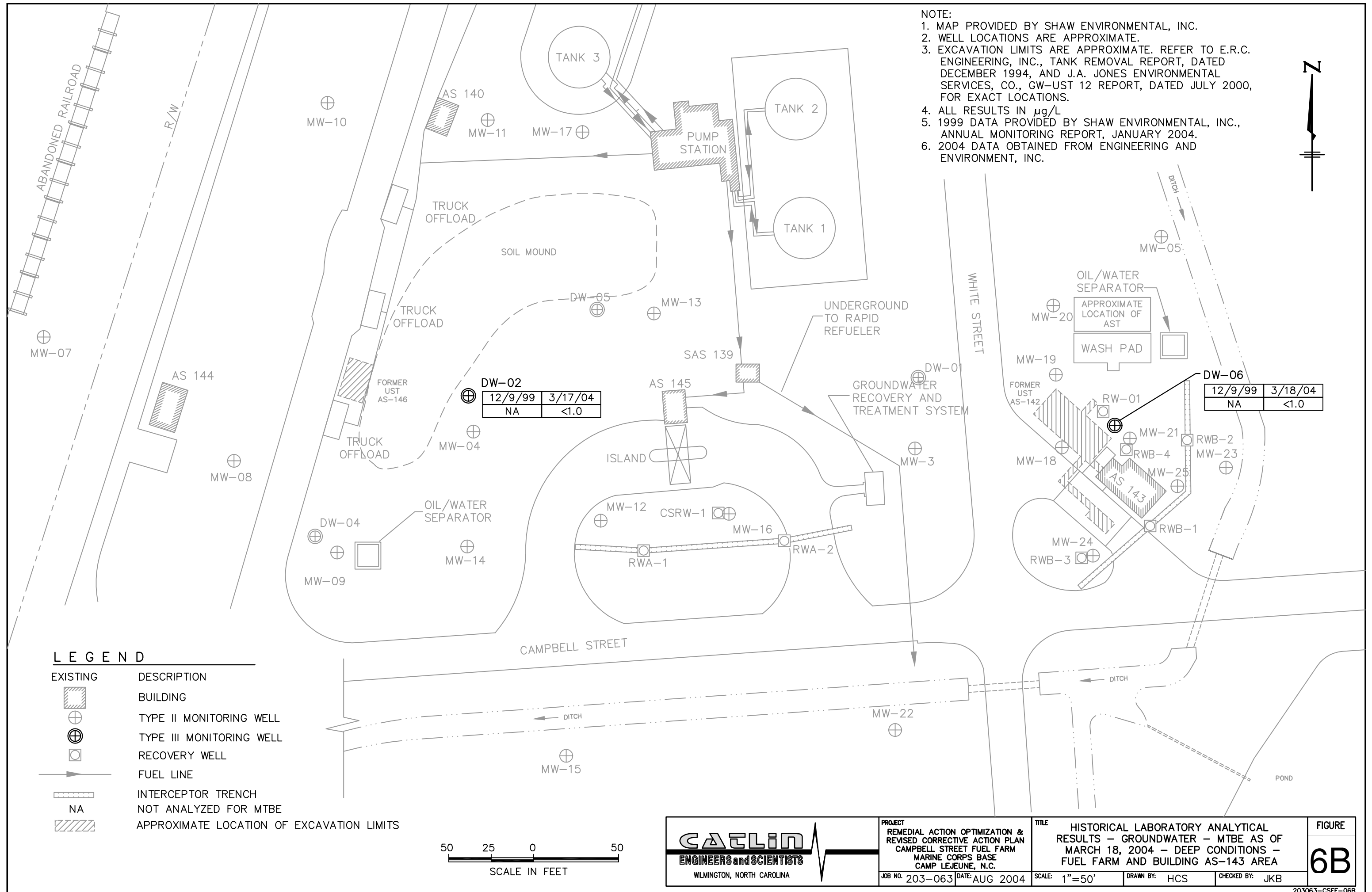
SCALE: 1"=50' DRAWN BY: HCS CHECKED BY: JKB

FIGURE
5B





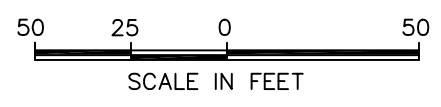




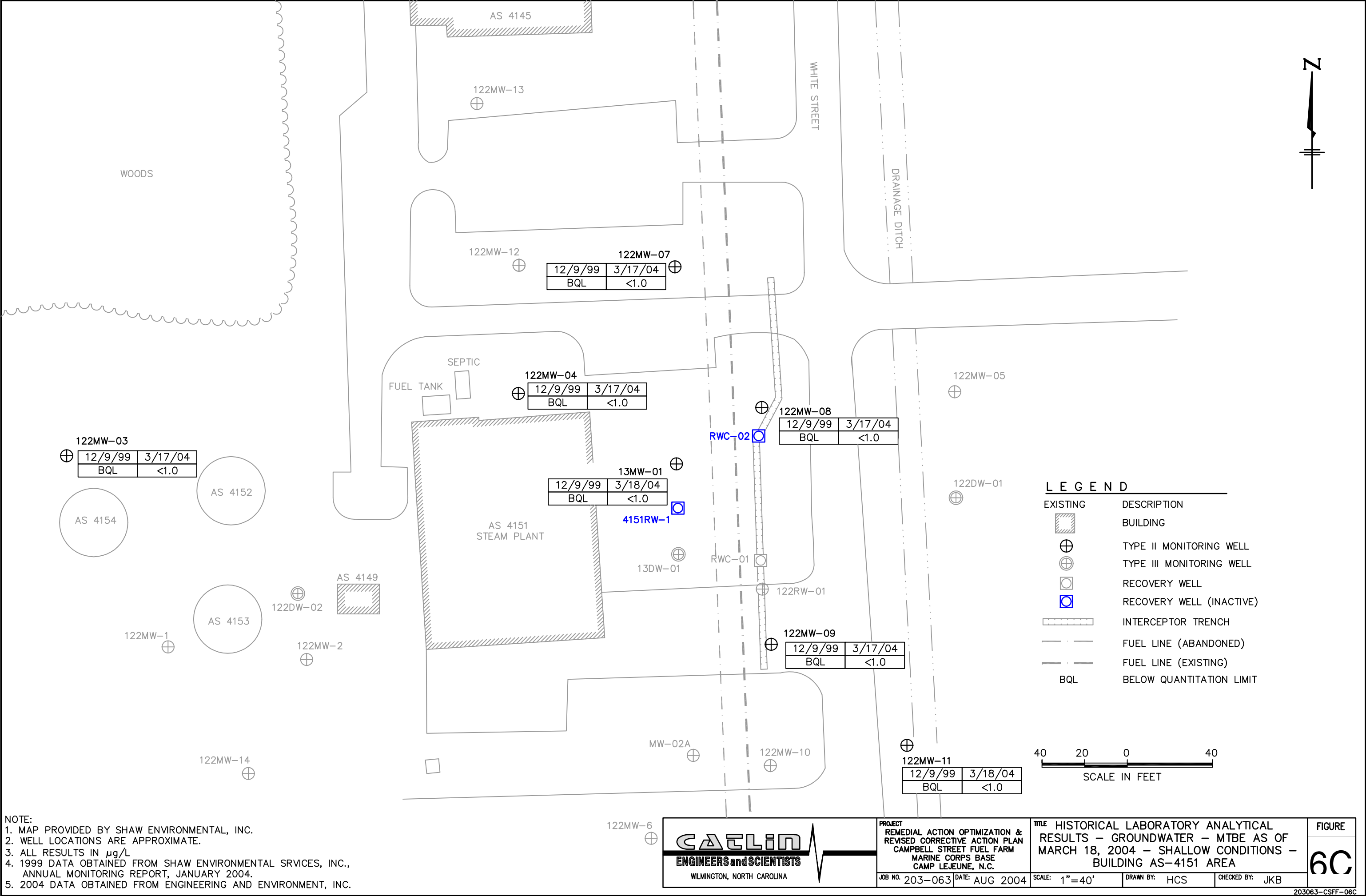
- NOTE:
1. MAP PROVIDED BY SHAW ENVIRONMENTAL, INC.
 2. WELL LOCATIONS ARE APPROXIMATE.
 3. EXCAVATION LIMITS ARE APPROXIMATE. REFER TO E.R.C. ENGINEERING, INC., TANK REMOVAL REPORT, DATED DECEMBER 1994, AND J.A. JONES ENVIRONMENTAL SERVICES, CO., GW-UST 12 REPORT, DATED JULY 2000, FOR EXACT LOCATIONS.
 4. ALL RESULTS IN $\mu\text{g/L}$
 5. 1999 DATA PROVIDED BY SHAW ENVIRONMENTAL, INC., ANNUAL MONITORING REPORT, JANUARY 2004.
 6. 2004 DATA OBTAINED FROM ENGINEERING AND ENVIRONMENT, INC.

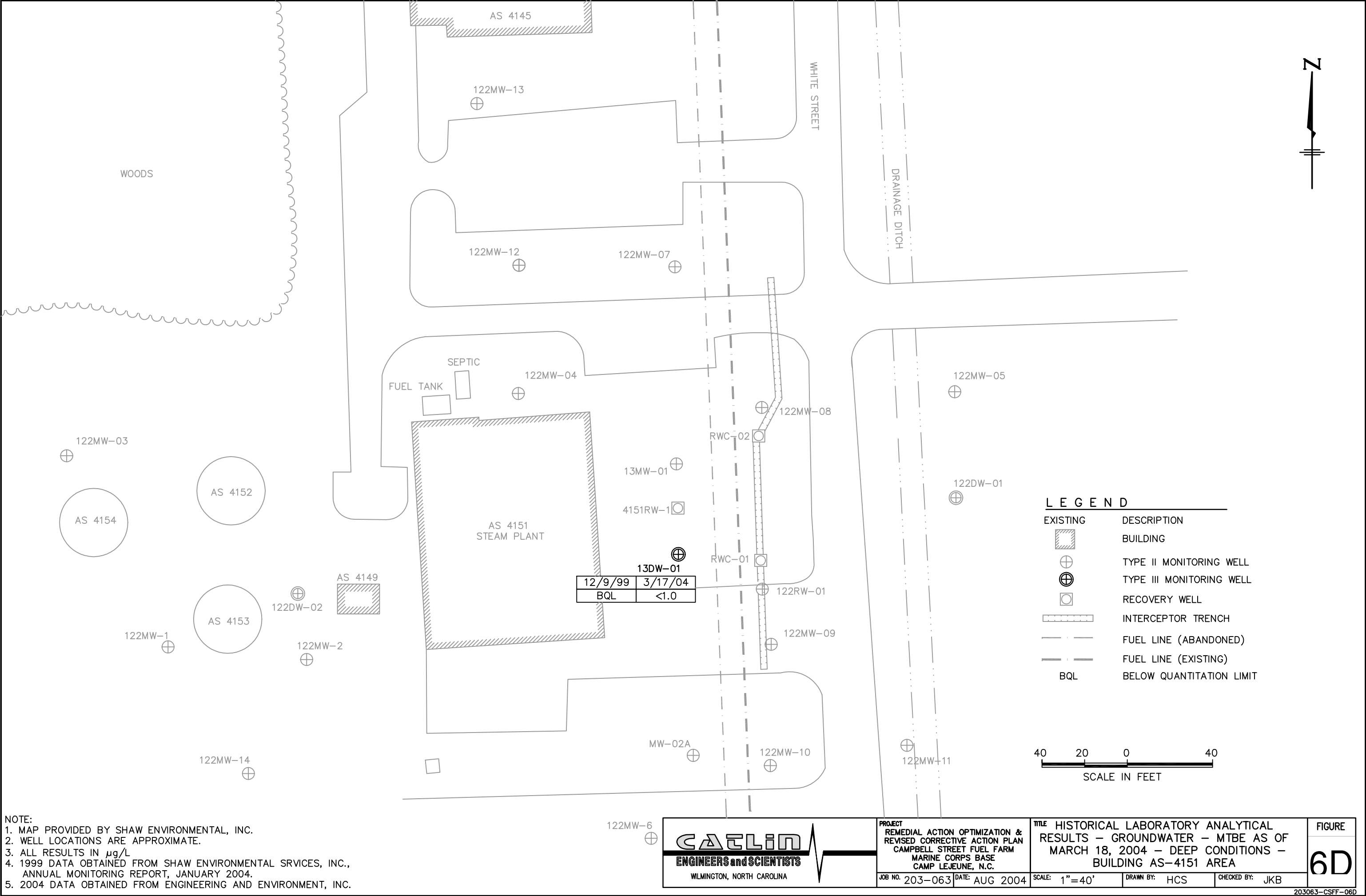
LEGEND

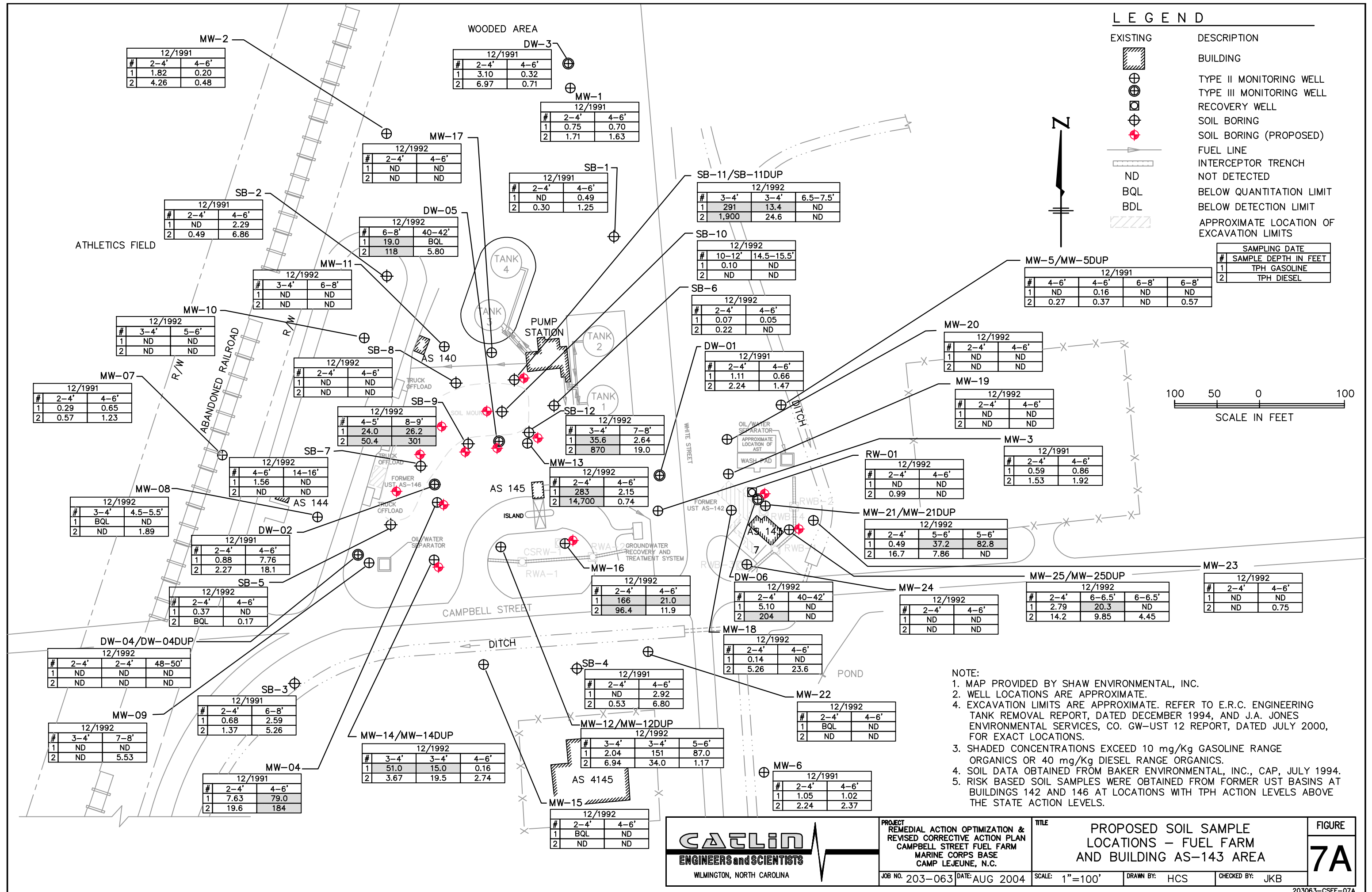
EXISTING	DESCRIPTION
	BUILDING
	TYPE II MONITORING WELL
	TYPE III MONITORING WELL
	RECOVERY WELL
	FUEL LINE
	INTERCEPTOR TRENCH
NA	NOT ANALYZED FOR MTBE
	APPROXIMATE LOCATION OF EXCAVATION LIMITS



 ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN CAMPBELL STREET FUEL FARM MARINE CORPS BASE CAMP LEJEUNE, N.C.	TITLE HISTORICAL LABORATORY ANALYTICAL RESULTS - GROUNDWATER - MTBE AS OF MARCH 18, 2004 - DEEP CONDITIONS - FUEL FARM AND BUILDING AS-143 AREA	FIGURE 6B
	JOB NO. 203-063 DATE: AUG 2004	SCALE: 1"=50'	DRAWN BY: HCS CHECKED BY: JKB







LEGEND

EXISTING

DESCRIPTION

BUILDING

TYPE II MONITORING WELL

TYPE III MONITORING WELL

RECOVERY WELL

SOIL BORING

SOIL BORING (PROPOSED)

FUEL LINE

INTERCEPTOR TRENCH

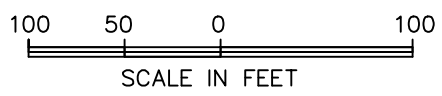
NOT DETECTED

BELOW QUANTITATION LIMIT

BELOW DETECTION LIMIT

APPROXIMATE LOCATION OF EXCAVATION LIMITS

SAMPLING DATE	
#	SAMPLE DEPTH IN FEET
1	TPH GASOLINE
2	TPH DIESEL



- NOTE:
1. MAP PROVIDED BY SHAW ENVIRONMENTAL, INC.
 2. WELL LOCATIONS ARE APPROXIMATE.
 3. SHADED CONCENTRATIONS EXCEED 10 mg/Kg GASOLINE RANGE ORGANICS OR 40 mg/Kg DIESEL RANGE ORGANICS.
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ENGINEERS and SCIENTISTS

WILMINGTON, NORTH CAROLINA

PROJECT

REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN

CAMPBELL STREET FUEL FARM

MARINE CORPS BASE

CAMP LEJEUNE, N.C.

TITLE

PROPOSED SOIL SAMPLE LOCATIONS - FUEL FARM AND BUILDING AS-143 AREA

FIGURE

7A

JOB NO.

203-063

DATE

AUG 2004

SCALE

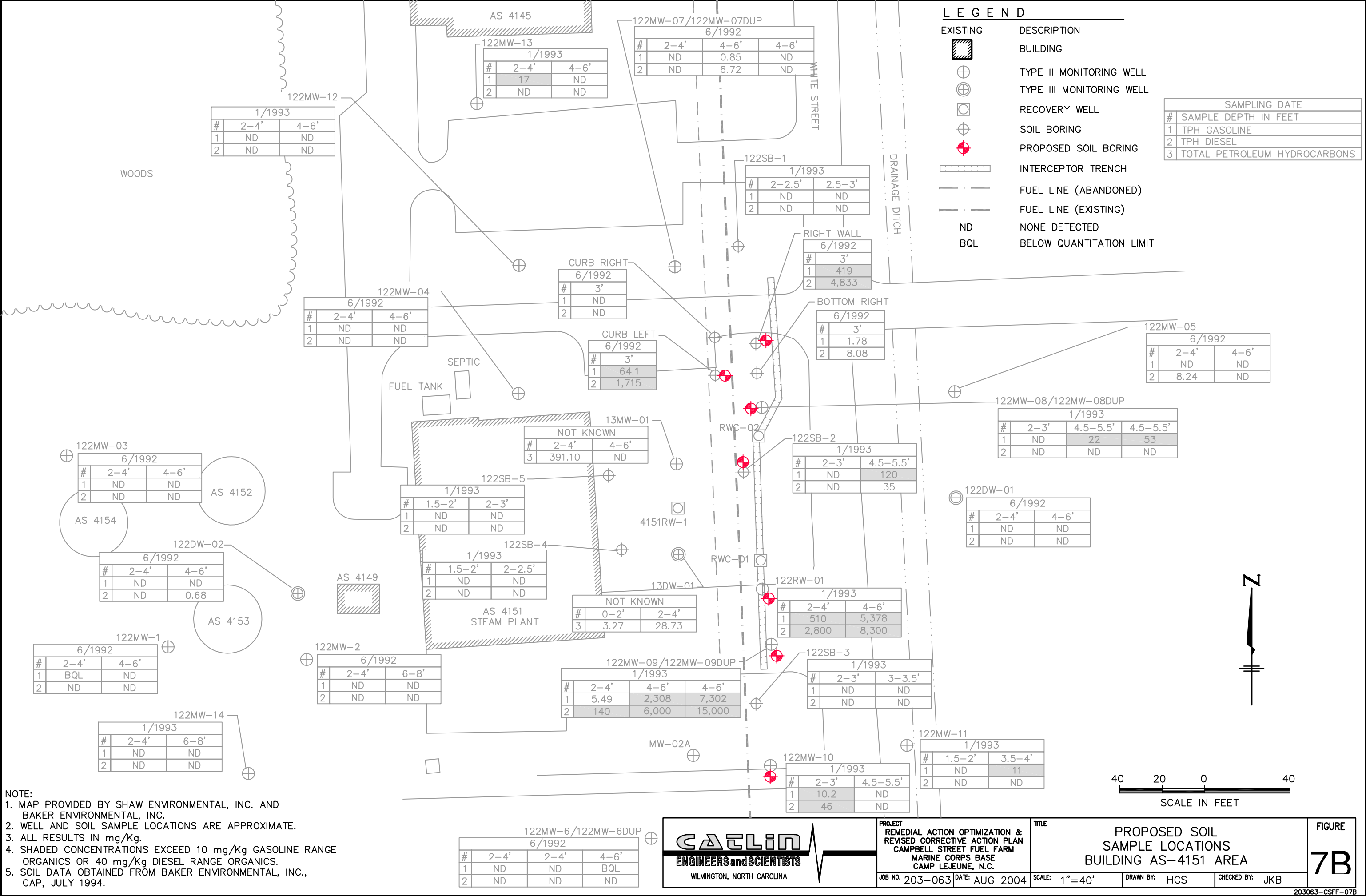
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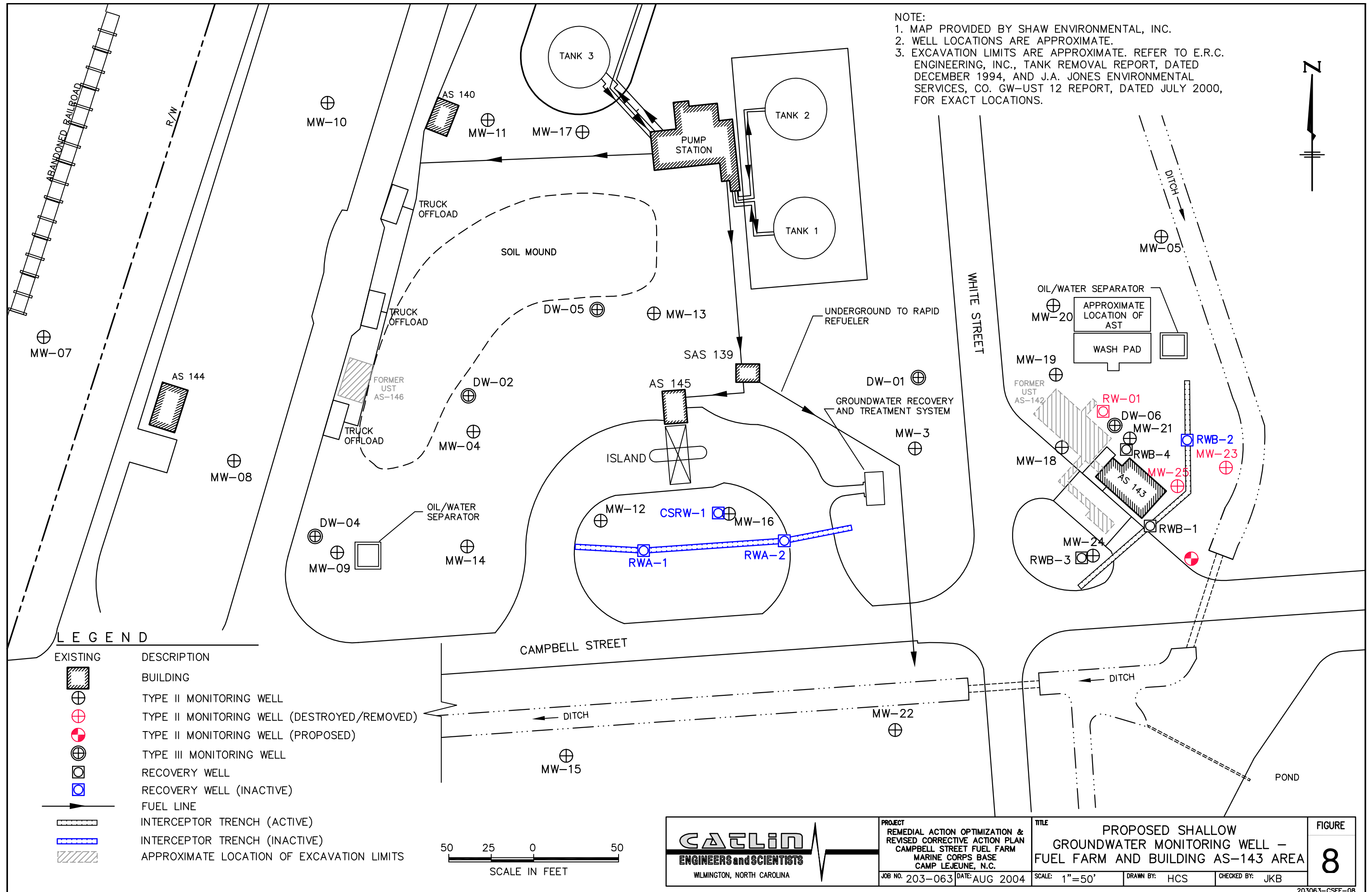
DRAWN BY

HCS

CHECKED BY

JKB





APPENDIX A

SUMMARY OF HISTORICAL SOIL LABORATORY RESULTS

CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM AND UST SYSTEM AS-143

TABLE 1-5

**SUMMARY OF SOIL ANALYSES, DECEMBER 1991
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265**

Boring No.	Field Sample No.	Parameter						Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	TCLP Lead (mg/l)	pH	Flashpoint (°F)	
		Low-Med (5030)	Med-High (3550)					
MW-1	FF-S-1-01	0.75	1.71	weathered jet fuel	NA ⁽²⁾	NA	NA	2.0 - 4.0
MW-1	FF-S-1-02	0.70	1.63	weathered jet fuel	-- ⁽³⁾	5.29	>140	4.0 - 6.0
MW-2	FF-S-2-01	1.82	4.26	weathered jet fuel	NA	NA	NA	2.0 - 4.0
MW-2	FF-S-2-02	0.20	0.48	weathered jet fuel	--	4.84	>140	4.0 - 6.0
MW-3	FF-S-3-01	0.59	1.53	weathered jet fuel	NA	NA	NA	2.0 - 4.0
MW-3	FF-S-3-02	0.86	1.92	weathered jet fuel	.0005	4.75	>140	4.0 - 6.0
MW-4	FF-S-4-01	7.63	19.6	weathered jet fuel	NA	NA	NA	2.0 - 4.0
MW-4	FF-S-4-02	79.0	184	weathered jet fuel	--	5.28	>140	4.0 - 6.0
MW-5	FF-S-5-01	0.16	0.37	weathered jet fuel	NA	NA	NA	4.0 - 6.0 ⁽⁴⁾
MW-5	FF-S-12-01 ⁽⁵⁾	--	0.27	weathered jet fuel	NA	NA	NA	4.0 - 6.0
MW-5	FF-S-5-02	--	--	Not Distinct	.0009	5.55	>140	6.0 - 8.0
MW-5	FF-S-12-02 ⁽⁶⁾	--	0.57	weathered jet fuel	--	5.08	>140	6.0 - 8.0

Notes:

(1) EPA Method 5030/3550 estimated range of petroleum type

(2) NA = Not Analyzed

(3) -- = Not detected

(4) 2.0-4.0 not analyzed due to ability to recover sample closer to lower measured water table.

