

FINAL
ANNUAL GROUNDWATER MONITORING REPORT 2006-2007
CAMPBELL STREET FUEL FARM

NCDENR Incident Number: 23297

Marine Corps Air Station
New River, North Carolina

June 10, 2007

Prepared for:



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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
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
CFR	Code of Federal Regulations
Cr	Chromium
CSA	Comprehensive Site Assessment
DIPE	Di-isopropyl 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
EDB	Ethylene dibromide
EMD	Environmental Management Division
EPA	Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
EQB	Environmental Quality Branch
Fe	Iron
FID	Flame Ionization Detector
FT	Feet
GCL	Gross Contaminant Level
GIS	Geographic Information System
GPS	Global Positioning System
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
LSA	Limited Site Assessment
LUST	Leaking Underground Storage Tank
m	Meter
MADEP	Massachusetts Department of Environmental Protection
MCAS	Marine Corps Air Station
MCB	Marine Corps Base

MDL	Method Detection Limit
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
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
NAVFAC	Naval Facilities Engineering Command Atlantic
NC	North Carolina
NCAC	North Carolina Administrative Code
NCDENR	North Carolina Department of Environment and Natural Resources
NE	None Established
NM	Not Measured
NMT	No Measurable Thickness
NS	Not Sampled
OVA	Organic Vapor Analyzer
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
SOW	Scope of Work
STGW	Soil-to-Groundwater
SVE	Soil Vapor Extraction
SVOC	Semi Volatile Organic Compound
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
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
WiRO	NCDENR Wilmington Regional Office

EXECUTIVE SUMMARY

The Campbell Street Fuel Farm (CSFF) site is an active bulk petroleum storage facility aboard Marine Corps Air Station (MCAS) New River, Jacksonville, North Carolina. It consists of four 215,000-gallon aboveground storage tanks (ASTs), which contain JP-5 fuel to be used in station aircraft. The site is located near the intersection of Campbell and White Streets and consists of two separate areas – one located at the fuel farm and Building AS-143 area and the second approximately 500 feet south near Building AS-4151. The remediation site is a result of leaks that occurred from former fuel farm underground storage tanks (USTs) and the underground delivery line that lies between the fuel farm and the Air Station flightline.

There were eight former USTs that were removed from the fuel farm in 1985. They were replaced with the four previously described ASTs. Building AS-143 is an active fueling station, and Building AS-4151 is a steam generation plant.

Site assessments were completed in the early to mid-1990s and identified petroleum impact to site soils and groundwater. As a result, a groundwater pump and treat remediation system was installed at the site. The system consists of three groundwater recovery trenches. One is located at the fuel farm, the second at Building AS-143, and the third at Building AS-4151. Groundwater is recovered from these trenches and piped to a central treatment compound located within the fuel farm. The contaminated groundwater is processed through an oil/water separator, an air stripper, and carbon filters before being discharged into a nearby drainage ditch. The system operated from 1996 – 2000 when portions of it were shut down in favor of aggressive fluid vapor recovery (AFVR) events. Note that the system is currently off and in the post operational phase, which is explained below.

Previous reports show that site soils comply with the Industrial/Commercial (I/C) maximum soil contaminant concentrations (MSCCs). In addition, groundwater contaminants are below gross contaminant levels (GCLs). The North Carolina Department of Environment and Natural Resources (NCDENR) allowed the Base to discontinue operation of the groundwater remediation system in total as of July 2005. Monthly gauging of site monitoring wells was conducted to track the presence of free product. No measurable free product was identified until April 2006.

Sovereign Consulting Inc. (Sovereign) currently conducts monthly gauging of the site. Groundwater elevations were generated from depth to water (DTW) measurements taken each month. Free product data was also obtained. One monitoring well within the CSFF area, USTCSFF-MW13, exhibited product beginning in April 2006. Product accumulations were recorded each month through February 2007. All product was hand bailed and properly disposed at each gauging event.

In February 2007, MCB Camp Lejeune conducted a localized soil excavation of the USTCSFF-MW13 area. Approximately 45.77 tons of petroleum contaminated soil was removed from the subsurface. The excavation centered around USTCSFF-MW13 and measured six feet in diameter and 12 feet deep. Laboratory analysis of soil samples taken from the excavation sidewalls showed the presence of iodomethane and 4-isopropyltoluene above the soil to

groundwater, residential, and industrial/commercial MSCCs. There are no established MSCCs for these two compounds, so any detection is considered reportable. As of the preparation of this report, the well has not been reinstalled.

Sovereign also conducted soil excavation activities in the area of a 2005 surface release (NCDENR incident number 87537) in June 2006. Approximately, 1,100 tons of petroleum impacted soils were excavated and properly disposed from the project site. Remedial actions were summarized and reported to NCDENR Division of Water Quality, Aquifer Protection Section in a report titled *FINAL Soil Cleanup Report, Campbell Street Fuel Farm, September 21, 2006* by Sovereign. The site remains open as additional soil remediation is required.

Based on historical data and fieldwork performed from June 2006 to May 2007, Sovereign recommends the continuance of monthly well gauging of the five currently gauged monitoring wells (USTCSFF-MW03, USTCSFF-MW04, USTCSFF-MW13, USTCSFF-MW16, and USTCSFF-MW17) and annual gauging of all site monitoring wells. Monitoring well USTCSFF-MW13 should be reinstalled, so that Sovereign can gauge for free product. Free product recovery should be employed in the event that free product is detected.

Since iodomethane and 4-isopropyltoluene were detected in the soil samples (01, 02, and 04) taken from the USTCSFF-MW13 excavation, Sovereign recommends the resampling of soil sample locations 01, 02, and 04 for VOCs (using EPA Method 8260) in one year to monitor compound concentrations. In addition, the groundwater remediation system should remain deactivated, as historical groundwater sampling results were below GCLs.

At the conclusion of the next monitoring period, a report of findings should be generated and submitted to NCDENR. If data warrants, request No Further Action with LURs. If free product and/or soil contamination persists at the site, then additional remedial activities should be evaluated.

1.0 TITLE PAGE

DATE OF REPORT: June 10, 2007

Facility I.D.: N/A

UST Incident Number: 23297

Site Name: Campbell Street Fuel Farm

Site Location: Marine Corps Air Station New River, North Carolina

Nearest City/Town: Jacksonville

County: Onslow

Risk Classification: Intermediate Risk

Land Use Classification: Industrial/Commercial

UST Owner: Commanding Officer – MCB Camp Lejeune

I&E/EMD/EQB

PSC Box 20004

Address: MCB Camp Lejeune, NC 28542-0004

Phone: (910) 451-5068

UST Operator: Same as above

Address: Same as above

Phone: Same as above

Property Owner: Same as above

Address: Same as above

Phone: Same as above

Property Occupant: Same as above

Address: MCB Camp Lejeune, NC

Phone: None

Consultant/Contractor: Sovereign Consulting Inc.

Address: 405 Oakmeads Crescent, Suite 1

Virginia Beach, VA 23462

Phone: 757-456-5093

Release Information

Date Discovered: Early 1990s

Latitude: 34° 43' 9.12" N

Longitude: 77° 27' 6.84" W

Estimated Quantity of Release: Unknown

Cause of Release: Unknown

Source of Release (Piping/UST): USTs and piping

Sizes and contents of UST system(s) from which the release occurred: The former system consisted of eight USTs in the vicinity of CSFF as well as a fuel delivery line which ran along White Street from the fuel farm to the Air Station flightline.



I, Nicole L. Hall a Professional Engineer for Sovereign Consulting Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

2.0 INTRODUCTION

The purpose of this report is to summarize data from recent groundwater gauging events at the Campbell Street Fuel Farm site aboard MCAS New River, Jacksonville, North Carolina. This data was collected from June 2006 through May 2007. The project's scope of work entailed monthly gauging of 46 site monitoring wells USTCSFF-MW03, MW04, MW05, MW06, MW07, MW08, MW09, MW10, MW11, MW12, MW13, MW14, MW15, MW16, MW17, MW20, MW21, MW22, MW24, MW25, DW01, DW02, DW04, DW05, DW06, USTAS142-MW01 (previously reported as MW18), USTAS143-MW26, as well as monitoring wells USTAS4151-DW01, DW01A, DW02, MW01A, MW02, MW02A, MW03, MW04, MW05, MW07, MW08, MW09, MW10, MW11, MW12, MW13, MW13A, MW14, and RW01. The monitoring plan was amended in January 2007 to reduce gauging events to monthly monitoring of only five wells (USTCSFF-MW03, USTCSFF-MW04, USTCSFF-MW13, USTCSFF-MW16, USTCSFF-MW17) for the duration of the 2006-2007 monitoring period. Results of Sovereign's 2006-2007 gauging events are presented in this report.

3.0 SITE HISTORY

The Campbell Street Fuel Farm site is located at the intersection of Campbell and White Streets aboard MCAS New River, Jacksonville, North Carolina. The site consists of two separate areas - one includes the fuel farm and building AS-143 and the other includes the area around building AS-4151. This second area is located approximately 500 feet south of the Campbell Street Fuel Farm (Figures 1-3). Review of MCB Camp Lejeune water supply well data shows there are no active water supply wells within 1,500 feet of the site.

The Campbell Street Fuel Farm is an active fuel storage facility. Four 215,000-gallon steel aboveground storage tanks hold JP-5 jet fuel that is pumped to the tarmac helicopter refueling station via an underground delivery line. This underground line runs from the fuel farm along White Street and then out onto the flightline. The current underground fuel line was installed in 1985 and replaced a former pipeline that was abandoned in place by J.A. Jones Environmental Services, Inc. (J.A. Jones) in 2000. The two lines are adjacent to one another. The four ASTs replaced a system of eight USTs in 1985. The eight USTs contained JP-5 and aviation gasoline and had varying capacities. Seven of the USTs were closed by removal and the eighth UST was reportedly closed in place. In May 2000, a 5,000-gallon concrete UST used to store JP-5 fuel was removed from the fuel farm area. Subsequent assessment indicated the tank site met criteria for classification as low risk and qualified for No Further Action. In addition, three surface releases occurred within the fuel farm area - in 2004, 2005, and 2006. Surface soil where the releases occurred was subsequently excavated during three separate excavation events. These incidents were all reported to NCDENR, Division of Water Quality, Aquifer Protection Section. Only the 2005 (Incident #87537) and 2006 (Incident # pending) incidents are active; the 2004 release is closed, as impacted soils were removed with confirmation soil sample results indicating no contamination above NCDENR action limits.

Building AS-143 is an active gasoline fueling station that supplies gasoline to government owned vehicles. The station stores unleaded gasoline in an AST located at the station. This AST replaced a 10,000-gallon fiberglass UST that was removed in 2000. The predecessor to the UST

was another 10,000-gallon UST; however, it was steel. Phase I and Phase II Limited Site Assessments were conducted after the 2000 UST removal. The studies found no soil or groundwater contamination above applicable standards.

Building AS-4151 is a steam generation plant. Three 100,000-gallon ASTs store No. 2 fuel oil, and one 1,000-gallon AST stores diesel fuel. One horizontal 30,000 gallon AST and one vertical 20,000 gallon AST are located on site, but are not in use. The fuel transfer line that runs from the Campbell Street Fuel Farm to the airfield runs along the eastern side of the site.

Various site assessments were conducted in the early to middle 1990s at the Fuel Farm/AS-143 and Building AS-4151 areas. These investigations identified petroleum constituents in soil and groundwater at the site, as well as the presence of free product. The contamination was attributed to leaks from former UST systems and from the former JP5 pipeline. In 1994, two corrective action plans (CAPs) were prepared, one for the Fuel Farm/AS-143 area and one for the Building AS-4151 area. The CAP for the Fuel Farm/AS-143 area recommended removal of petroleum affected soils and installation of groundwater recovery trenches. Groundwater recovered by the trenches would be treated by a groundwater treatment system that included an oil/water separator, air stripper, and granular activated carbon before being discharged into a nearby drainage ditch. The CAP for the Building AS-4151 area recommended cleaning and abandoning the JP5 pipeline, excavation of petroleum affected soils from beneath the underground fuel line along the east side of the site, and installation of another groundwater recovery trench. Excavation of soils at either location has not been completed to date; however, cleaning and abandonment of the pipeline was completed in 2000 by J.A. Jones.

In 1996, a groundwater pump and treat system was installed and put into operation. Two groundwater recovery trenches were installed at the Fuel Farm/AS-143 area, and a third trench was installed at the Building AS-4151 site. Captured groundwater was pumped to a treatment system located within the fuel farm, which included an oil/water separator, a low profile air stripper, and granular activated carbon canisters. The treated effluent was discharged under permit to a drainage ditch south of the treatment building. In 1999, extraction wells were installed in both the Fuel Farm/AS-143 and Building AS-4151 areas and connected to the treatment system to enhance removal of contamination.

A remediation optimization study was conducted by Radian International in 2000. The study recommended that the pump and treat system be deactivated in favor of performing AFVR events as needed at the site. They also recommended implementation of monitored natural attenuation. Based on the recommendations of the Radian optimization study, the recovery trenches located at the Fuel Farm and Building AS-4151 were deactivated, while the AS-143 trench remained in operation. In 2001, the AS-4151 trench was reactivated due to the presence of free product.

Site groundwater monitoring activities were conducted in conjunction with operation of the treatment system. Data from monitoring activities conducted from 1996 through 2002 indicated that concentrations of petroleum constituents in groundwater at some wells were above NCGWQSs; however, concentrations have decreased over time. Measurable free product was detected in site wells, with the last incidence of product recorded in 2002. AFVR events were conducted at the site, and sorbent socks were also used when needed.

CATLIN prepared an optimization study and revised CAP in May 2005 followed by an addendum in February 2006. The studies indicated that the site meets criteria for classification as Intermediate Risk and Industrial/Commercial land use. As of the preparation of the reports, soils were shown to meet I/C MSCCs, and groundwater contaminants were below established GCLs. In addition, no measurable free product was identified at the site since January 2002. As a result of the May 2005 optimization report, NCDENR recommended that the Base shut down the groundwater treatment system and gauge wells in the area for a period of one year. The groundwater treatment system was subsequently shut-down in July 2005.

J.A Jones, Shaw Environmental and Infrastructure, Inc. (Shaw), and Engineering and Environment, Inc. (EEI) conducted inspections, monitoring, and maintenance of the groundwater treatment system and site from 1996 – August 2005. Sovereign has had cognizance over current remediation operations at the site since October 2005. Since the groundwater treatment system was deactivated in July 2005, Sovereign conducts only monthly gauging of the site. Sovereign recommendations from the 2005-2006 monitoring period included the continuance of monthly well gauging at all site wells. Sovereign also recommended that the groundwater remediation system remain deactivated, as groundwater sampling results were below GCLs.

4.0 MONITORING PERIOD ACTIVITIES – 2006-2007

Two noteworthy events occurred during the 2006-2007 monitoring period. First, Sovereign conducted a large scale soil excavation within the CSFF in June 2006. Excavation activities were in response to a surface release from an open fuel sample port, in which approximately 200 gallons of JP-5 jet fuel was released on August 15, 2005. Sovereign excavated and disposed of approximately 1,100 tons of petroleum impacted soils from the project site. At the time of the incident, MCB Camp Lejeune reported the incident to DWQ/APS; response actions were summarized and submitted to NCDENR in two reports titled *Soil Contamination Report, Campbell Street Fuel Farm Site, September 22, 2005* by EEI and *FINAL Soil Cleanup Report, Campbell Street Fuel Farm, September 21, 2006* by Sovereign. The NCDENR incident number for this release is 87537.

Confirmation soil samples were taken from the sidewalls of the June 2006 excavation (Figure 8). Laboratory results indicated the sidewall soil samples from the northern, western, and southern sidewalls did not contain total petroleum hydrocarbon concentrations above NCDENR action levels. The eastern sidewall, however, contained diesel range organics at one soil sample location (SB12) at a concentration of 368 mg/kg, as compared to the 40 ppm action level. The two soil samples that were analyzed from within the pump station also showed petroleum hydrocarbons above NCDENR action levels of 10 mg/kg and 40 mg/kg for TPH-GRO and TPH-DRO, respectively. Further soil excavation in the vicinity of the pump station, however, was not performed at the time due to the potential for structural damage to the extensive amount of aboveground piping at the site. This site remains open as additional soil remediation is required.

Sovereign also assessed groundwater quality in the excavation area by installing a Type II groundwater monitoring well (USTCSFF-MW25). Samples were analyzed for EPA Methods 602 + MTBE + xylenes and 625 + TICs. Laboratory results show no 602 or 625 contaminants present above 2L standards. Only toluene was present in the groundwater sample at a concentration of 0.765 µg/L, as compared to the groundwater quality standard of 1,000 µg/L.

The second major 2006-2007 event was a soil excavation of the USTCSFF–MW13 monitoring well area. Free product was discovered in the well during Sovereign’s April 2006 gauging event. Monitoring well USTCSFF-MW13 had not been previously gauged since 2001. Product thickness ranged from 0.03 feet (November 2006) to 1.59 feet (April 2006) since first discovery in April 2006. In an effort to remove the free phase product, MCB Camp Lejeune abandoned MW13 and conducted a soil excavation of the monitoring well area on February 9, 2007. Osage of Virginia (Osage) removed approximately 45.77 tons of contaminated soil from the subsurface. The excavation centered around MW13 and measured six feet in diameter and 12 feet deep. Figure 8 shows the approximate boundaries of the excavation, and Appendix E contains excavation documentation. Groundwater was not encountered during excavation activities; therefore, no groundwater samples were obtained.

Osage personnel obtained soil samples from the sidewalls of the MW13 excavation. Samples were taken from the 4-5 feet depth interval and analyzed for volatile organic compounds (VOCs, EPA Method 8260), semi-VOCs (EPA Method 8270), and Massachusetts Department of Environmental Protection (MADEP) constituents (MADEP Methods). Tables 4-7 and Figures 9-11 summarize laboratory analytical results from the sampling event, and the following paragraphs briefly discuss the findings. The laboratory analytical report can be found in Appendix B. As of the preparation of this report, monitoring well MW13 has not been reinstalled.

EPA Method 8260

A total of 15 VOCs were detected in the soil samples. Five of the 15 contaminants were detected at concentrations less than their corresponding soil to groundwater (STGW) MSCCs. Those five compounds were acetone, 2-butanone, carbon disulfide, ethylbenzene, and m-,p-xylene. Eight of the remaining 10 compounds (benzene, n-butylbenzene, sec-butylbenzene, isopropylbenzene, naphthalene, n-propyl benzene, 1,2,4-trimethylbenzene, and 1,3,5- trimethylbenzene) were detected at concentrations that exceeded their established STGW MSCCs, but below their residential MSCCs. The final two compounds that were detected, 4-isopropyltoluene and iodomethane, do not have established MSCCs; therefore, any detection is considered an exceedence. The compound 4-isopropyltoluene (synonymous with p-isopropyltoluene and p-cymene; chemical formula $C_{10}H_{14}$) is a naturally occurring aromatic organic compound. This compound was detected in soil samples 01, 02, and 04 at concentrations of 0.531 mg/kg, 1.35 mg/kg, and 5.56 mg/kg, respectively. When compared to the C_9 - C_{22} Aromatic MSCCs of 34 mg/kg (STGW) and 469 mg/kg (residential), the detected 4-isopropyltoluene concentrations are all well below both values. Iodomethane is a reagent primarily used for adding methyl groups to other compounds and was detected in soil samples 01 and 02 at concentrations of 0.258 mg/kg and 0.537 mg/kg, respectively. A similar comparison cannot be made with iodomethane since its structure is neither based on the aromatic benzene ring, nor the aliphatic carbon chain.

EPA Method 8270

The soil samples from the site also exhibited semi-volatile organic compounds. A total of seven compounds were detected. Concentrations were all below the residential MSCCs. Benzo[a]anthracene was found in soil sample 02 at a concentration of 0.379 mg/kg. This is just above the STGW MSCC (0.34 mg/kg) and below the residential MSCC (0.88 mg/kg). Soil sample 02 also exhibited chrysene at 0.386 mg/kg, which is below the STGW MSCC.

Fluoranthene was detected in soil samples 01 and 02 at concentrations well below the STGW MSCC of 280 mg/kg. The compound 2-methylnaphthalene was detected in samples 01, 02, and 04 above the STGW MSCC, but below the residential MSCC. Concentrations were 5.55 mg/kg, 2.62 mg/kg, and 21.4 mg/kg, respectively. Naphthalene concentrations detected in the 8270 analysis closely correlated with those found in the 8260 analysis. The compound was detected in samples 01, 02, and 04 at concentrations of 3.45 mg/kg, 2.62 mg/kg, and 14.3 mg/kg, which are above the STGW MSCC (0.58 mg/kg) and below the residential MSCC (313 mg/kg). Finally, phenanthrene and pyrene were detected in soil samples 01 and 02 at concentrations well below their applicable STGW MSCCs.

MADEP Methods

MADEP constituents were also detected in the soils around MW13. Laboratory analysis detected C₅-C₈ Aliphatics concentrations in soil samples 01 (47 mg/kg), 02 (58 mg/kg), and 04 (580 mg/kg). None of the detected concentrations were above the residential MSCC of 939 mg/kg; the STGW MSCC for C₅-C₈ Aliphatics is 72 mg/kg. Soil samples 01, 02, and 04 contained C₉-C₁₈ Aliphatics at concentrations of 630 mg/kg, <220 mg/kg, and 7,260 mg/kg, respectively. Again, none of the concentrations were above the residential MSCC of 9,386 mg/kg. The STGW MSCC is 3,300 mg/kg. There were no detections of C₁₉-C₃₆ Aliphatics in any of the soil samples. C₉-C₂₂ Aromatics were also detected at the site in soil samples 01, 02, and 04 at concentrations of 400 mg/kg, <210 mg/kg, and 1,250 mg/kg, respectively. The STGW and residential MSCCs for C₉-C₂₂ Aromatics are 34 mg/kg and 469 mg/kg. Soil sample 01 and 02 contained C₉-C₂₂ Aromatics above the STGW MSCC, but below the residential MSCC, while the sample 04 C₉-C₂₂ Aromatics concentration was above the residential MSCC, but below the industrial/commercial MSCC of 12,264 mg/kg.

Finally, two monitoring wells behind Building AS-4151 were abandoned in February 2007 – USTAS4151-MW01 and USTAS4151-MW03. These wells were in a construction area and had to be abandoned to complete construction activities. MCB Camp Lejeune did not replace these wells since product has not been present in the wells, and they were located far from site source areas. Abandonment records are included in Appendix C.

The remaining sections of this report summarize the details associated with groundwater gauging activities at the Campbell Street Fuel Farm Site from June 2006 – May 2007.

5.0 GAUGING RESULTS

Upon submittal of the May 2005 CATLIN optimization report and revised CAP, NCDENR recommended in a letter dated June 28, 2005 that the groundwater treatment system be shut-down and site wells be gauged for rebound for a period of one year. Only monthly gauging events have, therefore, been conducted to date. EEI submitted monthly gauging data, as well as groundwater sampling data in an annual monitoring report for the site dated December 2005. Sovereign then submitted a follow on annual report dated June 2006. This report does not discuss operation and maintenance of the system since it is currently non-operational.

Upon system deactivation in July 2005, monthly gauging events were conducted at 26 wells associated with the Campbell Street Fuel Farm site. The gauging list was expanded in 2006 and currently includes a total of 46 wells.

Sovereign field personnel gauged site monitoring wells using an interface probe from June 2006 to May 2007. Those included USTCSFF-MW03, MW04, MW05, MW06, MW07, MW08, MW09, MW10, MW11, MW12, MW13, MW14, MW15, MW16, MW17, MW20, MW21, MW22, MW24, MW25, DW01, DW02, DW04, DW05, DW06, USTAS142-MW01 (previously reported as MW18), USTAS143-MW26, as well as monitoring wells USTAS4151-DW01, DW01A, DW02, MW01A, MW02, MW02A, MW03, MW04, MW05, MW07, MW08, MW09, MW10, MW11, MW12, MW13, MW13A, MW14, and RW01.

Depth to water in the CSFF/AS-143 area ranged from 0.11 feet (USTAS142-MW01 in August 2006) to 8.67 feet (USTCSFF-DW02 in June 2006) across the site. Depth to water in the AS-4151 area ranged from 1.58 feet (USTAS4151-MW04 in January 2007) to 8.37 feet (USTAS4151-DW02 in June 2006).

Groundwater flow in the CSFF/AS-143 area generally flowed to the south and south southwest in the AS-143 and eastern fuel farm area. A southeastern flow was observed in the western part of the fuel farm area. Figures 4A, 5A, 6A, and 7 show groundwater elevations from the June 2006, September 2006, December 2006, and March 2007 gauging events, respectively.

Groundwater flow in the AS-4151 area was observed to be mainly in the eastern direction. Figures 4B, 5B, and 6B show groundwater elevations and associated contours from the June 2006, September 2006, and December 2006 events. From the figures, one observes a low point in the vicinity of USTAS4151-MW09.

Monitoring well USTCSFF-MW13 contained measurable free product each month during the 2006-2007 monitoring period until it was abandoned on February 9, 2007 in preparation for the previously discussed localized soil excavation. Free product measured as little as 0.03 feet in November 2006 to as much as 0.45 feet in September 2006 during the current monitoring period. A total of 11 months of data was recorded for MW13 beginning with (and including) April 2006. Product was hand bailed from the well during each gauging event. MCB Camp Lejeune performed a localized soil excavation around MW13 in an attempt to remedy the recurring free product. Gauging events of the well will be implemented once the well is re-installed.

Groundwater elevation and product thickness data is summarized in Tables 2 and 3, and Figures 4-7 show groundwater elevations at the site.

6.0 RECEPTOR SURVEY

Sovereign reassessed site conditions and concluded that the receptor survey previously completed by CATLIN in the May 2005 RAO and RCAP report still applies. There have been no changes in receptor impact, and there have been no changes to land use of the site or the surrounding areas. The survey can be located in the May 2005 CATLIN report as well as in the 2005-2006 Sovereign Annual Groundwater Monitoring Report.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on historical data and fieldwork performed from June 2006 to May 2007, the following conclusions are presented:

1. No water supply wells are located within 1,500 feet of the site.
2. Groundwater flow in the vicinity of the Fuel Farm and Building AS-143 for the surficial aquifer is to the south, south southwest, and southeast, and in the vicinity of Building AS-4151, flow is generally to the east.
3. Soil data from previous reports indicates that site soils meet the Industrial/Commercial MSCCs with three exceptions: soil sample locations 01, 02, and 04 from the USTCSFF-MW13 excavation contain detectable iodomethane and 4-isopropyltoluene concentrations. There are no established MSCCs for these compounds, so any detection is considered an exceedance. Note – one soil sample, SB12, from the surface release incident #87537 contains TPH-DRO above the NCDENR action limit of 40 mg/kg.
4. Historical groundwater data shows that groundwater meets GCLs.
5. Free product was observed within the fuel farm area in USTCSFF-MW13 from April 2006 to February 2007. Detected amounts ranged from a low of 0.03 feet to a high of 1.59 feet. In an attempt to remove the free product, soil excavation activities were performed in the vicinity of the monitoring well area on February 9, 2007.
6. Monitoring well USTCSFF-MW13 has not been replaced as of the preparation of this report.

The following recommendations are offered for the next monitoring period:

1. Reinstall monitoring well USTCSFF-MW13 and gauge monthly for the presence of free product. Again, if encountered, free product should be removed immediately and properly disposed.
2. Continue conducting monthly well gauging of the five currently gauged site monitoring wells (USTCSFF-MW03, USTCSFF-MW04, USTCSFF-MW13, USTCSFF-MW16, and USTCSFF-MW17) and annual gauging of all site monitoring wells. If encountered, free product should be removed immediately and properly disposed.
3. Resample soil sample locations 01, 02, and 04 for VOCs (using EPA Method 8260) in the area of former USTCSFF-MW13 in one year to monitor iodomethane and 4-isopropyltoluene concentrations. If concentrations persist, additional remedial actions should be evaluated.
4. Ensure soil contamination existing around soil sample SB12 in connection with the surface release incident is addressed.
5. The groundwater remediation system should remain deactivated, as historical groundwater sampling results were below GCLs.

At the conclusion of the next monitoring period, a report of findings should be generated and submitted to NCDENR. If data warrants, request No Further Action with LURs. If free product and/or soil contamination persists at the site, however, additional remedial activities should be evaluated.

7.0 REFERENCES

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TABLES

TABLE 1
WELL CONSTRUCTION DATA
CAMPBELL STREET FUEL FARM - INCIDENT # 23297

Monitoring Well	Date Installed	Measured Well Depth (feet below TOC)	Top of Casing Elevation (feet)
USTCSFF-MW03	12/12/1991	17.80	21.07
USTCSFF-MW04	12/12/1991	18.01	21.90
USTCSFF-MW05	12/12/1991	18.06	23.05
USTCSFF-MW06	12/13/1991	18.51	19.55
USTCSFF-MW07	12/13/1991	17.78	20.43
USTCSFF-MW08	11/19/1992	15.50	19.56
USTCSFF-MW09	11/19/1992	16.51	19.49
USTCSFF-MW10	11/19/1992	17.85	20.22
USTCSFF-MW11	11/18/1992	18.65	21.11
USTCSFF-MW12	11/19/1992	16.70	20.64
USTCSFF-MW13	11/20/1992	17.71	21.61
USTCSFF-MW14	11/20/1992	15.62	19.14
USTCSFF-MW15	11/21/1992	18.55	20.72
USTCSFF-MW16	11/20/1992	14.52	20.55
USTCSFF-MW17	11/20/1992	16.62	21.70
USTAS142-MW01	11/22/1992	17.00	17.35
USTCSFF-MW20	11/23/1992	13.72	18.64
USTCSFF-MW21	11/21/1992	16.51	20.95
USTCSFF-MW22	11/23/1992	16.00	20.15
USTCSFF-MW24	11/22/1992	13.61	20.62
USTCSFF-MW25	7/22/2006	18.05	19.07
USTAS143-MW26	11/30/2005	15.30	16.98
USTCSFF-DW01	12/18/1991	32.68	19.92
USTCSFF-DW02	1/7/1992	32.10	22.06
USTCSFF-DW04	11/22/1992	55.10	20.12
USTCSFF-DW05	11/19/1992	44.12	21.78
USTCSFF-DW06	12/2/1992	48.95	20.94
USTAS4151-DW01	12/1/1991	31.90	21.28
USTAS4151-DW01A	6/23/1992	43.49	17.90
USTAS4151-DW02	6/24/1992	43.16	21.87
USTAS4151-MW01A	6/18/1992	18.65	21.88
USTAS4151-MW02	6/18/1992	21.27	21.67
USTAS4151-MW02A	Unknown	18.13	21.11
USTAS4151-MW03	6/18/1992	16.45	21.31
USTAS4151-MW04	6/18/1992	13.80	18.82
USTAS4151-MW05	6/19/1992	13.11	17.77
USTAS4151-MW07	6/20/1992	13.09	17.52
USTAS4151-MW08	1/14/1993	14.73	20.34
USTAS4151-MW09	1/13/1993	14.21	18.04
USTAS4151-MW10	1/12/1993	13.98	20.80
USTAS4151-MW11	1/13/1993	8.43	20.56
USTAS4151-MW12	1/14/1993	16.87	20.00
USTAS4151-MW13	1/14/1993	15.51	19.72
USTAS4151-MW13A	12/1/1991	16.49	21.09
USTAS4151-MW14	1/13/1993	17.56	22.57
USTAS4151-RW01	1/31/1993	14.90	18.00

Wells not listed were either unable to be located or abandoned and, therefore, not gauged.

Wells above double line are associated with the CSFF/AS143 area; wells below the double line are associated with the AS4151 area.

TABLE 2
GROUNDWATER ELEVATION DATA – JUNE 2006 TO MAY 2007
CAMPBELL STREET FUEL FARM - INCIDENT # 23297

Monitoring Well	Top of Casing Elevation (feet)	Groundwater Elevation (feet)											
		6/5/2006	7/13/2006	8/4/2006	9/12/2006	10/4/2006	11/1/2006	12/5/2006	1/4/2007	2/2/2007	3/2/2007	4/2/2007	5/7/2007
USTCSFF-MW03	21.07	14.34	14.75	15.77	15.62	14.62	15.55	15.32	15.81	15.50	16.61	14.35	14.12
USTCSFF-MW04	21.90	13.42	13.79	14.45	14.89	13.79	13.99	14.18	14.32	14.41	14.42	13.89	13.50
USTCSFF-MW05	23.05	14.41	14.89	16.06	15.89	14.63	15.06	14.96	15.15	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW06	19.55	13.05	13.00	13.55	13.49	13.04	13.32	13.23	13.33	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW07	20.43	13.53	13.76	16.02	15.55	13.83	15.66	15.86	16.07	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW08	19.56	14.10	14.26	15.51	15.35	14.26	15.53	15.45	15.71	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW09	19.49	13.52	13.89	14.52	14.95	13.92	14.12	14.34	14.52	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW10	20.22	14.01	14.32	15.98	15.62	14.35	15.39	15.30	15.60	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW11	21.11	13.66	14.04	14.71	15.18	14.03	14.34	14.55	14.84	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW12	20.64	13.77	13.89	14.57	14.53	13.89	14.12	14.04	14.22	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW13	21.61	13.85	14.24	14.42	14.60	13.86	13.81	14.06	14.24	14.43	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW14	19.14	13.39	13.52	14.12	14.14	13.44	13.94	13.83	14.19	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW15	20.72	13.24	13.61	14.25	14.66	13.70	13.85	14.02	14.29	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW16	20.55	13.91	13.82	14.00	13.95	13.65	13.68	13.98	14.10	14.18	14.12	13.65	13.69
USTCSFF-MW17	21.70	16.01	16.25	17.50	17.25	15.80	16.79	16.95	17.45	17.69	17.75	16.30	15.64
USTAS142-MW01	17.35	15.17	15.47	17.24	16.55	15.17	16.04	15.75	16.25	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW20	18.64	15.93	15.94	16.92	17.61	15.52	18.43	15.74	15.91	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW21	20.95	13.66	14.02	14.86	15.05	13.97	14.53	14.50	14.75	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW22	20.15	13.26	13.43	13.93	13.92	13.38	13.60	13.45	13.70	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW24	20.62	13.35	13.46	14.22	14.21	13.39	13.80	13.77	14.02	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-MW25	19.07	Not Calculated	Not Calculated	Not Calculated	Not Calculated	13.97	14.17	14.32	14.62	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS143-MW26	16.98	Not Calculated	Not Calculated	Not Calculated	Not Calculated	12.91	13.03	13.27	13.31	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-DW01	19.92	13.16	13.57	14.20	14.67	13.60	13.77	13.92	14.10	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-DW02	22.06	13.39	13.80	14.46	14.96	13.84	14.04	14.24	14.61	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-DW04	20.12	13.47	13.87	14.51	15.01	13.92	14.09	14.32	14.50	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-DW05	21.78	13.15	13.57	14.20	14.70	13.61	13.78	13.96	14.13	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTCSFF-DW06	20.94	13.11	13.52	14.12	14.39	13.54	13.68	13.83	13.99	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-DW01	21.28	18.14	13.76	14.27	14.71	13.77	13.86	14.12	14.26	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-DW01A	17.90	13.22	13.72	14.22	14.63	13.73	13.83	14.00	14.18	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-DW02	21.87	13.50	13.92	14.46	14.91	13.96	14.05	14.32	14.42	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW01	21.88	15.99	16.22	15.37	16.72	15.56	15.86	NM	16.08	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW02	21.67	15.63	15.86	16.40	16.03	15.05	15.07	15.85	16.24	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW02A	21.11	14.60	14.65	14.65	14.69	14.56	14.66	14.70	14.75	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW03	21.31	14.73	15.04	16.00	16.26	14.47	15.15	15.76	Not Calculated	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW04	18.82	16.85	15.88	16.54	16.37	15.68	16.10	15.92	17.24	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW05	17.77	13.89	13.77	14.22	14.25	13.70	14.12	14.14	14.37	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW07	17.52	14.06	14.27	14.98	14.82	14.05	14.49	14.34	14.75	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW08	20.34	13.69	13.82	14.14	15.07	13.62	13.88	13.74	13.94	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW09	18.04	13.51	13.47	13.87	13.77	13.44	13.56	13.32	13.19	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW10	20.80	14.80	14.80	15.58	15.29	14.38	15.08	15.02	15.36	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW11	20.56	14.77	14.55	15.13	14.89	14.38	14.91	14.58	14.93	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW12	20.00	14.26	14.48	15.13	14.98	14.28	14.59	14.52	14.88	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW13	19.72	14.10	14.32	15.01	14.87	14.11	14.51	14.44	14.89	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW13A	21.09	14.97	15.32	15.76	15.64	15.19	15.44	15.28	15.49	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-MW14	22.57	16.22	16.45	16.94	16.35	15.40	15.46	16.36	16.72	Not Calculated	Not Calculated	Not Calculated	Not Calculated
USTAS4151-RW01	18.00	14.03	14.20	14.55	14.42	13.89	14.14	13.80	13.70	Not Calculated	Not Calculated	Not Calculated	Not Calculated

Not Calculated = Well DTW not measured; either not accessible or not designated as part of gauging program; groundwater elevation not calculated.
Wells above double line are associated with the CSFF/AS143 area; wells below the double line are associated with the AS4151 area.

TABLE 3
PRODUCT THICKNESS DATA – JUNE 2006 TO MAY 2007
CAMPBELL STREET FUEL FARM - INCIDENT # 23297

Monitoring Well	Top of Casing Elevation (feet)	Product Thickness (feet)											
		6/5/2006	7/13/2006	8/4/2006	9/12/2006	10/4/2006	11/1/2006	12/5/2006	1/4/2007	2/2/2007	3/2/2007	4/2/2007	5/7/2007
USTCSFF-MW03	21.07	--	--	--	--	--	--	--	--	--	--	--	--
USTCSFF-MW04	21.90	--	--	--	--	--	--	--	--	--	--	--	--
USTCSFF-MW05	23.05	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW06	19.55	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW07	20.43	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW08	19.56	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW09	19.49	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW10	20.22	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW11	21.11	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW12	20.64	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW13	21.61	0.30	0.15	0.19	0.45	0.35	0.03	0.09	0.13	0.28	NM	NM	NM
USTCSFF-MW14	19.14	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW15	20.72	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW16	20.55	--	--	--	--	--	--	--	--	--	--	--	--
USTCSFF-MW17	21.70	--	--	--	--	--	--	--	--	--	--	--	--
USTAS142-MW01	17.35	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW20	18.64	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW21	20.95	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW22	20.15	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW24	20.62	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-MW25	19.07	NM	NM	NM	NM	--	--	--	--	NM	NM	NM	NM
USTAS143-MW26	16.98	NM	NM	NM	NM	--	--	--	--	NM	NM	NM	NM
USTCSFF-DW01	19.92	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-DW02	22.06	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-DW04	20.12	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-DW05	21.78	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTCSFF-DW06	20.94	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-DW01	21.28	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-DW01A	17.90	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-DW02	21.87	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW01	21.88	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW02	21.67	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW02A	21.11	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW03	21.31	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW04	18.82	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW05	17.77	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW07	17.52	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW08	20.34	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW09	18.04	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW10	20.80	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW11	20.56	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW12	20.00	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW13	19.72	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW13A	21.09	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-MW14	22.57	--	--	--	--	--	--	--	--	NM	NM	NM	NM
USTAS4151-RW01	18.00	--	--	--	--	--	--	--	--	NM	NM	NM	NM

"--" = No measurable free product detected.

NM = Well not measured; either not accessible or not designated as part of gauging program.

BOLD and **shaded** - measurable free product thickness.

Wells above double line are associated with the CSFF/AS143 area; wells below the double line are associated with the AS4151 area.

TABLE 4
FEBRUARY 2007 MW13 AREA EXCAVATION SOIL SAMPLING RESULTS
CAMPBELL STREET FUEL FARM - INCIDENT # 23297
Analytical Method – EPA Method 8260

Sample ID	Contaminant of Concern →		Acetone	Benzene	2-Butanone	n-Butylbenzene	Sec-Butylbenzene	Carbon disulfide	Ethylbenzene	Iodomethane	Isopropylbenzene	4-Isopropyltoluene	Naphthalene	n-Propyl benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m-,p-Xylene
	Date Collected	Sample Depth (ft BGS)															
CSFF-MW13-SS01	2/9/2007	4-5	<4.64	<0.186	<4.64	1.09	0.497	<0.186	0.312	0.258	<0.186	0.531	1.59	0.432	3.13	1.01	<0.371
CSFF-MW13-SS02	2/9/2007	4-5	<11.7	<0.467	<11.7	2.33	0.981	<0.467	0.532	0.537	<0.467	1.35	2.28	0.701	4.99	1.59	<0.934
CSFF-MW13-SS03	2/9/2007	4-5	0.0878	0.00589	0.0309	<0.00474	<0.00474	0.0136	0.00807	<0.00474	<0.00474	<0.00474	0.0257	<0.00474	0.0211	0.0108	<0.00948
CSFF-MW13-SS04	2/9/2007	4-5	<30.1	<1.2	<30.1	14.7	6.39	<1.2	3.38	<1.2	1.84	5.56	12.8	4.96	33.3	11.7	2.44
Soil to groundwater MSCC (mg/kg)			2.8	0.0056	17	4.3	3.3	4.3	4.6	NE	1.7	NE	0.58	1.7	7.5	7.3	5
Residential MSCC (mg/kg)			1,564	18	9,385	626	626	1,564	1,560	NE	1,564	NE	313	626	782	782	3,129
Industrial/Commercial MSCC (mg/kg)			40,880	164	245,280	16,350	16,350	40,880	40,000	NE	40,880	NE	8,176	16,350	20,440	20,440	81,760

- MSCC = maximum soil contamination concentration
- ft. BGS = feet below ground surface
- Results reported in mg/kg.
- mg/kg = milligrams per kilogram
- **BOLD** = Detected concentration.

TABLE 5
FEBRUARY 2007 MW13 AREA EXCAVATION SOIL SAMPLING RESULTS
CAMPBELL STREET FUEL FARM - INCIDENT # 23297
Analytical Method – EPA Method 8270

Sample ID	Contaminant of Concern →		Benzo[a]anthracene	Chrysene	Fluoranthene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	All Other Compounds
	Date Collected	Sample Depth (ft BGS)								
CSFF-MW13-SS01	2/9/2007	4-5	<0.358	<0.358	0.426	5.55	3.45	0.537	0.401	BQL
CSFF-MW13-SS02	2/9/2007	4-5	0.379	0.386	1.29	3.87	2.62	1.06	1.42	BQL
CSFF-MW13-SS03	2/9/2007	4-5	<0.348	<0.348	<0.348	<0.348	<0.348	<0.348	<0.348	BQL
CSFF-MW13-SS04	2/9/2007	4-5	<3.57	<3.57	<3.57	24.1	14.3	<3.57	<3.57	BQL
Soil to groundwater MSCC (mg/kg)			0.34	38	280	1.7	0.58	60	290	Varies
Residential MSCC (mg/kg)			0.88	88	620	63	313	469	469	Varies
Industrial/Commercial MSCC (mg/kg)			8	780	16,400	1,635	8,176	12,264	12,264	Varies

- MSCC = maximum soil contamination concentration
- ft. BGS = feet below ground surface
- Results reported in mg/kg.
- mg/kg = milligrams per kilogram
- **BOLD** = Detected concentration.

TABLE 6
FEBRUARY 2007 MW13 AREA EXCAVATION SOIL SAMPLING RESULTS
CAMPBELL STREET FUEL FARM - INCIDENT # 23297
Analytical Method: MADEP Method VPH/EPH

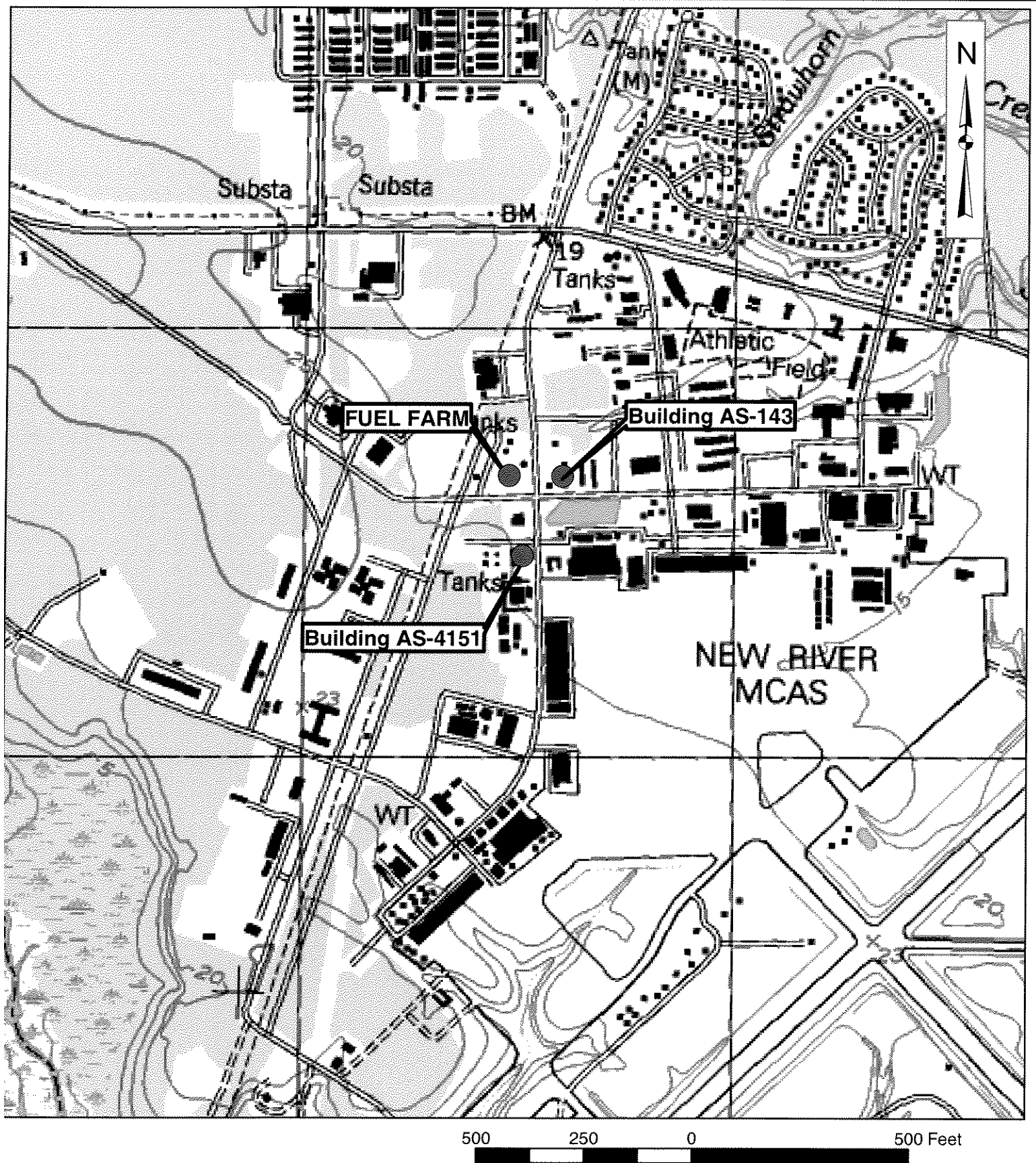
Contaminant of Concern →			C ₅ -C ₈ Aliphatics	C ₉ -C ₁₂ Aliphatics	C ₉ -C ₁₀ Aromatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₁₁ -C ₂₂ Aromatics
Sample ID	Date Collected	Sample Depth (ft BGS)						
CSFF-MW13-SS01	2/9/2007	4-5	47	180	160	450	<20	240
CSFF-MW13-SS02	2/9/2007	4-5	58	210	200	<10	<10	<10
CSFF-MW13-SS03	2/9/2007	4-5	<10	<10	<10	<10	<10	<10
CSFF-MW13-SS04	2/9/2007	4-5	580	760	460	6,500	<200	790

TABLE 7
FEBRUARY 2007 MW13 AREA EXCAVATION SOIL SAMPLING RESULTS
CAMPBELL STREET FUEL FARM - INCIDENT # 23297
Analytical Method: MADEP Method VPH/EPH as compared to NCDENR MSCCs

Contaminant of Concern →			C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₂₂ Aromatics
Sample ID	Date Collected	Sample Depth (ft BGS)				
CSFF-MW13-SS01	2/9/2007	4-5	47	630	<20	400
CSFF-MW13-SS02	2/9/2007	4-5	58	<220	<10	<210
CSFF-MW13-SS03	2/9/2007	4-5	<10	<20	<10	<20
CSFF-MW13-SS04	2/9/2007	4-5	580	7,260	<200	1,250
Soil to Groundwater MSCC (mg/kg)			72	3,300	##	34
Residential MSCC (mg/kg)			939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264

- All results reported in mg/kg
- mg/kg = milligrams per kilogram
- MSCC = Maximum Soil Contaminant Concentration
- <# = less than the reporting limit
- # = Health Based Level >100%
- ## = Considered immobile
- **BOLD** = detected concentration

FIGURES



From: USGS Jacksonville South, NC. Topographic Quadrangle (Dated 1997)

SCALE



SOVEREIGN CONSULTING INC.
VIRGINIA BEACH, VIRGINIA

PROJECT

CAMPBELL STREET
FUEL FARM
CAMP LEJEUNE, N.C.

TITLE

GENERAL VICINITY TOPOGRAPHIC
SITE MAP

FIGURE

1

JOB NO.

206-063

DATE

FEB 2007

SCALE

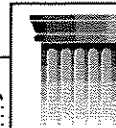
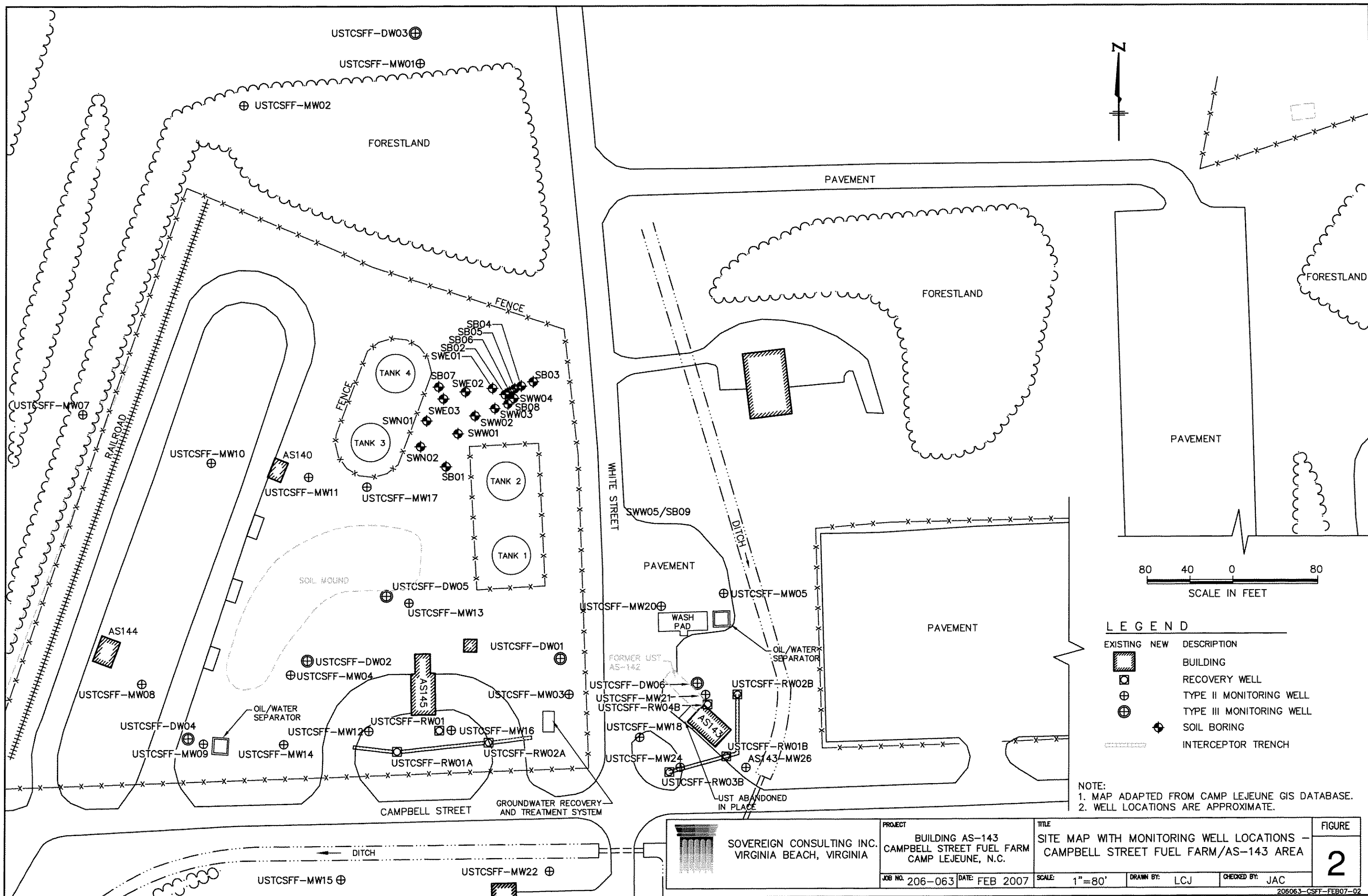
1"=500'

DRAWN BY

KAWS

CHECKED BY

JAC



SOVEREIGN CONSULTING INC.
VIRGINIA BEACH, VIRGINIA

PROJECT
BUILDING AS-143
CAMPBELL STREET FUEL FARM
CAMP LEJEUNE, N.C.