(5) Duplicate sample of FF-S-5-01.

(6) Duplicate sample of FF-S-5-02.

Soil samples collected December 1991 through January 1992.

TCLP Lead - Toxicity Characteristic Leaching Procedure analyzed using Method SW846-1311/7421.

Total Petroleum Hydrocarbons analyzed using EPA Method 5030/3550, Modified 8015.

Source: Baker Environmental Inc., August 12, 1992. "Final Site Assessment Report, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE 1-5

**SUMMARY OF SOIL ANALYSES, DECEMBER 1991
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265**

Boring No.	Field Sample No.	Parameter							Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	TCLP Lead (mg/L)	pH	Flashpoint (°F)		
		Low-Med (5030)	Med-High (3550)						
MW-6	FF-S-6-01	1.05	2.24	weathered jet fuel	NA ⁽²⁾	NA	NA	2.0 - 4.0	
MW-6	FF-S-6-02	1.02	2.37	weathered jet fuel	0001	3.96	> 140	4.0 - 6.0	
MW-7	FF-S-7-01	0.29	0.57	weathered jet fuel	NA	NA	NA	2.0 - 4.0	
MW-7	FF-S-7-02	0.65	1.23	weathered jet fuel	--	4.20	> 140	4.0 - 6.0	
SB-1	FF-S-8-01	-- ⁽³⁾	0.30	weathered jet fuel	NA	NA	NA	2.0 - 4.0	
SB-1	FF-S-8-02	0.49	1.25	weathered jet fuel	.0005	4.53	> 140	4.0 - 6.0	
SB-2	FF-S-9-01	--	0.49	Not Distinct	NA	NA	NA	2.0 - 4.0	
SB-2	FF-S-9-02	2.29	6.86	weathered jet fuel	--	5.63	> 140	4.0 - 6.0	
SB-3	FF-S-10-01	0.68	1.37	weathered jet fuel	NA	NA	NA	2.0 - 4.0	
SB-3	FF-S-10-02	2.59	5.26	weathered jet fuel	.001	4.07	> 140	6.0 - 8.0	
SB-4	FF-S-11-01	--	0.53	weathered jet fuel	NA	NA	NA	2.0 - 4.0	
SB-4	FF-S-11-02	2.92	6.80	weathered jet fuel	--	4.73	> 140	4.0 - 6.0	

Notes:

(1) EPA Method 5030/3550 estimated range of petroleum type

(2) NA = Not Analyzed

(3) -- = Not detected

Soil samples collected December 1991 through January 1992.

TCLP Lead - Toxicity Characteristic Leaching Procedure analyzed using Method SW846-1311/7421.

Total Petroleum Hydrocarbons analyzed using EPA Method 5030/3550, Modified 8015.

Source: Baker Environmental Inc., August 12, 1992. "Final Site Assessment Report, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE 1-5

**SUMMARY OF SOIL ANALYSES, DECEMBER 1991
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265**

Boring No.	Field Sample No.	Parameter						Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	TCLP Lead (mg/L)	pH	Flashpoint (°F)	
		Low-Med (5030)	Med-High (3550)					
DW-1	FF-S-DW1-01	1.11	2.24	weathered jet fuel	NA ⁽²⁾	NA	NA	2.0 - 4.0
DW-1	FF-S-DW1-02	0.66	1.47	weathered jet fuel	NA	NA	NA	4.0 - 6.0
DW-2	FF-S-DW2-01	0.88	2.27	weathered jet fuel	NA	NA	NA	2.0 - 4.0
DW-2	FF-S-DW2-02	7.76	18.1	weathered jet fuel	NA	NA	NA	4.0 - 6.0
DW-3	FF-S-DW3-01	3.10	6.97	weathered jet fuel	NA	NA	NA	2.0 - 4.0
DW-3	FF-S-DW3-02	0.32	0.71	weathered jet fuel	NA	NA	NA	4.0 - 6.0

Notes:

(1) EPA Method 5030/3550 estimated range of petroleum type

(2) NA = Not Analyzed

Soil samples collected December 1991 through January 1992.

TCLP Lead - Toxicity Characteristic Leaching Procedure analyzed using Method SW846-1311/7421.

Total Petroleum Hydrocarbons analyzed using EPA Method 5030/3550, Modified 8015.

Source: Baker Environmental Inc., August 12, 1992. "Final Site Assessment Report, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE I-6

SUMMARY OF SOIL ANALYSES, DECEMBER 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Boring No.	Field Sample No.	Parameter			Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	
		Low-Med Boiling Point (5030)	Med-High Boiling Point (3550)		
SB-5	FF-S-SB5-01	0.37	--(2)	Jet Fuel	2-4
SB-5	FF-S-SB5-02	--	0.17	ND ⁽³⁾	4-6
SB-6	FF-S-SB6-01	0.07	0.22	ND	2-4
SB-6	FF-S-SB6-02	0.05	--	ND	4-6
SB-7	FF-S-SB7-01	1.56	--	Jet Fuel	4-6
SB-7	FF-S-SB7-02	--	--	--	14-16
SB-8	FF-S-SB8-01	--	--	--	2-4
SB-8	FF-S-SB8-02	--	--	--	4-6
SB-9	FF-S-SB9-01	24.0	50.4	Jet Fuel	4-5
SB-9	FF-S-SB9-02	26.2	301	Jet Fuel	8-9
SB-10	FF-S-SB10-01	0.10	--	ND	10-12
SB-10	FF-S-SB10-02	--	--	--	14.5-15.5
SB-11	FF-S-SB11-01	291	1900	Jet Fuel	3-4
SB-11	FF-S-SB11-02	--	--	--	6.5-7.5
SB-11	FF-S-SB11-03 ⁽⁴⁾	13.4	24.6	Jet Fuel	3-4

Notes:

- (1) EPA Method 5030/3550 estimated range of petroleum type.
 - (2) Below method detection limit.
 - (3) ND = Not Determined
 - (4) Duplicate sample of SB-11-01.
- Total Petroleum Hydrocarbons analyzed by EPA Method 5030/3550, Modified 8015.
The calculated site sensitivity evaluation for TPH at this site is 35 mg/kg.

Source:

Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

**SUMMARY OF SOIL ANALYSES, DECEMBER 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265**

Boring No.	Field Sample No.	Parameter			Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	
		Low-Med Boiling Point (5030)	Med-High Boiling Point (3550)		
SB-12	FF-S-SB12-01	35.6	870	Jet Fuel	3-4
SB-12	FF-S-SB12-02	2.64	19.0	Jet Fuel	7-8
MW-8	FF-S-MW8-01	--(2)	--	--	3-4
MW-8	FF-S-MW8-02	--	1.89	Jet Fuel	4.5-5.5
MW-9	FF-S-MW9-01	--	--	--	3-4
MW-9	FF-S-MW9-02	--	5.53	Jet Fuel	7-8
MW-10	FF-S-MW10-01	--	--	--	3-4
MW-10	FF-S-MW10-02	--	--	--	5-6
MW-11	FF-S-MW11-01	--	--	--	3-4
MW-11	FF-S-MW11-02	--	--	--	6-8
MW-12	FF-S-MW12-01	2.04	6.94	Jet Fuel	3-4
MW-12	FF-S-MW12-02	87.0	1.17	Jet Fuel	5-6
MW-12	FF-S-MW12-03(3)	151	34.0	Jet Fuel	3-4
MW-13	FF-S-MW13-01	283	14700	Jet Fuel	2-4
MW-13	FF-S-MW13-02	2.15	0.74	Jet Fuel	4-6

Notes:

- (1) EPA Method 5030/3550 estimated range of petroleum type.
 (2) Below method detection limit.
 (3) Duplicate sample of MW-12-01.
 Total Petroleum Hydrocarbons analyzed by EPA Method 5030/3550, Modified 8015.
 The calculated site sensitivity evaluation for TPH at this site is 35 mg/kg.

Source:

Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE

SUMMARY OF SOIL ANALYSES, DECEMBER 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Boring No.	Field Sample No.	Parameter				Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾		
		Low-Med Boiling Point (5030)	Med-High Boiling Point (3550)			
MW-14	FF-S-MW14-01	51.0	3.67	Jet Fuel	3-4	
MW-14	FF-S-MW14-02	0.16	2.74	Jet Fuel	4-6	
MW-14	FF-S-MW14-03 ⁽³⁾	15.0	19.5	Jet Fuel	3-4	
MW-15	FF-S-MW15-01	-- ⁽²⁾	--	--	2-4	
MW-15	FF-S-MW15-02	--	--	--	4-6	
MW-16	FF-S-MW16-01	166	96.4	Jet Fuel	2-4	
MW-16	FF-S-MW16-02	21.0	11.9	Jet Fuel	4-6	
MW-17	FF-S-MW17-01	--	--	--	2-4	
MW-17	FF-S-MW-17-02	--	--	--	4-6	
MW-18	FF-S-MW18-01	0.14	5.26	Jet Fuel	2-4	
MW-18	FF-S-MW18-02	--	23.6	Jet Fuel	4-6	
MW-19	FF-S-MW19-01	--	--	--	2-4	
MW-19	FF-S-MW19-02	--	--	--	4-6	
MW-20	FF-S-MW20-01	--	--	--	2-4	
MW-20	FF-S-MW20-02	--	--	--	4-6	

Notes:

- (1) EPA Method 5030/3550 estimated range of petroleum type.
 (2) Below method detection limit.
 (3) Duplicate sample of MW-14-01.
 Total Petroleum Hydrocarbons analyzed by EPA Method 5030/3550, Modified 8015.
 The calculated site sensitivity evaluation for TPH at this site is 35 mg/kg.

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE 3

SUMMARY OF SOIL ANALYSES, DECEMBER 1992 CAMPBELL STREET FUEL FARM CONTRACT TASK ORDER 0265

Boring No.	Field Sample No.	Parameter			Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type(1)	
		Low-Med Boiling Point (5030)	Med-High Boiling Point (3550)		
MW-21	FF-S-MW21-01	0.49	16.7	Jet Fuel	2-4
MW-21	FF-S-MW21-02	37.2	7.86	Jet Fuel	5-6
MW-21	FF-S-MW21-03(3)	82.8	--	Jet Fuel	5-6
MW-22	FF-S-MW22-01	--(2)	--	--	2-4
MW-22	FF-S-MW22-02	--	--	--	4-6
MW-23	FF-S-MW23-01	--	--	--	2-4
MW-23	FF-S-MW23-02	--	0.75	Jet Fuel	4-6
MW-24	FF-S-MW24-01	--	--	--	2-4
MW-24	FF-S-MW24-02	--	--	--	4-6
MW-25	FF-S-MW25-01	2.79	14.2	Gas	2-4
MW-25	FF-S-MW25-02	20.3	9.85	Gas	6-6.5
MW-25	FF-S-MW25-03(4)	--	4.45	Gas	6-6.5
DW-4	FF-S-DW4-01	--	--	--	2-4
DW-4	FF-S-DW4-02	--	--	--	48-50
DW-4	FF-S-DW4-03(5)	--	--	--	2-4

Notes:

- (1) EPA Method 5030/3550 estimated range of petroleum type.
- (2) Below method detection limit.
- (3) Duplicate sample of MW-21-02.
- (4) Duplicate sample of MW-25-02.
- (5) Duplicate sample of DW-4-01.

Total Petroleum Hydrocarbons analyzed by EPA Method 5030/3550, Modified 8015.
The calculated site sensitivity evaluation for TPH at this site is 35 mg/kg.

Source:

Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

**SUMMARY OF SOIL ANALYSES, DECEMBER 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265**

Boring No.	Field Sample No.	Parameter			Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	
		Low-Med Boiling Point (5030)	Med-High Boiling Point (3550)		
DW-5	FF-S-DW5-01	19.0	118	Jet Fuel	6-8
DW-5	FF-S-DW5-02	--(2)	5.80	M. Oil	40-42
DW-6	FF-S-DW6-01	5.10	204	Jet Fuel	2-4
DW-6	FF-S-DW6-02	--	--	--	40-42
RW-1	FF-S-RW1-01	--	0.99	ND(3)	2-4
RW-1	FF-S-RW1-02	--	--	--	4-6

Notes:

- (1) EPA Method 5030/3550 estimated range of petroleum type.
 (2) Below method detection limit.
 (3) ND = Not Determined

Total Petroleum Hydrocarbons analyzed by EPA Method 5030/3550, Modified 8015.
 The calculated site sensitivity evaluation for TPH at this site is 35 mg/kg.

Source:

Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

CORRECTIVE ACTION PLAN

BUILDING AS-4151

TABLE 1-1
SUMMARY OF CHEMICAL ANALYSES FOR
SOIL SAMPLES COLLECTED DURING PIPELINE INVESTIGATION
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Boring No.	Field Sample No.	Parameter			Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)	Petroleum Type ⁽¹⁾	pH	Flashpoint (°F)
13MW-1	PL-S-MW1-01	391.10	Weathered jet fuel	NA ⁽³⁾	NA
13MW-1	PL-S-MW1-02	-- ⁽²⁾	NA	6.85	> 140
13DW-1	PL-S-DW1-01	3.27	Weathered jet fuel	NA	NA
13DW-1	PL-S0DW1-02	28.73	Weathered jet fuel	NA	NA
					2.0 - 4.0
					4.0 - 6.0
					0.0 - 2.0
					2.0 - 4.0

Notes:

- (1) EPA Method 8015 (5030/3550) estimated range of petroleum type
- (2) - = Not detected at method detection limit
- (3) NA = Not Analyzed

Total petroleum hydrocarbons analyzed using EPA Method 8015 (5030/3550).
pH analyzed using Method SW-9047.
Flashpoint analyzed using Method SW-1010.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

TABLE 1-7

SUMMARY OF SOIL ANALYSES - JUNE 1992
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Boring No.	Field Sample No.	Parameter					Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	pH	Flashpoint (°F)	
		Boiling Point low-med (5030)	Boiling Point med-high (3550)				
122MW-1	SPG-S-MW101	-- ⁽²⁾	--	Not Applicable	NA ⁽³⁾	NA	2.0-4.0
122MW-1	SPG-S-MW102	--	--	Not Applicable	5.28	>220	4.0-6.0
122MW-2	SPG-S-MW201	--	--	Not Applicable	NA	NA	2.0-4.0
122MW-2	SPG-S-MW202	--	--	Not Applicable	4.23	>220	6.0-8.0
122MW-3	SPG-S-DW301	--	--	Not Applicable	NA	NA	2.0-4.0
122MW-3	SPG-S-DW302	--	--	Not Applicable	3.61	>220	4.0-6.0
122MW-4	SPG-S-DW401	--	--	Not Applicable	NA	NA	2.0-4.0
122MW-4	SPG-S-DW402	--	--	Not Applicable	4.72	>220	4.0-6.0
122MW-5	SPG-S-MW501	--	8.24	No. 2 Fuel Oil	NA	NA	2.0-4.0
122MW-5	SPG-S-MW502	--	--	Not Applicable	3.86	>220	4.0-6.0
122MW-6	SPG-S-MW601	--	--	Not Applicable	NA	NA	2.0-4.0
122MW-6	SPG-S-MW801 ⁽⁴⁾	--	--	Not Applicable	NA	NA	2.0-4.0

Notes: (1) EPA Method 8015 (5030/3550) estimated range of petroleum type

(2) -- = Less than method detection limit

(3) NA = Not Analyzed

(4) Duplicate sample of Field Sample Number SPG-S-MW601

(5) Duplicate sample of Field Sample Number SPG-S-MW702

(6) * = Sample from excavation

Total Petroleum Hydrocarbons analyzed using EPA Method 8015 (5030/3550); pH analyzed using Method SW-9047; flashpoint analyzed using Method SW-1010.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

TABLE 1-7 (Continued)
SUMMARY OF SOIL ANALYSES - JUNE 1992
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Boring No.	Field Sample No.	Parameter					Sample Depth (feet, below ground surface)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	pH	Flashpoint (°F)	
		low-med (5030)	med-high (3550)				
122MW-6	SPG-S-MW602	-- ⁽²⁾	--	Not Applicable	4.10	> 220	4.0-6.0
122MW-7	SPG-S-MW701	--	--	Not Applicable	NA ⁽³⁾	NA	2.0-4.0
122MW-7	SPG-S-MW702	0.85	6.72	No. 2 Fuel Oil	4.16	> 220	4.0-6.0
122MW-7	SPG-S-MW802 ⁽⁶⁾	--	--	Not Applicable	NA	NA	4.0-6.0
122DW-1	SPG-S-DW101	--	--	Not Applicable	5.12	> 220	2.0-4.0
122DW-1	SPG-S-DW102	--	--	Not Applicable	NA	NA	4.0-6.0
122DW-2	SPG-S-DW201	--	--	Not Applicable	5.40	> 220	2.0-4.0
122DW-2	SPG-S-DW202	--	0.68	Not Distinguishable	NA	NA	4.0-6.0
Curb Right*		--	--	N/A	NA	NA	3.0
Curb Left*		64.1	1715	Jet Fuel	NA	NA	3.0
Bott Right*		1.78	8.08	Jet Fuel	NA	NA	3.0
Right Wall*		419	4833	Jet Fuel	NA	NA	3.0

Notes: (1) EPA Method 8015 (5030/3550) estimated range of petroleum type
 (2) -- = Less than method detection limit
 (3) NA = Not Analyzed
 (4) Duplicate sample of Field Sample Number SPG-S-MW601
 (5) Duplicate sample of Field Sample Number SPG-S-MW702
 (6) * = Sample from excavation

Total Petroleum Hydrocarbons analyzed using EPA Method 8015 (5030/3550); pH analyzed using Method SW-9047; flashpoint analyzed using Method SW-1010.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

TABLE 1-8

SUMMARY OF SOIL ANALYSES - JANUARY 1993
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Boring No.	Field Sample No.	Parameter					Sample Depth (feet, below ground surface) ⁽⁴⁾
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	pH	Flashpoint (°F)	
		Boiling Points low-med (5030)	Boiling Points med-high (3550)				
122SB-1	122-SB1-S-01	--	--	-- ⁽²⁾	NA ⁽³⁾	NA	2.0-2.5
122SB-1	122-SB1-S-02	--	--	--	NA	NA	2.5-3.0
122SB-2	122-SB2-S-01	--	--	--	NA	NA	2.0-3.0
122SB-2	122-SB2-S-02	120	35.0	Diesel Fuel	NA	NA	4.5-5.5
122SB-3	122-SB3-S-01	--	--	--	NA	NA	2.0-3.0
122SB-3	122-SB3-S-02	--	--	--	NA	NA	3.0-3.5
122SB-4	122-SB4-S-01	--	--	--	NA	NA	1.5-2.0
122SB-4	122-SB4-S-02	--	--	--	NA	NA	2.0-2.5
122SB-5	122-SB5-S-01	--	--	--	NA	NA	1.5-2.0
122SB-5	122-SB5-S-02	--	--	--	NA	NA	2.0-3.0

Notes: (1) EPA Method 8015 (5030/3550) estimated range of petroleum type

(2) -- = Less than method detection limit

(3) NA = Not Analyzed

(4) Sample intervals differ due to encountering groundwater at various depths at different boring locations.

Total Petroleum Hydrocarbons analyzed using EPA Method 8015 (5030/3550); pH analyzed using Method SW-9047; flashpoint analyzed by Method SW-1010.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

TABLE 1-8 (Continued)

SUMMARY OF SOIL ANALYSES - JANUARY 1993
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Boring No.	Field Sample No.	Parameter					Sample Depth (feet, below ground surface) (4)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type(1)	pH	Flashpoint (°F)	
		Boiling Point low-med (5030)	Boiling Point med-high (3550)				
122MW-8	122-MW8-S-01	--	--	-- (2)	NA (3)	NA	2.0-3.0
122MW-8	122-MW8-S-02	22.0	--	Gasoline	NA	NA	4.5-5.5
122MW-8	122-MW8-S-03(5)	53.0	--	Gasoline	NA	NA	4.5-5.5
122MW-9	122-MW9-S-01	5.49	140	Diesel/J-P-5	NA	NA	2.0-4.0
122MW-9	122-MW9-S-02	2308	6000	Diesel/J-P-5	5.76	> 220	4.0-6.0
122MW-9	122-MW9-S-03(6)	7302	15000	Diesel/J-P-5 Gasoline	NA	NA	4.0-6.0
122MW-10	122-MW10-S-01	10.2	46	Diesel/J-P-5	NA	NA	2.0-3.0
122MW-10	122-MW10-S-02	--	--	--	NA	NA	4.5-5.5
122MW-11	122-MW11-S-01	--	--	--	NA	NA	1.5-2.0
122MW-11	122-MW11-S-02	11.0	--	Gasoline	5.99	> 220	3.5-4.0

Notes: (1) EPA Method 8015 (5030/3550) estimated range of petroleum type

(5) Duplicate of Sample No. 122-MW8-S-02

(2) -- = Less than method detection limit

(6) Duplicate of Sample No. 122-MW9-S-02

(3) NA = Not Analyzed

(4) Sample intervals differ due to encountering groundwater at various depths at different boring locations.

Total Petroleum Hydrocarbons analyzed using EPA Method 8015 (5030/3550); pH analyzed using Method SW-9047; flashpoint analyzed by Method SW-1010.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

TABLE 1-8 (Continued)

SUMMARY OF SOIL ANALYSES - JANUARY 1993
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Boring No.	Field Sample No.	Parameter					Sample Depth (feet, below ground surface) (4)
		Total Petroleum Hydrocarbons (mg/kg)		Petroleum Type ⁽¹⁾	pH	Flashpoint (°F)	
		Boiling Points low-med (5030)	Boiling Points med-high (3550)				
122MW-12	122-MW12-S-01	--	--	-- ⁽²⁾	NA ⁽³⁾	NA	2.0-4.0
122MW-12	122-MW12-S-02	--	--	--	4.26	>220	4.0-6.0
122MW-13	122-MW13-S-01	17.0	--	Gasoline	NA	NA	2.0-4.0
122MW-13	122-MW13-S-02	--	--	--	3.53	>220	4.0-6.0
122MW-14	122-MW14-S-01	--	--	--	NA	NA	2.0-4.0
122MW-14	122-MW14-S-02	--	--	--	3.50	>220	6.0-8.0
122RW-1	SGP-RW1-S-01	510	2800	JP-5		NA	2.0-4.0
122RW-1	SGP-RW1-S-02	5378	8300	JP-5	NA	NA	4.0-6.0

Notes: (1) EPA Method 8015 (5030/3550) estimated range of petroleum type

(2) -- = Less than method detection limit

(3) NA = Not Analyzed

(4) Sample intervals differ due to encountering groundwater at various depths at different boring locations.

Total Petroleum Hydrocarbons analyzed using EPA Method 8015 (5030/3550); pH analyzed using Method SW-9047; flashpoint analyzed by Method SW-1010.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

APPENDIX B

SUMMARY OF HISTORICAL GROUNDWATER LABORATORY RESULTS

CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM AND UST SYSTEM AS-143

TABLE 7
SUMMARY OF CHEMICAL ANALYSES FOR GROUNDWATER SAMPLES COLLECTED BY HYDROPUNCH PROCEDURE IN DECEMBER 1991
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Well No.	Field Sample No.	Parameter (µg/L)									Total VOCs(4)
		MTBE(1)	1,3 and 1,4-Dichloro-benzene	1,2-Dichloro-benzene	Benzene	Toluene/EDB(2)	Ethyl-benzene	Chloro-benzene and m- & p-Xylenes	o-Xylene	Total Xylene(3)	
HP-1	FF-W-H-1	--(5)	--	--	--	--	--	0.2	--	0.21	0.21
HP-2	FF-W-H-2	0.31	--	--	--	--	--	--	--	--	0.31
HP-3	FF-W-H-3	--	--	--	--	--	--	--	--	--	--
HP-4	FF-W-H-4	--	--	--	--	--	--	--	--	--	--
HP-5	FF-W-H-5	--	--	--	0.54	--	--	--	--	--	0.54
HP-6	FF-W-H-6	--	--	--	--	--	--	--	--	--	--
HP-7	FF-W-H-7	--	--	--	--	--	--	0.83	--	0.83	0.83
HP-8	FF-W-H-8	--	--	--	--	--	--	0.50	--	0.50	0.50
HP-9	FF-W-H-9	0.48	--	--	--	--	--	--	--	--	0.48
HP-10	FF-W-H-10	--	--	--	1.17	--	0.74	--	--	--	1.91
HP-11	FF-W-H-11	0.66	--	--	--	0.23	--	--	--	--	0.89
HP-12	FF-W-H-12	0.47	5.76	2.86	4.47	2.27	1.32	1.83	1.32	3.15	20.30
HP-13	FF-W-H-13	0.25	--	--	--	0.89	--	0.97	--	0.97	2.11
HP-13	FF-W-H-16(6)	0.52	--	--	--	--	--	--	--	--	0.52
HP-14	FF-W-H-14	0.27	--	--	1.05	0.72	--	0.89	--	0.89	2.93
HP-14	FF-W-H-17(6)	0.42	--	--	--	0.73	--	1.01	--	1.01	2.16
HP-15	FF-W-H-15	2.08	0.78	0.57	23.77	0.82	2.52	5.72	2.18	7.90	38.44
Federal MCLs(7)		NE(9)	NE/75	600	5.0	1,000/0.05	700	100/NE	NE	10,000	
State NC WQS(8)		50(10)	620/1.8	620	1.0	1,000/0.0005	29	300/NE	NE	400	

Notes:

- (1) MTBE = Methyl Tertiary Butyl Ether
 - (2) EDB = Ethylene Dibromide
 - (3) Include a combined value of chlorobenzene and m- & p-Xylenes
 - (4) Sum of total organic compounds detected using EPA Method 602
 - (5) -- = Not Detected
 - (6) Duplicate sample
 - (7) MCL = Maximum Contaminant Level
 - (8) NC WQS = North Carolina Water Quality Standard
 - (9) NE = Not Established
 - (10) MTBE NC WQS is an interim standard
- Samples analyzed using EPA Method 602. Method could not distinguish a difference between 1,3- and 1,4-dichlorobenzene; toluene and EDB; chlorobenzene and m- and p-Xylenes. Laboratory reported the concentration as a combined value.