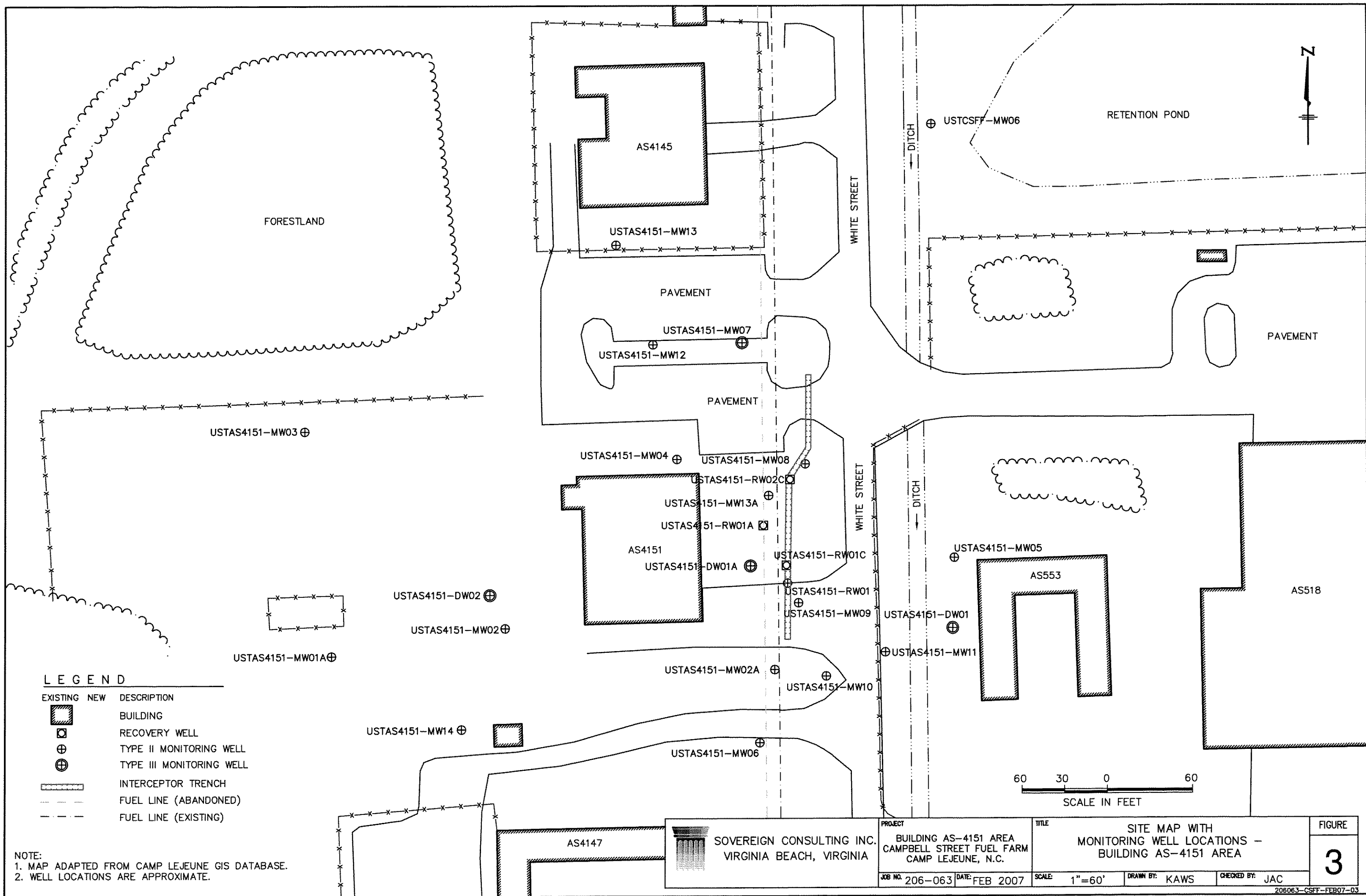
JOB NO. 206-063 DATE: FEB 2007

TITLE
SITE MAP WITH MONITORING WELL LOCATIONS -
CAMPBELL STREET FUEL FARM/AS-143 AREA

SCALE: 1"=80' DRAWN BY: LCJ CHECKED BY: JAC

FIGURE

2



LEGEND

EXISTING	NEW	DESCRIPTION
		BUILDING
		RECOVERY WELL
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		INTERCEPTOR TRENCH
		FUEL LINE (ABANDONED)
		FUEL LINE (EXISTING)

NOTE:
1. MAP ADAPTED FROM CAMP LEJEUNE GIS DATABASE.
2. WELL LOCATIONS ARE APPROXIMATE.



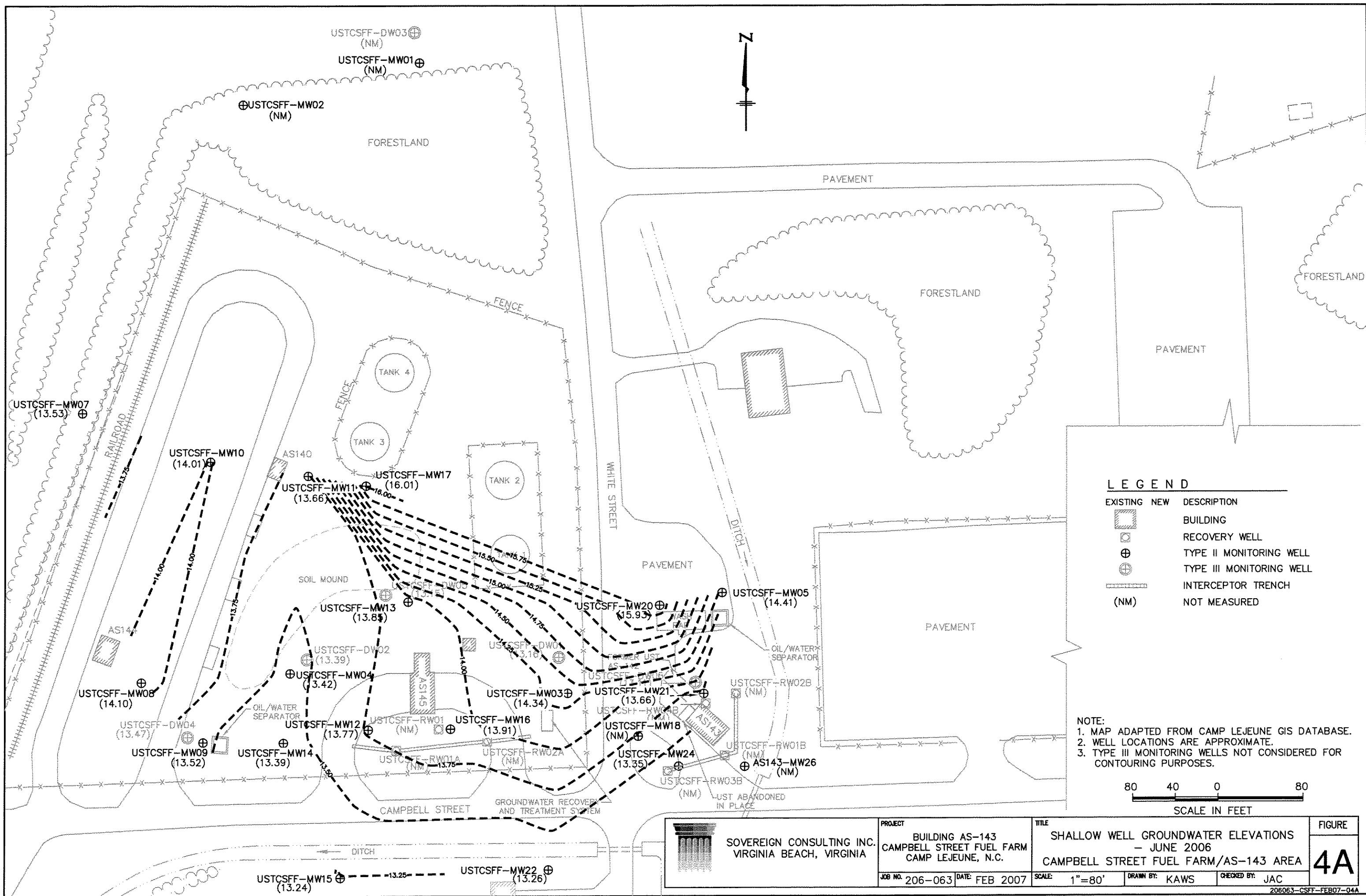
SOVEREIGN CONSULTING INC.
VIRGINIA BEACH, VIRGINIA

PROJECT
BUILDING AS-4151 AREA
CAMPBELL STREET FUEL FARM
CAMP LEJEUNE, N.C.
JOB NO. 206-063 DATE: FEB 2007

TITLE
SITE MAP WITH
MONITORING WELL LOCATIONS -
BUILDING AS-4151 AREA
SCALE: 1"=60' DRAWN BY: KAWS CHECKED BY: JAC

FIGURE

3

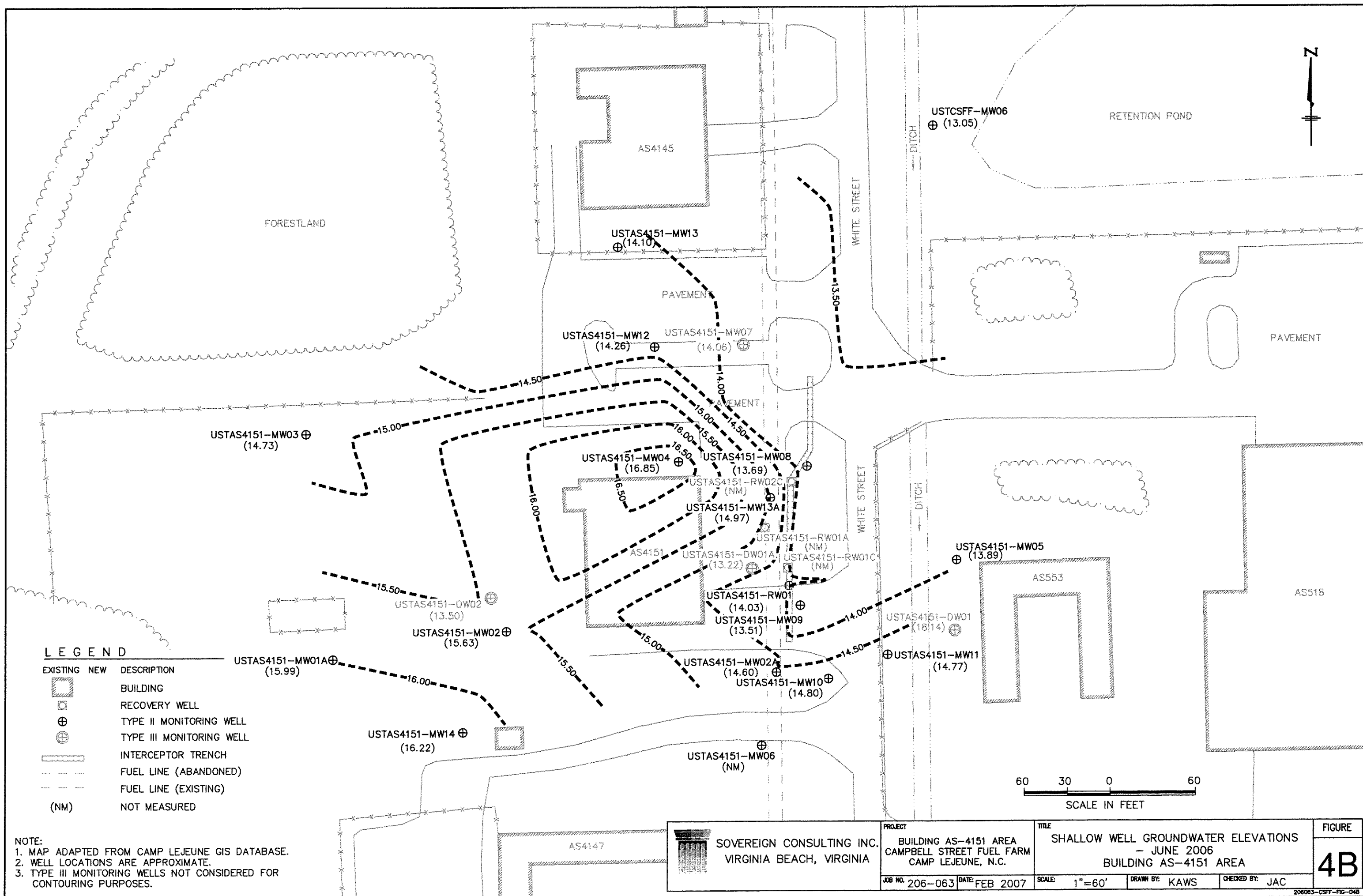


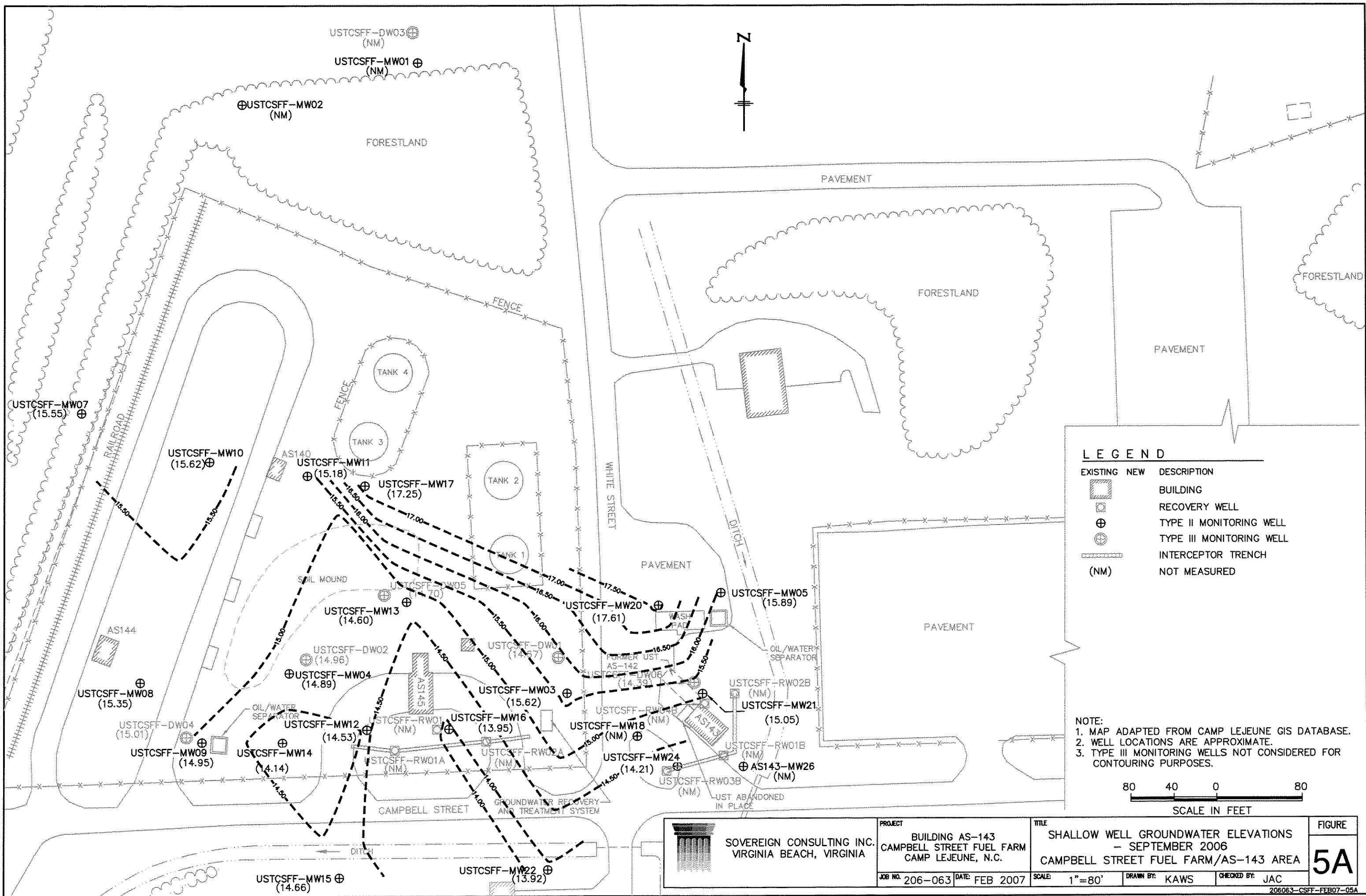
LEGEND		
EXISTING	NEW	DESCRIPTION
		BUILDING
		RECOVERY WELL
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		INTERCEPTOR TRENCH
(NM)		NOT MEASURED

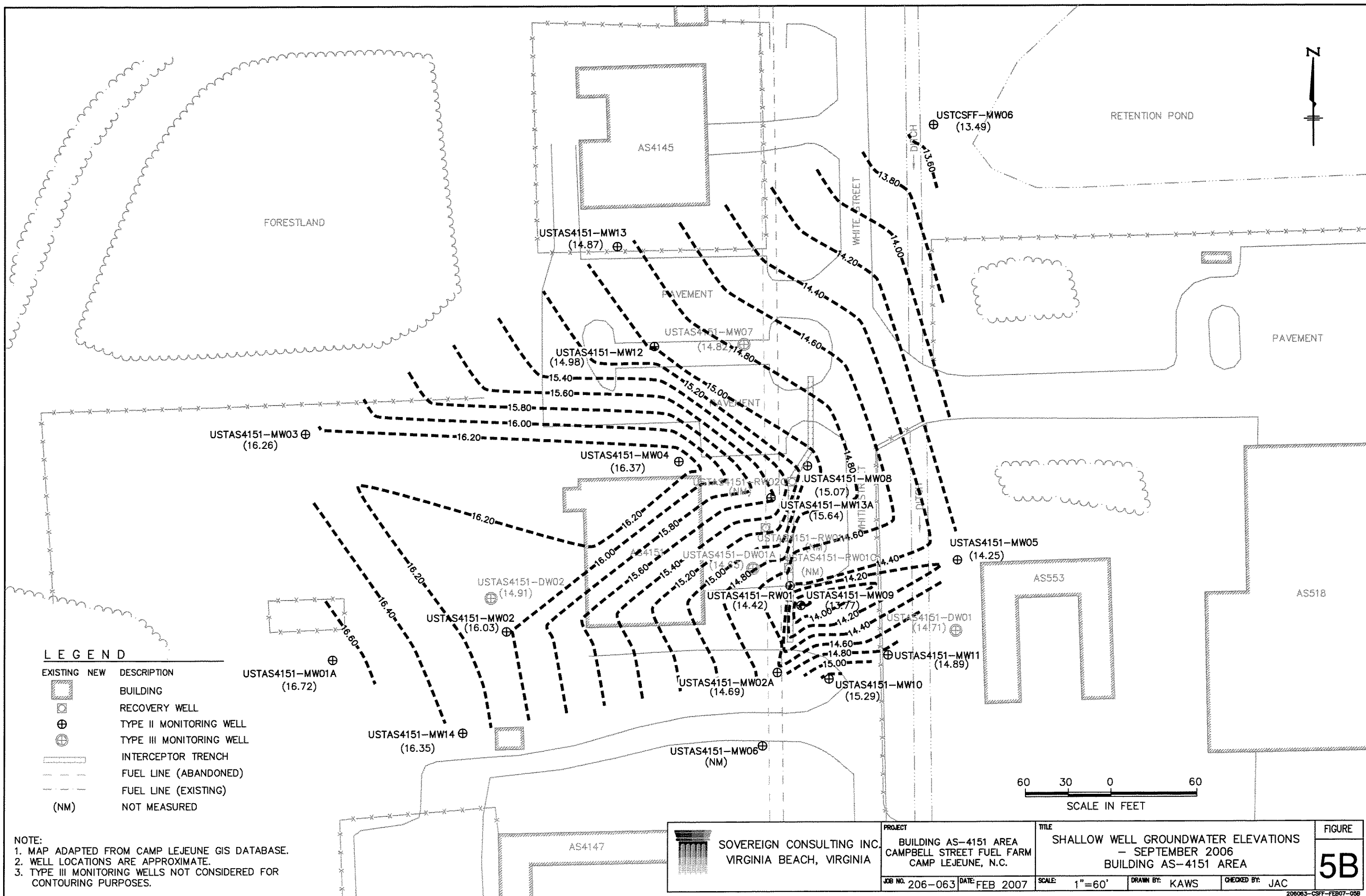
NOTE:
 1. MAP ADAPTED FROM CAMP LEJEUNE GIS DATABASE.
 2. WELL LOCATIONS ARE APPROXIMATE.
 3. TYPE III MONITORING WELLS NOT CONSIDERED FOR CONTOURING PURPOSES.