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

SUMMARY OF CHEMICAL ANALYSES FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS IN JANUARY 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Parameter/Method	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8 ⁽⁸⁾	DW-1	DW-2	DW-3	Trip Blank	Maximum Contaminant Level (µg/L)	NC Water Quality Standard (µg/L)
EPA Method 601 (µg/L)														
Purgeable Halocarbons ⁽¹⁾	-- ⁽⁶⁾	NA ⁽⁷⁾	NA	NA	NA	--	--	--	NA	--	NA	--		
EPA Method 602 ⁽²⁾ (µg/L)														
MTBE ⁽³⁾	--	0.21	--	--	--	--	--	--	--	--	--	--	NE ⁽⁹⁾	50 ⁽¹¹⁾
Benzene	--	0.20	2.79	2.47	--	--	--	--	--	2.05	--	--	5.0	1.0
Toluene/EDB ⁽⁴⁾	--	--	--	--	--	--	--	--	--	--	0.94	--	1,000/0.05	1,000/0.0005
Ethyl Benzene	--	--	--	0.42	--	--	--	--	--	0.36	--	--	700	29
m-, p- Xylene and Chlorobenzene	--	--	0.81	1.73	--	--	--	--	--	22.70	--	--	NE/100	NE/300
o-Xylene	--	--	0.76	--	0.79	--	--	--	--	--	--	--	NE	400
1,3 & 1,4-Dichlorobenzene	--	--	--	10.64	--	--	1.04	--	--	23.35	--	--	75	620/1.8
1,2-Dichlorobenzene	--	--	--	6.33	--	--	1.22	--	--	2.31	--	--	600	620
EPA Method 625 ⁽⁵⁾ (µg/L)														
Acenaphthene	NA	NA	NA	NA	NA	--	NA	--	NA	--	NA	--	NE	NE
Fluorene						--	--	--	--	46	--	--	NE	NE
Naphthalene						--	--	--	--	36	--	--	NE	NE
Phenanthrene						--	--	--	--	258	--	--	NE	NE
						--	--	--	--	11	--	--	NE	NE
EPA Method 7421 (µg/L)														
Lead, total	--	3.4	--	2.6	2.0	0.9	0.5	1.0	0.8	4.3	0.7	NA	50 ⁽¹⁰⁾	50
Total Xylenes	--	--	1.57	1.73	0.79	--	--	--	--	22.70	--	--	10,000	400
Total VOCs	--	0.41	4.36	21.59	0.79	--	2.26	--	--	50.77	0.94	--	NE	NE

Notes:

- (1) Purgeable halocarbons analyzed using EPA Method 601. No purgeable halocarbons were detected.
- (2) Purgeable aromatics analyzed using EPA Method 602. Method could not distinguish a difference between toluene and EDB; m-, p-Xylene and chlorobenzene; 1,3- and 1,4-dichlorobenzene. Laboratory reported the concentrations as a combined value.
- (3) MTBE = Methyl Tertiary Butyl Ether
- (4) EDB = Ethylene Dibromide
- (5) Base Neutral/Acid Extractables (BNAs) analyzed using EPA Method 625. Only four contaminants were detected.
- (6) -- = Not Detected
- (7) NA = Not Analyzed
- (8) MW-8 was the number assigned to the duplicate sample for monitoring well MW-6 at time of sampling. Actual monitoring well MW-8 was installed during the second phase of work.
- (9) NE = Not Established
- (10) Standard based on dissolved lead concentrations.
- (11) MTBE NC WQS is an interim standard.

Table reflects only those parameters which were detected.

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE 1-9

SUMMARY OF CHEMICAL ANALYSES FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS IN DECEMBER 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Parameter/Method	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	Federal Maximum Contaminant Level (µg/L)	NC Water Quality Standard (µg/L)
EPA Method 602 ⁽¹⁾ (µg/L)													
Purgeable Aromatic Hydrocarbons													
MTBE ⁽²⁾	-- ⁽⁶⁾	--	--	--	2.4	--	--	--	416	--	--	NE ⁽⁶⁾	50 ⁽⁸⁾
Benzene	7.85	--	--	--	--	--	--	--	69.5	--	--	5.0	1.0
Toluene/EDB ⁽³⁾	--	--	--	--	--	--	--	--	40.6	--	5.8	1,000/0.05	1,000/0.0005
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	100	300
Ethylbenzene	12.9	--	--	--	--	11.8	--	--	--	--	--	700	29
m-, p-Xylene	52.8	--	--	--	4.34	8.09	--	--	125	--	13.2	NE	NE
o-Xylene	--	--	--	--	--	--	--	--	--	--	--	NE	NE
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	9.27	NE	620
1,4-Dichlorobenzene	--	--	--	--	--	30.8	--	--	113	--	--	75	1.8
1,2-Dichlorobenzene	--	--	--	--	--	--	--	--	28.8	--	13.0	600	620
Total Xylenes	52.8	--	--	--	4.34	8.09	--	--	125	--	13.2	10,000 ⁽⁷⁾	400 ⁽⁸⁾
Total VOCs ⁽⁴⁾	73.55	--	--	--	6.74	50.69	--	--	792.9	--	41.27	NE	NE

Notes:

(1) Purgeable aromatics analyzed by EPA Method 602. Method could not resolve toluene and EDB. Laboratory reported the concentrations as a combined value.

(2) MTBE = Methyl Tertiary Butyl Ether

(3) EDB = Ethylene Dibromide. Method could not resolve toluene and EDB. Concentrations reported as a combined value.

(4) Sum of total volatile organic compounds detected by EPA Method 602.

(5) -- = Less than method detection limit.

(6) NE = Not Established

(7) The MCL and NCWQS for xylene (total) includes meta, para, and ortho xylenes.

(8) MTBE WQS is an interim standard.

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE 1-9

SUMMARY OF CHEMICAL ANALYSES FOR GROUNDWATER SAMPLES COLLECTED FROM MONITORING WELLS IN DECEMBER 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Parameter/Method	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26 ⁽⁹⁾	MW-27 ⁽¹⁰⁾	DW-4	DW-5	DW-6	RW-1	Federal Maximum Contaminant Level (µg/L)	NC Water Quality Standard (µg/L)
EPA Method 602 ⁽¹⁾ (µg/L)															
Purgeable Aromatic Hydrocarbons															
MTBE ⁽²⁾	160	-- ⁽⁶⁾	21.9	--	--	400	1490	--	29.4	--	--	--	147	NE ⁽⁶⁾	50 ⁽⁸⁾
Benzene	--	--	--	--	--	73	58.1	--	--	--	--	--	26.7	5.0	1.0
Toluene/EDB ⁽³⁾	--	--	514	--	--	762	241	--	64.3	--	--	--	--	1,000/0.05	1,000/0.0005
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	100	300
Ethylbenzene	--	--	661	--	--	--	63.9	--	30	--	--	--	--	700	29
m-, p-Xylene	--	--	4700	--	5.46	199	1130	5.89	755	--	--	3.93	62.9	NE	NE
o-Xylene	--	--	383	--	--	--	400	--	818	--	--	--	--	NE	NE
1,3-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	NE	620
1,4-Dichlorobenzene	--	--	3060	--	--	207	550	--	3045	--	--	8.46	30.1	75	1.8
1,2-Dichlorobenzene	--	--	486	--	--	148	101	--	97	--	--	--	25.7	600	620
Total Xylenes	--	--	5083	--	5.46	199	1530	5.89	1573	--	--	3.93	62.9	10,000 ⁽⁷⁾	400 ⁽⁸⁾
Total VOCs ⁽⁴⁾	160	--	9825.9	--	5.46	1789	4034	5.89	4838.7	--	--	12.39	292.4	NE	NE

Notes:

(1) Purgeable aromatics analyzed by EPA Method 602. Method could not resolve toluene and EDB. Laboratory reported the concentrations as a combined value.

(2) MTBE = Methyl Tertiary Butyl Ether

(3) EDB = Ethylene Dibromide. Method could not resolve toluene and EDB. Concentrations reported as a combined value.

(4) Sum of total volatile organic compounds detected by EPA Method 602.

(5) -- = Less than method detection limit.

(6) NE = Not Established

(7) The MCL and NCWQS for xylene (total) includes meta, para, and ortho xylenes.

(8) MTBE WQS is an interim standard.

(9) MW-26 is a duplicate for MW-23.

(10) MW-27 is a duplicate for MW-25.

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

CORRECTIVE ACTION PLAN

BUILDING AS-4151

TABLE 1-2

SUMMARY OF CHEMICAL ANALYSES FOR
GROUNDWATER SAMPLES COLLECTED DURING PIPELINE4 INVESTIGATION
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Method/Contaminant	13MW-1	13DW-1	13HP-2	13HP-3	13HP-4	Maximum Concentration Level (µg/L)	NC Water Quality Standard (µg/L)
EPA Method 601 Purgeable Halocarbons (1)	--(2)	NA(3)	NA	NA	NA		
EPA Method 602 (4) (µg/L) Volatile Organic Compounds							
MTBE (5)	--	--	--	--	0.34	NE(6)	50(7)
Benzene	2.26	3.16	0.87	--	--	5.0	1.0
Toluene/EDB (8)	--	7.35	0.57	--	0.18	1,000/0.05	1,000/0.0005
Ethylbenzene	5.72	1.88	0.15	0.55	0.28	700	29
m-, p- Xylene and Chlorobenzene	2.75	2.05	1.09	--	1.05	10,000/100	400/300
o-Xylene	0.74	1.14	--	--	2.47	10,000(9)	400
1,3 & 1,4-Dichlorobenzene	63.75	18.28	--	--	--	NE/75	620/1.8
1,2-Dichlorobenzene	70.85	5.29	--	--	--	600	620
Total VOCs (10)	146.07	39.15	2.68	0.55	4.32	NE	NE
EPA Method 625(11) PAHs (µg/L)	48	NA	NA	NA	NA	NE	NE
Naphthalene							

Notes: (1) Purgeable Halocarbons analyzed using EPA Method 601. No purgeable halocarbons were detected.

(2) -- Less than method detection limit.

(3) NA - Not Analyzed.

(4) Purgeable aromatics analyzed by EPA Method 602 in µg/L.

(5) MTBE - Methyl Tertiary Butyl Ether.

(6) NE = Not Established.

(7) MTBE WQS is an Interim Standard.

(8) EDB - Ethylene Dibromide. Method could not resolve Toluene and EDB. Concentrations reported as a combined value.

(9) The MCL for Xylene (Total) Includes Meta, Para, and Ortho Xylenes.

(10) Sum of total volatile organic compounds detected using EPA Method 602.

(11) Polynuclear Aromatic Hydrocarbons (PAHs) analyzed by EPA Method 625. Only one PAH compound (naphthalene) was detected.

Table reflects only those parameters which were detected.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

TABLE 1-9

SUMMARY OF CHEMICAL ANALYSES FOR GROUNDWATER SAMPLES - JUNE 1992
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Method/Contaminant	Well Number											Trip Blank	MCL Maximum Contaminant Level (µg/L)	NC Water Quality Standard (µg/L)
	122MW-1	122MW-2	122MW-3(11)	122MW-4	122MW-5	122MW-6	122MW-7	122MW-8(6)	122DW-1	122DW-2				
PA Method 602(1) (µg/L)														
Purgeable Aromatic Hydrocarbons														
MTBE(2)	-- (3)	3.70	NA	5.08	--	--	--	--	--	--	--	--	NE(9)	50(10)
Benzene	--	9.53	NA	11.90	--	--	--	--	--	--	--	--	5.0	1.0
Toluene/EDB(4)	--	--	NA	--	--	--	--	--	--	--	--	--	1,000/0.05	1,000/0.0005
Ethylbenzene	--	--	NA	--	--	--	--	--	--	--	--	--	700	29
m-, p-Xylene	--	--	NA	--	--	--	--	--	--	--	--	--	10,000(7)	400
o-Xylene	--	--	NA	--	--	--	--	--	--	--	--	--	10,000(7)	400
Chlorobenzene	--	--	NA	--	--	--	--	--	--	--	--	--	100	300
1,2-Dichlorobenzene	--	--	NA	--	--	--	4.57	4.32	--	--	--	--	600	620
1,3-Dichlorobenzene	--	--	NA	--	--	--	3.64	3.91	--	--	--	--	NE	620
1,4-Dichlorobenzene	--	--	NA	3.33	--	--	--	--	--	--	--	--	75	1.8
Total VOCs (8)	--	13.23	NA	20.31	--	--	8.21	8.23	--	--	--	--	NE	NE
PA Method 625(5) (µg/L)														
PAHs	NA	NA	NA	--	--	NA	--	NA	NA	NA	NA	--		

NA = Not Analyzed.

NE = Not Established

Notes: (1) Volatile organic compounds analyzed by EPA Method 602.

(2) MTBE = Methyl Tertiary Butyl Ether.

(3) -- = Less than method detection limit.

(4) EDB = Ethylene Dibromide. Method could not distinguish a difference between toluene and EDB. Laboratory reported the concentrations as a combined value.

(5) Polynuclear Aromatic Hydrocarbons (PAHs) analyzed using EPA Method 625. No PAHs were detected.

(6) 122MW-8 is a duplicate of 122MW-7.

(7) The MCL for Xylene (Total) includes Meta, Para, and Ortho Xylenes.

(8) Sum of total organic compounds detected by EPA Method 602.

(9) MCL not established.

(10) MTBE WQS is an Interim Standard.

(11) Sample damaged during transport to laboratory.

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

TABLE 1-10

SUMMARY OF CHEMICAL ANALYSES FOR GROUNDWATER SAMPLES - JANUARY 1993
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Method/Contaminant	Well Number										Federal Maximum Concentration Level (µg/L)	NC Water Quality Standard (µg/L)
	122MW-2	122MW-3	122MW-8	122MW-9	122MW-25(7)	122MW-10	122MW-11	122MW-12	122MW-13	122MW-14	122RW-1	Trip Blank
EPA Method 602 (µg/L)												
Purgeable Aromatic Hydrocarbons												
MTBE(1)	--	--	--	7.6	--	--	--	--	--	--	--	50.0
Benzene	--(6)	--	--	--	--	--	--	--	--	1.2	3.4	1.0
Toluene	--	--	1.6	--	--	--	--	7.9	--	--	--	1,000
Ethylbenzene	--	--	--	26.0	1.7	--	--	3.1	--	--	28.0	29
Xylenes	--	--	--	46.0	0.76	--	--	--	--	--	44.0	400(6)
EDB(2)	--	--	--	--	0.98	--	--	0.90	--	--	--	0.0005
Chlorobenzene	--	--	--	--	--	--	--	--	--	--	--	300
1,3-Dichlorobenzene	--	--	--	--	1.4	--	--	--	--	--	--	620
1,4-Dichlorobenzene	--	--	--	--	--	--	--	--	--	--	--	1.8
1,2-Dichlorobenzene	--	--	--	--	0.9	--	--	0.90	--	--	--	620
Total VOCs(3)	--	--	1.6	79.6	5.74	--	--	12.8	--	1.2	75.4	NE
EPA Method 610(4) (µg/L)												
Base Neutral Extractables												
Phenanthrene	--	--	--	--	2	--	--	--	--	--	--	NE
Acenaphthene	--	--	--	--	3	--	--	--	--	--	--	NE
Anthracene	--	--	--	--	2	--	--	--	--	--	--	NE
Fluorene	--	--	--	2	4	--	--	--	--	--	--	NE
Acenaphthylene	--	--	--	2	10	--	--	--	--	--	--	NE
Naphthalene	--	--	--	300	313	--	--	15.0	--	--	--	NE

Notes: NA - Not Analyzed.

NE = Not Established.

(1) MTBE = Methyl Tertiary Butyl Ether

(2) EDB = Ethylene Dibromide.

(3) Sum of total volatile organic compounds detected using EPA Method 602.

(4) Polynuclear Aromatic Hydrocarbons analyzed by EPA Method 610.

(5) -- = Less than method detection limit.

(6) The MCL and WQS for Xylene (Total) Includes Meta, Para, and Ortho Xylenes.

(7) Sample 122MW-25 is the duplicate sample of monitoring wells 122MW-9 (EPA Method 610 analysis) and 122MW-12 (EPA Method 602 analysis).

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89-D-4814, Contract Task Order 0122).

FINAL ANNUAL MONITORING REPORT – JANUARY 2004

Table 4.2

Well No./Contaminant	NCDENR Regulatory Limit	12/17/1996	3/12/1997	6/12/1997	9/16/1997	12/11/1997	3/10/1998	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-MW-4																
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-MW-7																
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-MW-8																
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-MW-9																
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
Naphthalene	21	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
1-Methylnaphthalene	Detection Limit	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
2-Methylnaphthalene	28	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
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	BQL	BQL	BQL	BQL	BQL
Fluorene	280	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Bis(2-ethylhexyl)phthalate	Detection Limit	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL

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	NCDENR 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
AS-4151-MV-11																
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
AS-4151-DW-1																
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	4	7	7	8	8
Ethylbenzene	29	8.9	6	8.9	BQL	3	6.9	9.9	9.9	2	2	8	9	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	2.020	2.30	BQL	12	1,400	BQL	829	1,400	969
1-Methylnaphthalene	Detection Limit	NA	NA	NA	NA	NA	NA	NA	NA	NA	BQL	84	34	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
AS-4151-MV-1																
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
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

[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	NCDENR 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 *
AS4151-MW-11											
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
AS4151-DW-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	BQL	9	9
Ethylbenzene	29	14	5	10	8	13	7	4	BQL	7	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	2,100	1,900	BQL	2,400	940	1,700
1-Methylnaphthalene	Detection Limit	100	56	100	50	BQL	BQL	82.0	BQL	59	66
2-Methylnaphthalene	28	140	62	74	59	150	100	140	130	95	110
Acenaphthylene	210	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
Acenaphthene	80	73	52	126	53	BQL	BQL	98.0	BQL	59	68
Fluorene	280	BQL	BQL	39	BQL	BQL	BQL	33.0	BQL	20	BQL
AS4151-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	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	180	170
1-Methylnaphthalene	Detection Limit	53	53	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

Table 4.2

[illegible]

DATA PROVIDED BY ENGINEERING & ENVIRONMENT, INC.

MARCH 2003 – DECEMBER 2003

Table 1
Summary of Laboratory Analyses for Groundwater
Campbell Street Fuel Farm
March 2003

Sample Location	NCGWQS	MW-01	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02
Date Sampled		03/26/03	03/25/03	03/25/03	03/26/03	03/25/03	03/25/03	03/26/03	03/26/03	03/25/03
EPA 602 (µg/L)										
Benzene	1	6.5	<1.0	<1.0	4.3	0.97 J	57	273	248	<1.0
Ethylbenzene	29	3.9	<1.0	<1.0	3.8	<1.0	6.4	209	120	<1.0
Toluene	1000	3.2	<1.0	<1.0	2.60	<1.0	<1.0	29.7	109	<1.0
Xylenes (total)	530	7.0	<3.0	<3.0	6.7	<3.0	26.4	238	257	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	141	18.4	<1.0
Total BTEX		20.6	ND	ND	17.4	0.97	89.8	749.7	734	ND
EPA 625 (µg/L)*										
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
1-Methylnaphthalene	RL	NA	NA	NA	NA	NA	NA	NA	NA	NL
2-Methylnaphthalene	14	NA	NA	NA	NA	NA	NA	NA	NA	NL
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
EPA 504.1 (µg/L)										
1,2-Dibromoethane	RL	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018

Sample Location	NCGWQS	DW-06	MW13-DW01	MW122-MW03	MW122-MW04	MW122-MW07	MW122-MW08	MW122-MW09	MW122-MW11
Date Sampled		03/26/03	03/25/03	NS	NS	NS	03/25/03	03/25/03	06/18/03
EPA 602 (µg/L)									
Benzene	1	3.3	<1.0	NS	NS	NS	<1.0	<1.0	NS
Ethylbenzene	29	4.0	<1.0	NS	NS	NS	1.4	<1.0	NS
Toluene	1000	0.6 J	<1.0	NS	NS	NS	<1.0	<1.0	NS
Xylenes (total)	530	5.0	<3.0	NS	NS	NS	4.2	<3.0	NS
Methyl Tert Butyl Ether	200	<1.0	<1.0	NS	NS	NS	<1.0	<1.0	NS
Total BTEX		12.9	ND	NS	NS	NS	5.6	ND	NS
EPA 625 (µg/L)*									
Acenaphthene	80	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
Acenaphthylene	210	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
Anthracene	2100	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
Benzo(a)anthracene	0.05	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
Fluoranthene	280	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
Fluorene	280	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
1-Methylnaphthalene	RL	NL	NL	NS	NS	NS	NA	NL	NS
2-Methylnaphthalene	14	NL	NL	NS	NS	NS	NA	NL	NS
Naphthalene	21	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
Phenanthrene	210	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
Pyrene	210	<5.1	<5.1	NS	NS	NS	NA	<5.3	NS
EPA 504.1 (µg/L)									
1,2-Dibromoethane	RL	<0.018	<0.018	NS	NS	NS	<0.018	<0.018	NS

* Samples MW13-DW01 and MW122-MW09 analyzed by EPA 610

<#: not detected at the indicated reporting limit

NA: Not Analyzed; constituent not included in analytic suite

ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

NR: Not reported; analyte not reported in source document

NS: Not sampled; location not sampled during the sampling event

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

µg/L: micrograms per liter

J: estimated concentration less than reporting limit

NCGWQS: North Carolina Groundwater Quality Standard

Table 1
Summary of Laboratory Analyses for Groundwater
Campbell Street Fuel Farm
June 2003

Sample Location	NCGWQS	MW-01	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02
Date Sampled		06/18/03	06/18/03	06/18/03	06/17/03	06/17/03	06/17/03	06/18/03	06/17/03	06/18/03
EPA 602 (µg/L)										
Benzene	1	<1.0	<1.0	<1.0	<1.0	<1.0	11.4	400	212	<1.0
Ethylbenzene	29	0.56 J	<1.0	<1.0	<1.0	<1.0	3.6	36.3	216	<1.0
Toluene	1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	21.2	164	<1.0
Xylenes (total)	530	<3.0	<3.0	<3.0	<3.0	<3.0	28.2	118	497	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	249	23.9	<1.0
Total BTEX		0.56	ND	ND	ND	ND	43.2	575.5	1089	ND
EPA 625 (µg/L)*										
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	25.7
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.1
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	1.1 J
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	<5.1
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	<5.1
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	20.3
1-Methylnaphthalene	RL	NA	NA	NA	NA	NA	NA	NA	NA	NR
2-Methylnaphthalene	14	NA	NA	NA	NA	NA	NA	NA	NA	NR
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	14.5
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.1
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.1
EPA 504.1 (µg/L)										
1,2-Dibromoethane	RL	<0.018	<0.019	<0.018	<0.019	<0.018	<0.018	<0.018	<0.019	<0.019

Sample Location	NCGWQS	DW-06	MW13-DW01	MW122-MW03	MW122-MW04	MW122-MW07	MW122-MW08	MW122-MW09	MW122-MW11
Date Sampled		06/18/03	06/18/03	NS	06/18/03	06/18/03	06/18/03	06/18/03	06/18/03
EPA 602 (µg/L)									
Benzene	1	<1.0	8.8	NS	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	0.53 J	7.7	NS	0.66 J	<1.0	0.53 J	0.57 J	<1.0
Toluene	1000	<1.0	1.8	NS	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<3.0	13	NS	1.2 J	<3.0	<3.0	2.5 J	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX		0.53	31.3	NS	1.86	31.3	0.53	3.07	31.3
EPA 625 (µg/L)*									
Acenaphthene	80	<5.1	<260	NS	NA	NA	NA	<20	NA
Acenaphthylene	210	<5.1	<260	NS	NA	NA	NA	<20	NA
Anthracene	2100	<5.1	<260	NS	NA	NA	NA	<5.1	NA
Benzo(a)anthracene	0.05	<5.1	<260	NS	NA	NA	NA	<5.1	NA
Fluoranthene	280	<5.1	<260	NS	NA	NA	NA	<5.1	NA
Fluorene	280	<5.1	<260	NS	NA	NA	NA	<5.1	NA
1-Methylnaphthalene	RL	NR	NR	NS	NA	NA	NA	NR	NA
2-Methylnaphthalene	14	NR	NR	NS	NA	NA	NA	NR	NA
Naphthalene	21	<5.1	1730	NS	NA	NA	NA	59.6	NA
Phenanthrene	210	<5.1	<260	NS	NA	NA	NA	<5.1	NA
Pyrene	210	<5.1	<260	NS	NA	NA	NA	<5.1	NA
EPA 504.1 (µg/L)									
1,2-Dibromoethane	RL	<0.018	<0.019	NS	<0.019	<0.018	<0.019	<0.018	<0.02

* Samples MW13-DW01 and MW122-MW09 analyzed by EPA 610

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

NA: Not Analyzed; constituent not included in analytic suite

NCGWQS: North Carolina Groundwater Quality Standard

ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

NR: Not reported; analyte not reported in source document

NS: Not sampled; location not sampled during the sampling event

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table 1
Summary of Laboratory Analyses for Groundwater
Campbell Street Fuel Farm
September 2003

Sample Location	NCGWQS	MW-01	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02
Date Sampled		09/25/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03
EPA 602 (µg/L)										
Benzene	1	<1.0	<1.0	<1.0	<1.0	<1.0	34.1	381	520	<1.0
Ethylbenzene	29	<1.0	<1.0	<1.0	<1.0	<1.0	7	156	347	<1.0
Toluene	1000	<1.0	<1.0	<1.0	0.85 J	<1.0	<1.0	70	549	<1.0
Xylenes (total)	530	<3.0	<3.0	<3.0	<3.0	<3.0	35.6	467	1020	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	259	35.7	<1.0
Total BTEX		ND	ND	ND	0.85	ND	76.7	1074	2436	ND
EPA 625 (µg/L)*										
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	21.8
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	16
1-Methylnaphthalene	RL	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
2-Methylnaphthalene	14	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	9.9
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	<5.3
EPA 504.1 (µg/L)										
1,2-Dibromoethane	RL	<0.019	<0.018	<0.018	<0.019	<0.018	<0.019	<0.018	<0.018	<0.018

Sample Location	NCGWQS	DW-06	MW13-DW01	MW122-MW03	MW122-MW04	MW122-MW07	MW122-MW08	MW122-MW09	MW122-MW11
Date Sampled		09/24/03	09/24/03	09/25/03	09/25/03	09/25/03	09/25/03	09/25/03	09/25/03
EPA 602 (µg/L)									
Benzene	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.57 J	<1.0
Toluene	1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX		ND	ND	ND	ND	ND	ND	0.57	ND
EPA 625 (µg/L)*									
Acenaphthene	80	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
Acenaphthylene	210	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
Anthracene	2100	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
Benzo(a)anthracene	0.05	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
Fluoranthene	280	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
Fluorene	280	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
1-Methylnaphthalene	RL	<5.1	<5.3	NA	NA	NA	NA	21.1	NA
2-Methylnaphthalene	14	<5.1	<5.3	NA	NA	NA	NA	41.0	NA
Naphthalene	21	<5.1	<5.3	NA	NA	NA	NA	47.1	NA
Phenanthrene	210	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
Pyrene	210	<5.1	<5.3	NA	NA	NA	NA	<5.0	NA
EPA 504.1 (µg/L)									
1,2-Dibromoethane	RL	<0.019	<0.018	<0.019	<0.019	<0.018	<0.019	<0.018	<0.018

* Samples MW13-DW01 and MW122-MW09 analyzed by EPA 610

NA: Not Analyzed; constituent not included in analytic suite

NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table 1
Summary of Laboratory Analyses for Groundwater
Campbell Street Fuel Farm
December 2003

Sample Location	NCGWQS	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02	DW-02D
Date Sampled		12/16/03	12/17/03	12/16/03	12/16/03	12/16/03	12/17/03	12/17/03	12/16/03	12/16/03
EPA 602 (µg/L)										
Benzene	1	<1.0	<1.0	1.3	<1.0	41.7	273	40.1	<1.0	<1.0
Ethylbenzene	29	<1.0	<1.0	0.77 J	<1.0	7.4	246	19.1	<1.0	<1.0
Toluene	1000	<1.0	<1.0	<1.0	<1.0	<1.0	95.2	58.0	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	1.6 J	<3.0	32.4	1060	62.9	<3.0	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	0.88 J	180	16.5	<1.0	<1.0
Total BTEX		ND	ND	3.67	ND	81.5	1674.2	180.1	ND	ND
EPA 610 (µg/L)										
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	35.4	35.1
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	27.9	27.8
1-Methylnaphthalene	RL	NA	NA	NA	NA	NA	NA	NA	4.6 J	4.6 J
2-Methylnaphthalene	14	NA	NA	NA	NA	NA	NA	NA	2.3 J	<5.1
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	36.0	36.9
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1
EPA 504.1 (µg/L)										
1,2-Dibromoethane	RL	<0.019	<0.019	<0.018	<0.018	<0.018	<0.018	<0.019	<0.019	<0.019
Sample Location	NCGWQS	DW-06	MW13-MW01*	MW13-DW01	MW122-MW03	MW122-MW04	MW122-MW07*	MW122-MW08*	MW122-MW09	MW122-MW11
Date Sampled		12/17/03	12/18/03	12/17/03	12/19/03	12/18/03	12/19/03	12/19/03	12/17/03	12/19/03
EPA 602 (µg/L)										
Benzene	1	<1.0	<1.0	9.1	<1.0	<1.0	<1.0	<1.0	0.79 J	<1.0
Ethylbenzene	29	<1.0	1.2	7.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	1000	<1.0	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<3.0	5.0	13.9	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX		ND	6.2	32.9	ND	ND	ND	ND	0.79	ND
EPA 610 (µg/L)										
Acenaphthene	80	<5.4	NA	69.2	NA	NA	NA	NA	<5.7	NA
Acenaphthylene	210	<5.4	NA	<5.1	NA	NA	NA	NA	<5.7	NA
Anthracene	2100	<5.4	NA	<5.1	NA	NA	NA	NA	<5.7	NA
Benzo(a)anthracene	0.05	<5.4	NA	<5.1	NA	NA	NA	NA	<5.7	NA
Fluoranthene	280	<5.4	NA	<5.1	NA	NA	NA	NA	<5.7	NA
Fluorene	280	<5.4	NA	27.5	NA	NA	NA	NA	<5.7	NA
1-Methylnaphthalene	RL	<5.4	NA	70.2	NA	NA	NA	NA	65.0	NA
2-Methylnaphthalene	14	<5.4	NA	118	NA	NA	NA	NA	<46	NA
Naphthalene	21	<5.4	NA	1510 **	NA	NA	NA	NA	84.1	NA
Phenanthrene	210	<5.4	NA	<5.1	NA	NA	NA	NA	<5.7	NA
Pyrene	210	<5.4	NA	<5.1	NA	NA	NA	NA	<5.7	NA
EPA 504.1 (µg/L)										
1,2-Dibromoethane	RL	<0.019	<0.018	<0.018	<0.018	<0.019	<0.019	<0.018	<0.019	<0.018

* 1,3-Dichlorobenzene (NCGWQS of 620 µg/L) reported at 14.6 mg/L in sample 13MW01, 2.9 mg/L in sample MW122-MW07, and at 0.62J mg/L in sample MW122-MW08

** Surrogate recoveries outside of quality control limits for naphthalene in sample MW13-DW01 due to dilution

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

DW-02D is a duplicate sample collected at well DW-02

µg/L: micrograms per liter

NA: Not Analyzed; constituent not included in analytic suite

<#: not detected at the indicated reporting limit

NCGWQS: North Carolina Groundwater Quality Standard

J: estimated concentration less than reporting limit

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Table 1
Summary of Laboratory Analyses for Groundwater
Campbell Street Fuel Farm
March 2004

Sample Location	NCGWQS	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02	DW-06
Date Sampled		03/17/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/18/04	03/17/04	03/18/04
EPA 602 (µg/L)										
Benzene	1	<1.0	<1.0	<1.0	<1.0	42.7	230	576	<1.0	<1.0
Ethylbenzene	29	<1.0	<1.0	<1.0	<1.0	7.0	176	251	<1.0	<1.0
Toluene	1000	<1.0	<1.0	<1.0	<1.0	<1.0	48.2	264	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	<3.0	<3.0	44.3	604	869	<3.0	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	<1.0	153	57.7	<1.0	<1.0
Total BTEX		ND	ND	ND	ND	94.0	1058.2	1960	ND	ND
EPA 610 (µg/L)										
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	28.5	<5.1
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	24.0	<5.1
1-Methylnaphthalene	RL	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
2-Methylnaphthalene	14	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	11.0	<5.1
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
EPA 504.1 (µg/L)										
1,2-Dibromoethane	RL	<0.019	<0.019	<0.019	<0.019	<0.018	<0.018	<0.018	<0.018	<0.019
Sample Location	NCGWQS	MW13-MW01	DUP *	MW13-DW01	MW122-MW03	MW122-MW04	MW122-MW07	MW122-MW08	MW122-MW09	MW122-MW11
Date Sampled		03/17/04	03/17/04	03/17/04	03/17/04	03/17/04	03/17/04	03/17/04	03/17/04	03/18/04
EPA 602 (µg/L)										
Benzene	1	<1.0	<1.0	9.3	<1.0	<1.0	<1.0	<1.0	0.87 J	<1.0
Ethylbenzene	29	1.6	1.7	8.7	<1.0	<1.0	<1.0	0.69 J	0.83 J	<1.0
Toluene	1000	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	2.6	<1.0	<1.0
Xylenes (total)	530	5.7	6.1	14.5	<3.0	<3.0	<3.0	3.2	1.1 J	<3.0
Methyl Tert Butyl Ether	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX		7.3	7.8	34.6	ND	ND	ND	6.49	2.8	ND
EPA 610 (µg/L)										
Acenaphthene	80	NA	NA	72.8	NA	NA	NA	NA	<5.1	NA
Acenaphthylene	210	NA	NA	<26	NA	NA	NA	NA	<5.1	NA
Anthracene	2100	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Benzo(a)anthracene	0.05	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Fluoranthene	280	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Fluorene	280	NA	NA	29.0	NA	NA	NA	NA	3.1 J	NA
1-Methylnaphthalene	RL	NA	NA	65.4	NA	NA	NA	NA	16.0 J	NA
2-Methylnaphthalene	14	NA	NA	85.3	NA	NA	NA	NA	<25	NA
Naphthalene	21	NA	NA	1370	NA	NA	NA	NA	21.6 J	NA
Phenanthrene	210	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Pyrene	210	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
EPA 504.1 (µg/L)										
1,2-Dibromoethane	RL	<0.018	<0.019	<0.019	<0.018	<0.019	<0.018	<0.018	<0.018	<0.019

* DUP is a duplicate sample collected at well MW13-MW01

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

NA: Not Analyzed; constituent not included in analytic suite

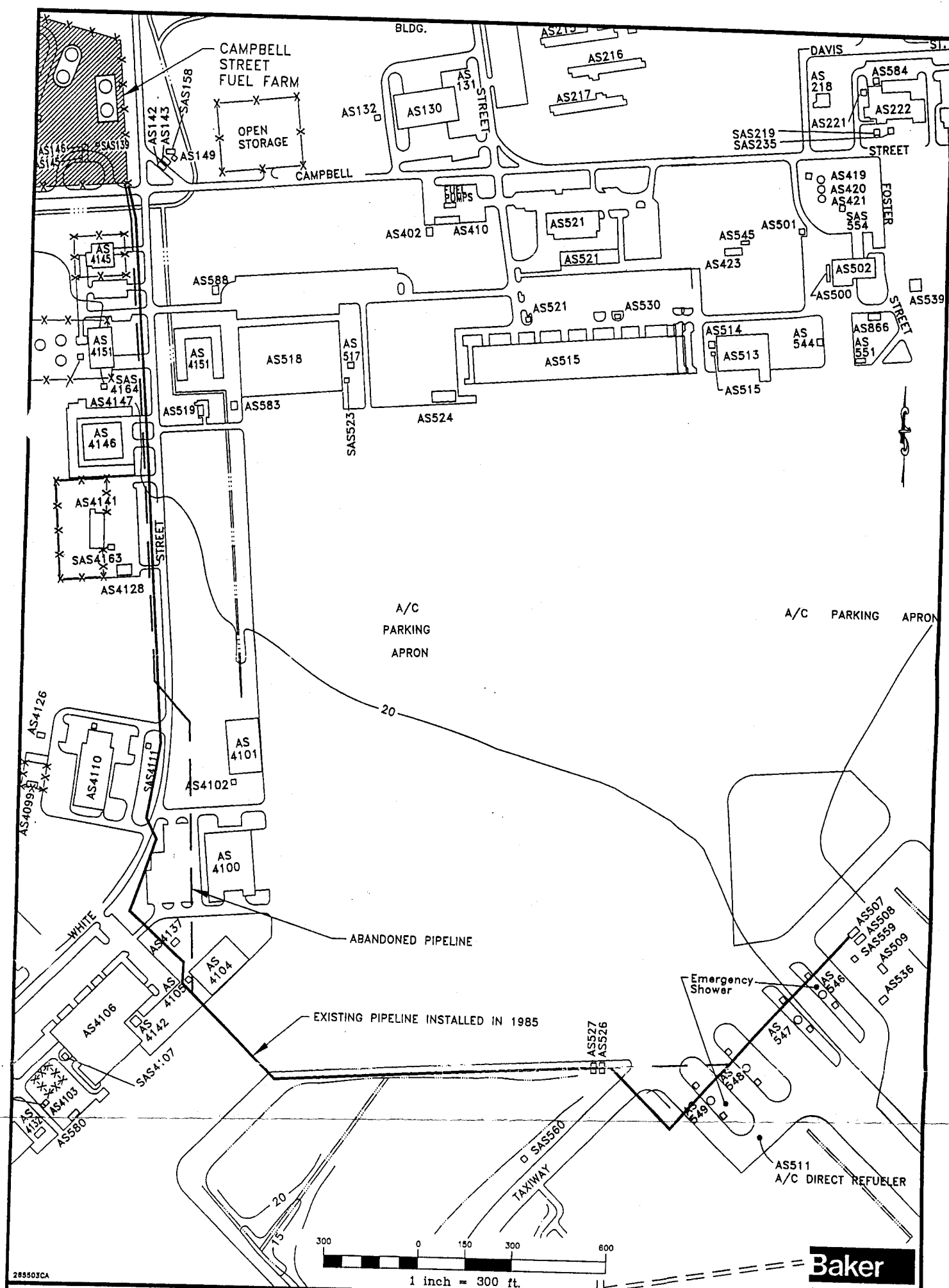
ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit; no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

APPENDIX C

SELECTED FIGURES FROM VARIOUS REPORTS



285503CA

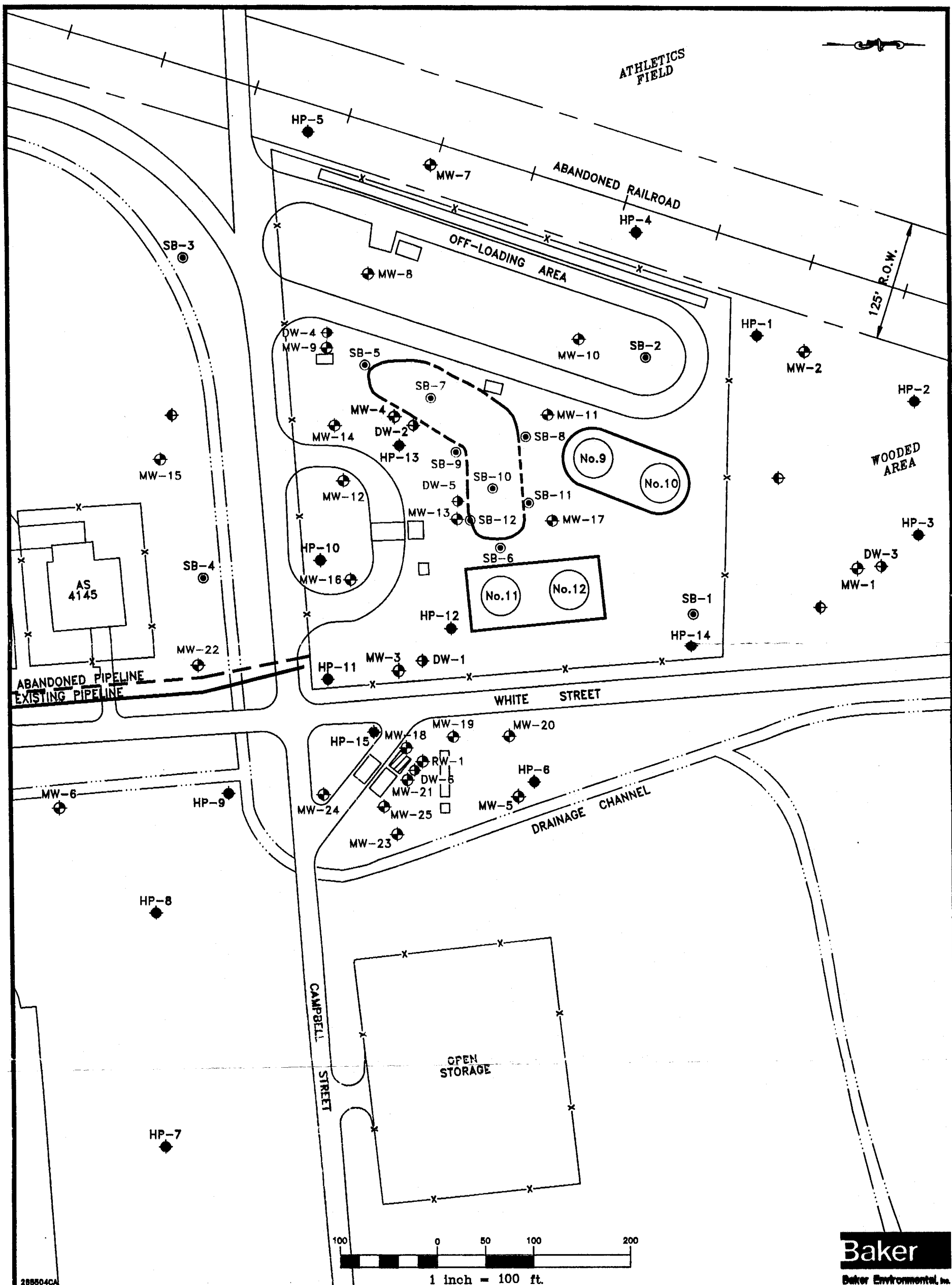
LEGEND

CAMPBELL STREET FUEL FARM
 ABANDONED PIPELINE
 EXISTING PIPELINE INSTALLED IN 1985

CE: LANTDIV, OCT. 1991; OBRIEN & GERE, "CORRECTIVE
 PLAN, JP-5 LINE AREA", JUNE 1991.

FIGURE 1-3
 CAMPBELL STREET FUEL FARM PIPELINE
 CAMPBELL STREET FUEL FARM
 AND UST AS-143

MARINE CORPS AIR STATION, NEW RIVER
 JACKSONVILLE, NORTH CAROLINA

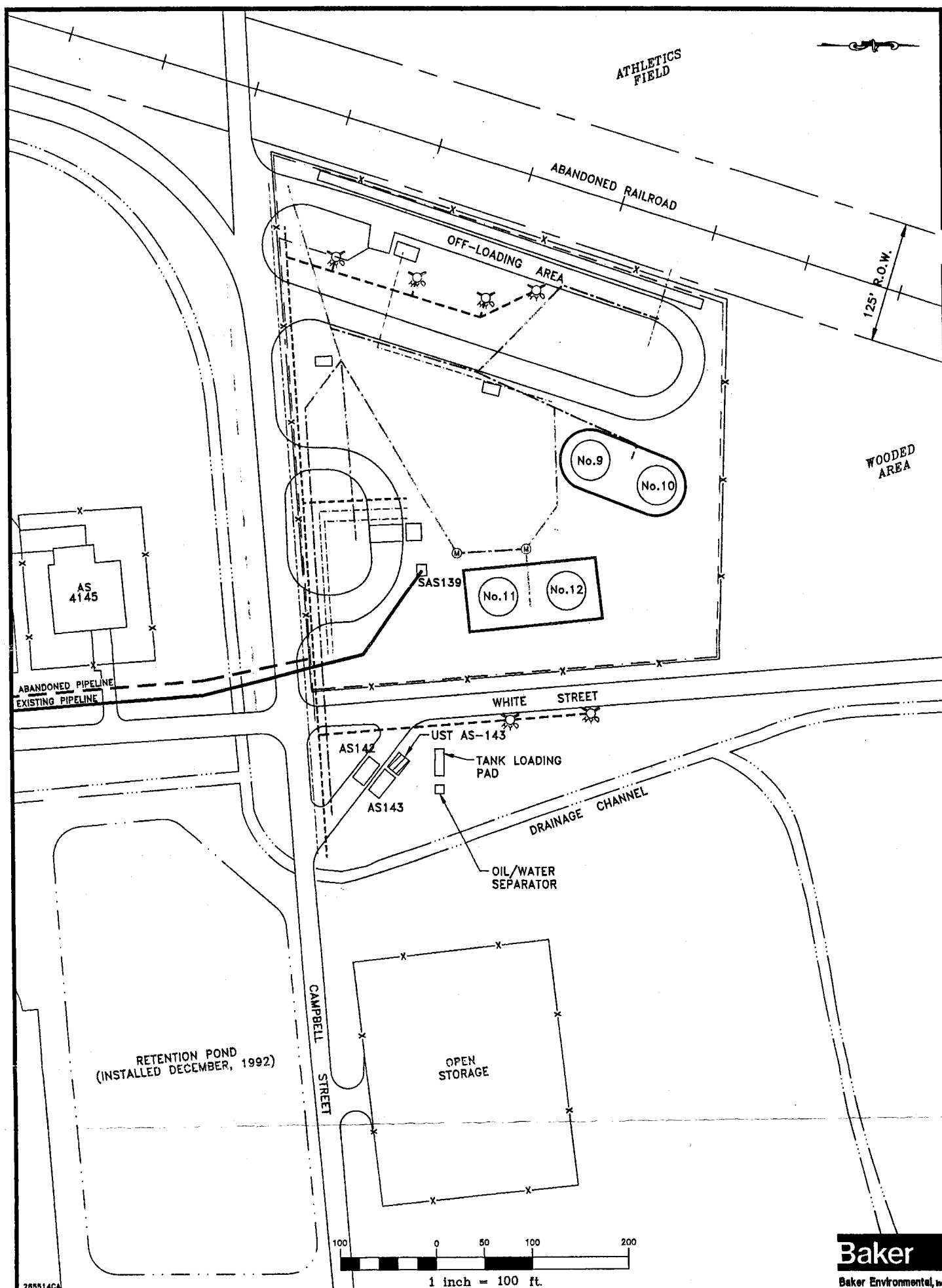


288504CA

LEGEND	
MW-1 TYPE II SHALLOW MONITORING WELL INSTALLED DECEMBER, 1991	MW-8 TYPE II SHALLOW MONITORING WELL INSTALLED NOVEMBER, 1992
DW-1 TYPE III DEEP MONITORING WELL INSTALLED DECEMBER, 1991	DW-4 TYPE III DEEP MONITORING WELL INSTALLED NOVEMBER, 1992
SB-1 SOIL BORING INSTALLED DECEMBER, 1991	SB-5 SOIL BORING INSTALLED NOVEMBER, 1992
HP-1 HYDROPUNCH INSTALLED DECEMBER, 1991	2-INCH PVC MONITORING WELL ORIGIN UNKNOWN

SOURCE: LANTDIV, OCT. 1991

FIGURE 1-4
SITE ASSESSMENT ACTIVITIES
CAMPBELL STREET FUEL FARM
AND UST AS-143
 MARINE CORPS AIR STATION, NEW RIVER
 JACKSONVILLE, NORTH CAROLINA



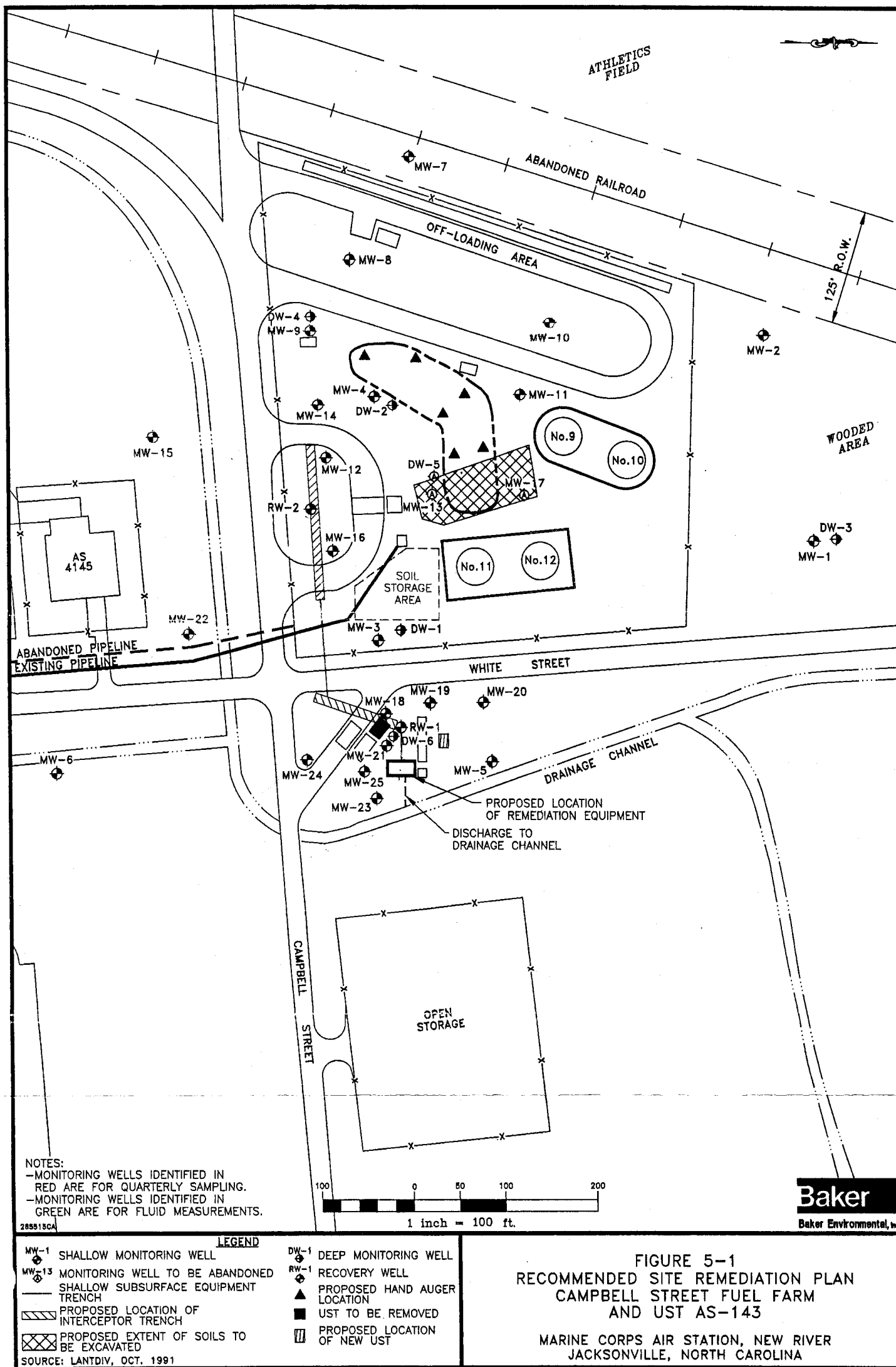
Baker
Baker Environmental, Inc.