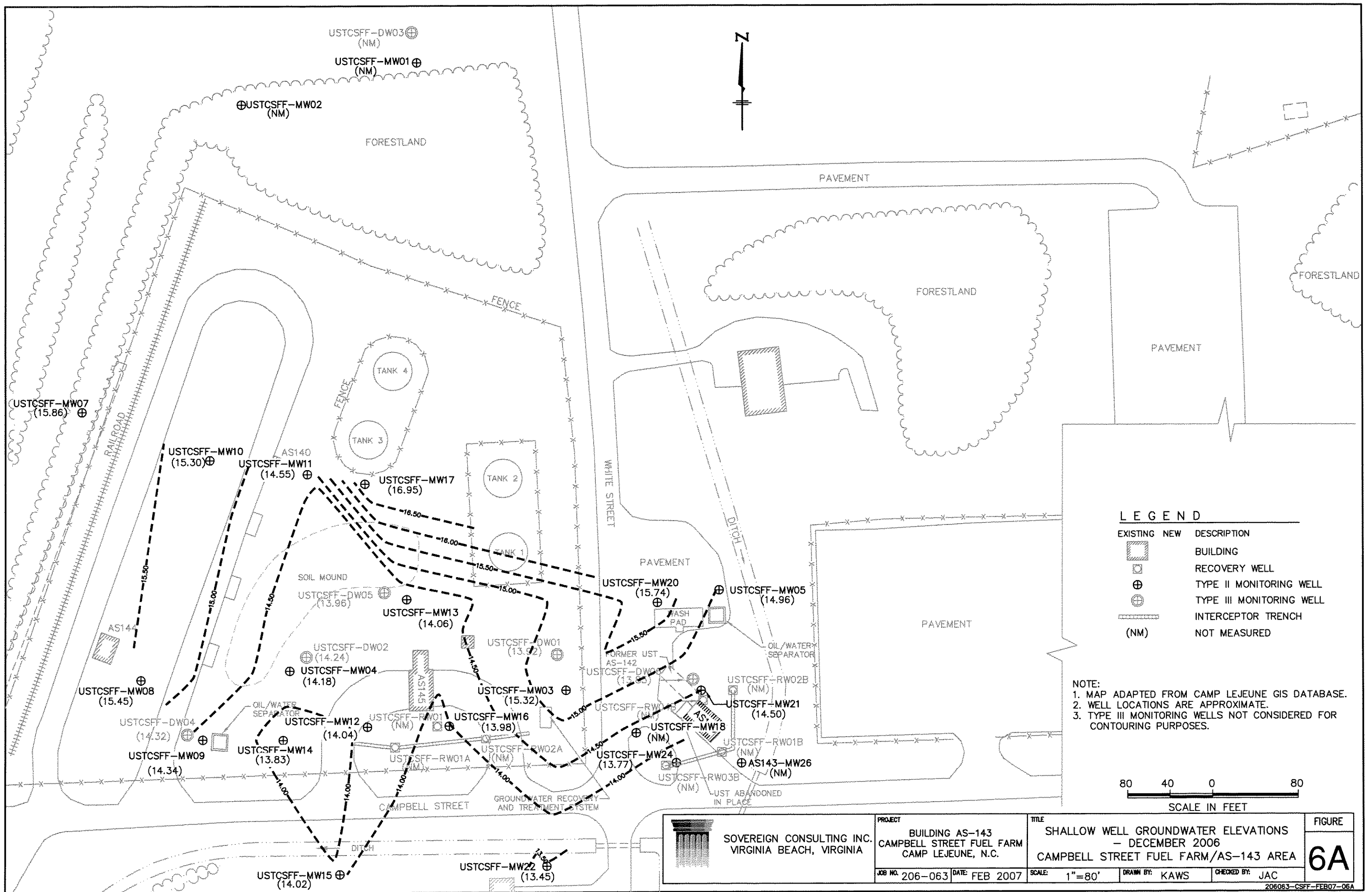


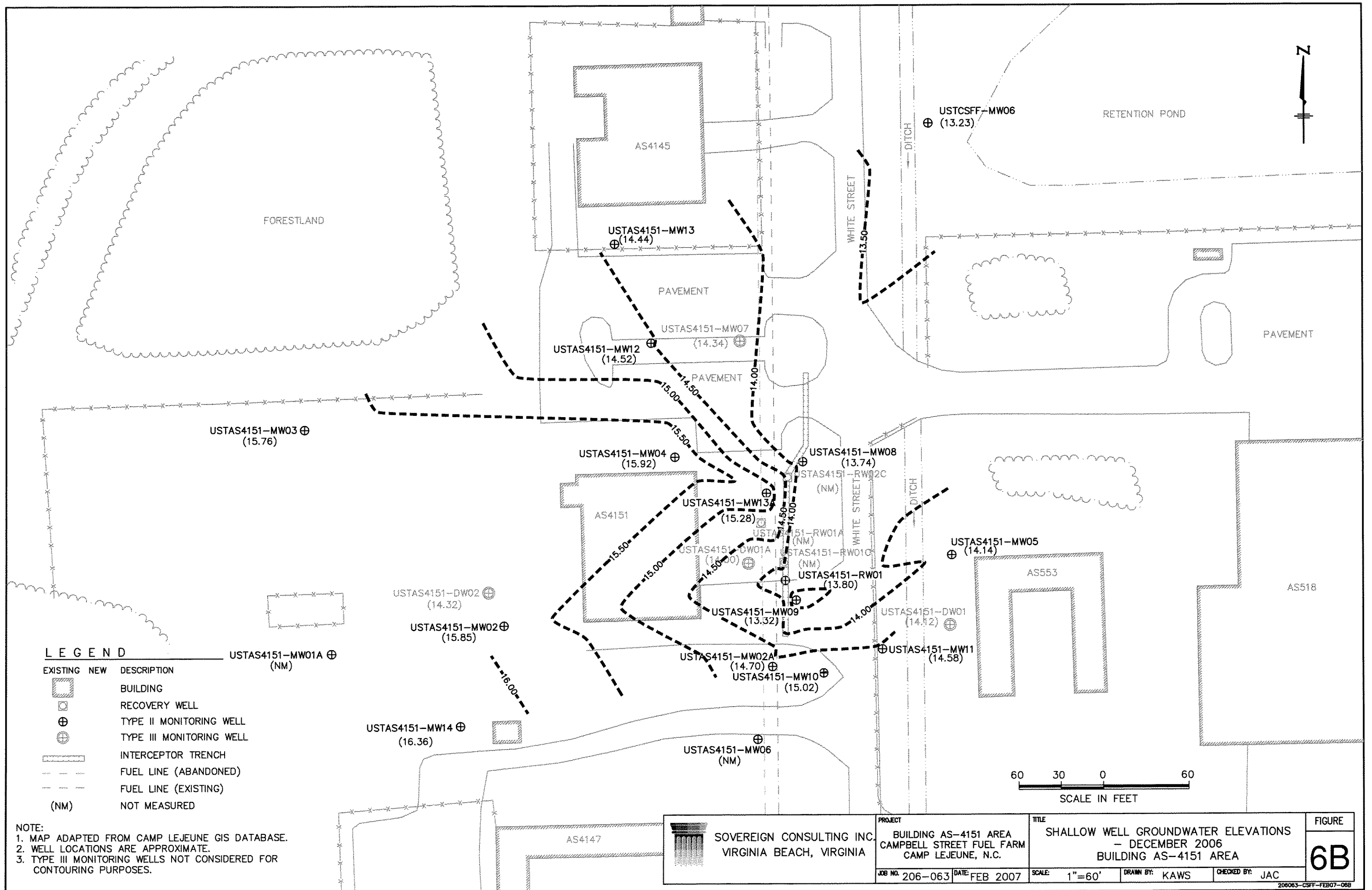
	SOVEREIGN CONSULTING INC. VIRGINIA BEACH, VIRGINIA		PROJECT		TITLE			FIGURE		
			BUILDING AS-143 CAMPBELL STREET FUEL FARM CAMP LEJEUNE, N.C.		SHALLOW WELL GROUNDWATER ELEVATIONS - JUNE 2006 CAMPBELL STREET FUEL FARM/AS-143 AREA			4A		
			JOB NO.	206-063	DATE	FEB 2007	SCALE:		1"=80'	DRAWN BY:
206063-CSFF-FEB07-04A										

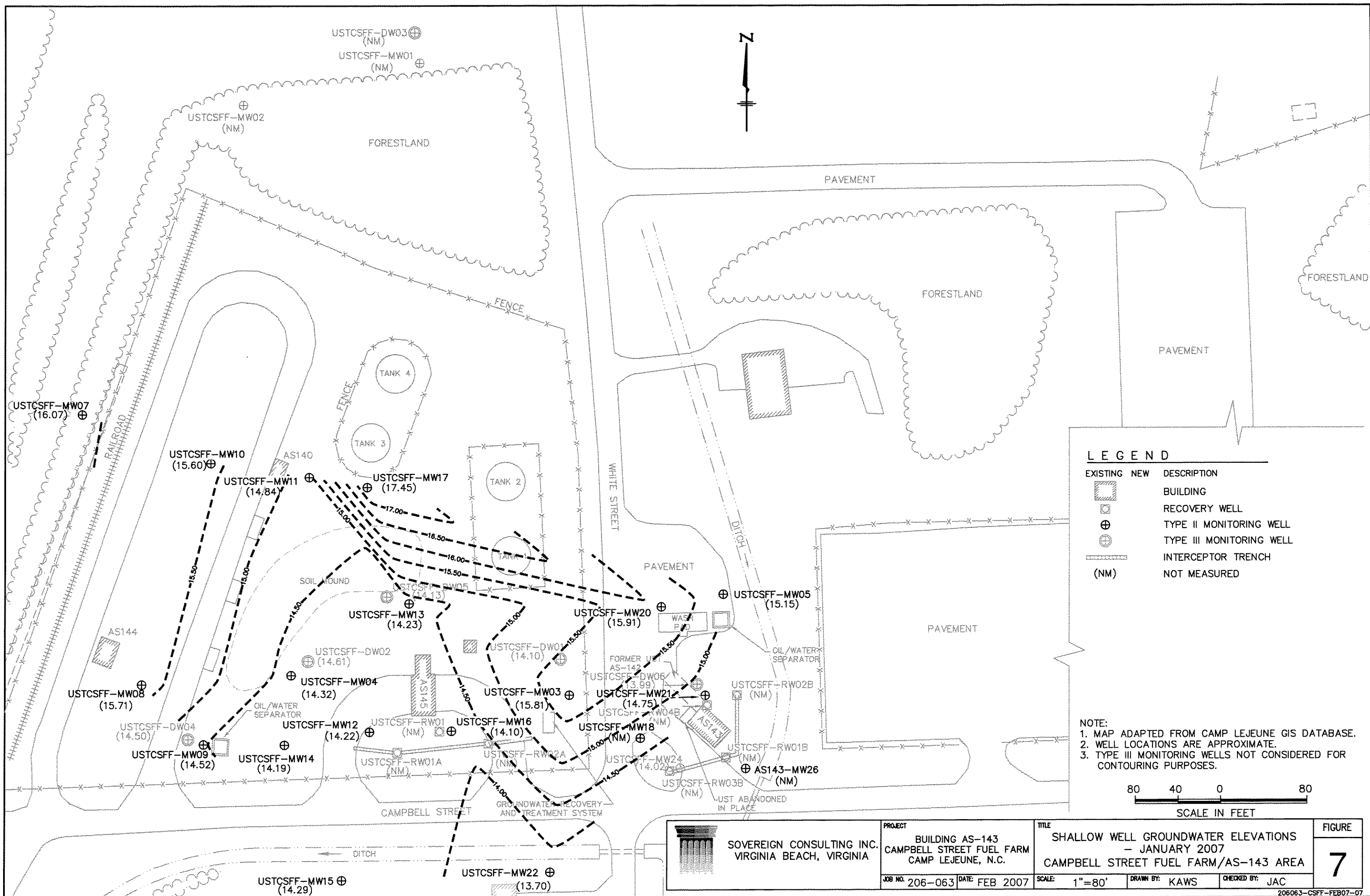


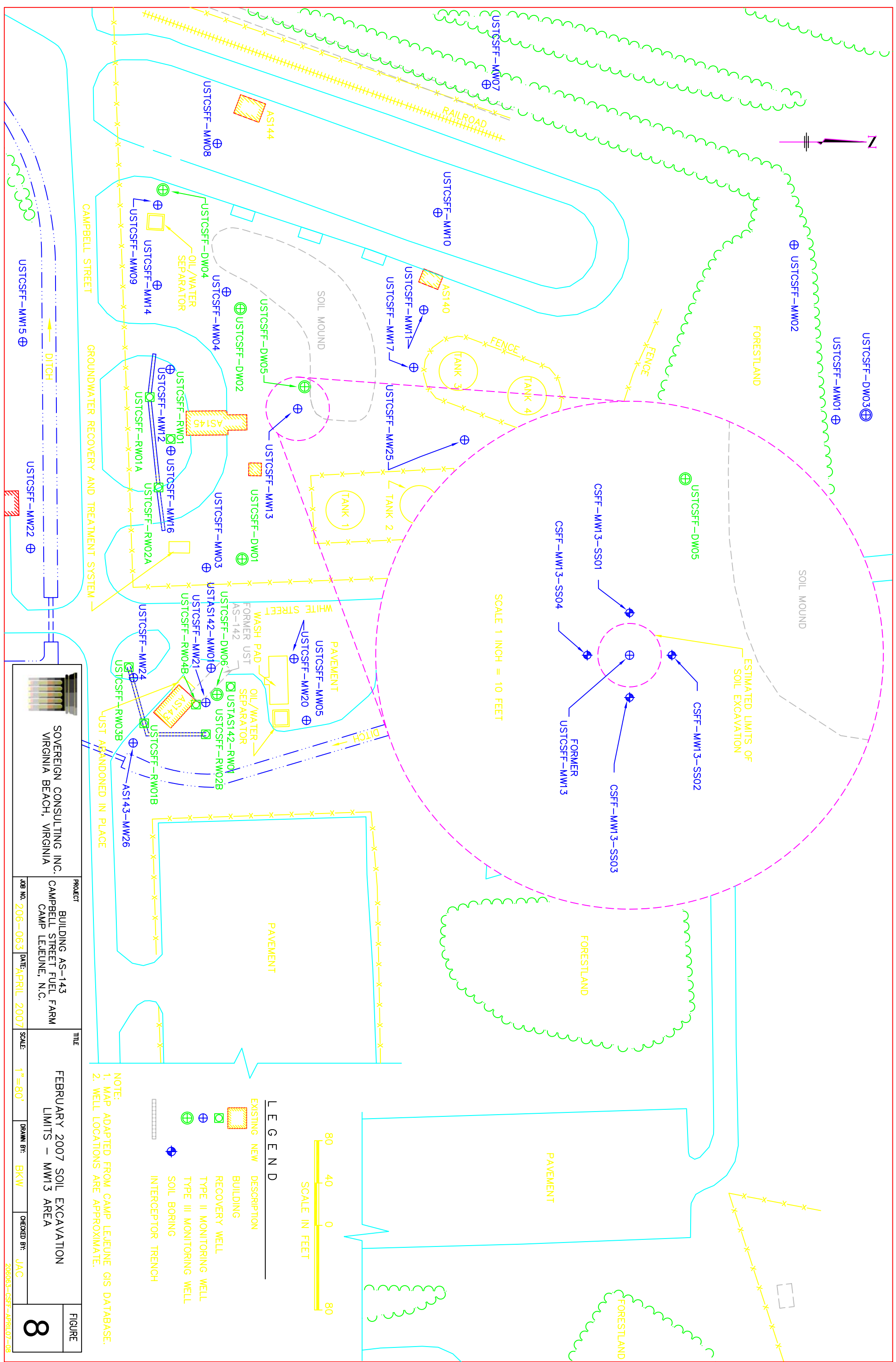


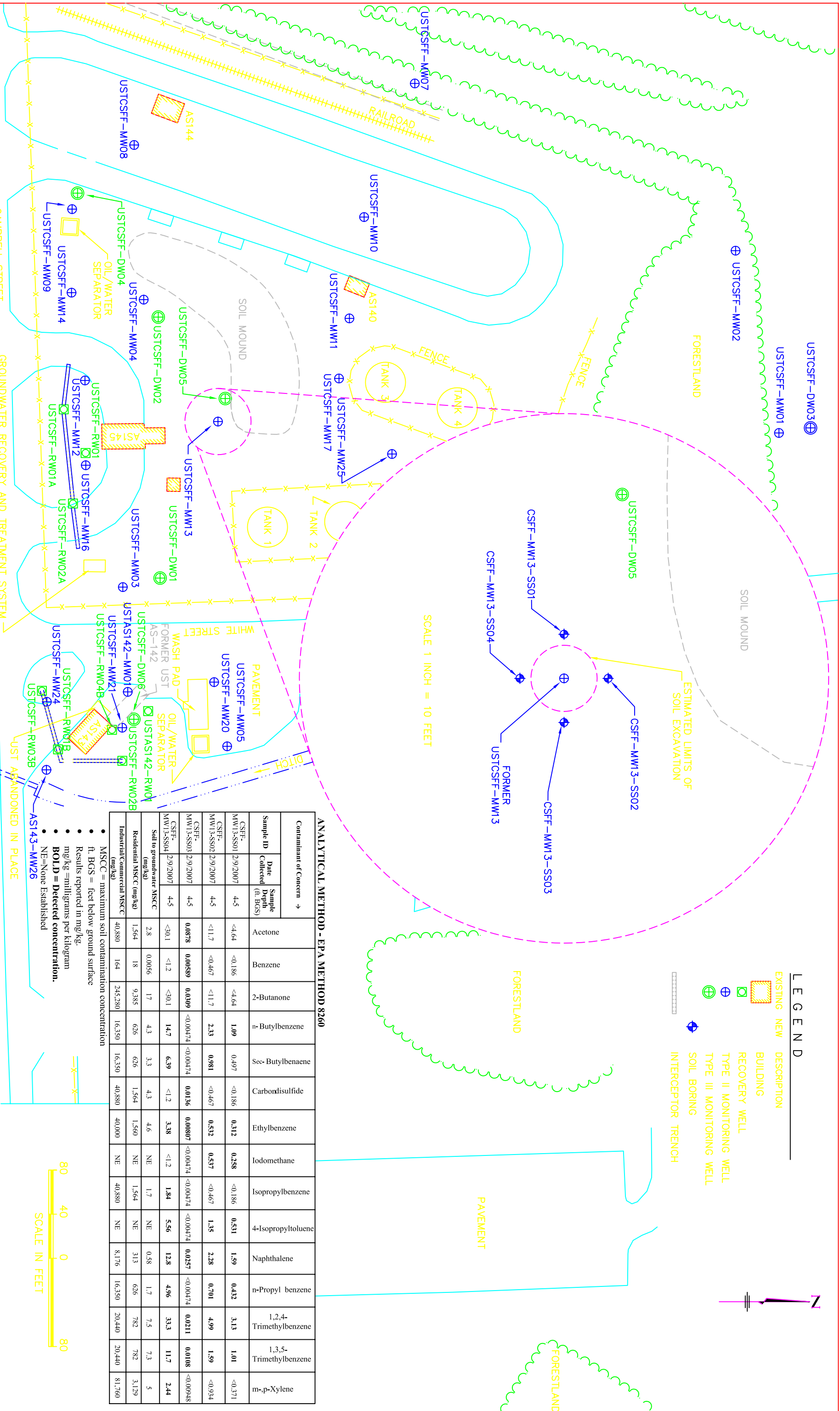












NOTE:
1. MAP ADAPTED FROM CAMP LEJEUNE GIS DATABASE.
2. WELL LOCATIONS ARE APPROXIMATE.

LEGEND

EXISTING	NEW	DESCRIPTION
		BUILDING
		RECOVERY WELL
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		SOIL BORING
		INTERCEPTOR TRENCH

SCALE 1 INCH = 10 FEET

SCALE IN FEET

80 40 0 80

ANALYTICAL METHOD - EPA METHOD 8260

Contaminant of Concern →		Acetone	Benzene	2-Butanone	n-Butylbenzene	Sec-Butylbenaene	Carbondisulfide	Ethylbenzene	Iodomethane	Isopropylbenzene	4-Isopropyltoluene	Naphthalene	n-Propyl benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m-,p-Xylene															
Sample ID	Date Collected	CSFF-MW13-SS01	CSFF-MW13-SS02	CSFF-MW13-SS03	CSFF-MW13-SS04	USTCSFF-MW01	USTCSFF-MW02	USTCSFF-MW03	USTCSFF-MW04	USTCSFF-MW05	USTCSFF-MW06	USTCSFF-MW07	USTCSFF-MW08	USTCSFF-MW09	USTCSFF-MW10	USTCSFF-MW11	USTCSFF-MW12	USTCSFF-MW13	USTCSFF-MW14	USTCSFF-MW15	USTCSFF-MW16	USTCSFF-MW17	USTCSFF-MW18	USTCSFF-MW19	USTCSFF-MW20	USTCSFF-MW21	USTCSFF-MW22	USTCSFF-MW23	USTCSFF-MW24	USTCSFF-MW25	USTCSFF-MW26
Sample Depth (ft. BGS)	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5
Acetone	<4.64	<0.186	<4.64	1.09	0.497	<0.186	0.312	0.258	<0.186	0.531	1.35	2.28	0.701	4.99	1.59	<0.371	<0.934	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	
Benzene	<0.186	<0.467	<11.7	2.33	0.981	<0.467	0.532	0.537	<0.467	0.531	1.35	2.28	0.701	4.99	1.59	<0.371	<0.934	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	
2-Butanone	<4.64	<11.7	<30.1	14.7	6.39	<12	3.38	<12	1.84	5.56	12.8	4.96	33.3	11.7	2.44	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	
n-Butylbenzene	1.09	0.497	<0.00474	<0.00474	0.0136	0.00807	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	
Sec-Butylbenaene	0.497	0.981	<0.00474	<0.00474	0.0136	0.00807	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	
Carbondisulfide	<0.186	<0.467	<12	4.3	6.26	<12	3.38	<12	1.84	5.56	12.8	4.96	33.3	11.7	2.44	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	
Ethylbenzene	0.312	0.532	<0.00474	<0.00474	0.0136	0.00807	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	
Iodomethane	0.258	0.537	<0.00474	<0.00474	0.0136	0.00807	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	
Isopropylbenzene	<0.186	<0.467	<12	4.3	6.26	<12	3.38	<12	1.84	5.56	12.8	4.96	33.3	11.7	2.44	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	
4-Isopropyltoluene	0.531	1.35	<0.00474	<0.00474	0.0136	0.00807	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	
Naphthalene	1.59	2.28	0.0257	<0.00474	0.0257	<0.00474	0.0257	<0.00474	0.0257	<0.00474	0.0257	<0.00474	0.0257	<0.00474	0.0257	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474
n-Propyl benzene	0.432	0.701	<0.00474	<0.00474	0.0136	0.00807	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474
1,2,4-Trimethylbenzene	3.13	4.99	0.0211	<0.00474	0.0211	<0.00474	0.0211	<0.00474	0.0211	<0.00474	0.0211	<0.00474	0.0211	<0.00474	0.0211	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474
1,3,5-Trimethylbenzene	1.01	1.59	0.0108	<0.00474	0.0108	<0.00474	0.0108	<0.00474	0.0108	<0.00474	0.0108	<0.00474	0.0108	<0.00474	0.0108	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474	<0.00474
m-,p-Xylene	<0.371	<0.934	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948	<0.00948

SOVEREIGN CONSULTING INC.
VIRGINIA BEACH, VIRGINIA

PROJECT
BUILDING AS-143
CAMPBELL STREET FUEL FARM
CAMP LEJEUNE, N.C.

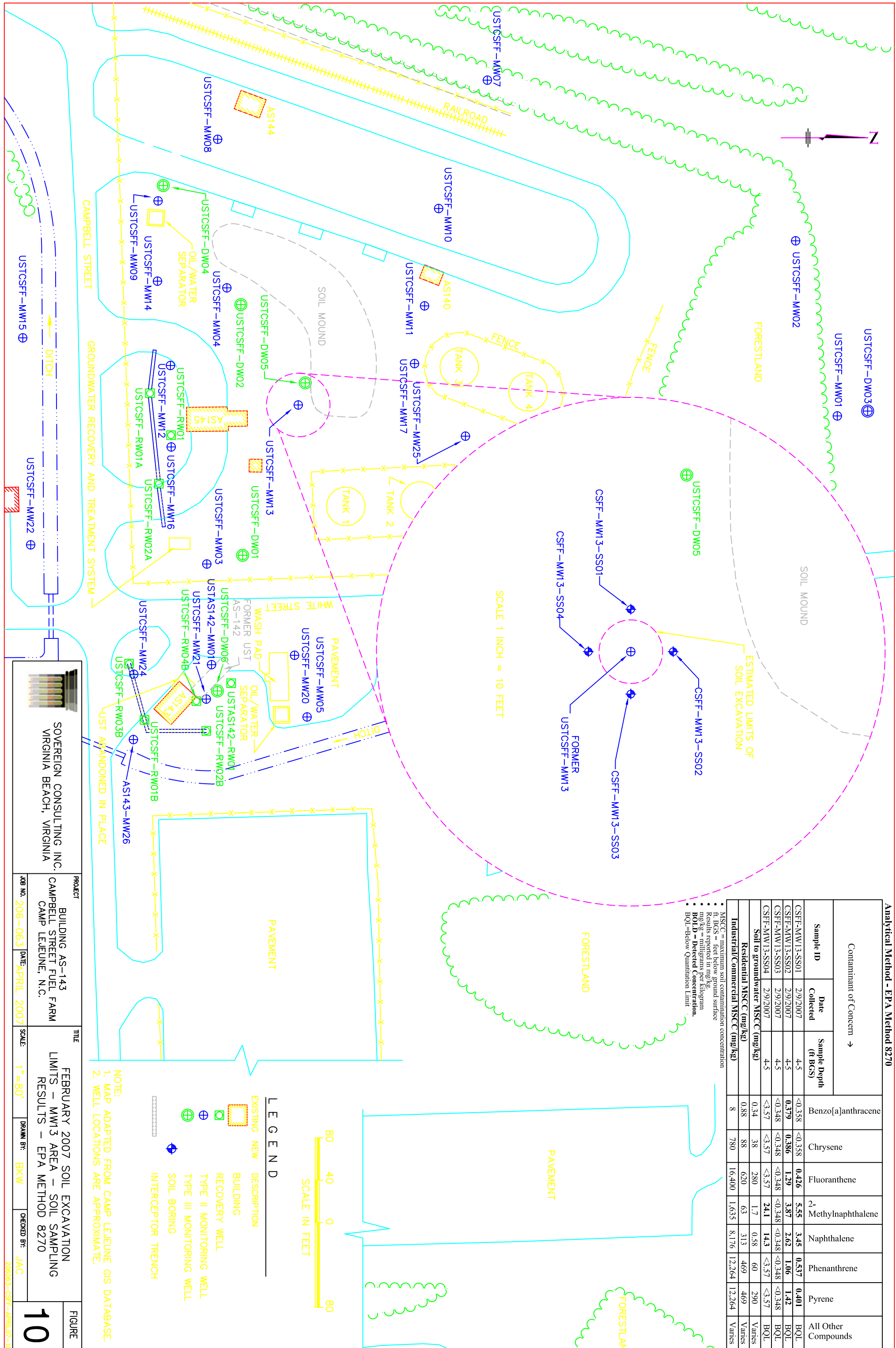
TITLE
FEBRUARY 2007 SOIL EXCAVATION
LIMITS - MW13 AREA - SOIL SAMPLING
RESULTS - EPA METHOD 8260