LEGEND

---	OILY WATER DRAINAGE	---	ABANDONED PIPELINE
---	ELECTRIC LINE	---	EXISTING PIPELINE
---	STORM DRAIN	---	FIBER OPTIC CABLE
---	WATER LINE	---	FIRE HYDRANT
(M)	MANHOLE		

SOURCE: LANTDIV, OCT. 1991; NAVFAC DRAWING NO. 4164666, "REPLACE FUEL STORAGE TANKS", JULY 17, 1987

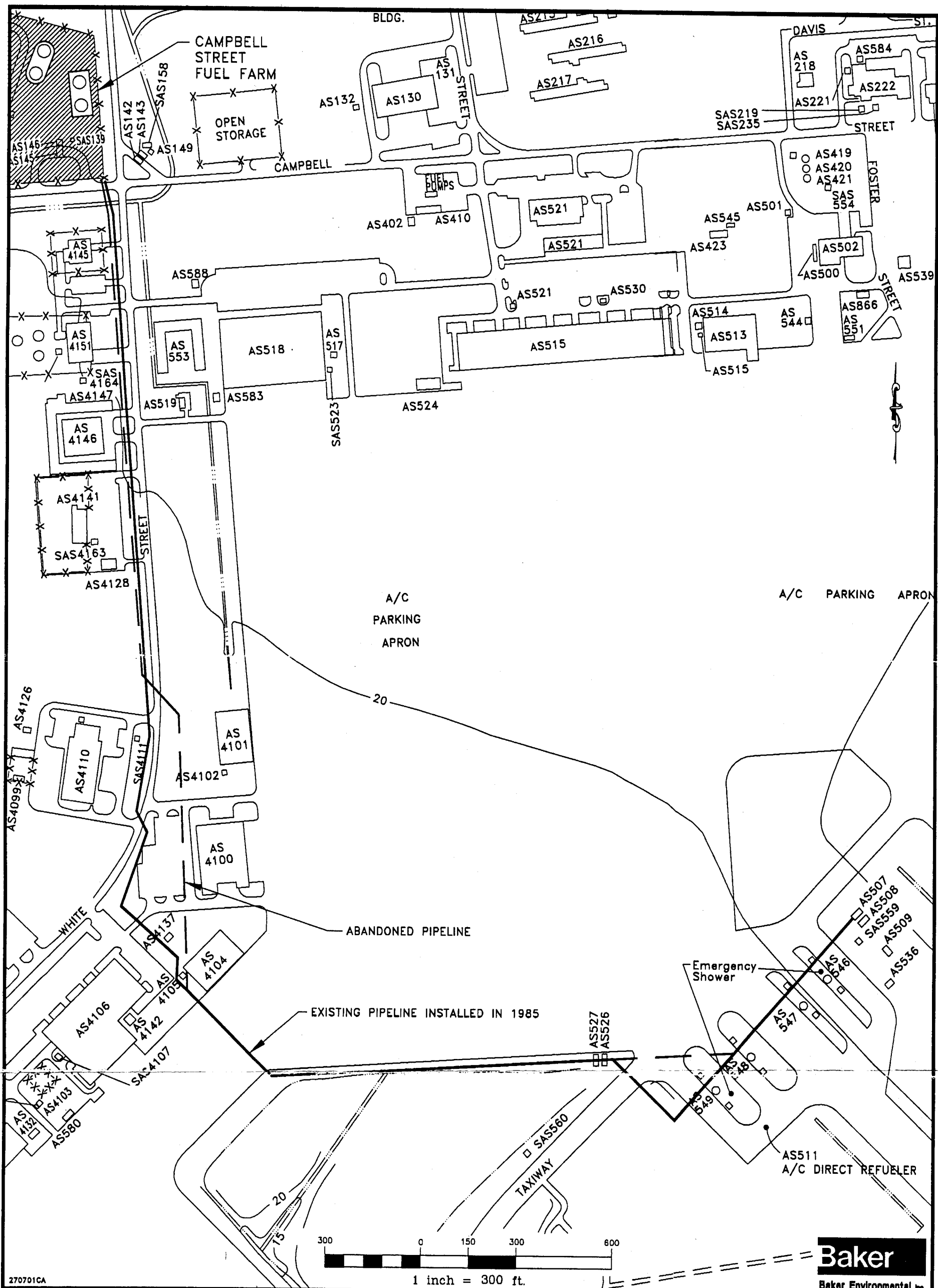
FIGURE 4-1
LOCATION OF UNDERGROUND UTILITIES
CAMPBELL STREET FUEL FARM AND UST AS-143
MARINE CORPS AIR STATION, NEW RIVER
JACKSONVILLE, NORTH CAROLINA



CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM AND UST SYSTEM AS-143

CORRECTIVE ACTION PLAN

BUILDING AS-4151



270701CA

LEGEND

CAMPBELL STREET FUEL FARM

ABANDONED PIPELINE

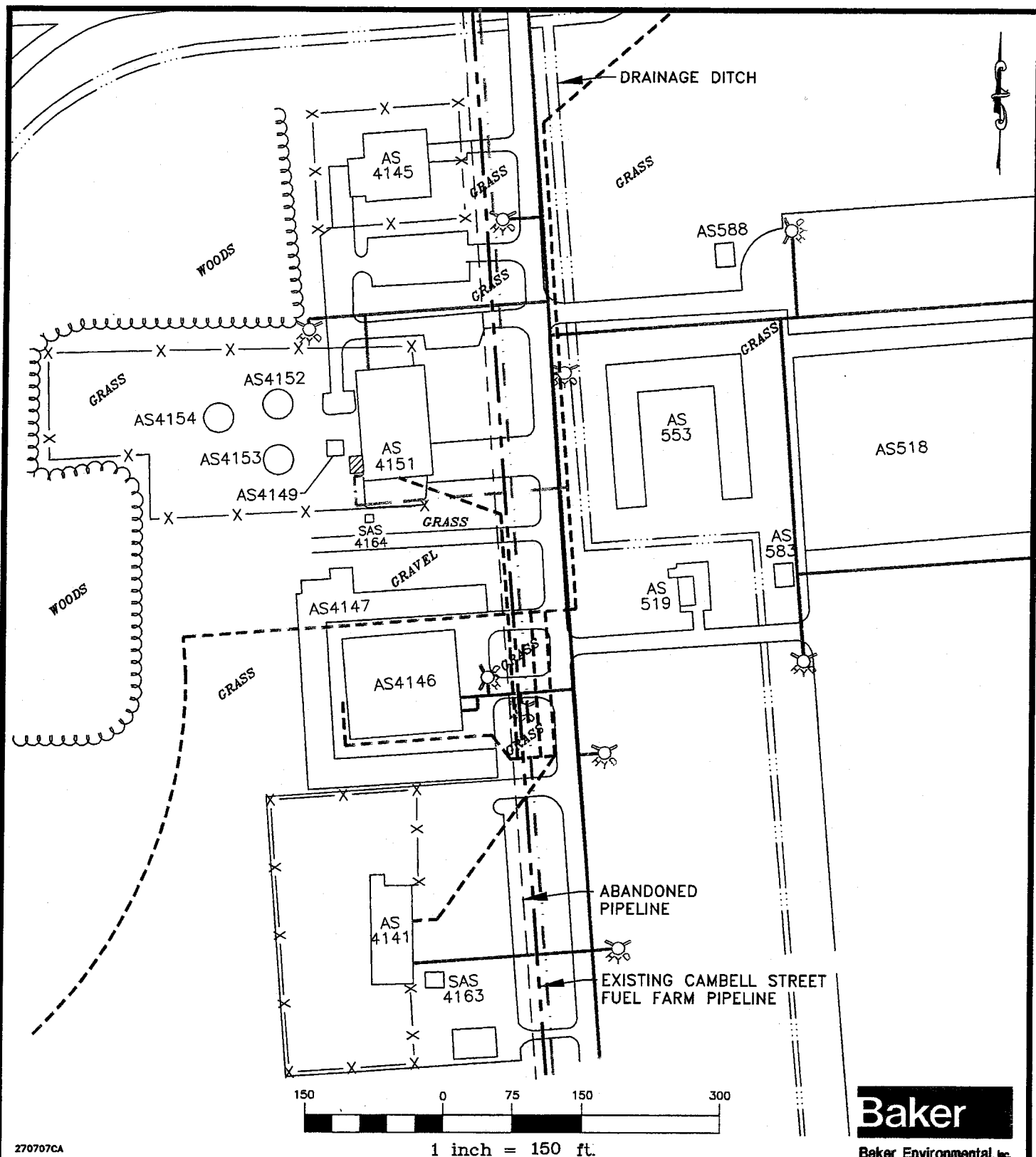
EXISTING PIPELINE INSTALLED IN 1985

SOURCE: LANTDIV, OCT. 1991; OBRIEN & GERE, "CORRECTIVE ACTION PLAN, JP-5 LINE AREA", JUNE 1991.

FIGURE 1-2

CAMPBELL STREET FUEL FARM PIPELINE BUILDING AS-4151

MARINE CORPS AIR STATION, NEW RIVER
JACKSONVILLE, NORTH CAROLINA



LEGEND

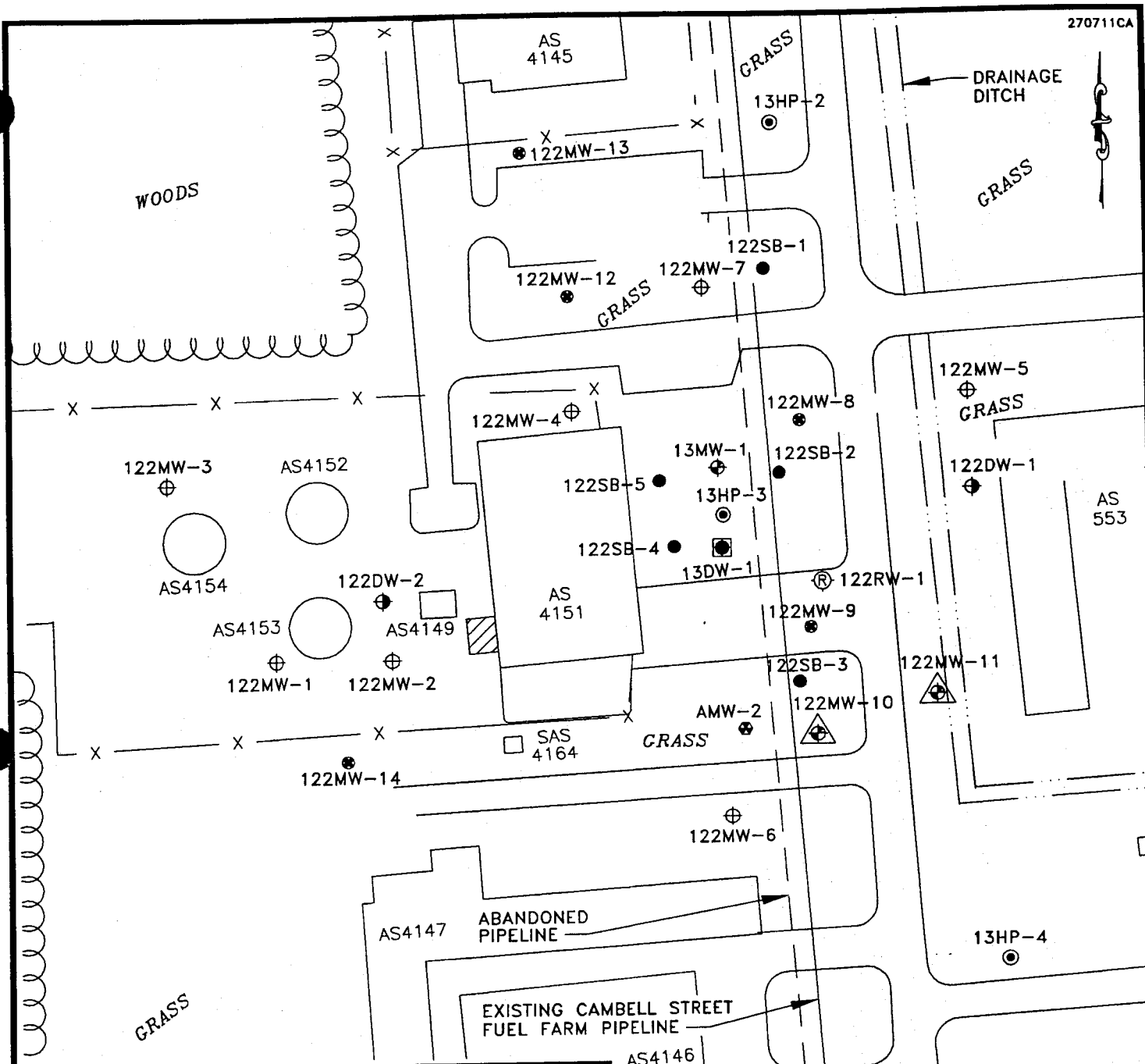
-  FIRE HYDRANT
-  APPROXIMATE LOCATION OF WATER LINE
-  APPROXIMATE LOCATION OF WASTEWATER LINE
-  APPROXIMATE LOCATION OF TELEPHONE LINE
-  EXISTING JP-5 FUEL PIPELINE
-  APPROXIMATE LOCATION OF STORMWATER LINE
-  APPROXIMATE LOCATION OF 1000 GAL. UST.

SOURCE: LANTDIV, OCT. 1991

FIGURE 1-4

LOCATION OF UNDERGROUND UTILITIES BUILDING AS-4151

MARINE CORPS AIR STATION, NEW RIVER
JACKSONVILLE, NORTH CAROLINA



LEGEND

- LEGEND
- | | | |
|---------|---|---|
| 122MW-1 |  | SHALLOW TYPE II GROUNDWATER MONITORING WELL
INSTALLED BY BAKER ENVIRONMENTAL, INC.
VIA HAND AUGER, JANUARY 1993 |
| 122MW-8 |  | SHALLOW TYPE II GROUNDWATER MONITORING WELL
INSTALLED BY BAKER ENVIRONMENTAL, INC.
VIA DRILL RIG, JANUARY 1993 |
| 122SB-5 |  | SOIL BORING ADVANCED BY BAKER ENVIRONMENTAL, INC.
VIA HAND AUGER, JANUARY 1993 |
| 122RW-1 |  | RECOVERY/PUMPING WELL INSTALLED BY
BAKER ENVIRONMENTAL, INC., JANUARY 1993 |
| AMW-2 |  | EXISTING TYPE II GROUNDWATER MONITORING WELL INSTALLED BY
ATEC ASSOC. |
| 13MW-1 |  | EXISTING TYPE II GROUNDWATER MONITORING WELL INSTALLED BY
BAKER ENVIRONMENTAL, INC., JANUARY 1992 |
| 13DW-1 |  | EXISTING TYPE III GROUNDWATER MONITORING WELL INSTALLED BY
BAKER ENVIRONMENTAL, INC., JANUARY 1992 |
| 13HP-1 |  | HYDROPUNCH PENETROMETER INSTALLED BY BAKER ENVIRONMENTAL, INC.,
JANUARY 1992 |
| 122MW-1 |  | SHALLOW TYPE II GROUNDWATER MONITORING WELL INSTALLED BY
BAKER ENVIRONMENTAL, INC., JUNE 1992 |
| 122DW-1 |  | DEEP TYPE III GROUNDWATER MONITORING WELL INSTALLED BY
BAKER ENVIRONMENTAL, INC., JUNE 1992 |
| |  | APPROXIMATE LOCATION OF 1000 GAL. UST |
- SOURCE: LANTDIV, OCT. 1991

SOURCE: LANTDIV, OCT. 1991

1 inch = 80 ft.

Baker

Baker Environmental, Inc.

FIGURE 1-5

PREVIOUS ASSESSMENT ACTIVITIES
BUILDING AS-4151

MARINE CORPS AIR STATION, NEW RIVER
JACKSONVILLE, NORTH CAROLINA



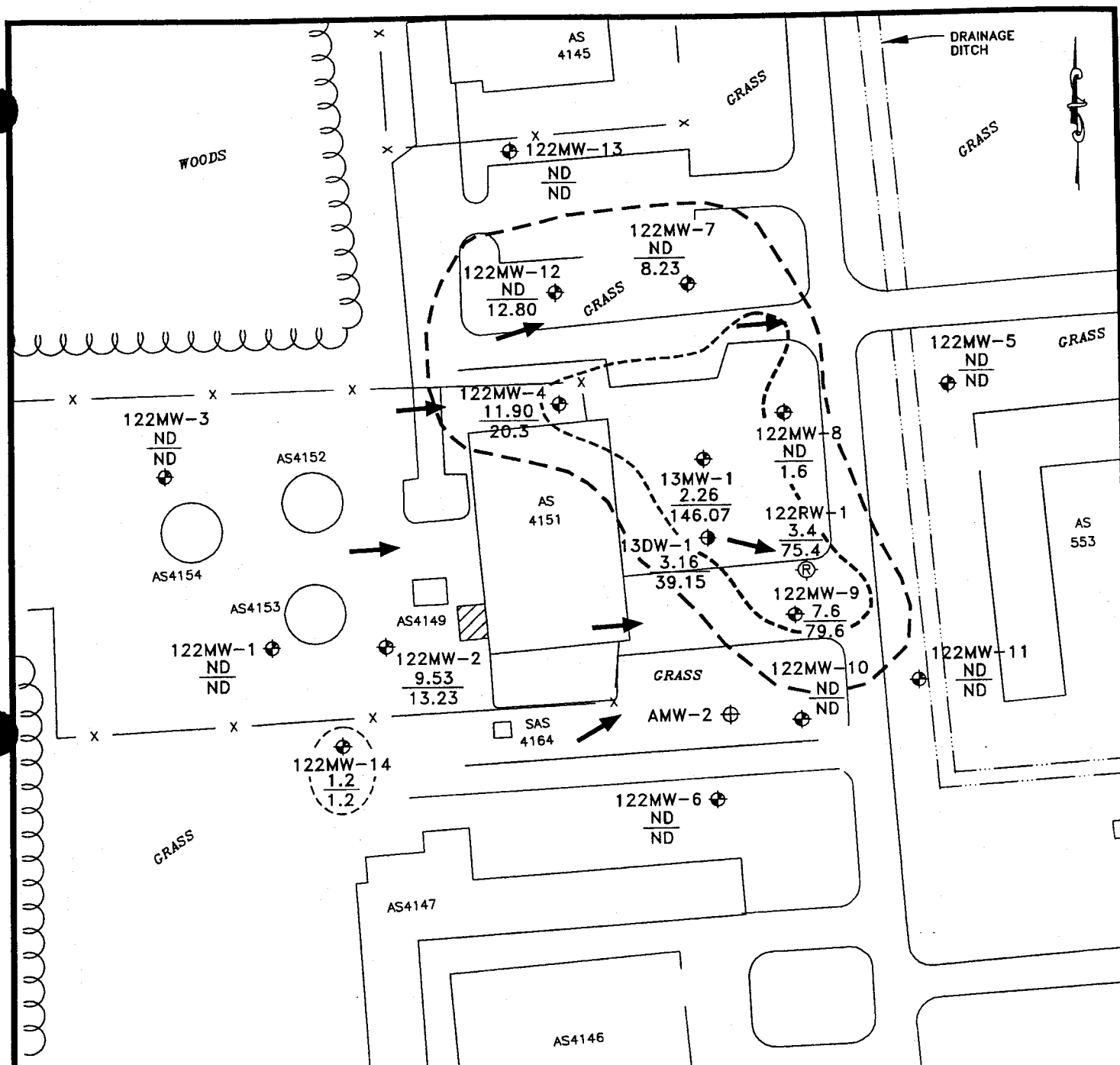
LEGEND

(ND)	NOT DETECTED AT METHOD DETECTION LIMITS
(120)	GREATEST TPH CONCENTRATION DETECTED WITHIN SOIL BORING
	EXTENT OF EXCAVATION
 RIGHT WALL	SAMPLE LOCATION FROM EXCAVATION
AMW-2 	EXISTING TYPE II GROUNDWATER MONITORING WELL INSTALLED BY ATEC ASSOC.
13MW-1 	SHALLOW TYPE II GROUNDWATER MONITORING WELL INSTALLED BY BAKER ENVIRONMENTAL, INC.
22DW-1 	DEEP TYPE III GROUNDWATER MONITORING WELL INSTALLED BY BAKER ENVIRONMENTAL, INC.
	APPROXIMATE LOCATION OF 1000 GAL. UST

SOURCE: LANTDIV. OCT.

SOURCE: LANTDIV, OCT. 1991

MARINE CORPS AIR STATION, NEW RIVER
JACKSONVILLE, NORTH CAROLINA

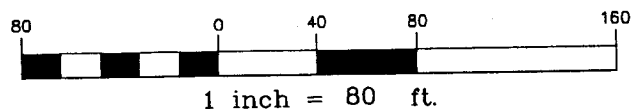


270715CA

LEGEND

- BENZENE CONCENTRATIONS IN GROUNDWATER > 1 (µg/l)
- VOCs IN GROUNDWATER
- ND NOT DETECTED AT METHOD DETECTION LIMITS
- $\frac{7.6}{79.6}$ BENZENE CONCENTRATION IN µg/l (ppb)
TOTAL VOC CONCENTRATION IN µg/l (ppb)
- 13DW-1 DEEP TYPE III GROUNDWATER MONITORING WELL INSTALLED BY BAKER ENVIRONMENTAL, INC.
- AMW-2 EXISTING TYPE II GROUNDWATER MONITORING WELL INSTALLED BY ATEC ASSOC.
- 122RW-1 RECOVERY/PUMPING WELL INSTALLED BY BAKER ENVIRONMENTAL, INC.
- 13MW-1 SHALLOW TYPE II GROUNDWATER MONITORING WELL INSTALLED BY BAKER ENVIRONMENTAL, INC.
- ESTIMATED GROUNDWATER FLOW DIRECTION
- APPROXIMATE LOCATION OF 1000 GAL. UST

SOURCE: LANTDIV, OCT. 1991



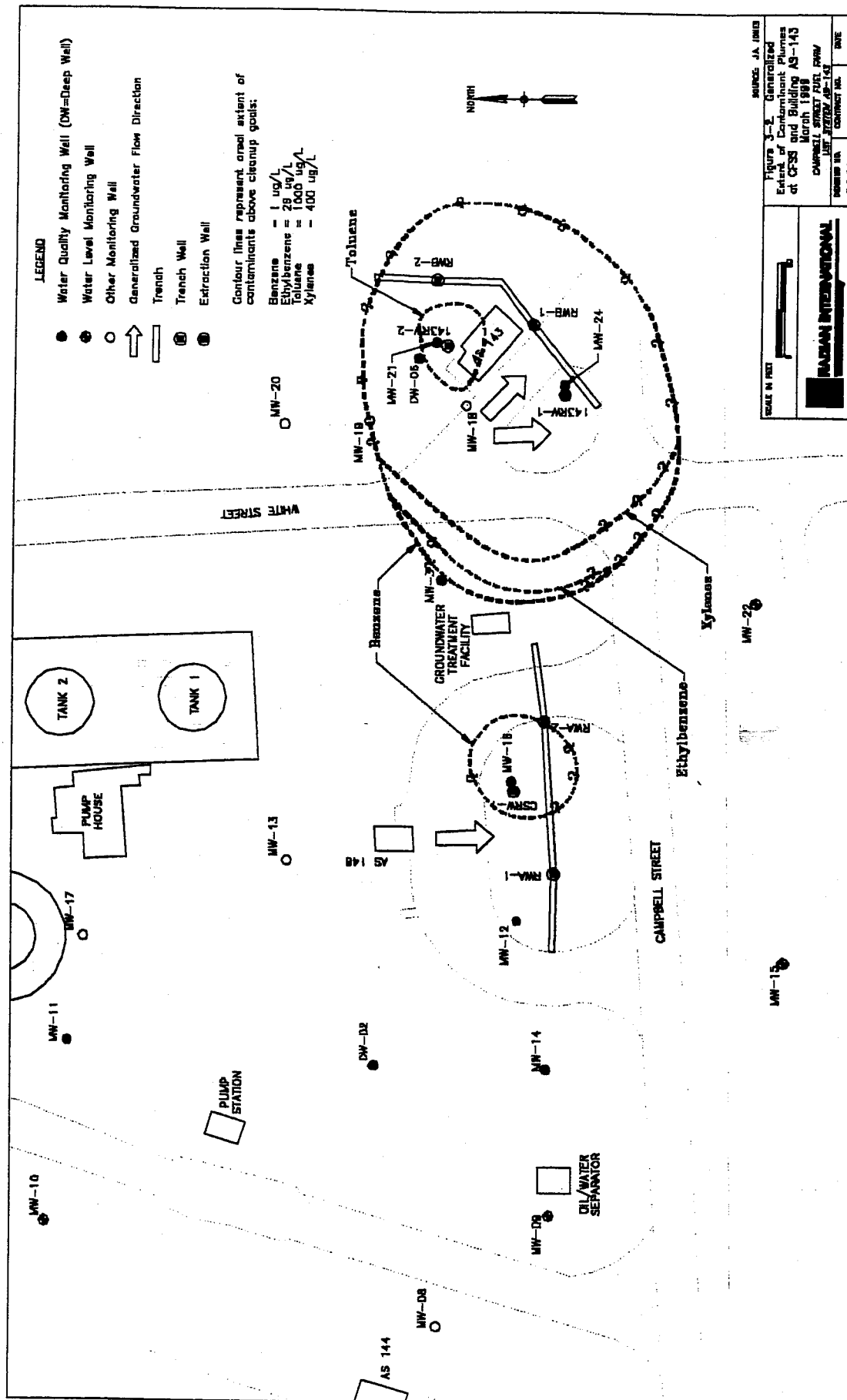
Baker

Baker Environmental, Inc.