FIGURE
9

Analytical Method - EPA Method 8270

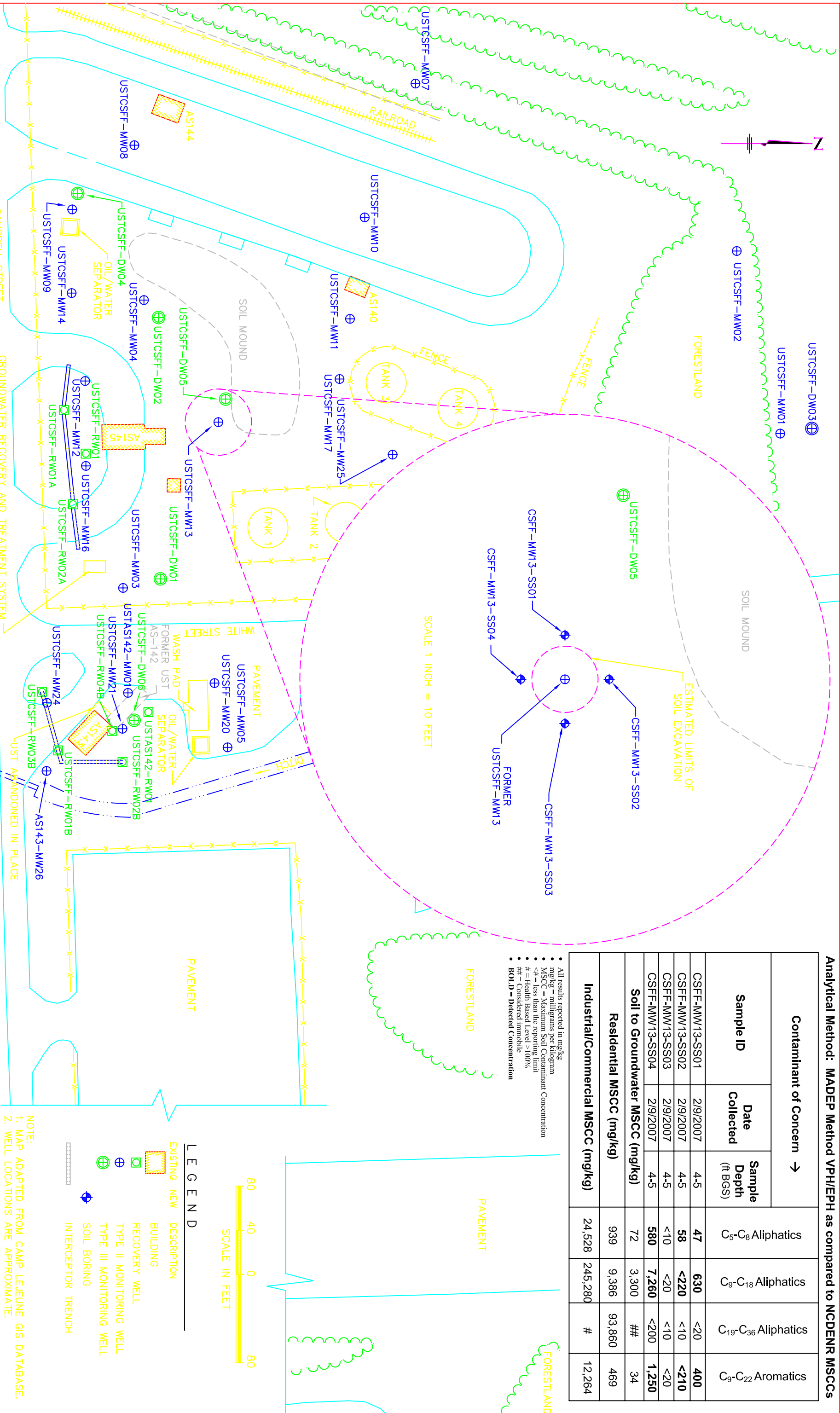
Contaminant of Concern →												
Sample ID	Date Collected	Sample Depth (ft BGS)										
CSFF-MW13-SS01	2/9/2007	4-5	Benzo[a]anthracene									
CSFF-MW13-SS02	2/9/2007	4-5	Chrysene									
CSFF-MW13-SS03	2/9/2007	4-5	Fluoranthene									
CSFF-MW13-SS04	2/9/2007	4-5	2-Methylnaphthalene									
Soil to groundwater MSCC (mg/kg)			Naphthalene									
Residential MSCC (mg/kg)			Phenanthrene									
Industrial/Commercial MSCC (mg/kg)			Pyrene									
			All Other Compounds									

- MSCC = maximum soil contamination concentration
- ft, BGS = feet below ground surface
- Results reported in mg/kg
- Results in micrograms per kilogram
- BQL = Below Quantitation Limit
- 0.348 = Detected Concentration
- 0.348 = Below Quantitation Limit



Contaminant of Concern →						
Sample ID	Date Collected	Sample Depth (ft BGS)	C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₂₂ Aromatics
CSFF-MW13-SS01	2/9/2007	4-5	47	630	<20	400
CSFF-MW13-SS02	2/9/2007	4-5	58	<220	<10	<210
CSFF-MW13-SS03	2/9/2007	4-5	<10	<20	<10	<20
CSFF-MW13-SS04	2/9/2007	4-5	580	7,260	<200	1,250
Soil to Groundwater MSCC (mg/kg)			72	3,300	##	34
Residential MSCC (mg/kg)			939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264

- All results reported in mg/kg
- mg/kg = milligrams per kilogram
- MSCC = Maximum Soil Contaminant Concentration
- <# = less than the reporting limit
- # = Health Based Level >100%
- ## = Considered Immobile
- **BOLD** = Detected Concentration



**APPENDIX A
HISTORICAL DATA
BY REFERENCE**

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Had Delivered

**ANNUAL GROUNDWATER MONITORING REPORT 2003-2005
CAMPBELL STREET FUEL FARM SITE
MARINE CORPS AIR STATION NEW RIVER
NORTH CAROLINA**

**VOLUME I
Revision 0**

Prepared for:

DEPARTMENT OF THE NAVY
Contract No. N62470-03-D-4000

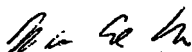
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We hereby certify that the Report shown and marked in this submittal is proposed to be incorporated into Contract Number N62470-03-D-4000, is in compliance with the contract drawings and specifications, can be installed in the allocated spaces, and is submitted for Government approval.


Certified by QC Project Manager
William C. Morris, North Carolina P.G. #1218


Project Manager
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19 December 2005

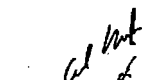

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Table 4-1 (1 of 8)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel Farm Site
September 2003

Sample Location	NCGWQS	GCL	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02	DW-06
			09/24/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03	09/24/03
Campbell Street Fuel Farm and Building AS-143 Area											
EPA 662 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	<1.0
Toluene	1000	257,500	<1.0	<1.0	0.85 J	<1.0	<1.0	70	549	<1.0	<1.0
Xylenes (total)	530	87,500	<3.0	<3.0	<3.0	<3.0	35.8	467	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	35.7	<1.0	<1.0
EPA 619 (µg/L)											
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	NA	NA	21.8	<5.1
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
Anthracene	2100	2,100	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
Fluorene	280	950	NA	NA	NA	NA	NA	NA	NA	16	<5.1
1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	9.9	<5.1
Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
Pyrene	210	210	NA	NA	NA	NA	NA	NA	NA	<5.3	<5.1
EPA 504.1 (µg/L)											
1,2-Dibromomethane	0.0004	50	<0.018	<0.018	<0.019	<0.018	<0.019	<0.018	<0.018	<0.018	<0.019
Building AS-4151 Area											
Sample Location	NCGWQS	GCL	13-MW01	13-DW01	122-MW03	122-MW04	122-MW07	122-MW08	122-MW09	122-MW11	
Date Sampled			09/25/03	09/24/03	09/25/03	09/25/03	09/25/03	09/25/03	09/25/03	09/25/03	
EPA 662 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Ethylbenzene	29	29,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.57 J	<1.0	
Toluene	1000	257,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Xylenes (total)	530	87,500	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
EPA 619 (µg/L)											
Acenaphthene	80	2,120	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Acenaphthylene	210	1,965	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Anthracene	2100	2,100	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Benzo(a)anthracene	0.05	22	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Fluoranthene	280	280	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Fluorene	280	950	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
1-Methylnaphthalene	RL	NE	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
2-Methylnaphthalene	14	12,500	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Naphthalene	21	15,500	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Phenanthrene	210	410	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
Pyrene	210	210	NA	<5.3	NA	NA	NA	NA	<5.0	NA	
EPA 504.1 (µg/L)											
1,2-Dibromomethane	0.0004	50	<0.019	<0.018	<0.019	<0.019	<0.018	<0.019	<0.018	<0.018	

NA: Not Analyzed; constituent not included in analytic suite

µg/L: micrograms per liter

<E: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

E: Concentration exceeds calibration range

GCL: Gross Contaminant Level

NE: Not Established; a GCL has not been established for the constituent

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

Bold type indicates detectable concentrations.

NA: Not Analyzed; constituent not included in analytic suite

Table 4-1 (2 of 8)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel Farm Site

December 2003												
Sample Location	NCGWQS	GCL	MW-03 12/16/03	MW-11 12/17/03	MW-12 12/16/03	MW-14 12/16/03	MW-16 12/16/03	MW-21 12/17/03	MW-24 12/17/03	DW-02 12/16/03	DW-02D* 12/16/03	DW-06 12/17/03
Campbell Street Fuel Farm and Building AS-115 Area												
EPA 802 (µg/L)												
Benzene	1	5,000	<1.0	<1.0	1.3	<1.0	1.2	2.7	2.7	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	<1.0	0.77 J	<1.0	7.4	2.5	19.1	<1.0	<1.0	<1.0
Toluene	1000	257,500	<1.0	<1.0	<1.0	<1.0	<1.0	95.2	98	<1.0	<1.0	<1.0
Xylenes (total)	530	87,500	<3.0	<3.0	1.8 J	<3.0	32.4	2.8	62.9	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	0.88 J	180	16.5	<1.0	<1.0	<1.0
EPA 810 (µg/L)												
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	NA	NA	35.4	35.1	<5.4
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1	<5.4
Anthracene	2100	2,100	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1	<5.4
Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1	<5.4
Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1	<5.4
Fluorene	280	950	NA	NA	NA	NA	NA	NA	NA	27.8	27.8	<5.4
1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	2.9 J	2.9 J	<5.4
2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1	<5.4
Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	36	36	<5.4
Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1	<5.4
Pyrene	210	210	NA	NA	NA	NA	NA	NA	NA	<5.2	<5.1	<5.4
EPA 504.1 (µg/L)												
1,2-Dibromochloroethane	0.0004	50	<0.019	<0.019	<0.018	<0.018	<0.018	<0.018	<0.019	<0.019	<0.019	<0.019
Building AS-115 Area												
Sample Location	NCGWQS	GCL	13-MW01 12/18/03	13-DW01 12/17/03	122-MW03 12/19/03	122-MW04 12/18/03	122-MW07 12/19/03	122-MW08 12/19/03	122-MW09 12/17/03	122-MW11 12/19/03		
EPA 802 (µg/L)												
Benzene	1	5,000	<1.0	1.3	<1.0	<1.0	<1.0	<1.0	0.79 J	<1.0		
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
1,3-Dichlorobenzene	620	61,500	14.8	<1.0	<1.0	<1.0	2.9	0.62 J	<1.0	<1.0		
Ethylbenzene	29	29,000	1.2	7.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
Toluene	1000	257,500	<1.0	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
Xylenes (total)	530	87,500	5	13.9	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0		
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
EPA 810 (µg/L)												
Acenaphthene	80	2,120	NA	69.2	NA	NA	NA	NA	<5.7	NA		
Acenaphthylene	210	1,965	NA	<5.1	NA	NA	NA	NA	<5.7	NA		
Anthracene	2100	2,100	NA	<5.1	NA	NA	NA	NA	<5.7	NA		
Benzo(a)anthracene	0.05	22	NA	<5.1	NA	NA	NA	NA	<5.7	NA		
Fluoranthene	280	280	NA	<5.1	NA	NA	NA	NA	<5.7	NA		
Fluorene	280	950	NA	27.5	NA	NA	NA	NA	<5.7	NA		
1-Methylnaphthalene	RL	NE	NA	19.2	NA	NA	NA	NA	<46	NA		
2-Methylnaphthalene	14	12,500	NA	1.8	NA	NA	NA	NA	<46	NA		
Naphthalene	21	15,500	NA	15.0	NA	NA	NA	NA	<46	NA		
Phenanthrene	210	410	NA	<5.1	NA	NA	NA	NA	<5.7	NA		
Pyrene	210	210	NA	<5.1	NA	NA	NA	NA	<5.7	NA		
EPA 504.1 (µg/L)												
1,2-Dibromochloroethane	0.0004	50	<0.018	<0.018	<0.018	<0.019	<0.019	<0.018	<0.019	<0.018		

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

NA: Not Analyzed; constituent not included in analytic suite

GCL: Gross Contaminant Level

NE: Not Established; a GCL has not been established for the constituent

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

bold type indicates detectable concentrations

Shaded cells indicate detectable concentration above the North Carolina Groundwater Quality Standards

µg/L: micrograms per liter

<R: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

E: Concentration exceeds calibration range

Table 4-1 (3 of 5)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel Farm Site
March 2004

Sample Location	NCGWQS	GCL	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
Campbell Street Fuel Farm and Building AS-143 Area											
EPA 602 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	<1.0	<1.0	<1.0	7	<1.0	<1.0	<1.0	<1.0
Toluene	1000	257,500	<1.0	<1.0	<1.0	<1.0	<1.0	48.2	264	<1.0	<1.0
Xylenes (total)	530	87,500	<3.0	<3.0	<3.0	<3.0	44.3	<1.0	<1.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	153	57.7	<1.0	<1.0
EPA 610 (µg/L)											
Aconaphthene	80	2,120	NA	NA	NA	NA	NA	NA	NA	28.5	<5.1
Aconaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Anthracene	2100	2,100	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Fluorene	280	950	NA	NA	NA	NA	NA	NA	NA	24	<5.1
1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	11	<5.1
Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
Pyrene	210	210	NA	NA	NA	NA	NA	NA	NA	<5.1	<5.1
EPA 504.1 (µg/L)											
1,2-Dibromoothane	0.0004	50	<0.019	<0.019	<0.019	<0.019	<0.018	<0.018	<0.018	<0.018	<0.019
Building AS-143 Area											
Sample Location	NCGWQS	GCL	13-MW01	DUP *	13-DW01	122-MW03	122-MW04	122-MW07	122-MW08	122-MW09	122-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	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.87 J	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	1.8	1.7	8.7	<1.0	<1.0	<1.0	0.69 J	0.83 J	<1.0
Toluene	1000	257,500	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	2.6	<1.0	<1.0
Xylenes (total)	530	87,500	3.7	6.1	14.5	<3.0	<3.0	<3.0	3.2	1.1 J	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
EPA 610 (µg/L)											
Aconaphthene	80	2,120	NA	NA	72.8	NA	NA	NA	NA	<5.1	NA
Aconaphthylene	210	1,965	NA	NA	<26	NA	NA	NA	NA	<5.1	NA
Anthracene	2100	2,100	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Benzo(a)anthracene	0.05	22	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Fluoranthene	280	280	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Fluorene	280	950	NA	NA	29	NA	NA	NA	NA	3.1 J	NA
1-Methylnaphthalene	RL	NE	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
2-Methylnaphthalene	14	12,500	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Naphthalene	21	15,500	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Phenanthrene	210	410	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
Pyrene	210	210	NA	NA	<5.1	NA	NA	NA	NA	<5.1	NA
EPA 504.1 (µg/L)											
1,2-Dibromoothane	0.0004	50	<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
NA: Not Analyzed; constituent not included in analytic suite

µg/L: micrograms per liter
<R: not detected at the indicated reporting limit
J: estimated concentration less than reporting limit
E: Concentration exceeds calibration range

GCL: Gross Contaminant Level
NE: Not Established; a GCL has not been established for the constituent
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
Bold type indicates detectable concentrations.
Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table 4-1 (4 of 8)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel Firm Site
June 2004

Sample Location	NCGWQS	GCL	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02	DW-06
Date Sampled			06/21/04	06/21/04	06/21/04	06/21/04	06/21/04	06/23/04	06/23/04	06/21/04	06/23/04
Campbell Street Fuel Firm and Building AS-143 Area											
EPA 602 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	<1.0	<1.0	<1.0	7.2	<1.0	<1.0	<1.0	<1.0
Toluene	1000	257,500	<1.0	<1.0	0.56 J	<1.0	<1.0	41.9	26.1	<1.0	<1.0
Xylenes (total)	530	87,500	<3.0	<3.0	<3.0	<3.0	16.7	429	114	<3.0	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	132	48.1	<1.0	<1.0
EPA 610 (µg/L)											
Acenaphthene	80	2,120	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	26.5	<5.0
Acenaphthylene	210	1,965	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
Anthracene	2100	2,100	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
Benzo(a)anthracene	0.05	22	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
Fluoranthene	280	280	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
Fluorene	280	950	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	20.1	<5.0
1-Methylnaphthalene	RL	NE	<5.1	<5.1	7.4	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
2-Methylnaphthalene	14	12,500	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
Naphthalene	21	15,500	<5.1	<5.1	16.7	<5.2	<5.2	<5.1	<5.1	12.6	<5.0
Phenanthrene	210	410	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
Pyrene	210	210	<5.1	<5.1	<5.0	<5.2	<5.2	<5.1	<5.1	<5.1	<5.0
EPA 504.1 (µg/L)											
1,2-Dibromomethane	0.0004	50	<0.019	<0.019	<0.018	<0.019	<0.018	<0.019	<0.018	<0.019	<0.019
Building AS-4151 Area											
Sample Location	NCGWQS	GCL	13-MW01	DUP *	13-DW01	122-MW03	122-MW04	122-MW07	122-MW08	122-MW09	
Date Sampled			06/22/04	06/22/04	06/22/04	06/22/04	06/22/04	06/22/04	06/22/04	06/22/04	
EPA 602 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Ethylbenzene	29	29,000	0.67 J	0.7 J	7.7	<1.0	<1.0	<1.0	<1.0	<1.0	
Toluene	1000	257,500	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	
Xylenes (total)	530	87,500	3.9	4.2	12.9	<3.0	<3.0	<3.0	<3.0	1.5 J	
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
EPA 610 (µg/L)											
Acenaphthene	80	2,120	<5.5	<5.1	76.2	<5.1	<5.1	<5.2	3.2 J	<5.2	
Acenaphthylene	210	1,965	<5.5	<5.1	<20	<5.1	<5.1	<5.2	<5.0	<5.2	
Anthracene	2100	2,100	<5.5	<5.1	<5.0	<5.1	<5.1	<5.2	<5.0	<5.2	
Benzo(a)anthracene	0.05	22	<5.5	<5.1	<5.0	<5.1	<5.1	<5.2	<5.0	<5.2	
Fluoranthene	280	280	<5.5	<5.1	<5.0	<5.1	<5.1	<5.2	<5.0	<5.2	
Fluorene	280	950	<5.5	<5.1	30.9	<5.1	<5.1	<5.2	<5.0	<5.2	
1-Methylnaphthalene	RL	NE	<5.5	<5.1	<5.0	<5.1	<5.1	<5.2	<5.0	<5.2	
2-Methylnaphthalene	14	12,500	<5.5	<5.1	<5.0	<5.1	<5.1	<5.2	<5.0	<5.2	
Naphthalene	21	15,500	<5.5	<5.1	17.7	<5.1	<5.1	4.9 J	3.6 J	<5.2	
Phenanthrene	210	410	<5.5	<5.1	2.5 J	<5.1	<5.1	<5.2	<5.0	<5.2	
Pyrene	210	210	<5.5	<5.1	<5.0	<5.1	<5.1	<5.2	<5.0	<5.2	
EPA 504.1 (µg/L)											
1,2-Dibromomethane	0.0004	50	<0.018	<0.018	<0.019	<0.018	<0.019	<0.019	<0.019	<0.019	

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

NA: Not Analyzed; constituent not included in analytic suite

µg/L: micrograms per liter

<R: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

E: Concentration exceeds calibration range

GCL: Gross Contaminant Level

NE: Not Established; a GCL has not been established for the constituent

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

Bold type indicates detectable concentrations.

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

Table 4-1 (5 of 8)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel Farm Site
September 2004

Sample Location	NCGWQS	GCL	MW-03	MW-11	DUP*	MW-12	MW-14	MW-18	MW-21	MW-24	DW-02	DW-06
Date Sampled			09/17/04	09/20/04	09/20/04	09/20/04	09/20/04	09/20/04	09/16/04	09/20/04	09/20/04	09/16/04
Campbell Street Fuel Farm and Building AS-143 Area	EPA 602 (µg/L)											
	Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Ethylbenzene	29	29,000	0.59 J	<1.0	<1.0	0.58 J	<1.0	6.8	<1.0	<1.0	<1.0
	Toluene	1000	257,500	<1.0	<1.0	<1.0	1.4	0.54 J	1.3	55.4	<1.0	<1.0
	Xylenes (total)	530	87,500	1.2 J	<3.0	<3.0	2.1 J	<3.0	21.6	181	1.2 J	<3.0
	Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	133	25.1	<1.0	<1.0
	EPA 610 (µg/L)											
	Acenaphthene	80	2,120	NA	NA	NA	NA	NA	NA	NA	51.2	<4.9
	Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9
	Anthracene	2100	2,100	NA	NA	NA	NA	NA	NA	NA	4.7 J	<4.9
	Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9
	Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	NA	3.2 J	<4.9
	Fluorene	280	950	NA	NA	NA	NA	NA	NA	NA	41.6	<4.9
	1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	<4.9	<4.9
	2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	3.4	<4.9
	Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	<4.9	<4.9
	Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	NA	3.2	<4.9
	Pyrene	210	210	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9
	EPA 504.1 (µg/L)											
	1,2-Dibromothane	0.0004	50	<0.019	<0.019	<0.019	<0.019	<0.019	<0.020	<0.020	<0.019	<0.019
Building AS-4151 Area	Sample Location	NCGWQS	GCL	13-MW01	13-DW01	122-MW03	122-MW04	122-MW07	122-MW08	122-MW09		
	Date Sampled			09/16/04	09/16/04	09/16/04	09/16/04	09/16/04	09/16/04	09/16/04		
	EPA 602 (µg/L)											
	Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
	1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
	1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
	Ethylbenzene	29	29,000	1.1	8.9	<1.0	<1.0	<1.0	<1.0	0.59 J		
	Toluene	1000	257,500	0.83 J	2.3	1.5	0.74 J	0.52 J	1.3	0.56 J		
	Xylenes (total)	530	87,500	4.3	15.5	<3.0	<3.0	<3.0	1.2 J	2.1 J		
	Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
	EPA 610 (µg/L)											
	Acenaphthene	80	2,120	<19	79.7	NA	NA	NA	NA	NA		
	Acenaphthylene	210	1,965	<19	<19	NA	NA	NA	NA	NA		
	Anthracene	2100	2,100	<19	<19	NA	NA	NA	NA	NA		
	Benzo(a)anthracene	0.05	22	<19	<19	NA	NA	NA	NA	NA		
	Fluoranthene	280	280	<19	<19	NA	NA	NA	NA	NA		
	Fluorene	280	950	<19	31.6	NA	NA	NA	NA	NA		
	1-Methylnaphthalene	RL	NE	74.3	91.7	NA	NA	NA	NA	NA		
	2-Methylnaphthalene	14	12,500	97.6	144.9	NA	NA	NA	NA	NA		
	Naphthalene	21	15,500	137	1530	NA	NA	NA	NA	NA		
	Phenanthrene	210	410	<19	2.5 J	NA	NA	NA	NA	NA		
	Pyrene	210	210	<19	<19	NA	NA	NA	NA	NA		
	EPA 504.1 (µg/L)											
	1,2-Dibromothane	0.0004	50	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019		

* DUP is a duplicate sample collected at well MW-11

NA: Not Analyzed; constituent not included in analytic suite

µg/L: micrograms per liter

<R: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

E: Concentration exceeds calibration range

GCL: Gross Contaminant Level

NE: Not Established; a GCL has not been established for the constituent

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

Bold type indicates detectable concentrations.

Italics are indicated detectable concentration above the North Carolina Groundwater Quality Standards

Table 4-1 (5 of 8)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel From Site

December 2004												
Sample Location Date Sampled	NCGWQS	GCL	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02	DW-06	DUP*
			12/28/04	12/28/04	12/28/04	12/28/04	12/28/04	12/28/04	12/28/04	12/28/04	12/28/04	12/28/04
Campbell Street Fuel Tank and Building AS-143 Area												
EPA 602 (µg/L)												
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	NA	2.9	NA	0.2	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	<1.0	<1.0	<1.0	8.4	1.7	278	7.5	<1.0	<1.0
Toluene	1000	257,500	<1.0	<1.0	0.77 J	<1.0	0.66 J	3.1	712	2.2	<1.0	<1.0
Xylenes (total)	530	87,500	<3.0	<3.0	<1.0	<3.0	29.1	6.1	299	14.8	<3.0	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	50.8	46.9	<1.0	<1.0	<1.0
EPA 610 (µg/L)												
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	NA	NA	27.4	<4.9	<4.9
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9	<4.8
Anthracene	2100	2,100	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9	<4.8
Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9	<4.8
Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9	<4.8
Fluorene	280	950	NA	NA	NA	NA	NA	NA	NA	21.5	<4.9	<4.8
1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9	<4.8
2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9	<4.8
Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	20.4	<4.9	<4.8
Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	NA	3.2	<4.9	<4.8
Pyrene	210	210	NA	NA	NA	NA	NA	NA	NA	<4.8	<4.9	<4.8
EPA 504.1 (µg/L)												
1,2-Dibromochloroethane	0.0004	50	<0.020	<0.019	<0.019	<0.020	<0.019	<0.019	<0.019	<0.020	<0.019	<0.020
Building AS-4151 Area												
Sample Location Date Sampled	NCGWQS	GCL	13-MW01 12/27/04	13-DW01 12/27/04	122-MW03 12/28/04	122-MW04 12/27/04	122-MW07 12/28/04	122-MW08 12/27/04	122-MW09 12/28/04	122-MW11 12/28/04		
EPA 602 (µg/L)												
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.91 J	<1.0		
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
Ethylbenzene	29	29,000	0.75 J	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0		
Toluene	1000	257,500	0.56 J	0.52 J	<1.0	<1.0	0.53 J	0.54 J	<1.0	<1.0		
Xylenes (total)	530	87,500	2.5 J	1.4 J	<3.0	<3.0	<3.0	<3.0	1.8 J	<3.0		
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		
EPA 610 (µg/L)												
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	NA	<24	NA		
Acenaphthylene	210	1,965	NA	3.7 J	NA	NA	NA	NA	<24	NA		
Anthracene	2100	2,100	NA	<4.8	NA	NA	NA	NA	<24	NA		
Benzo(a)anthracene	0.05	22	NA	<4.8	NA	NA	NA	NA	<24	NA		
Fluoranthene	280	280	NA	<4.8	NA	NA	NA	NA	<24	NA		
Fluorene	280	950	NA	38.1	NA	NA	NA	NA	<24	NA		
1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	NA		
2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	NA		
Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	NA		
Phenanthrene	210	410	NA	<4.8	NA	NA	NA	NA	<24	NA		
Pyrene	210	210	NA	<4.8	NA	NA	NA	NA	<24	NA		
EPA 504.1 (µg/L)												
1,2-Dibromochloroethane	0.0004	50	<0.020	<0.020	<0.020	<0.020	<0.020	<0.019	<0.020	<0.019		

* DUP is a duplicate sample collected at well DW-06

NA: Not Analyzed; constituent not included in analysis suite

GCL: Gross Contaminant Level

NE: Not Established; a GCL has not been established for the constituent

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

Bold type indicates detectable concentrations.