FIGURE 1-12
BENZENE AND TOTAL VOC
CONCENTRATIONS IN GROUNDWATER
BUILDING AS-4151

MARINE CORPS AIR STATION, NEW RIVER
JACKSONVILLE, NORTH CAROLINA

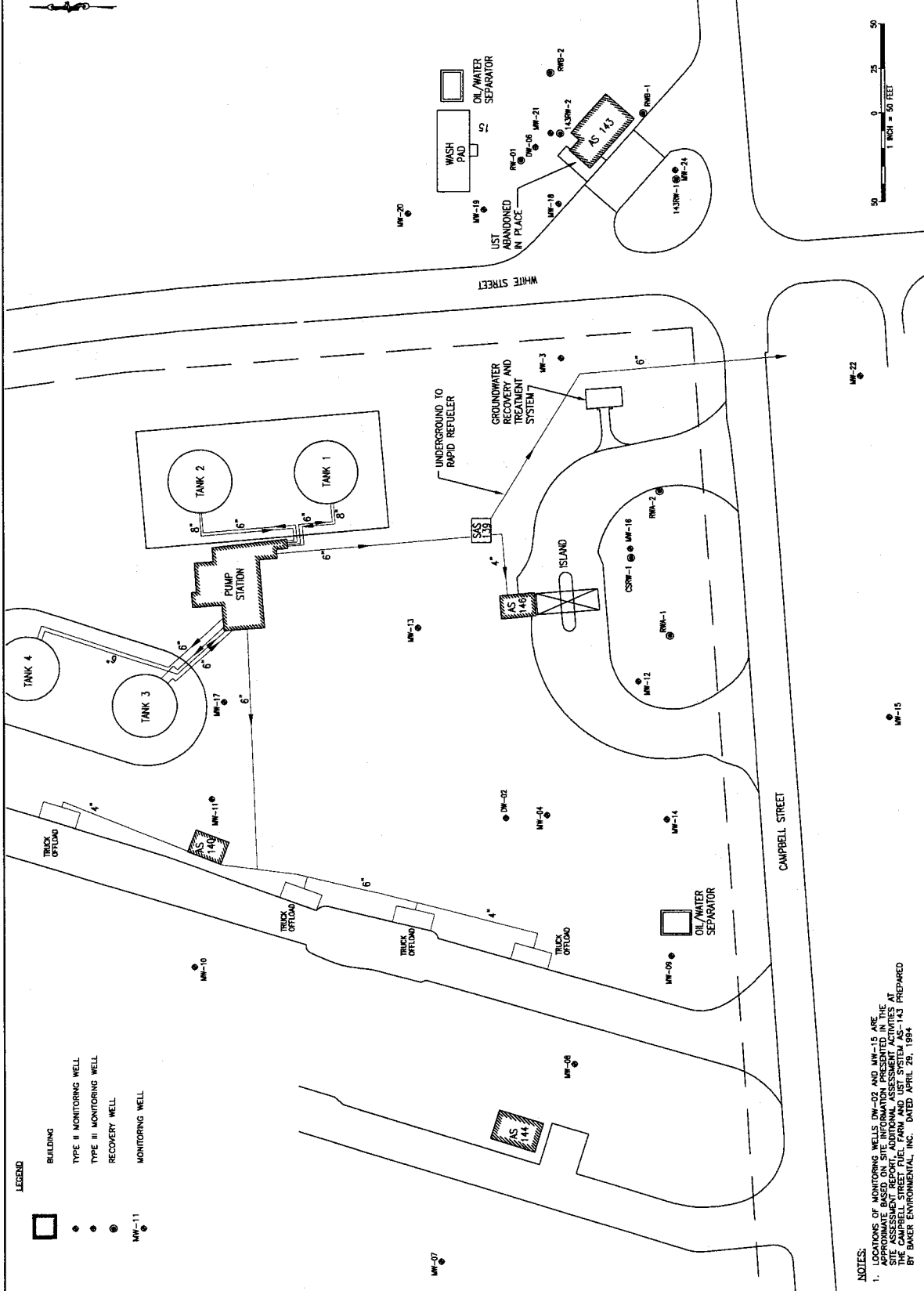
REMEDIAL ACTION OPERATION OPTIMIZATION CASE STUDY



FINAL ANNUAL MONITORING REPORT – JANUARY 2004

LEGEND

	BUILDING
	TYPE II MONITORING WELL
	TYPE III MONITORING WELL
	RECOVERY WELL
	MONITORING WELL



SHEET 1.D.		1-2	
MAPS CHARGED TO 33-800 CONTRACT NO. 33-800 CONTRACT NO. 33-800		DATE 01/11 01/11	
NAME OF THE NAVY ATLANTIC DIVISION NAVAL STATION CAMPBELL STEEL PUL. UNIT SYSTEM AS-143 ANNUAL MONITORING REPORT SITE MAP		DESIGNED BY CHECKED BY APPROVED BY DRAWN BY JCL	
PROJECT NO. 840425 Shaw Environmental Inc.		REVISIONS DESCRIPTION/ISSUE DATE BY CHECKED BY APPROVED BY	

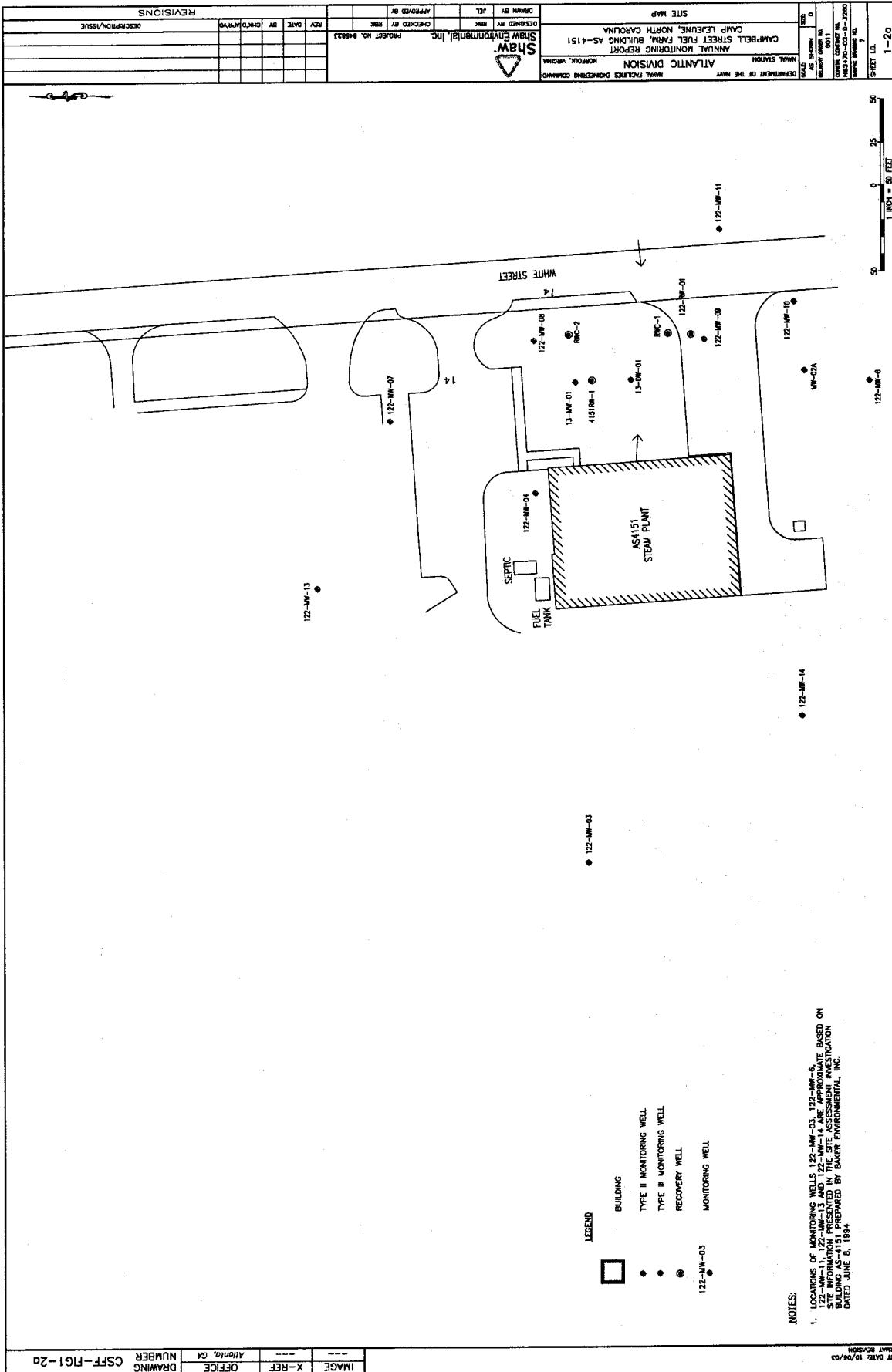
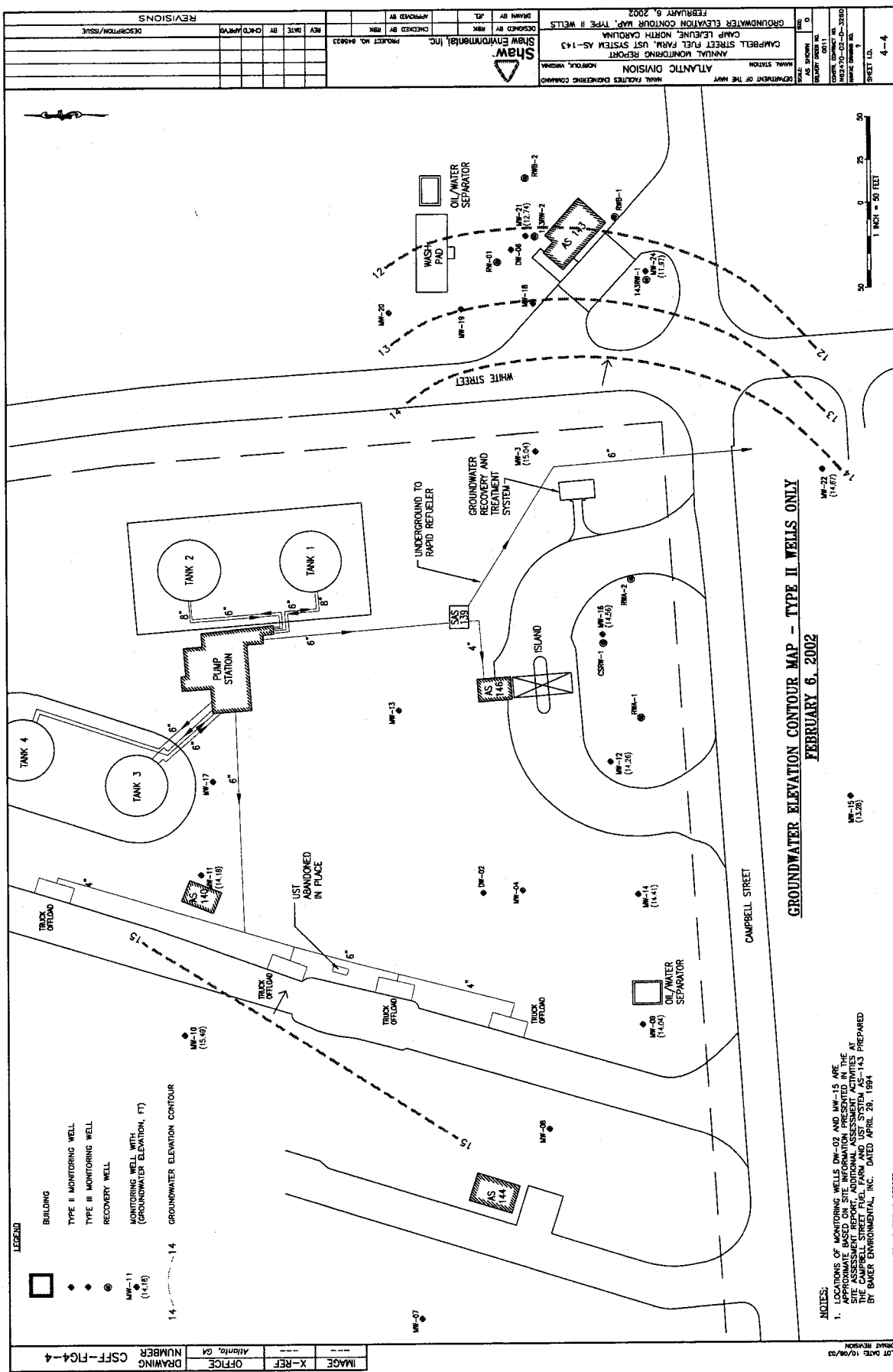
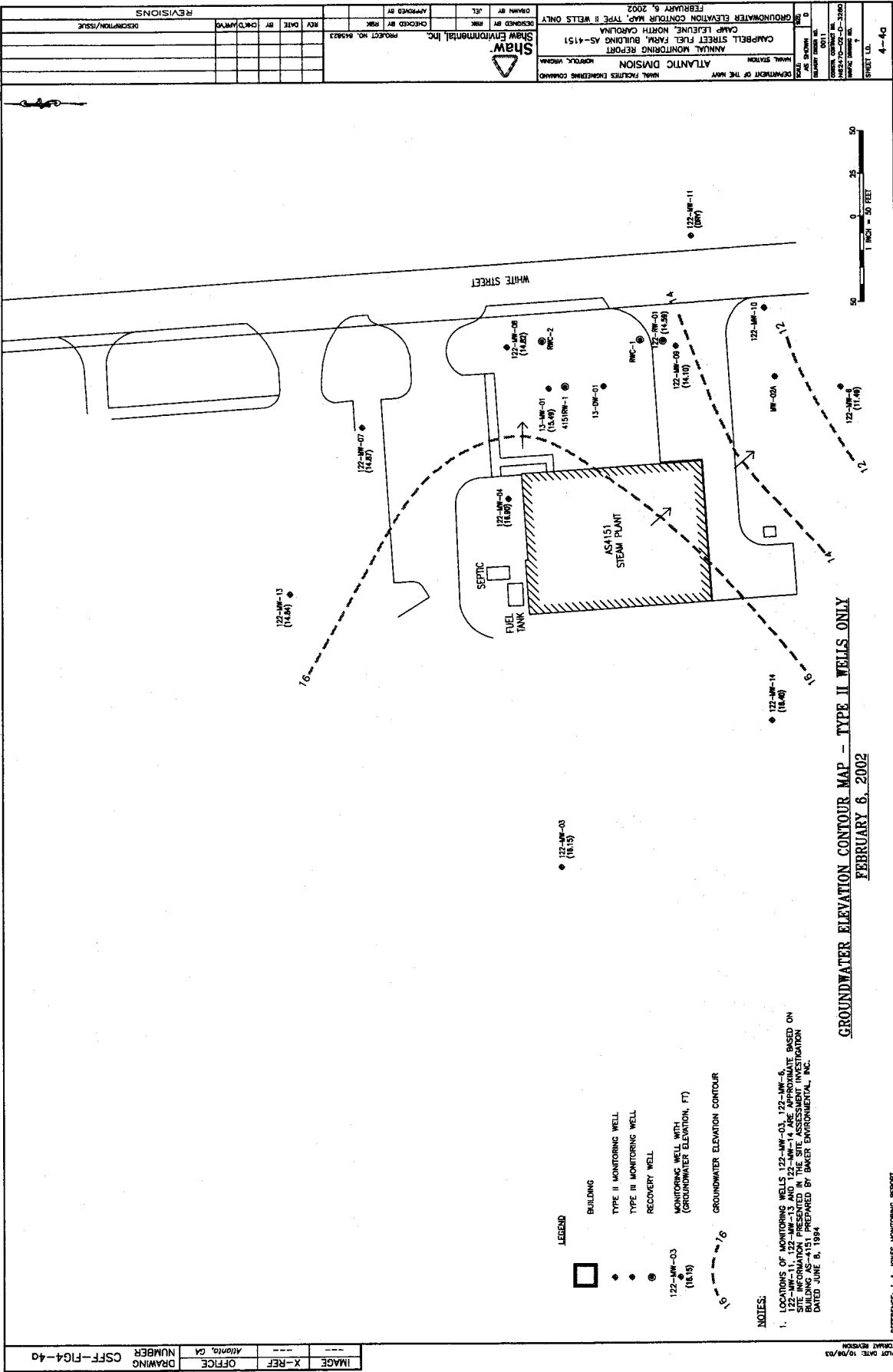
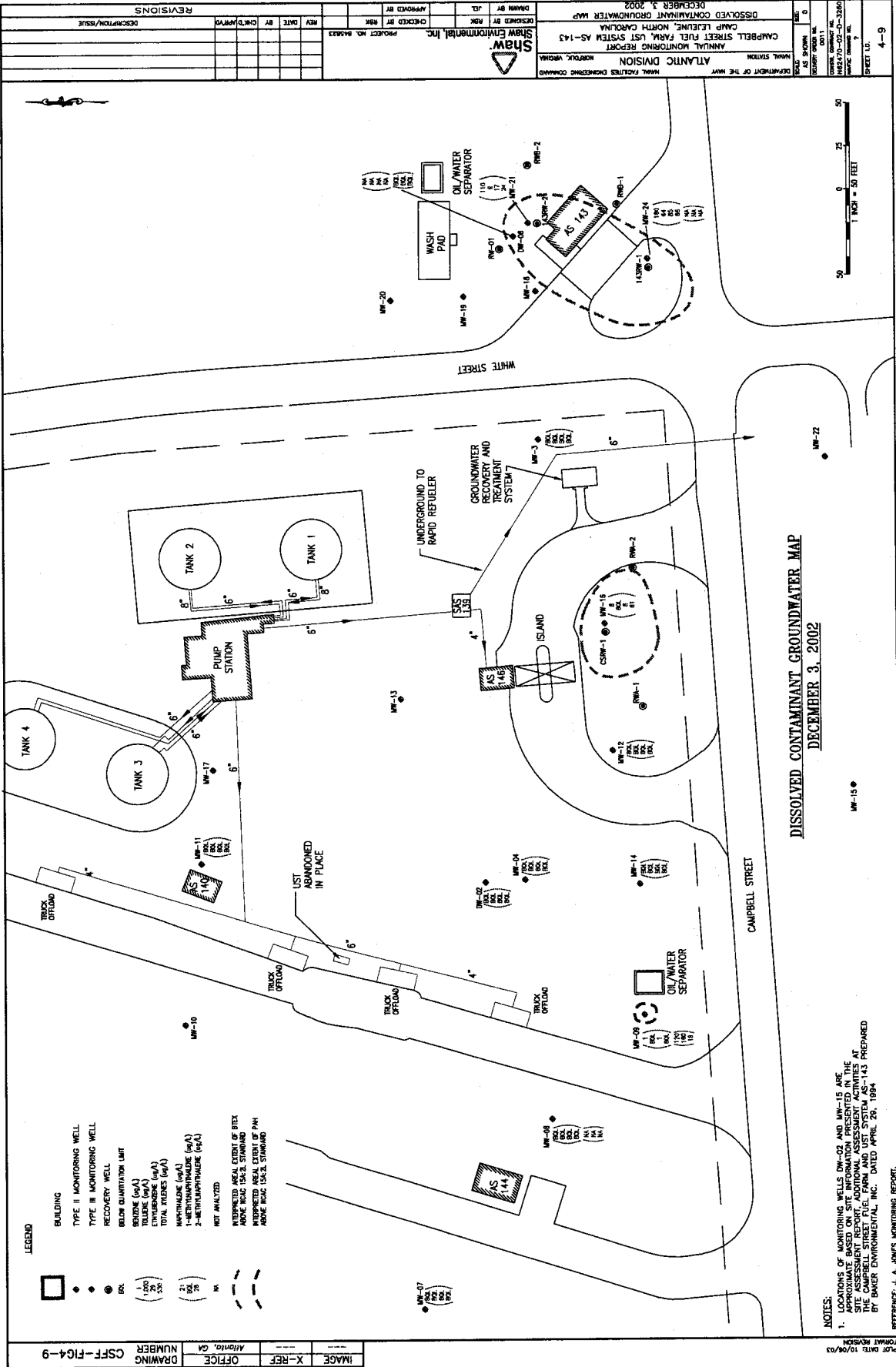


IMAGE	X-REF	OFFICE	Atlanta, GA
DRAWING NUMBER	CSFF-FIG1-2a		

PRINT DATE: 10/06/03
 PRINT REVISION







PROJECT NO. 04-003	DATE: 12/03/02	BY: J.A.J.	CHECKED BY: J.A.J.	APPROVED BY: J.A.J.
PROJECT NO. 04-003	DATE: 12/03/02	BY: J.A.J.	CHECKED BY: J.A.J.	APPROVED BY: J.A.J.
PROJECT NO. 04-003	DATE: 12/03/02	BY: J.A.J.	CHECKED BY: J.A.J.	APPROVED BY: J.A.J.
PROJECT NO. 04-003	DATE: 12/03/02	BY: J.A.J.	CHECKED BY: J.A.J.	APPROVED BY: J.A.J.
PROJECT NO. 04-003	DATE: 12/03/02	BY: J.A.J.	CHECKED BY: J.A.J.	APPROVED BY: J.A.J.

NOTES:
 1. LOCATIONS OF MONITORING WELLS MW-02 AND MW-15 ARE APPROXIMATE BASED ON SITE INFORMATION PRESENTED IN THE SITE ASSESSMENT REPORT FOR CAMPBELL STREET FUEL FARM AND UST SYSTEM AS-143, PREPARED BY BAKER ENVIRONMENTAL, INC. DATED APRIL 26, 1994.
 REFERENCE: J. A. JONES MONITORING REPORT.

APPENDIX D

RISK CLASSIFICATION AND LAND USE FORM

A. RISK CHARACTERIZATION

Submit the following questionnaire in its entirety. Answer all questions completely. Attach additional pages as needed to fully explain answers. Base answers/explanations on information known or required to be obtained during the Limited Site Assessment.

NOTE: *Source area means point of release from a UST system.*

Limited Site Assessment Risk Classification and Land Use Form

Part I - Groundwater/Surface Water/Vapor Impacts

High Risk

1. *Has the release contaminated any water supply well including any used for non-drinking purposes?* YES NO

No. According to MCB Camp Lejeune and the latest Wellhead Protection Plan Update (2002), the closest active water supply well is located at a distance greater than 1,500 feet from the project site.
2. *Is a water supply well used for drinking water located within 1,000 feet of the source area of the discharge or release?* YES NO

No. According to water supply well data provided by MCB Camp Lejeune, there are no active water supply wells located within 1,000 feet of the subject site.
3. *Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release?* YES NO

No. Wells were not located within 250 feet of the source area of release.
4. *Does groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)?* YES NO

No. There are an adequate number of locations for additional water supply wells to be installed on other portions of the base.
5. *Do vapors from the release pose a threat of explosion because of accumulation of the vapors in a confined space or pose any other serious threat to public health, public safety or the environment?* YES NO
If YES describe.

No. There has been no evidence or any reported to suggest an accumulation of vapors.
6. *Are there any other factors that would cause the discharge or release to pose an* YES NO

imminent danger to public health, public safety, or the environment?
If YES describe.

No, data collected during this investigation does not provide evidence to suggest other factors that would cause an imminent danger to public health, public safety or the environment.

Intermediate Risk

7. *Is a surface water body located within 500 feet of the source area of the discharge or release?* YES NO
If YES, does the maximum groundwater contaminant concentration exceed the surface water quality standards and criteria found in 15A NCAC 2B.0200 by a factor of 10? YES NO

A retention pond is located approximately 115 feet southeast of the Fuel Farm and AS-143 Area and 275 feet northeast of the AS-4151 Area. Additionally, a drainage ditch crosses the Fuel Farm and AS-143 Area. As illustrated on Table 4, the current maximum groundwater contaminant concentrations do not exceed the surface water quality standards by a factor of 10.

8. *Is the source area of the discharge or release located within an approved or planned wellhead protection area as defined in 42 USC 300h-7(e)?* YES NO
If YES describe.

Wellhead protection areas defined by 42 USC 200h-7(e) have not, as of this report, been designed by NCDENR for MCB, Camp Lejeune. However, MCB Camp Lejeune has identified wellhead protection areas on the base. Based on the most recent Wellhead Protection Plan Update (2002) performed for MCB Camp Lejeune, the site is located within a potential wellhead protection area.

9. *Is the release located in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985?* YES NO
If YES, is the source area of the release located in an area in which there is recharge to an unconfined or semi-confined deeper aquifer that is being used or may be used as a source of drinking water? YES NO
If YES describe.

Groundwater samples collected from Type III monitoring wells at the site were found to contain low levels of BTEX and naphthalene constituents. This indicates the potential for recharge to the deeper portions of the aquifer.

10. *Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels established by the Department?* YES NO

Based on the current groundwater conditions and analytes analyzed for, the groundwater contaminant levels do not exceed the gross contamination levels.

Part II - Land Use

Property Containing Source Area of Release

The questions below pertain to the property containing the source area of the release.

1. *Does the property contain one or more primary or secondary residences (permanent or temporary)?* YES NO
Describe.

No. The project area does not contain any primary or secondary residences.

2. *Does the property contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly?* YES NO
Describe.

No. The project area does not contain any of the above referenced public assembly places.

3. *Does the property contain a commercial (e.g., retail, warehouse, office/business space, etc.) or industrial (e.g., manufacturing, utilities, industrial research and development, chemical/petroleum bulk storage, etc.) enterprise, an inactive commercial or industrial enterprise, or is the land undeveloped?* YES NO
Describe.

Yes. The subject areas consist of an active fuel storage facility (Fuel Farm), and active refueling facility (AS-143), and an active steam generating facility (AS-4151) located in the industrial area of MCAS, New River.

4. *Do children visit the property?* YES NO
Explain.

No. The site is used predominantly by active military personnel and children are unlikely to visit the property. However, the AS-4151 and AS-143 areas are not restricted.

Is access to the property reliably restricted consistent with its use (e.g., by fences, security personnel or both)? YES NO
Explain.

Yes. The Fuel Farm is restricted, the AS-143 Area is not restricted, and a portion of the AS-4151 Area is not restricted. The restrictions are consistent with their use.

5. *Do pavement, buildings, or other structures cap the contaminated soil?* YES NO
Describe.

The areas of the release are covered predominantly with grass. A small portion of the impacted area is covered with concrete.

If YES, what mechanisms are in place or can be put into place to ensure that the contaminated soil will remain capped in the foreseeable future?

As necessary, appropriate land use restrictions will insure that any potentially impacted soils will remain capped.

6. *What is the zoning status of the property?*

The MCB Camp Lejeune is not subject to local or county zoning requirements. The surrounding properties have been developed for military support purposes.

7. *Is the use of the property likely to change in the next 20 years?
Explain.*

YES NO

No. The designated use of military property is not likely to change within the foreseeable future.

Property Surrounding Source Area of Release

The questions below pertain to the area within 1500 feet of the source area of the release (excludes property containing source area of the release):

1. *What is the distance from the source area of the release to the **nearest** primary or secondary residence (permanent or temporary)?*

The nearest residence appears to be military bachelor quarters located approximately 1,100 feet east of the release at Building AS-143.

2. *What is the distance from the source area of the release to the **nearest** school, daycare center, hospital, playground, park, recreation area, church, nursing home or other place of public assembly?*

Athletic fields are located within a 1,500-foot radius of the subject source areas, refer to Figures 1A and 1B.

3. *What is the zoning status of properties in the surrounding area?*

As previously mentioned, the MCB Camp Lejeune is not subject to local or county zoning requirements. The surrounding property has been developed for military support purposes.

4. *Briefly characterize the use and activities of the land in the surrounding area.*

The land surrounding the source area has been developed for military support purposes, including a fuel farm, associated distribution system, and other various support facilities.

B. RECEPTOR INFORMATION

1. Water Supply Wells

Physical reconnaissance and review of the Wellhead Protection Plan – 2002 Update prepared by AH Environmental indicated that there are no active water supply wells located within 1,500 feet of the subject areas. Water supply wells located within 1,500 feet of the subject site are listed as “closed” within the latest database provided by Camp Lejeune to CATLIN include AS-4140 and AS-131.

2. Public Water Supplies

Are public water supplies available within 1,500 feet of the source area of the release?

YES NO

If YES, where is the location of the nearest public water lines and the source(s) of the public water supply (indicate on map). Describe.

Public water is provided to buildings within 1,500 feet of the subject site by water mains which carry treated potable water. Potable water is supplied to the site and surrounding areas by the MCB water supply system. Potable water for Camp Lejeune is obtained from various water treatment facilities throughout the base. Groundwater obtained from the Castle Hayne Aquifer is the raw water source for the treatment facilities.

3. Surface Water

Identify all surface water bodies (e.g., ditch, pond, stream, lake, river) within 1,500 feet of the source area of the release. This information must be shown on the USGS topographic map.

There are numerous surface water bodies located within 1,500 feet of the source area of release including detention/retention ponds and drainage ditches. A retention pond is located approximately 115 feet southeast of the Fuel Farm/AS-143 site and 275 feet northeast of the AS-4151 site. Additionally, a drainage ditch crosses the Fuel Farm/AS-143 site. See attached Figures 1A and 1B for surface water locations. All information regarding potential surface water receptors was provided by MCB Camp Lejeune, and is shown on the site location map, Figures 1A and 1B.

4. Wellhead Protection Areas

Identify all planned or approved wellhead protection areas (e.g., ditch, pond, stream, lake, river) within 1,500 feet of the source area of the release. This information must be shown on the USGS topographic map. Wellhead protection areas are defined in 42 USC 300h-7(e).

According to the Wellhead Protection Plan – 2002 Update prepared by AH Environmental Consultants, the site is located within a wellhead protection area.