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

µg/L: micrograms per liter

<E: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

E: Concentration exceeds calibration range

Table 4-1 (7 of 8)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel Farm Site
March 2005

Sample Location Date Sampled	NCGWQS	GCL	MW-03 03/15/05	MW-11 03/16/05	MW-12 03/16/05	MW-14 03/16/05	MW-16 03/16/05	MW-21 03/15/05	MW-24 03/16/05	DW-02 03/15/05	DW-06 03/15/05
Campbell Street Fuel Farm and Building AS-143 Area											
EPA 802 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	8.8	16.7	17.9	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	0.82 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.9 J
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	<1.0	<1.0	<1.0	8.8	13.8	78.4	<1.0	<1.0
Toluene	1000	257,500	<1.0	<1.0	<1.0	<1.0	<1.0	4.7	47.1	<1.0	<1.0
Xylenes (total)	530	87,500	<1.0	<1.0	<1.0	<1.0	27.3	68.2	244	<1.0	<1.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	102	38.9	<1.0	<1.0
EPA 610 (µg/L)											
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	NA	NA	24.2	<4.8
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	NA	<5.2	<4.8
Anthracene	2100	2,100	NA	NA	NA	NA	NA	NA	NA	<5.2	<4.8
Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA	NA	<5.2	<4.8
Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	NA	<5.2	<4.8
Fluorene	280	950	NA	NA	NA	NA	NA	NA	NA	19.7	<4.8
1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	2.3 J	<4.8
2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	<5.2	<4.8
Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	26.8	<4.8
Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	NA	<5.2	<4.8
Pyrene	210	210	NA	NA	NA	NA	NA	NA	NA	<5.2	<4.8
EPA 804.1 (µg/L)											
1,2-Dibromoethane	0.0004	50	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019
Building AS-4151 Area											
Sample Location Date Sampled	NCGWQS	GCL	13-MW01 03/15/05	13-DW01 03/15/05	122-MW03 03/15/05	122-MW04 03/15/05	122-MW07 03/15/05	122-MW08 03/15/05	122-MW09 03/15/05	DUP * 03/15/05	122-MW11 03/16/05
EPA 802 (µg/L)											
Benzene	1	5,000	8.7	7.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.1	<1.0
Ethylbenzene	29	29,000	8.4	10.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	1000	257,500	1.9	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	87,500	13.6	18.9	<3.0	<3.0	<3.0	1.6 J	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
EPA 610 (µg/L)											
Acenaphthene	80	2,120	NA	16.2 J	NA	NA	NA	NA	<5.0	<5.1	NA
Acenaphthylene	210	1,965	NA	<190	NA	NA	NA	NA	<5.0	<5.1	NA
Anthracene	2100	2,100	NA	<190	NA	NA	NA	NA	<5.0	<5.1	NA
Benzo(a)anthracene	0.05	22	NA	<190	NA	NA	NA	NA	<5.0	<5.1	NA
Fluoranthene	280	280	NA	<190	NA	NA	NA	NA	<5.0	<5.1	NA
Fluorene	280	950	NA	<190	NA	NA	NA	NA	<5.0	<5.1	NA
1-Methylnaphthalene	RL	NE	NA	16.8 J	NA	NA	NA	NA	2.3	21.6	NA
2-Methylnaphthalene	14	12,500	NA	14.5 J	NA	NA	NA	NA	<5.0	<5.1	NA
Naphthalene	21	15,500	NA	19.9	NA	NA	NA	NA	46.5	46.6	NA
Phenanthrene	210	410	NA	<190	NA	NA	NA	NA	<5.0	<5.1	NA
Pyrene	210	210	NA	<190	NA	NA	NA	NA	<5.0	<5.1	NA
EPA 804.1 (µg/L)											
1,2-Dibromoethane	0.0004	50	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019	<0.019

* DUP is a duplicate sample collected at well 122-MW09

NA: Not Analyzed; constituent not included in analytic suite

GCL: Gross Contaminant Level

NE: Not Established; a GCL has not been established for the constituent

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

Bold type indicates detectable concentrations.

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

µg/L: micrograms per liter

<E: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

E: Concentration exceeds calibration range

Table 4-1 (6 of 8)
Summary of Laboratory Analyses for Groundwater - Campbell Street Fuel Farm Site
June 2005

Sample Location Date Sampled	NCGWQS	GCL	MW-03	MW-11	MW-12	MW-14	MW-16	MW-21	MW-24	DW-02	DW-06
			06/22/05	06/22/05	06/22/05	06/22/05	06/22/05	06/21/05	06/21/05	06/22/05	06/21/05
Campbell Street Fuel Farm and Building AS-143 Area											
EPA 802 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	<1.0	<1.0	<1.0	7	4.3	4.3	<1.0	<1.0
Toluene	1000	257,500	<1.0	<1.0	0.71 J	<1.0	<1.0	2.8	15.6	<1.0	<1.0
Xylenes (total)	530	87,500	<3.0	<3.0	<1.0	<3.0	20.4	7.3	182	<3.0	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	130 E	21.1	<1.0	<1.0
EPA 810 (µg/L)											
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	NA	NA	12.9	<5.1
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
Anthracene	2100	2,100	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
Fluorene	280	950	NA	NA	NA	NA	NA	NA	NA	10.7	<5.1
1-Methylnaphthalene	RL	NE	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
2-Methylnaphthalene	14	12,500	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
Naphthalene	21	15,500	NA	NA	NA	NA	NA	NA	NA	18.8	<5.1
Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
Pyrene	210	210	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.1
EPA 504.1 (µg/L)											
1,2-Dibromomethane	0.0004	50	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Building AS-4151 Area											
Sample Location	NCGWQS	GCL	13-MW01	13-DW01	122-MW03	122-MW04	122-MW07	122-MW08	122-MW09	DUP *	122-MW11
Date Sampled			06/22/05	06/22/05	06/22/05	06/22/05	06/22/05	06/22/05	06/22/05	06/22/05	06/22/05
EPA 802 (µg/L)											
Benzene	1	5,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	72,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	61,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	<1.0	9.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	1000	257,500	<1.0	2.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	87,500	3.1	16.0	<3.0	<3.0	<3.0	<3.0	1.4 J	1.4 J	<3.0
Methyl Tert Butyl Ether	200	200,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
EPA 810 (µg/L)											
Acenaphthene	80	2,120	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
Acenaphthylene	210	1,965	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
Anthracene	2100	2,100	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
Benzo(a)anthracene	0.05	22	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
Fluoranthene	280	280	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
Fluorene	280	950	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
1-Methylnaphthalene	RL	NE	NA	<190	NA	NA	NA	NA	3.8 J	3.8 J	NA
2-Methylnaphthalene	14	12,500	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
Naphthalene	21	15,500	NA	<190	NA	NA	NA	NA	8.3	3.7 J	NA
Phenanthrene	210	410	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
Pyrene	210	210	NA	<190	NA	NA	NA	NA	<5.1	<5.0	NA
EPA 504.1 (µg/L)											
1,2-Dibromomethane	0.0004	50	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

* DUP is a duplicate sample collected at well 122-MW09

NA: Not Analyzed; constituent not included in analytic suite

GCL: Gross Contaminant Level

NE: Not Established; a GCL has not been established for the constituent

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

Bold type indicates detectable concentrations.

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

µg/L: micrograms per liter

<R: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

E: Concentration exceeds calibration range

TABLE 4
SUMMARY OF GROUNDWATER SAMPLING RESULTS

Date: June 2006
Incident Number and Name: 23297, CSFF
Facility ID#: N/A

Analytical Method: EPA Method 602

Contaminant of Concern			Benzene	Diisopropyl ether (DIPE)	Ethylbenzene	Methyl-tert butyl ether (MTBE)	Toluene	Total Xylenes
Well ID	Sample ID	Date Collected						
USTCSFF/AS4151-122DW01	USTCSFF/AS4151-122DW01	4/24/2006	0.608	BQL	BQL	BQL	BQL	BQL
USTCSFF/AS4151-122DW02	USTCSFF/AS4151-122DW02	4/24/2006	BQL	BQL	BQL	BQL	BQL	BQL
USTCSFF/AS4151-122RW01	USTCSFF/AS4151-122RW01	4/24/2006	BQL	BQL	BQL	BQL	BQL	BQL
RWC-1	RWC-1	4/24/2006	BQL	BQL	BQL	BQL	0.374	BQL
RWC-2	RWC-2	4/24/2006	BQL	BQL	BQL	BQL	BQL	BQL
2L Standard (µg/l)			1	70	550	200	1,000	530
GCL (µg/l)			5,000	70,000	84,500	200,000	257,500	87,500

- All results reported in µg/l
- µg/L =micrograms per liter
- GCL = gross contamination level
- BQL = Below Quantitation Limits; quantitation limits outlined in laboratory reports.

TABLE 5
SUMMARY OF GROUNDWATER SAMPLING RESULTS

Date: June 2006
Incident Number and Name: 23297, CSFF
Facility ID#: N/A

Analytical Method: EPA Method 610

Contaminant of Concern			1- Methylnaphthalene	2- Methylnaphthalene	All Other Compounds
Well ID	Sample ID	Date Collected			
USTCSFF/AS4151-122DW01	USTCSFF/AS4151-122DW01	4/24/2006	BQL	BQL	BQL
USTCSFF/AS4151-122DW02	USTCSFF/AS4151-122DW02	4/24/2006	BQL	BQL	BQL
USTCSFF/AS4151-122RW01	USTCSFF/AS4151-122RW01	4/24/2006	1.50	6.70	BQL
RWC-1	RWC-1	4/24/2006	BQL	BQL	BQL
RWC-2	RWC-2	4/24/2006	BQL	BQL	BQL
2L Standard (µg/l)			NE	14	Varies
GCL (µg/l)			NE	12,500	Varies

- All results reported in µg/l
- µg/L =micrograms per liter
- GCL = gross contamination level
- BQL = Below Quantitation Limits; quantitation limits outlined in laboratory reports.
- NE = Not Established
- **BOLD** = detected concentration; **SHADED** = detected concentration above State established standard.

TABLE 6
SUMMARY OF GROUNDWATER SAMPLING RESULTS

Date: June 2006
Incident Number and Name: 23297, CSFF
Facility ID#: N/A

Analytical Method: EPA Method 504.1

Contaminant of Concern			1,2-Dibromoethane (EDB)
Well ID	Sample ID	Date Collected	
USTCSFF/AS4151-122DW01	USTCSFF/AS4151-122DW01	4/24/2006	BQL
USTCSFF/AS4151-122DW02	USTCSFF/AS4151-122DW02	4/24/2006	BQL
USTCSFF/AS4151-122RW01	USTCSFF/AS4151-122RW01	4/24/2006	BQL
RWC-1	RWC-1	4/24/2006	BQL
RWC-2	RWC-2	4/24/2006	BQL
2L Standard (µg/l)			0.0004
GCL (µg/l)			50

- All results reported in µg/l
- µg/L =micrograms per liter
- GCL = gross contamination level
- BQL = Below Quantitation Limits; quantitation limits outlined in laboratory reports.

**APPENDIX B
LABORATORY ANALYTICAL REPORT FOR
FEBRUARY 2007 SOIL EXCAVATION AT USTCSFF-MW13**



Mr. Mike Cree
Osage of Virginia
PO Box 11006
Norfolk VA 23517

Report Number: G649-11

Client Project: CCSF/MW13

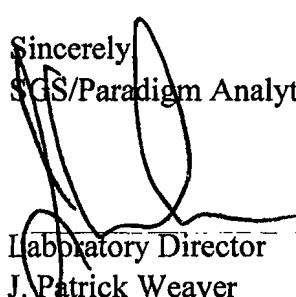
Dear Mr. Cree:

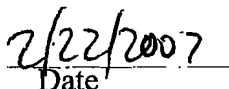
Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call SGS/Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS/Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
SGS/Paradigm Analytical Laboratories, Inc.


Laboratory Director
J. Patrick Weaver


Date

**Results for Volatiles
by GCMS 8260B/5035**

Client Sample ID: CSFF-MW13-SS01
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-1D
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/9/2007 8:00
Date Received: 2/10/2007
Matrix: Soil
%Solids: 87.1

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	4640	200	2/16/2007
Benzene	BQL	186	200	2/16/2007
Bromobenzene	BQL	186	200	2/16/2007
Bromochloromethane	BQL	186	200	2/16/2007
Bromodichloromethane	BQL	186	200	2/16/2007
Bromoform	BQL	186	200	2/16/2007
Bromomethane	BQL	186	200	2/16/2007
2-Butanone	BQL	4640	200	2/16/2007
n-Butylbenzene	1090	186	200	2/16/2007
sec-Butylbenzene	497	186	200	2/16/2007
tert-Butylbenzene	BQL	186	200	2/16/2007
Carbon disulfide	BQL	186	200	2/16/2007
Carbon tetrachloride	BQL	186	200	2/16/2007
Chlorobenzene	BQL	186	200	2/16/2007
Chloroethane	BQL	186	200	2/16/2007
Chloroform	BQL	186	200	2/16/2007
Chloromethane	BQL	186	200	2/16/2007
2-Chlorotoluene	BQL	186	200	2/16/2007
4-Chlorotoluene	BQL	186	200	2/16/2007
Dibromochloromethane	BQL	186	200	2/16/2007
1,2-Dibromo-3-chloropropane	BQL	928	200	2/16/2007
Dibromomethane	BQL	186	200	2/16/2007
1,2-Dibromoethane (EDB)	BQL	186	200	2/16/2007
1,2-Dichlorobenzene	BQL	186	200	2/16/2007
1,3-Dichlorobenzene	BQL	186	200	2/16/2007
1,4-Dichlorobenzene	BQL	186	200	2/16/2007
trans-1,4-Dichloro-2-butene	BQL	928	200	2/16/2007
1,1-Dichloroethane	BQL	186	200	2/16/2007
1,1-Dichloroethene	BQL	186	200	2/16/2007
1,2-Dichloroethane	BQL	186	200	2/16/2007
cis-1,2-Dichloroethene	BQL	186	200	2/16/2007
trans-1,2-dichloroethene	BQL	186	200	2/16/2007
1,2-Dichloropropane	BQL	186	200	2/16/2007
1,3-Dichloropropane	BQL	186	200	2/16/2007
2,2-Dichloropropane	BQL	186	200	2/16/2007
1,1-Dichloropropene	BQL	186	200	2/16/2007
cis-1,3-Dichloropropene	BQL	186	200	2/16/2007
trans-1,3-Dichloropropene	BQL	186	200	2/16/2007
Dichlorodifluoromethane	BQL	928	200	2/16/2007
Diisopropyl ether (DIPE)	BQL	186	200	2/16/2007
Ethylbenzene	312	186	200	2/16/2007
Hexachlorobutadiene	BQL	186	200	2/16/2007

**Results for Volatiles
by GCMS 8260B/5035**

Client Sample ID: CSFF-MW13-SS01
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-1D
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/9/2007 8:00
Date Received: 2/10/2007
Matrix: Soil
%Solids: 87.1

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	928	200	2/16/2007
Iodomethane	258	186	200	2/16/2007
Isopropylbenzene	BQL	186	200	2/16/2007
4-Isopropyltoluene	531	186	200	2/16/2007
Methylene chloride	BQL	928	200	2/16/2007
4-Methyl-2-pentanone	BQL	928	200	2/16/2007
Methyl-tert-butyl ether (MTBE)	BQL	186	200	2/16/2007
Naphthalene	1590	186	200	2/16/2007
n-Propyl benzene	432	186	200	2/16/2007
Styrene	BQL	186	200	2/16/2007
1,1,1,2-Tetrachloroethane	BQL	186	200	2/16/2007
1,1,2,2-Tetrachloroethane	BQL	186	200	2/16/2007
Trichloroethene	BQL	186	200	2/16/2007
Toluene	BQL	186	200	2/16/2007
1,2,3-Trichlorobenzene	BQL	186	200	2/16/2007
1,2,4-Trichlorobenzene	BQL	186	200	2/16/2007
Trichloroethene	BQL	186	200	2/16/2007
1,1,1-Trichloroethane	BQL	186	200	2/16/2007
1,1,2-Trichloroethane	BQL	186	200	2/16/2007
Trichlorofluoromethane	BQL	186	200	2/16/2007
1,2,3-Trichloropropane	BQL	186	200	2/16/2007
1,2,4-Trimethylbenzene	3130	186	200	2/16/2007
1,3,5-Trimethylbenzene	1010	186	200	2/16/2007
Vinyl chloride	BQL	186	200	2/16/2007
m-,p-Xylene	BQL	371	200	2/16/2007
o-Xylene	BQL	186	200	2/16/2007

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	10.2	102
1,2-Dichloroethane-d4	10	9.86	99
Toluene-d8	10	9.76	98

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: fm

**Results for Volatiles
by GCMS 8260B/5035**

Client Sample ID: CSFF-MW13-SS02
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-2D
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/9/2007 8:20
Date Received: 2/10/2007
Matrix: Soil
%Solids: 86.2

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	11700	500	2/16/2007
Benzene	BQL	467	500	2/16/2007
Bromobenzene	BQL	467	500	2/16/2007
Bromochloromethane	BQL	467	500	2/16/2007
Bromodichloromethane	BQL	467	500	2/16/2007
Bromoform	BQL	467	500	2/16/2007
Bromomethane	BQL	467	500	2/16/2007
2-Butanone	BQL	11700	500	2/16/2007
n-Butylbenzene	2330	467	500	2/16/2007
sec-Butylbenzene	981	467	500	2/16/2007
tert-Butylbenzene	BQL	467	500	2/16/2007
Carbon disulfide	BQL	467	500	2/16/2007
Carbon tetrachloride	BQL	467	500	2/16/2007
Chlorobenzene	BQL	467	500	2/16/2007
Chloroethane	BQL	467	500	2/16/2007
Chloroform	BQL	467	500	2/16/2007
Chloromethane	BQL	467	500	2/16/2007
2-Chlorotoluene	BQL	467	500	2/16/2007
4-Chlorotoluene	BQL	467	500	2/16/2007
Dibromochloromethane	BQL	467	500	2/16/2007
1,2-Dibromo-3-chloropropane	BQL	2340	500	2/16/2007
Dibromomethane	BQL	467	500	2/16/2007
1,2-Dibromoethane (EDB)	BQL	467	500	2/16/2007
1,2-Dichlorobenzene	BQL	467	500	2/16/2007
1,3-Dichlorobenzene	BQL	467	500	2/16/2007
1,4-Dichlorobenzene	BQL	467	500	2/16/2007
trans-1,4-Dichloro-2-butene	BQL	2340	500	2/16/2007
1,1-Dichloroethane	BQL	467	500	2/16/2007
1,1-Dichloroethene	BQL	467	500	2/16/2007
1,2-Dichloroethane	BQL	467	500	2/16/2007
cis-1,2-Dichloroethene	BQL	467	500	2/16/2007
trans-1,2-dichloroethene	BQL	467	500	2/16/2007
1,2-Dichloropropane	BQL	467	500	2/16/2007
1,3-Dichloropropane	BQL	467	500	2/16/2007
2,2-Dichloropropane	BQL	467	500	2/16/2007
1,1-Dichloropropene	BQL	467	500	2/16/2007
cis-1,3-Dichloropropene	BQL	467	500	2/16/2007
trans-1,3-Dichloropropene	BQL	467	500	2/16/2007
Dichlorodifluoromethane	BQL	2340	500	2/16/2007
Diisopropyl ether (DIPE)	BQL	467	500	2/16/2007
Ethylbenzene	532	467	500	2/16/2007
Hexachlorobutadiene	BQL	467	500	2/16/2007

**Results for Volatiles
by GCMS 8260B/5035**

Client Sample ID: CSFF-MW13-SS02
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-2D
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/9/2007 8:20
Date Received: 2/10/2007
Matrix: Soil
%Solids: 86.2

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	2340	500	2/16/2007
Iodomethane	537	467	500	2/16/2007
Isopropylbenzene	BQL	467	500	2/16/2007
4-Isopropyltoluene	1350	467	500	2/16/2007
Methylene chloride	BQL	2340	500	2/16/2007
4-Methyl-2-pentanone	BQL	2340	500	2/16/2007
Methyl-tert-butyl ether (MTBE)	BQL	467	500	2/16/2007
Naphthalene	2280	467	500	2/16/2007
n-Propyl benzene	701	467	500	2/16/2007
Styrene	BQL	467	500	2/16/2007
1,1,1,2-Tetrachloroethane	BQL	467	500	2/16/2007
1,1,2,2-Tetrachloroethane	BQL	467	500	2/16/2007
Trichloroethene	BQL	467	500	2/16/2007
Toluene	BQL	467	500	2/16/2007
1,2,3-Trichlorobenzene	BQL	467	500	2/16/2007
1,2,4-Trichlorobenzene	BQL	467	500	2/16/2007
Trichloroethene	BQL	467	500	2/16/2007
1,1,1-Trichloroethane	BQL	467	500	2/16/2007
1,1,2-Trichloroethane	BQL	467	500	2/16/2007
Trichlorofluoromethane	BQL	467	500	2/16/2007
1,2,3-Trichloropropane	BQL	467	500	2/16/2007
1,2,4-Trimethylbenzene	4990	467	500	2/16/2007
1,3,5-Trimethylbenzene	1590	467	500	2/16/2007
Vinyl chloride	BQL	467	500	2/16/2007
m-,p-Xylene	BQL	934	500	2/16/2007
o-Xylene	BQL	467	500	2/16/2007

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.3	93
1,2-Dichloroethane-d4	10	9.99	100
Toluene-d8	10	9.89	99

Comments:**Flags:**Reviewed By: gml

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: CSFF-MW13-SS03
Client Project ID: CCSF/MW13
Lab Sample ID G649-11-3A
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 02-09-2007 08:40
Date Received: 2/10/2007
Matrix: Soil
%Solids: 87.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	87.8	47.4	1	2/15/2007
Benzene	5.89	4.74	1	2/15/2007
Bromobenzene	BQL	4.74	1	2/15/2007
Bromochloromethane	BQL	4.74	1	2/15/2007
Bromodichloromethane	BQL	4.74	1	2/15/2007
Bromoform	BQL	4.74	1	2/15/2007
Bromomethane	BQL	4.74	1	2/15/2007
2-Butanone	30.9	23.7	1	2/15/2007
n-Butylbenzene	BQL	4.74	1	2/15/2007
sec-Butylbenzene	BQL	4.74	1	2/15/2007
tert-Butylbenzene	BQL	4.74	1	2/15/2007
Carbon disulfide	13.6	4.74	1	2/15/2007
Carbon tetrachloride	BQL	4.74	1	2/15/2007
Chlorobenzene	BQL	4.74	1	2/15/2007
Chloroethane	BQL	4.74	1	2/15/2007
Chloroform	BQL	4.74	1	2/15/2007
Chloromethane	BQL	4.74	1	2/15/2007
2-Chlorotoluene	BQL	4.74	1	2/15/2007
4-Chlorotoluene	BQL	4.74	1	2/15/2007
Dibromochloromethane	BQL	4.74	1	2/15/2007
1,2-Dibromo-3-chloropropane	BQL	4.74	1	2/15/2007
Dibromomethane	BQL	4.74	1	2/15/2007
1,2-Dibromoethane (EDB)	BQL	4.74	1	2/15/2007
1,2-Dichlorobenzene	BQL	4.74	1	2/15/2007
1,3-Dichlorobenzene	BQL	4.74	1	2/15/2007
1,4-Dichlorobenzene	BQL	4.74	1	2/15/2007
trans-1,4-Dichloro-2-butene	BQL	4.74	1	2/15/2007
1,1-Dichloroethane	BQL	4.74	1	2/15/2007
1,1-Dichloroethene	BQL	4.74	1	2/15/2007
1,2-Dichloroethane	BQL	4.74	1	2/15/2007
cis-1,2-Dichloroethene	BQL	4.74	1	2/15/2007
trans-1,2-dichloroethene	BQL	4.74	1	2/15/2007
1,2-Dichloropropane	BQL	4.74	1	2/15/2007
1,3-Dichloropropane	BQL	4.74	1	2/15/2007
2,2-Dichloropropane	BQL	4.74	1	2/15/2007
1,1-Dichloropropene	BQL	4.74	1	2/15/2007
cis-1,3-Dichloropropene	BQL	4.74	1	2/15/2007
trans-1,3-Dichloropropene	BQL	4.74	1	2/15/2007
Dichlorodifluoromethane	BQL	4.74	1	2/15/2007
Diisopropyl ether (DIPE)	BQL	4.74	1	2/15/2007
Ethylbenzene	8.07	4.74	1	2/15/2007
Hexachlorobutadiene	BQL	4.74	1	2/15/2007

**Results for Volatiles
by GCMS 8260-5035**

Client Sample ID: CSFF-MW13-SS03
Client Project ID: CCSF/MW13
Lab Sample ID G649-11-3A
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 02-09-2007 08:40
Date Received: 2/10/2007
Matrix: Soil
%Solids: 87.0

Report Name Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	4.74	1	2/15/2007
Iodomethane	BQL	4.74	1	2/15/2007
Isopropylbenzene	BQL	4.74	1	2/15/2007
4-Isopropyltoluene	BQL	4.74	1	2/15/2007
Methylene chloride	BQL	19.0	1	2/15/2007
4-Methyl-2-pentanone	BQL	4.74	1	2/15/2007
Methyl-tert-butyl ether (MTBE)	BQL	4.74	1	2/15/2007
Naphthalene	25.7	4.74	1	2/15/2007
n-Propyl benzene	BQL	4.74	1	2/15/2007
Styrene	BQL	4.74	1	2/15/2007
1,1,1,2-Tetrachloroethane	BQL	4.74	1	2/15/2007
1,1,2,2-Tetrachloroethane	BQL	4.74	1	2/15/2007
Trichloroethene	BQL	4.74	1	2/15/2007
Toluene	BQL	4.74	1	2/15/2007
1,2,3-Trichlorobenzene	BQL	4.74	1	2/15/2007
1,2,4-Trichlorobenzene	BQL	4.74	1	2/15/2007
Trichloroethene	BQL	4.74	1	2/15/2007
1,1,1-Trichloroethane	BQL	4.74	1	2/15/2007
1,1,2-Trichloroethane	BQL	4.74	1	2/15/2007
Trichlorofluoromethane	BQL	4.74	1	2/15/2007
1,2,3-Trichloropropane	BQL	4.74	1	2/15/2007
1,2,4-Trimethylbenzene	21.1	4.74	1	2/15/2007
1,3,5-Trimethylbenzene	10.8	4.74	1	2/15/2007
Vinyl chloride	BQL	4.74	1	2/15/2007
m-,p-Xylene	BQL	9.48	1	2/15/2007
o-Xylene	BQL	4.74	1	2/15/2007