5. Deep Aquifers in the Coastal Plain Physiographic Region

(Refer to page 19 of the guidelines) NOTE: This requirement only pertains to releases in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985.

As identified in the Geologic Map of North Carolina (North Carolina Department of Natural Resources and Community Development 1985), the subject site lies within the Coastal Plain physiographic province. Results of the groundwater analysis conducted on samples collected from the Type III monitoring wells indicates that the deeper portions of the aquifer have been slightly impacted by petroleum constituents possibly associated with this site.

To some degree seven of the ten aquifers identified to date in the North Carolina Coastal Plain are typically present beneath portions of the MCB Camp Lejeune. In order of increasing depth, these aquifers include the Surficial, Castle Hayne, Beaufort, Peedee, Black Creek, and upper and lower Cape Fear aquifers.

Aquifers below the surficial aquifer in the area typically include the Castle Hayne Aquifer, the Beaufort Aquifer, and the Peedee Aquifer, in order of increasing depth. Both the Beaufort and Peedee Aquifers contain saltwater in portions of the MCB Camp Lejeune and are not generally used for water supply. The Castle Hayne Aquifer contains freshwater and is the principal aquifer used in the area for water supply.

6. Subsurface Structures

Numerous underground utilities are present throughout the site. These utilities are located above the shallow groundwater table and are not considered potential receptors.

7. Property Owners and Occupants

The subject site is owned and operated by the Commanding General – Marine Corps Base, Camp Lejeune.

APPENDIX E

**GROUNDWATER ELEVATION DATA AND
FREE-PHASE PRODUCT THICKNESS**

CORRECTIVE ACTION PLAN
CAMPBELL STREET FUEL FARM AND UST SYSTEM AS-143

TABLE 1-3

SUMMARY OF FLUID LEVEL MEASUREMENTS
DECEMBER 7, 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Well No.	Top of Casing Elevation ⁽¹⁾ (feet, above MSL)	Depth to Product (feet, below top of casing)	Depth to Groundwater (feet, below top of casing)	Product Thickness (feet)	Product Elevation (feet, above MSL)	Groundwater Elevation (feet, above MSL)
MW-1	23.24	NR ⁽²⁾	NR	NR	NR	NR
MW-2	22.83	NR	NR	NR	NR	NR
MW-3	21.69	-- ⁽³⁾	6.80	--	--	14.89
MW-4	22.77	--	8.58	--	--	14.19
MW-5	23.85	--	8.95	--	--	14.90
MW-6	20.40	NR	NR	NR	NR	NR
MW-7	21.04	--	4.96	--	--	16.08
MW-8	20.45	--	4.35	--	--	16.10
MW-9	20.45	--	6.08	--	--	14.37
MW-10	21.17	--	5.07	--	--	16.10
MW-11	22.03	--	7.72	--	--	14.31
MW-12	21.41	--	7.40	--	--	14.01
MW-13	22.80	--	12.33	--	--	10.47
MW-14	20.07	--	6.05	--	--	14.02
MW-15	21.08	--	7.59	--	--	13.49
MW-16	21.45	--	7.18	--	--	14.27

Notes: (1) MSL - Mean Sea Level

(2) NR = Not recorded on this date.

(3) -- = Not Detected

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

SUMMARY OF FLUID LEVEL MEASUREMENTS
DECEMBER 7, 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Well No.	Top of Casing Elevation ⁽¹⁾ (feet, above MSL)	Depth to Product (feet, below top of casing)	Depth to Groundwater (feet, below top of casing)	Product Thickness (feet)	Product Elevation (feet, above MSL)	Groundwater Elevation (feet, above MSL)
MW-17	22.51	--(2)	6.59	--	--	15.92
MW-18	18.69	--	4.34	--	--	14.35
MW-19	19.10	--	4.77	--	--	14.33
MW-20	19.40	--	4.07	--	--	15.33
MW-21	21.76	--	7.49	--	--	14.27
MW-22	21.69	--	7.38	--	--	14.31
MW-23	21.35	--	7.97	--	--	13.38
MW-24	21.56	--	7.88	--	--	13.68
MW-25	21.17	--	7.80	--	--	13.37
DW-1	20.79	--	6.92	--	--	13.87
DW-2	22.91	--	8.64	--	--	14.27
DW-3	22.98	NR ⁽³⁾	NR	NR	NR	NR
DW-4	21.07	--	6.63	--	--	14.44
DW-5	22.79	--	9.23	--	--	13.56
DW-6	22.83	--	8.15	--	--	14.68
RW-1	21.79	--	7.91	--	--	13.88

Notes: (1) MSL - Mean Sea Level

(2) NR = Not recorded on this date.

(3) -- = Not Detected

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

TABLE 1-4

SUMMARY OF FLUID LEVEL MEASUREMENTS
DECEMBER 30, 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Well No.	Top of Casing Elevation ⁽¹⁾ (feet, above MSL)	Depth to Product (feet, below top of casing)	Depth to Groundwater (feet, below top of casing)	Product Thickness (feet)	Product Elevation (feet, above MSL)	Groundwater Elevation (feet, above MSL)	Corrected Groundwater Elevation ⁽²⁾ (feet, above MSL)
MW-1	23.24	NR ⁽³⁾	NR	NR	NR	NR	NR
MW-2	22.83	NR	NR	NR	NR	NR	NR
MW-3	21.69	-- ⁽⁴⁾	5.83	--	--	15.86	--
MW-4	22.77	--	8.17	--	--	14.60	--
MW-5	23.85	--	8.97	--	--	14.88	--
MW-6	20.40	NR	NR	NR	NR	NR	NR
MW-7	21.04	NR	NR	NR	NR	NR	NR
MW-8	20.45	--	3.99	--	--	16.46	--
MW-9	20.45	--	5.61	--	--	14.84	--
MW-10	21.17	--	4.35	--	--	16.82	--
MW-11	22.03	--	6.86	--	--	15.17	--
MW-12	21.41	--	7.09	--	--	14.32	--
MW-13	22.80	8.33	8.35	0.02	14.47	14.45	14.46
MW-14	20.07	--	5.60	--	--	14.47	--
MW-15	21.08	--	7.10	--	--	13.98	--
MW-16	21.45	--	6.81	--	--	14.64	--

Notes: (1) MSL - Mean Sea Level

(2) Corrected groundwater elevations were determined by using the following equation:

CGE = Apparent Groundwater Elevation + (Product Thickness $\times$ 0.82) where 0.82 is the estimated specific gravity for JP-5 jet fuel.

(3) NR = Not recorded on this date.

(4) -- = Not Detected

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143
 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

SUMMARY OF FLUID LEVEL MEASUREMENTS
DECEMBER 30, 1992
CAMPBELL STREET FUEL FARM
CONTRACT TASK ORDER 0265

Well No.	Top of Casing Elevation ⁽¹⁾ (feet, above MSL)	Depth to Product (feet, below top of casing)	Depth to Groundwater (feet, below top of casing)	Product Thickness (feet)	Product Elevation (feet, above MSL)	Groundwater Elevation (feet, above MSL)	Corrected Groundwater Elevation ⁽²⁾ (feet, above MSL)
MW-17	22.51	--(3)	5.99	--	--	16.52	--
MW-18	18.69	--	3.84	--	--	14.85	--
MW-19	19.10	--	4.41	--	--	14.69	--
MW-20	19.40	--	3.78	--	--	15.62	--
MW-21	21.76	--	7.30	--	--	14.46	--
MW-22	21.69	--	7.05	--	--	14.64	--
MW-23	21.35	--	7.70	--	--	13.65	--
MW-24	21.56	--	7.62	--	--	13.94	--
MW-25	21.17	--	7.58	--	--	13.59	--
DW-1	20.79	--	6.48	--	--	14.31	--
DW-2	22.91	--	8.19	--	--	14.72	--
DW-3	22.98	NR ⁽⁴⁾	NR	NR	NR	NR	NR
DW-4	21.07	--	6.22	--	--	14.85	--
DW-5	22.79	--	8.25	--	--	14.54	--
DW-6	21.83	--	7.72	--	--	14.11	--
RW-1	21.79	--	7.51	--	--	14.28	--

Notes: (1) MSL - Mean Sea Level

(2) Corrected groundwater elevations were determined by using the following equation:

CGE = Apparent Groundwater Elevation + (Product Thickness x 0.82) where 0.82 is the estimated specific gravity for JP-5 jet fuel.

(3) -- = Not Detected

(4) NR = Not recorded on this date.

Source: Baker Environmental, Inc. February 15, 1993, Draft Site Assessment Report, Additional Assessment Activities, Campbell Street Fuel Farm and UST System AS-143 (Contract No. N62470-89-D-4814, Contract Task Order 0013).

CORRECTIVE ACTION PLAN

BUILDING AS-4151

TABLE 1-5

SUMMARY OF FLUID LEVEL MEASUREMENTS - FEBRUARY 7, 1993
BUILDING AS-4151 - MCAS NEW RIVER, JACKSONVILLE, NORTH CAROLINA
CONTRACT TASK ORDER 0270

Well No.	Top of Casing Elevation ⁽¹⁾ (feet, above MSL)	Depth to Product (feet, below top of casing)	Depth to Groundwater (feet, below top of casing)	Product Thickness (feet)	Product Elevation (feet, above MSL)	Groundwater Elevation (feet, above MSL)	Corrected Groundwater Elevation ⁽²⁾ (feet, above MSL)
122MW-1	22.75	-- ⁽³⁾	5.25	--	--	17.50	--
122MW-2	22.48	--	6.38	--	--	16.10	--
122MW-3	22.23	--	5.18	--	--	17.05	--
122MW-4	19.60	--	4.16	--	--	15.44	--
122MW-5	18.60	--	4.37	--	--	14.23	--
122MW-6	18.38	--	3.57	--	--	14.81	--
122MW-7	18.37	--	3.40	--	--	14.97	--
122MW-8	21.25	--	6.96	--	--	14.29	--
122MW-9	18.94	4.71	4.90	0.19	14.23	14.04	14.20
122MW-10	21.48	--	6.78	--	--	14.70	--
122MW-11	21.37	--	6.67	--	--	14.70	--
122MW-12	20.72	--	5.55	--	--	15.17	--
122MW-13	20.51	--	5.34	--	--	15.17	--
122MW-14	23.41	--	6.73	--	--	16.68	--
122DW-1	18.72	--	4.44	--	--	14.28	--
122DW-2	22.68	--	8.18	--	--	14.50	--
013DW-1	22.17	--	7.79	--	--	14.38	--
013MW-1	21.84	--	6.26	--	--	15.58	--
122RW-1	18.87	--	4.69	--	--	14.18	--

Notes: (1) MSL - Mean Sea Level

(2) Corrected groundwater elevations were determined by using the following equation:

$$\text{Corrected groundwater elevation} = \text{apparent groundwater elevation} + (\text{product thickness} \times 0.82)$$
 where 0.82 is the estimated specific gravity for JP-5 jet fuel.

(3) -- = Not Detected

Source: Baker Environmental, Inc., March 12, 1993, "Draft Site Assessment Investigation," (Contract 62470-89)-D-4814, Contract Task Order 0122).

FINAL ANNUAL MONITORING REPORT – JANUARY 2004

Soil and Groundwater Radiation
Campbell Street Farm
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	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Groundwater Elevation (ft., msl)
MW-3	21.69		14.07			7.16	14.53		5.95	15.74
MW-9	20.45		13.35			6.32	14.13		5.56	14.89
MW-10	21.17		13.91			6.42	14.75		5.14	16.03
MW-11	22.03		15.42			7.85	14.18		6.98	15.05
MW-12	21.41		14.11			7.22	14.19		6.80	14.61
MW-14	20.07		13.71			5.97	14.10		5.23	14.84
MW-15	21.08		12.73			7.70	13.38		6.92	14.16
MW-16	21.45		14.48			6.87	14.58		6.62	14.83
MW-21	21.76		13.11			7.68	14.08		7.01	14.75
MW-22	21.69		14.27			7.23	14.46		6.53	15.16
MW-24	21.56		12.23			7.78	13.78		7.11	14.45
DW-2	22.91		13.15			9.00	13.91		8.21	14.70
DW-6	22.83		13.97			8.17	14.66		7.44	15.39
13MW-1	21.84		16.25			6.12	15.72		5.90	15.94
13DW-1	22.17		13.32			8.30	13.87		7.82	14.35
122MW-3	22.23		15.20			6.27	15.96		5.13	17.10
122MW-4	19.60		16.23			3.22	16.38		2.84	16.76
122MW-5	18.60		13.36			4.33	14.27		3.71	14.89
122MW-6	18.38		11.42			6.86	11.52		6.73	11.65
122MW-7	18.37		14.36			3.31	15.06		2.98	15.39
122MW-8	21.25		12.75			6.80	14.45		6.70	14.55
122MW-9	18.94		13.98			4.79	14.15		4.53	14.41
122MW-11	21.37		14.76			6.30	15.07		5.87	15.50
122MW-13	20.51		13.45			5.78	14.73		5.04	15.47
122MW-14	23.41		17.05			6.65	16.76		6.14	17.27
122RW-1	18.87		14.32			4.21	14.66		3.75	15.12
RWB-3	17.40					NOT MEASURED			NOT MEASURED	
RWB-4	17.10					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
Campbell Street Farm
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 Groundwater (ft. below toc)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toc)
MW-3	21.69		16.00		15.04	6.65	15.04		13.87	7.82
MW-9	20.45		14.71		14.04	6.41	14.04		13.13	7.32
MW-10	21.17		15.99		15.49	5.68	15.49		13.66	7.51
MW-11	22.03		14.91		14.18	7.85	14.18		13.12	8.91
MW-12	21.41		14.69		14.26	7.15	14.26		13.70	7.71
MW-14	20.07		15.02		14.41	5.66	14.41		13.66	6.41
MW-15	21.08		14.00		13.28	7.80	13.28		12.61	8.47
MW-16	21.45		14.85		14.59	6.86	14.59		14.02	7.43
MW-21	21.76		14.38		12.74	9.02	12.74		12.52	9.24
MW-22	21.69		15.20		14.67	7.02	14.67		14.16	7.53
MW-24	21.56		13.89		11.97	9.59	11.97		12.66	8.90
DW-2	22.91		14.51		13.81	9.10	13.81		12.93	9.98
DW-6	22.83		15.19		14.52	8.31	14.52		13.68	9.15
13MW-1	21.84		15.89		15.49	6.35	15.49		14.87	6.97
13DW-1	22.17		14.20		13.62	8.55	13.62		12.95	9.22
122MW-3	22.23		17.03		16.15	6.08	16.15		14.90	7.33
122MW-4	19.60		16.87		16.90	2.70	16.90		14.61	4.99
122MW-5	18.60		15.15		14.02	4.58	14.02		14.02	4.58
122MW-6	18.38		12.03		11.49	6.89	11.49		11.50	6.88
122MW-7	18.37		15.66		14.87	3.50	14.87		13.99	4.38
122MW-8	21.25		13.35		14.82	6.43	14.82		12.73	8.52
122MW-9	18.94		14.24		14.10	4.84	14.10	5.10	13.83	5.11
122MW-11	21.37		15.67			Dry			14.34	7.03
122MW-13	20.51		15.67		14.84	5.67	14.84		13.93	6.58
122MW-14	23.41		17.06		16.40	7.01	16.40		15.34	8.07
122RW-1	18.87		15.02		14.59	4.28	14.59		13.77	5.10
RWB-3	17.40					NOT MEASURED				NOT MEASURED
RWB-4	17.10					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)	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)	Depth to Hydrocarbon Product
MW-3	21.69		13.84		8.24		13.45		7.11	
MW-9	20.45		13.14		7.24		13.21		6.35	
MW-10	21.17		13.38		7.74		13.43		6.68	
MW-11	22.03		13.08		8.84		13.19		7.92	
MW-12	21.41		13.75		7.96		13.45		7.19	
MW-14	20.07		13.77		6.83		13.24		5.80	
MW-15	21.08		12.64		8.55		12.53		7.73	
MW-16	21.45		14.04		7.55		13.90		7.01	
MW-21	21.76		12.98		9.42		12.34		8.40	
MW-22	21.69		14.19		7.73		13.96		7.13	
MW-24	21.56		11.94		10.34		11.22		10.19	
DW-2	22.91		12.90		9.92		12.99		9.02	
DW-6	22.83		13.72		9.04		13.79		8.22	
13MW-1	21.84		14.82		6.90		14.94		6.40	
13DW-1	22.17		12.99		9.08		13.09		8.35	
122MW-3	22.23		14.84		7.75		14.48		7.18	
122MW-4	19.60		14.82		4.72		14.15		3.09	
122MW-5	18.60		13.56		5.95		12.65		5.00	
122MW-6	18.38		11.54		7.35		11.03		6.72	
122MW-7	18.37		14.15		4.46		13.91		3.82	
122MW-8	21.25		12.74		8.61		12.64		8.28	
122MW-9	18.94		14.03		5.20		13.74	4.78	4.81	
122MW-11	21.37	4.89	13.77		7.33		14.04		6.38	
122MW-13	20.51		14.00		6.69		13.82		5.96	
122MW-14	23.41		15.09		8.34		15.07		7.91	
122RW-1	18.87	4.85	14.01		5.22		13.65		4.40	
RWB-3	17.40				NOT MEASURED				NOT MEASURED	
RWB-4	17.10				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)	9/6/2001			8/7/2001			7/11/2001		
		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		15.60	6.09		15.27	6.42		15.20	6.49
MW-9	20.45		15.12	5.33		14.55	5.90		14.90	5.55
MW-10	21.17		15.59	5.58		15.28	5.89		15.26	5.91
MW-11	22.03		14.62	7.41		14.61	7.42		14.98	7.05
MW-12	21.41		14.51	6.90		14.58	6.83		14.62	6.79
MW-14	20.07		14.76	5.31		14.62	5.45		14.48	5.59
MW-15	21.08		13.75	7.33		13.73	7.35		13.98	7.10
MW-16	21.45		14.60	6.85		14.65	6.80		14.63	6.82
MW-21	21.76		13.92	7.84		12.53	9.23		14.14	7.62
MW-22	21.69		14.83	6.86		14.74	6.95		14.80	6.89
MW-24	21.56		12.23	9.33		12.16	9.40		14.14	7.42
DW-2	22.91		14.29	8.62		14.33	8.58		14.69	8.22
DW-6	22.83		15.02	7.81		15.03	7.80		15.41	7.42
13MW-1	21.84		15.91	5.93		16.15	5.69		16.17	5.67
13DW-1	22.17		14.20	7.97		14.33	7.84		14.69	7.48
122MW-3	22.23		15.99	6.24		16.23	6.00		16.11	6.12
122MW-4	19.60		16.97	2.63		16.96	2.64		16.92	2.68
122MW-5	18.60		14.50	4.10		14.40	4.20		14.36	4.24
122MW-6	18.38		11.80	6.58		11.68	6.70		11.71	6.67
122MW-7	18.37		15.09	3.28		15.25	3.12		15.09	3.28
122MW-8	21.25		13.22	8.03		13.12	8.13		14.12	7.13
122MW-9	18.94	4.52	14.36	4.58	4.48	14.34	4.60	4.48	14.35	4.59
122MW-11	21.37		15.35	6.02		15.45	5.92		15.43	5.94
122MW-13	20.51		15.21	5.30		15.38	5.13		15.16	5.35
122MW-14	23.41		16.46	6.95		16.89	6.52		17.26	6.15
122RW-1	18.87		14.62	4.25		14.72	4.15		12.82	6.05
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
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)	Groundwater Elevation (ft., msl)
MW-3	21.69		15.83		14.68		14.68		15.04	15.04
MW-9	20.45		14.02		14.05		14.05		15.13	15.13
MW-10	21.17		14.68		14.87		14.87		15.96	15.96
MW-11	22.03		15.18		14.99		14.99		15.39	15.39
MW-12	21.41		14.89		14.31		14.31		14.53	14.53
MW-14	20.07		14.89		13.98		13.98		14.58	14.58
MW-15	21.08		14.23		13.27		13.27		14.10	14.10
MW-16	21.45		14.80		14.41		14.41		14.81	14.81
MW-21	21.76		13.80		12.75		12.75		12.71	12.71
MW-22	21.69		15.09		14.39		14.39		14.72	14.72
MW-24	21.56		13.59		11.64		11.64		12.44	12.44
DW-2	22.91		14.79		13.96		13.96		14.95	14.95
DW-6	22.83		15.45		14.70		14.70		15.60	15.60
13MW-1	21.84		16.37		15.42		15.42		15.89	15.89
13DW-1	22.17		14.61		13.90		13.90		14.70	14.70
122MW-3	22.23		16.88		16.76		16.76		16.89	16.89
122MW-4	19.60		17.20		16.24		16.24		16.88	16.88
122MW-5	18.60		14.81		13.45		13.45		14.62	14.62
122MW-6	18.38		11.97		11.40		11.40		11.83	11.83
122MW-7	18.37		15.52		14.62		14.62		15.12	15.12
122MW-8	21.25		13.39		12.65		12.65		12.72	12.72
122MW-9	18.94	4.19	14.70	4.87	13.99	4.65	13.99	4.86	14.08	14.08
122MW-11	21.37		15.47		14.54		14.54		15.09	15.09
122MW-13	20.51		15.61		14.34		14.34		15.25	15.25
122MW-14	23.41		16.51		16.61		16.61		17.53	17.53
122RW-1	18.87		14.91		13.97		13.97		14.52	14.52
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 Farm
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	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 Groundwater (ft. below toc)
MW-3	21.69		16.34		5.35		15.86		6.90	14.79
MW-9	20.45		15.59		4.86		15.19		5.66	14.79
MW-10	21.17		15.36		5.81		16.48		5.34	15.83
MW-11	22.03		15.98		6.05		15.59		7.03	15.00
MW-12	21.41		14.89		6.52		14.79		7.12	14.29
MW-14	20.07		15.22		4.85		15.03		5.75	14.32
MW-15	21.08		14.10		6.98		14.09		7.26	13.82
MW-16	21.45		15.01		6.44		15.01		6.92	14.53
MW-21	21.76		15.18		6.58		14.43		8.03	13.73
MW-22	21.69		15.11		6.58		15.10		7.04	14.65
MW-24	21.56		14.51		7.05		13.67		7.70	13.86
DW-2	22.91		15.40		7.51		14.99		8.35	14.56
DW-6	22.83		16.01		6.82		15.63		7.62	15.21
13MW-1	21.84		16.28		5.56		16.21		6.13	15.71
13DW-1	22.17		14.97		7.20		14.63		7.88	14.29
122MW-3	22.23		17.67		4.56		17.37		5.76	16.47
122MW-4	19.60		17.58		2.02		17.27		3.15	16.45
122MW-5	18.60		14.93		3.67		14.86		4.01	14.59
122MW-6	18.38		11.84		6.54		11.83		6.75	11.63
122MW-7	18.37		15.77		2.60		15.51		3.46	14.91
122MW-8	21.25		13.15		8.10		12.80		6.84	14.41
122MW-9	18.94	4.34	14.50	4.43	4.44		14.05	4.70	4.92	14.02
122MW-11	21.37		15.69		5.68		15.41		6.45	14.92
122MW-13	20.51		15.59		4.92		15.61		5.55	14.96
122MW-14	23.41		17.40		6.01		17.54		6.67	16.74
122RW-1	18.87	3.67	15.18		3.69		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

**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 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		5.07	16.62		7.23	14.46		7.22	14.47
MW-9	20.45		4.92	15.53		6.33	14.12		6.33	14.12
MW-10	21.17		4.42	16.75		6.84	14.33		6.84	14.33
MW-11	22.03		6.27	15.76		7.90	14.13		7.91	14.12
MW-12	21.41		6.54	14.87		7.21	14.20		7.25	14.16
MW-14	20.07		4.90	15.17		5.72	14.35		5.79	14.28
MW-15	21.08		6.55	14.53		7.87	13.21		7.78	13.30
MW-16	21.45		6.58	14.87		7.10	14.35		7.11	14.34
MW-21	21.76		7.76	14.00		12.84	8.92		9.30	12.46
MW-22	21.69		6.53	15.16		7.36	14.33		7.37	14.32
MW-24	21.56		8.29	13.27		8.83	12.73		8.83	12.73
DW-2	22.91		7.58	15.33		9.01	13.90		9.02	13.89
DW-6	22.83		6.88	15.95		8.21	14.62		8.22	14.61
13MW-1	21.84		5.48	16.36		6.32	15.52		6.36	15.48
13DW-1	22.17		7.20	14.97		8.27	13.90		8.30	13.87
122MW-3	22.23		5.05	17.18		7.21	15.02		7.21	15.02
122MW-4	19.60		2.25	17.35		3.22	16.38		3.22	16.38
122MW-5	18.60		3.65	14.95		4.34	14.26		4.36	14.24
122MW-6	18.38		6.52	11.86		6.78	11.60		6.81	11.57
122MW-7	18.37		2.78	15.59		3.78	14.59		3.85	14.52
122MW-8	21.25		6.49	14.76		6.78	14.47		6.91	14.34
122MW-9	18.94		4.92	14.02	5.00	5.05	13.89	5.00	5.06	13.88
122MW-11	21.37	4.81	5.75	15.62		6.81	14.56		6.81	14.56
122MW-13	20.51		4.84	15.67		5.97	14.54		6.03	14.48
122MW-14	23.41		6.42	16.99		7.72	15.69		7.74	15.67
122RW-1	18.87	3.77	3.78	15.09		4.89	13.98		4.89	13.98
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
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

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

Soil and Groundwater Monitoring Station
Campbell Street 1
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 Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	Groundwater Elevation (ft., msl)	Depth to Groundwater (ft. below toe)
MW-3	21.69		15.49		14.62		14.62		14.32	7.37
MW-9	20.45		13.96		13.47		13.47		14.01	6.44
MW-10	21.17		14.98		14.22		14.22		14.30	6.87
MW-11	22.03		13.95		14.04		14.04		14.07	7.96
MW-12	21.41		14.71		14.34		14.34		14.07	7.34
MW-14	20.07		14.90		14.02		14.02		13.85	6.22
MW-15	21.08		13.31		13.11		13.11		13.11	7.97
MW-16	21.45		14.72		14.56		14.56		14.45	7.00
MW-21	21.76		14.66		12.63		12.63		9.36	12.40
MW-22	21.69		14.71		14.29		14.29		14.24	7.45
MW-24	21.56		13.98		13.61		13.61		13.48	8.08
DW-2	22.91		13.74		13.79		13.79		13.81	9.10
DW-6	22.83		14.52		15.80		15.80		14.60	8.23
13MW-1	21.84		15.77		15.80		15.80		15.71	6.13
13DW-1	22.17		13.79		13.90		13.90		13.87	8.30
122MW-3	22.23		16.03		15.16		15.16		15.25	6.98
122MW-4	19.60		17.15		16.66		16.66		16.46	3.14
122MW-5	18.60		14.47		13.88		13.88		13.75	4.85
122MW-6	18.38		11.76		10.13		10.13		11.18	7.20
122MW-7	18.37		14.85		14.45		14.45		14.34	4.03
122MW-8	21.25		14.73		14.61		14.61		14.35	6.90
122MW-9	18.94		14.30		14.04		14.04		13.99	4.95
122MW-11	21.37		14.94		14.92		14.92		14.68	6.69
122MW-13	20.51		14.81		14.28		14.28		14.21	6.30
122MW-14	23.41		17.06		16.37		16.37		16.40	7.01
122RW-1	18.87	4.50	14.34		14.18		14.18	NOT MEASURED		NOT MEASURED
RWB-3	17.40		NOT MEASURED		NOT MEASURED		NOT MEASURED	NOT MEASURED		NOT MEASURED
RWB-4	17.10		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 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 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)	Groundwater Elevation (ft. msl)
MW-3	21.69	7.33	14.36		6.25	15.44		6.20	15.49	15.49
MW-9	20.45	6.40	14.05		5.18	15.27		5.15	15.30	15.30
MW-10	21.17	6.85	14.32		5.25	15.92		5.23	15.94	15.94
MW-11	22.03	7.94	14.09		6.51	15.52		6.50	15.53	15.53
MW-12	21.41	7.31	14.10		6.80	14.61		6.80	14.61	14.61
MW-14	20.07	6.22	13.85		5.45	14.62		5.41	14.66	14.66
MW-15	21.08	7.97	13.11		7.01	14.07		7.00	14.08	14.08
MW-16	21.45	6.98	14.47		6.62	14.83		6.61	14.84	14.84
MW-21	21.76	8.04	13.72		12.31	9.45		7.55	14.21	14.21
MW-22	21.69	7.43	14.26		7.00	14.69		7.02	14.67	14.67
MW-24	21.56	8.13	13.43		8.02	13.54		7.46	14.10	14.10
DW-2	22.91	9.10	13.81		7.80	15.11		7.80	15.11	15.11
DW-6	22.83	8.23	14.60		7.06	15.77		7.07	15.76	15.76
13MW-1	21.84	6.15	15.69		4.98	16.86		5.02	16.82	16.82
13DW-1	22.17	8.30	13.87		7.25	14.92		7.29	14.88	14.88
122MW-3	22.23	6.97	15.26		5.46	16.77		5.46	16.77	16.77
122MW-4	19.60	3.14	16.46		1.85	17.75		1.86	17.74	17.74
122MW-5	18.60	4.81	13.79		4.02	14.58		3.98	14.62	14.62
122MW-6	18.38	7.16	11.22		7.02	11.36		6.93	11.45	11.45
122MW-7	18.37	4.03	14.34		2.83	15.54		2.80	15.57	15.57
122MW-8	21.25	6.89	14.36		6.35	14.90		6.35	14.90	14.90
122MW-9	18.94	4.96	13.98		4.81	14.13		4.78	14.16	14.16
122MW-11	21.37	6.66	14.71		6.10	15.27		6.10	15.27	15.27
122MW-13	20.51	6.30	14.21		5.02	15.49		4.98	15.53	15.53
122MW-14	23.41	7.01	16.40		5.88	17.53		5.88	17.53	17.53
122RW-1	18.87	NOT MEASURED			4.25	14.62		4.28	14.59	14.59
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
Campbell Street**

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	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		5.34	16.35		6.90	14.79		5.84	15.85
MW-9	20.45		5.20	15.25		5.79	14.66		5.19	15.26
MW-10	21.17		4.48	16.69		5.66	15.51		4.63	16.54
MW-11	22.03		6.50	15.53		7.22	14.81		6.40	15.63
MW-12	21.41		6.51	14.90		7.20	14.21		6.73	14.68
MW-14	20.07		4.85	15.22		5.85	14.22		7.02	13.05
MW-15	21.08		6.57	14.51		7.18	13.90		6.71	14.37
MW-16	21.45		6.47	14.98		6.89	14.56		5.60	15.85
MW-21	21.76		5.76	16.00		8.96	12.80		6.37	15.39
MW-22	21.69		6.35	15.34		7.23	14.46		6.78	14.91
MW-24	21.56		6.64	14.92		8.59	12.97		6.99	14.57
DW-2	22.91		7.82	15.09		8.44	14.47		7.75	15.16
DW-6	22.83		7.11	15.72		7.71	15.12		7.06	15.77
13MW-1	21.84		5.32	16.52		6.13	15.71		5.54	16.30
13DW-1	22.17		7.38	14.79		7.81	14.36		7.36	14.81
122MW-3	22.23		4.85	17.38		6.12	16.11		5.10	17.13
122MW-4	19.60		2.07	17.53		3.30	16.30		2.63	16.97
122MW-5	18.60		3.19	15.41		4.09	14.51		3.70	14.90
122MW-6	18.38		6.44	11.94		6.98	11.40		6.03	12.35
122MW-7	18.37		2.40	15.97		3.28	15.09		2.95	15.42
122MW-8	21.25		6.08	15.17		6.75	14.50		6.48	14.77
122MW-9	18.94		4.50	14.44		5.92	13.02		4.78	14.16
122MW-11	21.37		5.78	15.59		6.49	14.88		6.12	15.25
122MW-13	20.51		4.40	16.11		5.62	14.89		4.94	15.57
122MW-14	23.41		6.05	17.36		6.54	16.87		5.77	17.64
122RW-1	18.87	4.63	4.35	14.52	4.63	4.64	14.23		4.42	14.45
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:

 := feet

 $x = \text{top of casing elevation}$ $isl = \text{mean sea level}$

Groundwater elevations collected same day

prior to AFVR event

* Groundwater elevations collected same day

after AFVR event

Soil and Groundwater Contamination
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	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		8.67	12.89				8.67	12.89			
DW-2	22.91	7.76	15.15		8.28	14.63		8.08	14.83				8.08	14.83			
DW-6	22.83	7.07	15.76		7.60	15.23		7.60	15.23				7.60	15.23			
13MW-1	21.84	5.54	16.30		5.98	15.86		5.98	15.86				5.98	15.86			
13DW-1	22.17	7.36	14.81		7.78	14.39		7.79	14.38				7.79	14.38			
122MW-3	22.23	5.10	17.13		5.80	16.43		5.80	16.43				5.80	16.43			
122MW-4	19.60	2.63	16.97		3.10	16.50		3.10	16.50				3.10	16.50			
122MW-5	18.60	3.70	14.90		3.75	14.85		3.80	14.80				3.80	14.80			
122MW-6	18.38	6.03	12.35		6.93	11.45		6.98	11.40				6.98	11.40			
122MW-7	18.37	2.95	15.42		3.35	15.02		3.42	14.95				3.42	14.95			
122MW-8	21.25	6.48	14.77		6.75	14.50		6.75	14.50				6.75	14.50			
122MW-9	18.94	4.78	14.16		4.92	14.02		4.92	14.02				4.92	14.02			
122MW-11	21.37	6.13	15.24		6.45	14.92		6.45	14.92				6.45	14.92			
122MW-13	20.51	4.94	15.57		5.50	15.01		5.50	15.01				5.50	15.01			
122MW-14	23.41	5.79	17.62		6.42	16.99		6.40	17.01				6.40	17.01			
122RW-1	18.87	4.42	14.45		NOT MEASURED			NOT MEASURED					NOT MEASURED				
RWB-3	17.40	NOT MEASURED			9.20	8.20		9.20	8.20				9.20	8.20			
RWB-4	17.10	NOT MEASURED			6.31	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 Arm
UST System AS-143 and Building AS-4151

Sample Point	2/8/2000				1/5/2000				12/9/1999			
	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	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	5.86	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

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

Sample Point	Top of Casing Elevation (ft., msl)	11/22/1999			10/7/1999			9/9/1999		
		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	6.76	14.93		3.43	18.26		4.35	17.34	
MW-9	20.45	5.50	14.95		3.82	16.63		4.70	15.75	
MW-10	21.17	5.65	15.52		3.42	17.75		4.30	16.87	
MW-11	22.03	6.97	15.06		5.12	16.91		6.09	15.94	
MW-12	21.41	7.09	14.32		4.99	16.42		5.98	15.43	
MW-14	20.07	5.75	14.32		3.22	16.85		4.04	16.03	
MW-15	21.08	7.17	13.91		4.93	16.15		5.93	15.15	
MW-16	21.45	6.97	14.48		5.72	15.73		6.54	14.91	
MW-21	21.76	9.07	12.69		4.37	17.39		5.19	16.57	
MW-22	21.69	7.18	14.51		4.60	17.09		5.41	16.28	
MW-24	21.56	8.51	13.05		4.87	16.69		5.89	15.67	
DW-2	22.91	8.14	14.77		6.50	16.41		7.31	15.60	
DW-6	22.83	7.41	15.42		5.36	17.47		6.57	16.26	
13MW-1	21.84	6.73	15.11		4.33	17.51		5.14	16.70	
13DW-1	22.17	7.63	14.54		5.85	16.32		6.87	15.30	
122MW-3	22.23	6.35	15.88		3.76	18.47		4.57	17.66	
122MW-4	19.60	2.95	16.65		0.91	18.69		1.02	18.58	
122MW-5	18.60									
122MW-6	18.38	5.61	12.77		4.48	13.90		5.29	13.09	
122MW-7	18.37	5.51	12.86		0.92	17.45		0.90	17.47	
122MW-8	21.25	6.90	14.35		4.62	16.63		5.44	15.81	
122MW-9	18.94	5.00	13.94		3.70	15.24		4.51	14.43	
122MW-11	21.37	6.47	14.90		3.53	17.84		4.34	17.03	
122MW-13	20.51	5.67	14.84		2.72	17.79		3.53	16.98	
122MW-14	23.41	6.94	16.47		5.80	17.61		6.61	16.80	
122RW-1	18.87	4.71	14.16		4.83	14.04		5.64	13.23	
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 Farm
UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	8/10/1999			7/8/1999			6/9/1999			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 toe)	Groundwater Elevation (ft., msl)	Depth to Hydrocarbon Product	
MW-3	21.69	7.45	14.24			15.16		7.62	14.07		
MW-9	20.45	6.99	13.46			14.55		5.01	15.44		
MW-10	21.17	6.59	14.58			15.48		4.92	16.25		
MW-11	22.03	8.38	13.65			14.66		8.28	13.75		
MW-12	21.41	7.67	13.74			14.55		7.46	13.95		
MW-14	20.07	6.41	13.66			14.56		6.28	13.79		
MW-15	21.08	8.71	12.37			13.42		7.01	14.07		
MW-16	21.45	7.12	14.33			14.59		7.12	14.33		
MW-21	21.76	8.29	13.47			14.50		9.55	12.21		
MW-22	21.69	8.12	13.57			14.60		7.81	13.88		
MW-24	21.56	8.61	12.95			13.97		8.72	12.84		
DW-2	22.91	9.60	13.31			14.33		9.40	13.51		
DW-6	22.83	8.81	14.02			15.06		8.49	14.34		
13MW-1	21.84	6.54	15.30			15.91		5.92	15.92		
13DW-1	22.17	8.76	13.41			15.51		8.56	13.61		
122MW-3	22.23	6.97	15.26			16.41		6.75	15.48		
122MW-4	19.60	3.08	16.52			16.74		2.70	16.90		
122MW-5	18.60										
122MW-6	18.38	3.57	14.81			11.30		3.20	15.18		
122MW-7	18.37	4.28	14.09			14.90		4.18	14.19		
122MW-8	21.25	7.06	14.19			14.48		7.15	14.10		
122MW-9	18.94	5.01	13.93			14.10		5.01	13.93		4.87
122MW-11	21.37	4.08	17.29			15.32		6.81	14.56		
122MW-13	20.51	6.52	13.99			14.86		5.81	14.70		
122MW-14	23.41	7.01	16.40			17.48		6.02	17.39		
122RW-1	18.87	5.61	13.26			14.23		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 Farm
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 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	6.29	15.40			7.62		6.46	14.07				15.23		
MW-9	20.45	5.28	15.17			5.72		5.12	14.73				15.33		
MW-10	21.17	4.83	16.34			5.15		4.61	16.02				16.56		
MW-11	22.03	6.68	15.35			7.30		6.50	14.73				15.53		
MW-12	21.41	6.89	14.52			8.13		7.82	13.28				13.59		
MW-14	20.07	5.41	14.66			6.31		5.71	13.76				14.36		
MW-15	21.08	6.89	14.19			6.58		6.53	14.50				14.55		
MW-16	21.45	6.77	14.68			9.06		9.30	12.39				12.15		
MW-21	21.76	6.70	15.06			7.76		6.94	14.00				14.82		
MW-22	21.69	6.95	14.74			6.51		6.49	15.18				15.20		
MW-24	21.56	7.21	14.35			8.79		8.76	12.77				12.80		
DW-2	22.91	7.91	15.00			8.48		7.75	14.43				15.16		
DW-6	22.83	7.23	15.60			7.74		7.07	15.09				15.76		
13MW-1	21.84	5.81	16.03			6.38		5.72	15.46				16.12		
13DW-1	22.17	7.56	14.61			8.02		7.39	14.15				14.78		
122MW-3	22.23	5.26	16.97			5.53		5.16	16.70				17.07		
122MW-4	19.60	NOT MEASURED				2.45		1.95	17.15				17.65		
122MW-5	18.60														
122MW-6	18.38	3.44	14.94			4.48		4.10	13.90				14.28		
122MW-7	18.37	NOT MEASURED				3.32		2.91	15.05				15.46		
122MW-8	21.25	6.70	14.55			8.80		6.02	12.45				15.23		
122MW-9	18.94	4.89	14.07			5.18		4.31	13.76	4.30			14.64		
122MW-11	21.37	6.12	15.25			6.65		1.73	14.72				19.64		
122MW-13	20.51	5.24	15.27			5.24		5.03	15.27				15.48		
122MW-14	23.41	5.80	17.61			6.28		6.00	17.13				17.41		
122RW-1	18.87	4.68	14.19			5.08		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
UST System AS-143 and Building AS-4151

Sample Point	Top of Casing Elevation (ft., msl)	1/4/1999				12/7/1998				11/12/1998			
		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	Depth to Groundwater (ft. below toc)	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

**Soil and Groundwater Remediation
Campbell Street**

UST System AS-143 and Building AS-4151

[illegible]

Notes:

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 Remediation
Campbell Street
UST System AS-143 and Building AS-4151

Sample Point	7/8/1998			6/11/1998			5/16/1998		
	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	6.77	14.92		6.64	15.05		15.16	
MW-9	20.45	6.28	14.17		5.72	14.73		14.91	
MW-10	21.17	6.06	15.11		5.70	15.47		16.17	
MW-11	22.03	7.83	14.20		7.21	14.82		15.33	
MW-12	21.41	7.76	13.65		7.93	13.48		14.56	
MW-14	20.07	5.95	14.12		5.97	14.10		14.64	
MW-15	21.08	7.78	13.30		7.32	13.76		14.07	
MW-16	21.45	9.08	12.37		9.44	12.01		14.63	
MW-21	21.76	7.23	14.53		7.30	14.46		14.71	
MW-22	21.69	7.17	14.52		7.07	14.62		14.67	
MW-24	21.56	7.85	13.71		7.87	13.69		14.02	
DW-2	22.91	8.98	13.93		8.38	14.53		14.86	
DW-6	22.83	7.31	15.52		7.60	15.23		15.49	
13MW-1	21.84	6.47	15.37		6.35	15.49		15.52	
13DW-1	22.17	8.23	13.94		7.79	14.38		14.60	
122MW-3	22.23	6.12	16.11		5.94	16.29		15.73	
122MW-4	19.60	3.17	16.43		3.15	16.45		16.90	
122MW-5	18.60								
122MW-6	18.38	3.33	15.05	NOT MEASURED				14.84	
122MW-7	18.37	3.65	14.72		3.65	14.72		14.76	
122MW-8	21.25	8.57	12.68		8.62	12.63		12.69	
122MW-9	18.94	5.06	13.88		5.03	13.91		13.81	
122MW-11	21.37	6.48	14.89		6.27	15.10		15.17	
122MW-13	20.51	5.79	14.72		5.79	14.72		14.91	
122MW-14	23.41	6.25	17.16		6.23	17.18		16.38	
122RW-1	18.87	5.07	13.83		5.01	13.86	5.13	13.74	Trace
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 Remediation
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

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

Sample Point	Top of Casing Elevation (ft., msl)	1/26/1998			12/11/1997			11/26/1997			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	4.58	17.11			15.92		6.17	15.52					
MW-9	20.45	4.25	16.20			15.48		5.32	15.13					
MW-10	21.17	3.75	17.42			17.36		4.30	16.87					
MW-11	22.03	5.57	16.46			15.68		6.69	15.34					
MW-12	21.41	7.61	13.80			14.64		6.86	14.55					
MW-14	20.07	5.17	14.90			15.02		5.24	14.83					
MW-15	21.08	5.85	15.23			14.60		6.84	14.24					
MW-16	21.45	9.28	12.17			14.71		6.93	14.52					
MW-21	21.76	5.87	15.89			14.61		7.36	14.40					
MW-22	21.69	6.12	15.57			14.91		6.95	14.74					
MW-24	21.56	7.63	13.93			12.75		8.82	12.74					
DW-2	22.91	6.86	16.05			15.30		7.95	14.96					
DW-6	22.83	6.13	16.70			15.91		7.26	15.57					
13MW-1	21.84	5.45	16.39			16.03		5.85	15.99					
13DW-1	22.17	6.46	15.71			14.88		7.61	14.56					
122MW-3	22.23	4.45	17.78			17.18		5.48	16.75					
122MW-4	19.60	2.04	17.56			17.68		2.33	17.27					
122MW-5	18.60													
122MW-6	18.38	3.25	15.13			14.86		3.71	14.67					
122MW-7	18.37	2.39	15.98			15.47		3.50	14.87					
122MW-8	21.25	8.07	13.18			13.26		8.22	13.03					
122MW-9	18.94	4.48	14.46			14.11		5.01	13.93				5.13	
122MW-11	21.37	5.65	15.72			15.39		5.98	15.39					
122MW-13	20.51	4.35	16.16			15.83		5.03	15.48					
122MW-14	23.41	5.57	17.84			17.12		6.39	17.02					
122RW-1	18.87	4.42	14.45			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
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
		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	7.42	14.27			16.54		7.91	13.78						
MW-9	20.45	6.29	14.16			13.76		7.17	13.28						
MW-10	21.17	5.90	15.27			17.18		6.79	14.38						
MW-11	22.03	7.78	14.25			13.87		8.73	13.30						
MW-12	21.41	8.24	13.17			14.50		8.40	13.01						
MW-14	20.07	6.31	13.76			15.27		6.75	13.32						
MW-15	21.08	7.78	13.30			13.59		8.63	12.45						
MW-16	21.45	9.43	12.02			14.12		9.46	11.99						
MW-21	21.76	7.96	13.80			16.05		9.23	12.53						
MW-22	21.69	7.36	14.33			15.81		7.66	14.03						
MW-24	21.56	9.14	12.42			14.68		9.59	11.97						
DW-2	22.91	8.96	13.95			13.48		9.86	13.05						
DW-6	22.83	8.17	14.66			14.20		8.99	13.84						
13MW-1	21.84	6.38	15.46			16.36		7.04	14.80						
13DW-1	22.17	8.37	13.80			13.42		9.05	13.12						
122MW-3	22.23	6.52	15.71			14.67		7.33	14.90						
122MW-4	19.60	3.03	16.57			16.94		4.46	15.14						
122MW-5	18.60														
122MW-6	18.38	3.42	14.96			14.85		3.57	14.81						
122MW-7	18.37	3.68	14.69			16.05		4.29	14.08						
122MW-8	21.25	8.34	12.91			13.42		8.53	12.72						
122MW-9	18.94	5.14	13.81					5.55	13.40						
122MW-11	21.37	6.12	15.25			16.66		6.21	15.16						
122MW-13	20.51	5.84	14.67			16.34		6.53	13.98						
122MW-14	23.41	7.36	16.05			16.16		7.30	16.11						
122RW-1	18.87	5.92	13.62					6.32	13.30						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

Soil and Groundwater Radiation
Campbell Street
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 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 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	7.40	14.29			13.68		7.05	14.64								
MW-9	20.45	7.00	13.45			13.75		5.82	14.63								
MW-10	21.17	6.56	14.61			14.61		5.60	15.57								
MW-11	22.03	8.45	13.58			13.87		7.21	14.82								
MW-12	21.41	8.29	13.12			13.07		7.82	13.59								
MW-14	20.07	6.33	13.74			13.39		5.86	14.21								
MW-15	21.08	8.36	12.72			12.82		7.29	13.79								
MW-16	21.45	9.54	11.91			21.45		9.43	12.02								
MW-21	21.76	8.92	12.84			13.29		7.67	14.09								
MW-22	21.69	7.48	14.21			14.11		7.20	14.49								
MW-24	21.56	9.47	12.09			13.06		9.17	12.39								
DW-2	22.91	9.91	13.00			13.53		8.49	14.42								
DW-6	22.83	8.77	14.06			14.26		7.79	15.04								
13MW-1	21.84	7.03	14.81			14.91		6.62	15.22								
13DW-1	22.17	8.86	13.31			13.48		8.02	14.15								
122MW-3	22.23	7.01	15.22			15.33		6.14	16.09								
122MW-4	19.60	4.34	15.26			15.17		3.14	16.46								
122MW-5	18.60							NOT MEASURED									
122MW-6	18.38	3.66	14.72			15.04											
122MW-7	18.37	4.09	14.28			14.27		3.43	14.94								
122MW-8	21.25	8.44	12.81			12.66		8.45	12.80								
122MW-9	18.94	5.56	13.38			13.67		NOT MEASURED									5.28
122MW-11	21.37	6.20	15.17			14.90											
122MW-13	20.51	6.21	14.30			14.27											
122MW-14	23.41	6.73	16.68			16.95											
122RW-1	18.87	6.25	13.72			13.74											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
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 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	7.12	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
UST System AS-143 and Building AS-4151

2/28/1997			1/25/1997			12/17/1996			
Sample Point	Top of Casing Elevation (ft., msl)	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		4.63	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		6.18	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		6.99	14.57		6.97	14.59
DW-2	22.91	7.86	15.05		6.32	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		5.49	16.35		6.38	15.46
13DW-1	22.17	7.41	14.76		7.21	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		2.83	15.54		3.45	14.92
122MW-8	21.25	5.63	15.62		6.62	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

DATA PROVIDED BY ENGINEERING & ENVIRONMENT, INC.

DECEMBER 2003 – JULY 2004

Campbell Street Fuel Farm - Well Gauging Data for December 2003 to July 2004

Well ID	Top of Casing Elevation (feet msl)	12/23/2003		1/29/2004		2/9/2004		3/17/2004		5/4/2004		6/9/2004		7/7/2004	
		Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Depth to Product (feet btoc)
MW03	21.69	5.58	NM	5.67	NM	5.97	NM	5.39	NM	4.75	NM	7.10	NM	6.98	NM
MW09	20.45	5.79	NM	5.11	NM	5.14	NM	4.83	NM	4.48	NM	6.11	NM	5.36	NM
MW10	21.17	5.67	NM	4.59	NM	4.76	NM	4.55	NM	4.25	NM	6.58	NM	6.80	NM
MW11	22.03	5.94	NM	6.35	NM	6.39	NM	6.10	NM	5.81	NM	7.68	NM	7.95	NM
MW12	21.41	6.55	NM	6.58	NM	6.65	NM	6.55	NM	5.83	NM	6.90	NM	6.83	NM
MW14	20.07	5.07	NM	5.08	NM	5.03	NM	5.00	NM	4.29	NM	5.91	NM	5.80	NM
MW15	21.08	6.21	NM	6.55	NM	6.68	NM	6.30	NM	5.92	NM	7.52	NM	7.69	NM
MW16	21.45	6.40	NM	6.35	NM	6.35	NM	6.57	NM	6.00	NM	6.67	NM	6.67	NM
MW21	21.76	6.53	NM	7.15	NM	7.27	NM	6.42	NM	5.72	NM	7.68	NM	7.68	NM
MW22	21.69	6.16	NM	6.30	NM	6.55	NM	6.31	NM	5.65	NM	6.92	NM	6.82	NM
MW24	21.56	7.66	NM	8.70	NM	8.99	NM	6.62	NM	6.95	NM	8.40	NM	8.17	NM
DW02	22.91	7.21	NM	7.68	NM	7.77	NM	7.46	NM	7.12	NM	8.78	NM	9.05	NM
DW06	22.83	6.50	NM	6.93	NM	7.06	NM	6.72	NM	6.35	NM	7.93	NM	8.17	NM
13MW-1	21.84	5.66	NM	5.95	NM	6.03	NM	5.88	NM	4.89	NM	6.01	NM	5.77	NM
13DW-1	22.17	6.80	NM	7.25	NM	7.35	NM	7.16	NM	6.61	NM	7.98	NM	8.18	NM
122MW-3	22.23	5.11	NM	4.80	NM	5.03	NM	5.54	NM	4.30	NM	6.79	NM	6.55	NM
122MW-4	19.60	3.98	NM	1.41	NM	2.55	NM	2.60	NM	1.20	NM	1.37	NM	1.98	NM
122MW-5	18.60	NA	NA	NA	NA	2.87	NM	3.68	NM	2.43	NM	4.51	NM	4.42	NM
122MW-6	18.38	6.23	NM	6.15	NM	6.37	NM	6.37	NM	5.56	NM	6.70	NM	6.58	NM
122MW-7	18.37	4.02	NM	2.70	NM	2.97	NM	3.30	NM	1.63	NM	3.55	NM	3.45	NM
122MW-8	21.25	7.65	NM	7.88	NM	8.15	NM	6.83	NM	7.22	NM	8.36	NM	8.17	NM
122MW-9	18.94	5.39	NM	4.79	NM	4.96	NM	4.70	NM	4.12	NM	4.80	NM	4.81	NM
122MW-11	21.37	NA	NA	NA	NA	11.02	NM	6.11	NM	5.93	NM	6.58	NM	6.20	NM
122MW-13	20.51	4.98	NM	4.83	NM	5.05	NM	5.37	NM	3.83	NM	5.67	NM	5.52	NM
122MW-14	23.41	6.32	NM	5.86	NM	5.73	NM	6.18	NM	5.47	NM	6.55	NM	6.60	NM
122RW-1	18.87	4.06	NM	4.31	NM	4.19	NM	4.07	NM	3.00	NM	4.40	NM	4.31	NM

feet msl - feet above/below mean sea level

feet btoc - feet below top of casing

NA - No Access

NM - Not Measurable; no measurable product thickness present

June-2004 - Sorbent socks installed in wells RW-1 and 122MW-9, sorbent sock replaced in well MW-9

July 2004 - damage to bollards, concrete pad, and riser observed at well 122MW-3

APPENDIX F

AGGRESSIVE FLUID-VAPOR RECOVERY DATA

FINAL ANNUAL MONITORING REPORT – JANUARY 2004

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

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
1/9/1997				6,000		0506	W-002	
1/6/1997	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