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	50	40.4	81
1,2-Dichloroethane-d4	50	58.8	118
Toluene-d8	50	47.1	94

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: fm

**Results for Volatiles
by GCMS 8260B/5035**

Client Sample ID: CSFF-MW13-SS04
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-4D
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/9/2007 9:00
Date Received: 2/10/2007
Matrix: Soil
%Solids: 87.3

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
Acetone	BQL	30100	1250	2/16/2007
Benzene	BQL	1200	1250	2/16/2007
Bromobenzene	BQL	1200	1250	2/16/2007
Bromochloromethane	BQL	1200	1250	2/16/2007
Bromodichloromethane	BQL	1200	1250	2/16/2007
Bromoform	BQL	1200	1250	2/16/2007
Bromomethane	BQL	1200	1250	2/16/2007
2-Butanone	BQL	30100	1250	2/16/2007
n-Butylbenzene	14700	1200	1250	2/16/2007
sec-Butylbenzene	6390	1200	1250	2/16/2007
tert-Butylbenzene	BQL	1200	1250	2/16/2007
Carbon disulfide	BQL	1200	1250	2/16/2007
Carbon tetrachloride	BQL	1200	1250	2/16/2007
Chlorobenzene	BQL	1200	1250	2/16/2007
Chloroethane	BQL	1200	1250	2/16/2007
Chloroform	BQL	1200	1250	2/16/2007
Chloromethane	BQL	1200	1250	2/16/2007
2-Chlorotoluene	BQL	1200	1250	2/16/2007
4-Chlorotoluene	BQL	1200	1250	2/16/2007
Dibromochloromethane	BQL	1200	1250	2/16/2007
1,2-Dibromo-3-chloropropane	BQL	6010	1250	2/16/2007
Dibromomethane	BQL	1200	1250	2/16/2007
1,2-Dibromoethane (EDB)	BQL	1200	1250	2/16/2007
1,2-Dichlorobenzene	BQL	1200	1250	2/16/2007
1,3-Dichlorobenzene	BQL	1200	1250	2/16/2007
1,4-Dichlorobenzene	BQL	1200	1250	2/16/2007
trans-1,4-Dichloro-2-butene	BQL	6010	1250	2/16/2007
1,1-Dichloroethane	BQL	1200	1250	2/16/2007
1,1-Dichloroethene	BQL	1200	1250	2/16/2007
1,2-Dichloroethane	BQL	1200	1250	2/16/2007
cis-1,2-Dichloroethene	BQL	1200	1250	2/16/2007
trans-1,2-dichloroethene	BQL	1200	1250	2/16/2007
1,2-Dichloropropane	BQL	1200	1250	2/16/2007
1,3-Dichloropropane	BQL	1200	1250	2/16/2007
2,2-Dichloropropane	BQL	1200	1250	2/16/2007
1,1-Dichloropropene	BQL	1200	1250	2/16/2007
cis-1,3-Dichloropropene	BQL	1200	1250	2/16/2007
trans-1,3-Dichloropropene	BQL	1200	1250	2/16/2007
Dichlorodifluoromethane	BQL	6010	1250	2/16/2007
Diisopropyl ether (DIPE)	BQL	1200	1250	2/16/2007
Ethylbenzene	3380	1200	1250	2/16/2007
Hexachlorobutadiene	BQL	1200	1250	2/16/2007

**Results for Volatiles
by GCMS 8260B/5035**

Client Sample ID: CSFF-MW13-SS04
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-4D
Lab Project ID: G649-11
Report Basis: Dry Weight

Analyzed By: CLP
Date Collected: 2/9/2007 9:00
Date Received: 2/10/2007
Matrix: Soil
%Solids: 87.3

Compound	Result UG/KG	Quantitation Limit UG/KG	Dilution Factor	Date Analyzed
2-Hexanone	BQL	6010	1250	2/16/2007
Iodomethane	BQL	1200	1250	2/16/2007
Isopropylbenzene	1840	1200	1250	2/16/2007
4-Isopropyltoluene	5560	1200	1250	2/16/2007
Methylene chloride	BQL	6010	1250	2/16/2007
4-Methyl-2-pentanone	BQL	6010	1250	2/16/2007
Methyl-tert-butyl ether (MTBE)	BQL	1200	1250	2/16/2007
Naphthalene	12800	1200	1250	2/16/2007
n-Propyl benzene	4960	1200	1250	2/16/2007
Styrene	BQL	1200	1250	2/16/2007
1,1,1,2-Tetrachloroethane	BQL	1200	1250	2/16/2007
1,1,2,2-Tetrachloroethane	BQL	1200	1250	2/16/2007
Trichloroethene	BQL	1200	1250	2/16/2007
Toluene	BQL	1200	1250	2/16/2007
1,2,3-Trichlorobenzene	BQL	1200	1250	2/16/2007
1,2,4-Trichlorobenzene	BQL	1200	1250	2/16/2007
Trichloroethene	BQL	1200	1250	2/16/2007
1,1,1-Trichloroethane	BQL	1200	1250	2/16/2007
1,1,2-Trichloroethane	BQL	1200	1250	2/16/2007
Trichlorofluoromethane	BQL	1200	1250	2/16/2007
1,2,3-Trichloropropane	BQL	1200	1250	2/16/2007
1,2,4-Trimethylbenzene	33300	1200	1250	2/16/2007
1,3,5-Trimethylbenzene	11700	1200	1250	2/16/2007
Vinyl chloride	BQL	1200	1250	2/16/2007
m-,p-Xylene	2440	2410	1250	2/16/2007
o-Xylene	BQL	1200	1250	2/16/2007

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	10	9.26	93
1,2-Dichloroethane-d4	10	10.1	101
Toluene-d8	10	9.81	98

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: RLW

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS01
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-1G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 8:00
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 87.06

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	358	1	2/21/2007
Acenaphthylene	BQL	358	1	2/21/2007
Anthracene	BQL	358	1	2/21/2007
Benzo[a]anthracene	BQL	358	1	2/21/2007
Benzo[a]pyrene	BQL	358	1	2/21/2007
Benzo[b]fluoranthene	BQL	358	1	2/21/2007
Benzo[g,h,i]perylene	BQL	358	1	2/21/2007
Benzo[k]fluoranthene	BQL	358	1	2/21/2007
Benzoic Acid	BQL	715	1	2/21/2007
Bis(2-chloroethoxy)methane	BQL	358	1	2/21/2007
Bis(2-chloroethyl)ether	BQL	358	1	2/21/2007
Bis(2-chloroisopropyl)ether	BQL	358	1	2/21/2007
Bis(2-ethylhexyl)phthalate	BQL	358	1	2/21/2007
4-bromophenyl phenyl ether	BQL	358	1	2/21/2007
Butylbenzylphthalate	BQL	358	1	2/21/2007
2-Chloronaphthalene	BQL	358	1	2/21/2007
2-Chlorophenol	BQL	358	1	2/21/2007
4-Chloro-3-methylphenol	BQL	358	1	2/21/2007
4-Chloroaniline	BQL	1790	1	2/21/2007
4-Chlorophenyl phenyl ether	BQL	358	1	2/21/2007
Chrysene	BQL	358	1	2/21/2007
Dibenzo[a,h]anthracene	BQL	358	1	2/21/2007
Dibenzofuran	BQL	358	1	2/21/2007
Di-n-Butylphthalate	BQL	358	1	2/21/2007
1,2-Dichlorobenzene	BQL	358	1	2/21/2007
1,3-Dichlorobenzene	BQL	358	1	2/21/2007
1,4-Dichlorobenzene	BQL	358	1	2/21/2007
3,3'-Dichlorobenzidine	BQL	715	1	2/21/2007
2,4-Dichlorophenol	BQL	358	1	2/21/2007
Diethylphthalate	BQL	358	1	2/21/2007
Dimethylphthalate	BQL	358	1	2/21/2007
2,4-Dimethylphenol	BQL	358	1	2/21/2007
Di-n-octylphthalate	BQL	358	1	2/21/2007
4,6-Dinitro-2-methylphenol	BQL	1790	1	2/21/2007
2,4-Dinitrophenol	BQL	1790	1	2/21/2007
2,4-Dinitrotoluene	BQL	358	1	2/21/2007
2,6-Dinitrotoluene	BQL	358	1	2/21/2007
Diphenylamine *	BQL	358	1	2/21/2007
Fluoranthene	426	358	1	2/21/2007
Fluorene	BQL	358	1	2/21/2007
Hexachlorobenzene	BQL	358	1	2/21/2007
Hexachlorobutadiene	BQL	358	1	2/21/2007
Hexachlorocyclopentadiene	BQL	715	1	2/21/2007
Hexachloroethane	BQL	358	1	2/21/2007

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS01
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-1G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 8:00
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 87.06

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Indeno(1,2,3-c,d)pyrene	BQL	358	1	2/21/2007
Isophorone	BQL	358	1	2/21/2007
2-Methylnaphthalene	5550	358	1	2/21/2007
2-Methylphenol	BQL	358	1	2/21/2007
3- & 4-Methylphenol	BQL	358	1	2/21/2007
Naphthalene	3450	358	1	2/21/2007
2-Nitroaniline	BQL	358	1	2/21/2007
3-Nitroaniline	BQL	1790	1	2/21/2007
4-Nitroaniline	BQL	1790	1	2/21/2007
Nitrobenzene	BQL	358	1	2/21/2007
2-Nitrophenol	BQL	358	1	2/21/2007
4-Nitrophenol	BQL	1790	1	2/21/2007
N-Nitrosodi-n-propylamine	BQL	358	1	2/21/2007
Pentachlorophenol	BQL	1790	1	2/21/2007
Phenanthrene	537	358	1	2/21/2007
Phenol	BQL	358	1	2/21/2007
Pyrene	401	358	1	2/21/2007
1,2,4-Trichlorobenzene	BQL	358	1	2/21/2007
2,4,5-Trichlorophenol	BQL	358	1	2/21/2007
2,4,6-Trichlorophenol	BQL	358	1	2/21/2007

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.1	81
2-Fluorophenol	10	8.5	85
Nitrobenzene-d5	10	11.2	112
Phenol-d6	10	8.6	86
2,4,6-Tribromophenol	10	10.4	104
4-Terphenyl-d14	10	10.1	101

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: AWL

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS02
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-2G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 8:20
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 86.19

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	342	1	2/21/2007
Acenaphthylene	BQL	342	1	2/21/2007
Anthracene	BQL	342	1	2/21/2007
Benzo[a]anthracene	379	342	1	2/21/2007
Benzo[a]pyrene	BQL	342	1	2/21/2007
Benzo[b]fluoranthene	BQL	342	1	2/21/2007
Benzo[g,h,i]perylene	BQL	342	1	2/21/2007
Benzo[k]fluoranthene	BQL	342	1	2/21/2007
Benzoic Acid	BQL	683	1	2/21/2007
Bis(2-chloroethoxy)methane	BQL	342	1	2/21/2007
Bis(2-chloroethyl)ether	BQL	342	1	2/21/2007
Bis(2-chloroisopropyl)ether	BQL	342	1	2/21/2007
Bis(2-ethylhexyl)phthalate	BQL	342	1	2/21/2007
4-bromophenyl phenyl ether	BQL	342	1	2/21/2007
Butylbenzylphthalate	BQL	342	1	2/21/2007
2-Chloronaphthalene	BQL	342	1	2/21/2007
2-Chlorophenol	BQL	342	1	2/21/2007
4-Chloro-3-methylphenol	BQL	342	1	2/21/2007
4-Chloroaniline	BQL	1710	1	2/21/2007
4-Chlorophenyl phenyl ether	BQL	342	1	2/21/2007
Chrysene	386	342	1	2/21/2007
Dibenzo[a,h]anthracene	BQL	342	1	2/21/2007
Dibenzofuran	BQL	342	1	2/21/2007
Di-n-Butylphthalate	BQL	342	1	2/21/2007
1,2-Dichlorobenzene	BQL	342	1	2/21/2007
1,3-Dichlorobenzene	BQL	342	1	2/21/2007
1,4-Dichlorobenzene	BQL	342	1	2/21/2007
3,3'-Dichlorobenzidine	BQL	683	1	2/21/2007
2,4-Dichlorophenol	BQL	342	1	2/21/2007
Diethylphthalate	BQL	342	1	2/21/2007
Dimethylphthalate	BQL	342	1	2/21/2007
2,4-Dimethylphenol	BQL	342	1	2/21/2007
Di-n-octylphthalate	BQL	342	1	2/21/2007
4,6-Dinitro-2-methylphenol	BQL	1710	1	2/21/2007
2,4-Dinitrophenol	BQL	1710	1	2/21/2007
2,4-Dinitrotoluene	BQL	342	1	2/21/2007
2,6-Dinitrotoluene	BQL	342	1	2/21/2007
Diphenylamine *	BQL	342	1	2/21/2007
Fluoranthene	1290	342	1	2/21/2007
Fluorene	BQL	342	1	2/21/2007
Hexachlorobenzene	BQL	342	1	2/21/2007
Hexachlorobutadiene	BQL	342	1	2/21/2007
Hexachlorocyclopentadiene	BQL	683	1	2/21/2007
Hexachloroethane	BQL	342	1	2/21/2007

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS02
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-2G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 8:20
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 86.19

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Indeno(1,2,3-c,d)pyrene	BQL	342	1	2/21/2007
Isophorone	BQL	342	1	2/21/2007
2-Methylnaphthalene	3870	342	1	2/21/2007
2-Methylphenol	BQL	342	1	2/21/2007
3- & 4-Methylphenol	BQL	342	1	2/21/2007
Naphthalene	2620	342	1	2/21/2007
2-Nitroaniline	BQL	342	1	2/21/2007
3-Nitroaniline	BQL	1710	1	2/21/2007
4-Nitroaniline	BQL	1710	1	2/21/2007
Nitrobenzene	BQL	342	1	2/21/2007
2-Nitrophenol	BQL	342	1	2/21/2007
4-Nitrophenol	BQL	1710	1	2/21/2007
N-Nitrosodi-n-propylamine	BQL	342	1	2/21/2007
Pentachlorophenol	BQL	1710	1	2/21/2007
Phenanthrene	1060	342	1	2/21/2007
Phenol	BQL	342	1	2/21/2007
Pyrene	1420	342	1	2/21/2007
1,2,4-Trichlorobenzene	BQL	342	1	2/21/2007
2,4,5-Trichlorophenol	BQL	342	1	2/21/2007
2,4,6-Trichlorophenol	BQL	342	1	2/21/2007

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.9	79
2-Fluorophenol	10	9.5	94
Nitrobenzene-d5	10	11	110
Phenol-d6	10	9.7	97
2,4,6-Tribromophenol	10	11.6	116
4-Terphenyl-d14	10	10.3	103

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: RML

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS03
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-3G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 8:40
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 87.04

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	348	1	2/21/2007
Acenaphthylene	BQL	348	1	2/21/2007
Anthracene	BQL	348	1	2/21/2007
Benzo[a]anthracene	BQL	348	1	2/21/2007
Benzo[a]pyrene	BQL	348	1	2/21/2007
Benzo[b]fluoranthene	BQL	348	1	2/21/2007
Benzo[g,h,i]perylene	BQL	348	1	2/21/2007
Benzo[k]fluoranthene	BQL	348	1	2/21/2007
Benzoic Acid	BQL	697	1	2/21/2007
Bis(2-chloroethoxy)methane	BQL	348	1	2/21/2007
Bis(2-chloroethyl)ether	BQL	348	1	2/21/2007
Bis(2-chloroisopropyl)ether	BQL	348	1	2/21/2007
Bis(2-ethylhexyl)phthalate	BQL	348	1	2/21/2007
4-bromophenyl phenyl ether	BQL	348	1	2/21/2007
Butylbenzylphthalate	BQL	348	1	2/21/2007
2-Chloronaphthalene	BQL	348	1	2/21/2007
2-Chlorophenol	BQL	348	1	2/21/2007
4-Chloro-3-methylphenol	BQL	348	1	2/21/2007
4-Chloroaniline	BQL	1740	1	2/21/2007
4-Chlorophenyl phenyl ether	BQL	348	1	2/21/2007
Chrysene	BQL	348	1	2/21/2007
Dibenzo[a,h]anthracene	BQL	348	1	2/21/2007
Dibenzofuran	BQL	348	1	2/21/2007
Di-n-Butylphthalate	BQL	348	1	2/21/2007
1,2-Dichlorobenzene	BQL	348	1	2/21/2007
1,3-Dichlorobenzene	BQL	348	1	2/21/2007
1,4-Dichlorobenzene	BQL	348	1	2/21/2007
3,3'-Dichlorobenzidine	BQL	697	1	2/21/2007
2,4-Dichlorophenol	BQL	348	1	2/21/2007
Diethylphthalate	BQL	348	1	2/21/2007
Dimethylphthalate	BQL	348	1	2/21/2007
2,4-Dimethylphenol	BQL	348	1	2/21/2007
Di-n-octylphthalate	BQL	348	1	2/21/2007
4,6-Dinitro-2-methylphenol	BQL	1740	1	2/21/2007
2,4-Dinitrophenol	BQL	1740	1	2/21/2007
2,4-Dinitrotoluene	BQL	348	1	2/21/2007
2,6-Dinitrotoluene	BQL	348	1	2/21/2007
Diphenylamine *	BQL	348	1	2/21/2007
Fluoranthene	BQL	348	1	2/21/2007
Fluorene	BQL	348	1	2/21/2007
Hexachlorobenzene	BQL	348	1	2/21/2007
Hexachlorobutadiene	BQL	348	1	2/21/2007
Hexachlorocyclopentadiene	BQL	697	1	2/21/2007
Hexachloroethane	BQL	348	1	2/21/2007

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS03
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-3G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 8:40
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 87.04

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Indeno(1,2,3-c,d)pyrene	BQL	348	1	2/21/2007
Isophorone	BQL	348	1	2/21/2007
2-Methylnaphthalene	BQL	348	1	2/21/2007
2-Methylphenol	BQL	348	1	2/21/2007
3- & 4-Methylphenol	BQL	348	1	2/21/2007
Naphthalene	BQL	348	1	2/21/2007
2-Nitroaniline	BQL	348	1	2/21/2007
3-Nitroaniline	BQL	1740	1	2/21/2007
4-Nitroaniline	BQL	1740	1	2/21/2007
Nitrobenzene	BQL	348	1	2/21/2007
2-Nitrophenol	BQL	348	1	2/21/2007
4-Nitrophenol	BQL	1740	1	2/21/2007
N-Nitrosodi-n-propylamine	BQL	348	1	2/21/2007
Pentachlorophenol	BQL	1740	1	2/21/2007
Phenanthrene	BQL	348	1	2/21/2007
Phenol	BQL	348	1	2/21/2007
Pyrene	BQL	348	1	2/21/2007
1,2,4-Trichlorobenzene	BQL	348	1	2/21/2007
2,4,5-Trichlorophenol	BQL	348	1	2/21/2007
2,4,6-Trichlorophenol	BQL	348	1	2/21/2007

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.9	89
2-Fluorophenol	10	9.2	92
Nitrobenzene-d5	10	9.1	91
Phenol-d6	10	8.8	88
2,4,6-Tribromophenol	10	8.9	89
4-Terphenyl-d14	10	10.8	108

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

Reviewed By: lur

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS04
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-4G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 9:00
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 87.32

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Acenaphthene	BQL	3570	10	2/21/2007
Acenaphthylene	BQL	3570	10	2/21/2007
Anthracene	BQL	3570	10	2/21/2007
Benzo[a]anthracene	BQL	3570	10	2/21/2007
Benzo[a]pyrene	BQL	3570	10	2/21/2007
Benzo[b]fluoranthene	BQL	3570	10	2/21/2007
Benzo[g,h,i]perylene	BQL	3570	10	2/21/2007
Benzo[k]fluoranthene	BQL	3570	10	2/21/2007
Benzoic Acid	BQL	7140	10	2/21/2007
Bis(2-chloroethoxy)methane	BQL	3570	10	2/21/2007
Bis(2-chloroethyl)ether	BQL	3570	10	2/21/2007
Bis(2-chloroisopropyl)ether	BQL	3570	10	2/21/2007
Bis(2-ethylhexyl)phthalate	BQL	3570	10	2/21/2007
4-bromophenyl phenyl ether	BQL	3570	10	2/21/2007
Butylbenzylphthalate	BQL	3570	10	2/21/2007
2-Chloronaphthalene	BQL	3570	10	2/21/2007
2-Chlorophenol	BQL	3570	10	2/21/2007
4-Chloro-3-methylphenol	BQL	3570	10	2/21/2007
4-Chloroaniline	BQL	17800	10	2/21/2007
4-Chlorophenyl phenyl ether	BQL	3570	10	2/21/2007
Chrysene	BQL	3570	10	2/21/2007
Dibenzo[a,h]anthracene	BQL	3570	10	2/21/2007
Dibenzofuran	BQL	3570	10	2/21/2007
Di-n-Butylphthalate	BQL	3570	10	2/21/2007
1,2-Dichlorobenzene	BQL	3570	10	2/21/2007
1,3-Dichlorobenzene	BQL	3570	10	2/21/2007
1,4-Dichlorobenzene	BQL	3570	10	2/21/2007
3,3'-Dichlorobenzidine	BQL	7140	10	2/21/2007
2,4-Dichlorophenol	BQL	3570	10	2/21/2007
Diethylphthalate	BQL	3570	10	2/21/2007
Dimethylphthalate	BQL	3570	10	2/21/2007
2,4-Dimethylphenol	BQL	3570	10	2/21/2007
Di-n-octylphthalate	BQL	3570	10	2/21/2007
4,6-Dinitro-2-methylphenol	BQL	17800	10	2/21/2007
2,4-Dinitrophenol	BQL	17800	10	2/21/2007
2,4-Dinitrotoluene	BQL	3570	10	2/21/2007
2,6-Dinitrotoluene	BQL	3570	10	2/21/2007
Diphenylamine *	BQL	3570	10	2/21/2007
Fluoranthene	BQL	3570	10	2/21/2007
Fluorene	BQL	3570	10	2/21/2007
Hexachlorobenzene	BQL	3570	10	2/21/2007
Hexachlorobutadiene	BQL	3570	10	2/21/2007
Hexachlorocyclopentadiene	BQL	7140	10	2/21/2007
Hexachloroethane	BQL	3570	10	2/21/2007

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: CSFF-MW13-SS04
Client Project ID: CCSF/MW13
Lab Sample ID: G649-11-4G
Lab Project ID: G649-11
Report Basis: Dry weight

Analyzed By: EAW
Date Collected: 2/9/2007 9:00
Date Received: 2/10/2007
Date Extracted: 2/19/2007
Matrix: Soil
% Solids: 87.32

Compound	Result ug/Kg	RL ug/Kg	Dilution Factor	Date Analyzed
Indeno(1,2,3-c,d)pyrene	BQL	3570	10	2/21/2007
Isophorone	BQL	3570	10	2/21/2007
2-Methylnaphthalene	24100	3570	10	2/21/2007
2-Methylphenol	BQL	3570	10	2/21/2007
3- & 4-Methylphenol	BQL	3570	10	2/21/2007
Naphthalene	14300	3570	10	2/21/2007
2-Nitroaniline	BQL	3570	10	2/21/2007
3-Nitroaniline	BQL	17800	10	2/21/2007
4-Nitroaniline	BQL	17800	10	2/21/2007
Nitrobenzene	BQL	3570	10	2/21/2007
2-Nitrophenol	BQL	3570	10	2/21/2007
4-Nitrophenol	BQL	17800	10	2/21/2007
N-Nitrosodi-n-propylamine	BQL	3570	10	2/21/2007
Pentachlorophenol	BQL	17800	10	2/21/2007
Phenanthrene	BQL	3570	10	2/21/2007
Phenol	BQL	3570	10	2/21/2007
Pyrene	BQL	3570	10	2/21/2007
1,2,4-Trichlorobenzene	BQL	3570	10	2/21/2007
2,4,5-Trichlorophenol	BQL	3570	10	2/21/2007
2,4,6-Trichlorophenol	BQL	3570	10	2/21/2007

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	1	NA	NA
2-Fluorophenol	1	NA	NA
Nitrobenzene-d5	1	NA	NA
Phenol-d6	1	NA	NA
2,4,6-Tribromophenol	1	NA	NA
4-Terphenyl-d14	1	NA	NA

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

NA = Not Applicable, surrogate diluted out

Reviewed By: AW

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Osage of Virginia

Project Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS01
Sample Matrix	Soil
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/19/07
Date Analyzed	02/21/07
Dry Weight	87.1
Dilution Factor	2:1
C ₉ -C ₁₈ Aliphatics*	450 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 20 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	240 (mg/Kg)
Aliphatic Surrogate % Recovery	86
Aromatic Surrogate % Recovery	85
Fractionation Surrogate 1 % Recovery	84

Comments:

* = Excludes any surrogates or internal standards.

Lab Info: G649-11-1H

Reviewed By: Am

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Osage of VirginiaProject Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS02
Sample Matrix	Soil
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/19/07
Date Analyzed	02/20/07
Dry Weight	86.2
Dilution Factor	1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	110
Aromatic Surrogate % Recovery	100

Comments:

- * = Excludes any surrogates or internal standards.
Sample did not require fractionation.

Lab info: G649-11-2H

Reviewed By: AM

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Osage of VirginiaProject Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS03
Sample Matrix	Soil
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/19/07
Date Analyzed	02/21/07
Dry Weight	87
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₈ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	100
Aromatic Surrogate % Recovery	100
Fractionation Surrogate 1 % Recovery	100

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G649-11-3H

Reviewed By: hmc

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Osage of VirginiaProject Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS04
Sample Matrix	Soil
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/19/07
Date Analyzed	02/21/07
Dry Weight	87.3
Dilution Factor	20:5
C ₉ -C ₁₈ Aliphatics*	6500 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 200 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	790 (mg/Kg)
Aliphatic Surrogate % Recovery	NA
Aromatic Surrogate % Recovery	N/A
Fractionation Surrogate 1 % Recovery	N/A

Comments:

* = Excludes any surrogates or internal standards.

NA = Non-applicable, surrogate diluted out.

Lab info: G649-11-4H

Reviewed By: fm



EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/14/07

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100	10
C ₁₉ -C ₃₆ Aliphatics	0.57	1.8	100	10
C ₁₁ -C ₂₂ Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	4.20	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.6	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.2	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 02/20/07

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-5.2
C ₁₉ -C ₃₆ Aliphatics	160	-5.3
C ₁₁ -C ₂₂ Aromatics	340	13.3

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 02/14/07

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L) (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100 10
C ₁₉ -C ₃₆ Aliphatics	0.57	1.8	100 10
C ₁₁ -C ₂₂ Aromatics	4.54	14.4	100 10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	4.20	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.6	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.2	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 02/21/07

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	-3.1
C ₁₉ -C ₃₆ Aliphatics	160	-2.3
C ₁₁ -C ₂₂ Aromatics	340	11.2

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit

RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS01
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/09/07
Date Analyzed	02/14/07
Dry Weight	87
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	47 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	180 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	160 (mg/Kg)
Surrogate % Recovery - PID	360***
Surrogate % Recovery - FID	500***

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

***= High surrogate recovery due to matrix interference

Lab Info: g649-11-1e

Reviewed By: fm

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Osage of Virginia

Project Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS02
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/09/07
Date Analyzed	02/14/07
Dry Weight	86
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	58 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	210 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	200 (mg/Kg)
Surrogate % Recovery - PID	510***
Surrogate % Recovery - FID	580***

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

***= High surrogate recovery due to matrix interference

Lab Info: g649-11-2e

Reviewed By: AME

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Osage of VirginiaProject Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS03
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/09/07
Date Analyzed	02/16/07
Dry Weight	87
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	< 10 (mg/Kg)
Surrogate % Recovery - PID	97
Surrogate % Recovery - FID	96

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g649-11-3e

Reviewed By: me

**VPH (Aliphatics/Aromatics) Laboratory Reporting Form**Client Name: Osage of VirginiaProject Name: CCSF/MW13

Sample Information and Analytical Results	
Sample Identification	CSFF-MW13-SS04
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	02/09/07
Date Received	02/10/07
Date Extracted	02/09/07
Date Analyzed	02/15/07
Dry Weight	87
Dilution Factor	10
C ₅ -C ₈ Aliphatics**	580 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	760 (mg/Kg)
C ₈ -C ₁₀ Aromatics**	460 (mg/Kg)
Surrogate % Recovery - PID	350***
Surrogate % Recovery - FID	450***

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

***= High surrogate recovery due to matrix interference

Lab Info: g649-11-4e

Reviewed By: AME

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date:

01/03/07

PID Initial Calibration Date:

01/03/07

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L) (mg/Kg)	
C ₅ -C ₈ Aliphatics	4.4	14	100	10
C ₉ -C ₁₂ Aliphatics	3.4	11	100	10
C ₉ -C ₁₀ Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C ₅ -C ₈ Aliphatics	40	9.7	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	15.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	23.10	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date:

02/15/07

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	8.5
C ₉ -C ₁₂ Aliphatics	500	50	3.5
C ₉ -C ₁₀ Aromatics	500	50	5.3

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 01/03/07 PID Initial Calibration Date: 01/03/07

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L) (mg/Kg)	
C ₅ -C ₈ Aliphatics	4.4	14	100	10
C ₉ -C ₁₂ Aliphatics	3.4	11	100	10
C ₉ -C ₁₀ Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C ₅ -C ₈ Aliphatics	40	9.7	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	15.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	23.10	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 02/14/07

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	11.5
C ₉ -C ₁₂ Aliphatics	500	50	4.4
C ₉ -C ₁₀ Aromatics	500	50	4.5

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit

RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date:

01/03/07

PID Initial Calibration Date:

01/03/07

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L) (mg/Kg)
C ₅ -C ₈ Aliphatics	4.4	14	100 10
C ₉ -C ₁₂ Aliphatics	3.4	11	100 10
C ₉ -C ₁₀ Aromatics	0.13	0.41	100 10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C ₅ -C ₈ Aliphatics	40	9.7	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	15.00	Calibration Factor
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	23.10	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date:

02/16/07

Calibration Check

Range	Levels (mg/Kg) (µg/L)	RPD
C ₅ -C ₈ Aliphatics	2000 200	20.0
C ₉ -C ₁₂ Aliphatics	500 50	15.5
C ₉ -C ₁₀ Aromatics	500 50	18.9

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve



List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit (RL or MDL)

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

CHAIN OF CUSTODY RECORD
SGS Environmental Services Inc.

Locations Nationwide

- Alaska
- Louisiana
- New Jersey
- West Virginia
- Hawaii
- Maryland
- North Carolina

www.us.sgs.com

0620

[illegible]

SGS ENVIRONMENTAL SERVICES, INC.

N.C. CERTIFICATION #481

32 of 32

APPENDIX C
MONITORING WELL ABANDONMENT RECORDS

WELL ABANDONMENT RECORD

WELL CONTRACTOR TODD MUENCH/PARRATT-WOLFF, INC.

WELL CONTRACTOR CERTIFICATION # 3371

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)

Nearest Town: JACKSONVILLE

County ONslow

CAMP LEJEUNE

(Road Name and Number, Community, Subdivision, Lot No.)

Quadrangle No. _____

3. OWNER: MCB CAMP LEJEUNE

4. ADDRESS: JACKSONVILLE, NC 28542

5. TOPOGRAPHY: ☐ draw, ☐ slope, ☐ hilltop, ☐ valley, ☐ flat
(circle one)

6. TOTAL DEPTH: 16.0 DIAMETER 2"

7. CASING REMOVED:

feet

diameter

8. DISINFECTION:

(Amount of 70% hypochlorite used:)

9. SEALING MATERIAL:

Neat Cement

bags of cement _____

gallons of water _____

Sand Cement

bags of cement _____

gallons of water _____

Other

Type material 5% Bentonite/Cement

Amount 1 1/2 bags _____ Grout _____

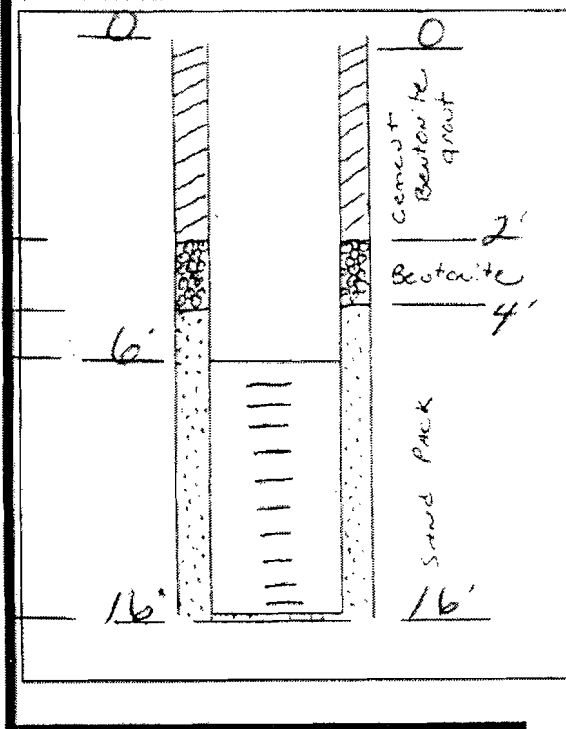
10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.

Tremie grouted casing in place

USTAS4151-MW01

11. DATE WELL ABANDONED 2/8/05

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well _____

Date 3-9-05

WELL LOCATION:

Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Attn: Information Management- 1617 Mail Service Center - Raleigh, NC 27699-1617, Phone No. (919) 733-7015, and one copy to the owner within 30 days from completion of abandonment.

WELL ABANDONMENT RECORD

WELL CONTRACTOR TODD MUENCH/PARRATT-WOLFF, INC.
WELL CONTRACTOR CERTIFICATION # 3371

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)

Nearest Town: JACKSONVILLE County ONSLOW
CAMP LEJEUNE

(Road Name and Number, Community, Subdivision, Lot No.), Quadrangle No.

3. OWNER: MCB CAMP LEJEUNE

4. ADDRESS: JACKSONVILLE, NC 28542

5. TOPOGRAPHY: ☐ draw, ☐ slope, ☐ hilltop, ☐ valley, ☐ flat
(circle one)

6. TOTAL DEPTH: 14.0 DIAMETER 2"

7. CASING REMOVED:

feet diameter

8. DISINFECTION:

(Amount of 70% hypochlorite used:)

9. SEALING MATERIAL:

Neat Cement Sand Cement
bags of cement _____ bags of cement _____
gallons of water _____ gallons of water _____

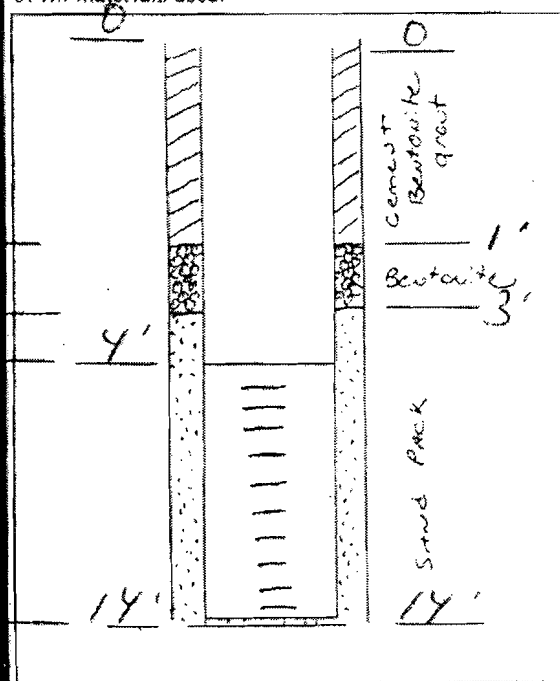
Other
Type material 5% Bentonite/Cement
Amount 1 1/2 bags Grout

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.

Tremie grouted casing in place
USTAS4151-MW03

11. DATE WELL ABANDONED 2/8/05

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well [Signature] Date 3-9-05

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Attn: Information Management- 1617 Mail Service Center - Raleigh, NC 27699-1617, Phone No. (919) 733-7015, and one copy to the owner within 30 days from completion of abandonment.

WELL ABANDONMENT RECORD

WELL CONTRACTOR TODD MUENCH/PARRATT-WOLFF, INC.
WELL CONTRACTOR CERTIFICATION # 3371

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☒
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)

Nearest Town: JACKSONVILLE County ONSLOW
CAMP LEJEUNE

(Road Name and Number, Community, Subdivision, Lot No.)

Quadrangle No. _____

3. OWNER: MCB CAMP LEJEUNE

4. ADDRESS: JACKSONVILLE, NC 28542

5. TOPOGRAPHY: ☐ draw, ☐ slope, ☐ hilltop, ☐ valley, ☐ flat
(circle one)

6. TOTAL DEPTH: 14.88 DIAMETER 2"

7. CASING REMOVED:

<u>feet</u>	<u>diameter</u>
<u>4.88</u>	<u>2"</u>

8. DISINFECTION:

(Amount of 70% hypochlorite used:)

9. SEALING MATERIAL:

<u>Neat Cement</u>	<u>Sand Cement</u>
bags of cement _____	bags of cement _____
gallons of water _____	gallons of water _____

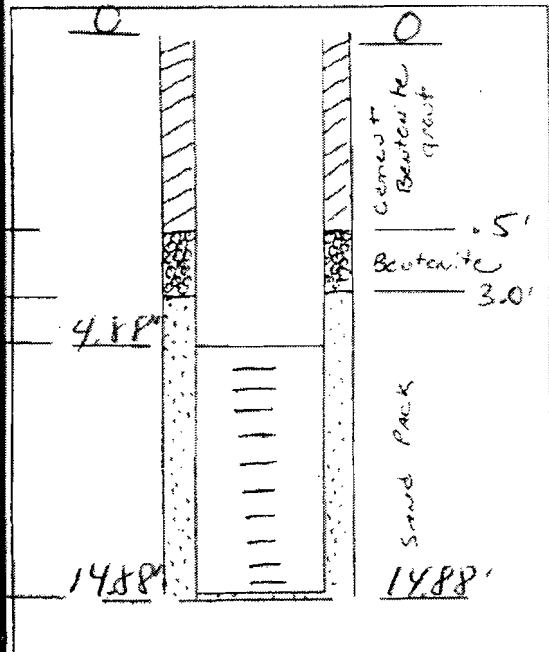
Other
Type material 5% Bentonite/Cement
Amount 1 1/2 bags Grout

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.

USTCSFF-MW13

11. DATE WELL ABANDONED 2/8/05

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Todd Muench Date 3-9-05

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Attn: Information Management- 1617 Mail Service Center - Raleigh, NC 27699-1617, Phone No. (919) 733-7015, and one copy to the owner within 30 days from completion of abandonment.

APPENDIX D

FIELD DATA

CSFF

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCASDate: 6/5/00
SITE: Campbell Street Fuel FarmGauged By: (757) 565093
CHRIS (2 mn)

WELL NUMBER	DEPTH TO BOTTOM MEASURED FROM TOC		TIME OF GAUGING	DEPTH TO WATER FROM TOP OF CASING	DEPTH TO LNAPL FROM TOP OF CASING	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	1016	6.73			
USTCSFF-MW04		18.01	1003	8.45			
USTCSFF-MW05		18.06	1021	8.64			
USTCSFF-MW06		18.51	1056	6.53			
USTCSFF-MW07		17.78	0957 0958	5.46	6.90		
USTCSFF-MW08		15.50	1000	5.46			
USTCSFF-MW09		16.51	1003	5.97			
USTCSFF-MW10		17.85	1001	6.21			
USTCSFF-MW11		18.65	1005	7.15			
USTCSFF-MW12		16.70	1014	6.87			
USTCSFF-MW13		17.71	1010	7.76	7.46	.30	
USTCSFF-MW14		15.62	1013	5.73			
USTCSFF-MW15		18.55	0958	7.48			
USTCSFF-MW16		14.52	1014	6.64			
USTCSFF-MW17		16.62	1026	5.69			
USTCSFF-MW18				2.18			
USTCSFF-MW19							AS142-MW01 ABANDONED
USTCSFF-MW20			1002	2.71			
USTCSFF-MW21		16.51	1021	7.20			
USTCSFF-MW22		16.00	1022	6.59			
USTCSFF-MW24		13.61	1017	7.27			

June 200

CSFF			
USTCSFF-DW01	32.68	1015	6.77
USTCSFF-DW02	32.10	0957	8.67
USTCSFF-DW04	55.10	0959	6.15
USTCSFF-DW05	44.12	1050	8.63
USTCSFF-DW06	48.95	1018	7.83
USTJP5-MW01	12.70	1025	3.14
USTAS4151-MW01	18.86	1046	6.12
USTAS4151-MW02	21.27	1034	6.24
USTAS4151-MW02A (w/11)	18.13	1041	6.51
USTAS4151-MW03	16.45	1030	6.58
USTAS4151-MW04	13.80	1041	1.917
USTAS4151-MW05	13.11	1048	3.88
USTAS4151-MW06	13.09	1047	3.46
USTAS4151-MW07	14.73	1046	2.16
USTAS4151-MW08	14.21	1045	2.53
USTAS4151-MW09	13.98	1052	6.00
USTAS4151-MW10	8.43	1053	5.79
USTAS4151-MW11	16.87	1030	5.14
USTAS4151-MW12	15.72	1039	5.60
USTAS4151-MW13	16.49	1044	6.35
USTAS4151-MW14	17.56	1043	3.91
USTAS4151-RW01	14.90	1045	7.95
USTAS4151-DW01	31.90	1051	4.68
USTAS4151-DW01A	43.49	1034	2.37
USTAS4151-DW02	43.16		
SWMU272-MW04			
SWMU272-MW05			

4" (M) WELL CAP

Old ID 122MW-13
Old ID 13MW-01

6"
Old ID 122 13DW-01

Old ID 122DW-01 (Access from 4151)

X
X

6.90 (W0015) MW07

3.18 (145 MW01) MW18

4.89 (MW01 behind 4151) MW01A

6.00 (In front of 4151)

CSFF

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCASDate: 7/13/06
SITE: Campbell Street Fuel Farm

Gauged By: [Signature]

WELL NUMBER	DEPTH TO BOTTOM MEASURED FROM TOC		TIME OF GAUGING	DEPTH TO WATER FROM TOP OF CASING	DEPTH TO LNAPL FROM TOP OF CASING	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	1019	6.32			
USTCSFF-MW04		18.01	1026	8.11			
USTCSFF-MW05		18.06	1125	8.16			
USTCSFF-MW06		18.51	1105	6.55			
USTCSFF-MW07		17.78	1003	6.67			
USTCSFF-MW08		15.50	1006	5.30			
USTCSFF-MW09		16.51	1014	5.60			
USTCSFF-MW10		17.85	1008	5.90			
USTCSFF-MW11		18.65	1009	7.07			
USTCSFF-MW12		16.70	1017	6.75			
USTCSFF-MW13		17.71	1023	7.37	7.22	.15	
USTCSFF-MW14		15.62	1015	5.62			
USTCSFF-MW15		18.55	0958	7.11			
USTCSFF-MW16		14.52	1018	6.73			
USTCSFF-MW17		16.62	1011	5.45			
USTCSFF-MW18		17.0	1120	1.88			
~~USTCSFF-MW19~~							AS142-MW01 abandoned
USTCSFF-MW20		13.72	1124	2.70			
USTCSFF-MW21		16.51	1115	6.93			
USTCSFF-MW22		16.00	1103	6.72			
USTCSFF-MW24		13.61	1107	7.16			

Behind AST
by Pond
located in the woods adjacent to CSFF

wells

July 200

CSFF

USTCSFF-DW01	32.68	1020	6.35
USTCSFF-DW02	32.10	1025	8.26
USTCSFF-DW04	55.10	1013	6.25
USTCSFF-DW05	44.12	1024	8.21
USTCSFF-DW06	48.95	1116	7.40
USTJP5-MW01	12.70	1102	2.96
USTAS4151-MW01	18.86	1036	5.77
USTAS4151-MW02	21.27	1053	5.81
USTAS4151-MW02A	18.13	1043	6.46
USTAS4151-MW03	16.45	1058	6.27
USTAS4151-MW04	13.80	1050	2.94
USTAS4151-MW05	13.11	1137	4.10
USTAS4151-MW06	18.52	1125	8.46
USTAS4151-MW07	13.09	1033	3.35
USTAS4151-MW08	14.73	1034	6.32
USTAS4151-MW09	14.21	1039	4.57
USTAS4151-MW10	13.98	1041	6.00
USTAS4151-MW11	8.43	1141	6.01
USTAS4151-MW12	16.87	1032	5.52
USTAS4151-MW13	15.72	1031	5.40
USTAS4151-MW13	16.49	1048	5.76
USTAS4151-MW14	17.56	1044	6.12
USTAS4151-RW01	14.90	1038	3.80
USTAS4151-DW01	31.90	1037	7.52
USTAS4151-DW01A	43.49	1138	4.18
USTAS4151-DW02	43.16	1051	7.95
~~SWMU272-GW01~~	--	--	--
~~SWMU272-MW09~~	--	--	--
PS4151-MW01A	18.65	1054	5.46

(122-13MW01)

labeled as W11 on well ID tag

lost

4"

Old ID 122MW-13

Old ID 122 13MW-01 (in front of AS4151)

6"

Old ID 122 13DW-01

Old ID 122DW-01 Across the street from AS4151

not located

not located

(Behind AS4151)

CSFF

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Date: 04 August 2006

SITE: Campbell Street Fuel Farm

Gauged By:

T. E. ... / J. B. ...

WELL NUMBER	DEPTH TO BOTTOM MEASURED FROM TOC		TIME OF GAUGING	DEPTH TO WATER FROM TOP OF CASING	DEPTH TO LNAPL FROM TOP OF CASING	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	11:46	5.30	N/A		
USTCSFF-MW04		18.01	11:52	7.45	N/A		
USTCSFF-MW05		18.06	11:37	6.99	N/A		behind AST
USTCSFF-MW06		18.51	12:50	6.00	N/A		by pond
USTCSFF-MW07		17.78	13:07	4.41	N/A		located in the woods adjacent to CSFF
USTCSFF-MW08		15.50	11:56	4.05	N/A		
USTCSFF-MW09		16.51	11:52	4.97	N/A		
USTCSFF-MW10		17.85	11:53	4.24	N/A		
USTCSFF-MW11		18.65	12:00	6.40	N/A		
USTCSFF-MW12		16.70	11:43	6.07	N/A		
USTCSFF-MW13		17.71	13:13	7.19	7.00	0.19	
USTCSFF-MW14		15.62	11:54	5.02	N/A		
USTCSFF-MW15		18.55	12:50	6.47	N/A		
USTCSFF-MW16		14.52	11:48	6.55	N/A		
USTCSFF-MW17		16.62	12:00	4.20	N/A		
USTCSFF-MW18		17.00	11:42	0.11	N/A		AS142-MW01
USTCSFF-MW19		—	—	—	—	—	abandoned
USTCSFF-MW20		13.72	11:40	1.72	N/A		
USTCSFF-MW21		16.51	11:44	6.00	N/A		
USTCSFF-MW22		16.00	12:55	6.22	N/A		
USTCSFF-MW24		13.61	11:45	6.40	N/A		
USTCSFF-DW01		32.68	11:47	2.72	N/A		
USTCSFF-DW02		32.10	11:52	1.60	N/A		

August 200

CSFF

USTCSFF-DW04	55.10	11:55	5.61	N/A	
USTCSFF-DW05	44.12	11:50	7.59	N/A	
USTCSFF-DW06	48.95	11:43	6.82	N/A	
USTAS4151-DW01	31.90	12:44	7.01	N/A	Old ID 122 13DW-01
USTAS4151-DW01A	43.49	12:21	3.68	N/A	Old ID 122DW-01, across from AS4151
USTAS4151-DW02	43.16	12:32	7.41	N/A	
USTAS4151-MW01	18.86				
USTAS4151-MW01A	18.65	12:34	4.82	N/A	behind AS4151
USTAS4151-MW02	21.27	12:39	5.27	N/A	
USTAS4151-MW02A	18.13	12:39	6.46	N/A	labeled as W11 on well ID tag
USTAS4151-MW03	16.45	12:30	5.31	N/A	
USTAS4151-MW04	13.80	12:29	2.28	N/A	
USTAS4151-MW05	13.11	12:23	3.55	N/A	
USTAS4151-MW06	18.52	-	-	N/A	lost under recent AST
USTAS4151-MW07	13.09	12:47	2.54	N/A	
USTAS4151-MW08	14.73	12:27	6.20	N/A	
USTAS4151-MW09	14.21	12:36	4.17	N/A	4" Suck
USTAS4151-MW10	13.98	12:37	5.22		
USTAS4151-MW11	8.43	12:25	3.03	N/A	
USTAS4151-MW12	16.87	12:48	4.87	N/A	
USTAS4151-MW13	15.72	12:49	4.71	N/A	Old ID 122MW-13
*USTAS4151-MW13	16.49	12:28	5.33	N/A	Old ID 122 13MW-01 LABEL
USTAS4151-MW14	17.56	12:40	5.43	N/A	
USTAS4151-MW01	14.90	12:37	3.45	N/A	6"
USTJP5-MW01	12.70	12:50	2.40	N/A	
SWMU272-GW01	--	--	--	--	not located
SWMU272-MW09	--	--	--	--	not located

12:01 13:24 16.51

CSFF

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCASDate: 9/12/06
SITE: Campbell Street Fuel Farm

Gauged By: J.E.

WELL NUMBER	DEPTH TO BOTTOM MEASURED FROM TOC		TIME OF GAUGING	DEPTH TO WATER FROM TOP OF CASING	DEPTH TO LNAPL FROM TOP OF CASING	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	11:55	5.45			
USTCSFF-MW04		18.01	11:57	7.21			
USTCSFF-MW05		18.06	12:04	7.16			behind AST
USTCSFF-MW06		18.51	11:57	6.06			by pond
USTCSFF-MW07		17.78	11:45	4.88			located in the woods adjacent to CSFF
USTCSFF-MW08		15.50	11:26	4.21			
USTCSFF-MW09		16.51	11:38	4.54			
USTCSFF-MW10		17.85	11:24	4.60			
USTCSFF-MW11		18.65	11:36	5.13			
USTCSFF-MW12		16.70	11:21	6.11			
USTCSFF-MW13		17.71	11:10	6.01	6.56		
USTCSFF-MW14		15.62	11:22	5.50			
USTCSFF-MW15		18.55	11:06	6.28			
USTCSFF-MW16		14.52	11:17	6.60			
USTCSFF-MW17		16.62	11:31	4.45			
USTCSFF-MW18		17.00	11:27	0.76			AS142-MW01
USTCSFF-MW19		—	—	—	—	—	abandoned
USTCSFF-MW20		13.72	12:03	1.33			
USTCSFF-MW21		16.51	12:01	5.13			
USTCSFF-MW22		16.00	12:04	1.23			
USTCSFF-MW24		13.61	11:36	3.41			
USTCSFF-DW01		32.68	12:02	5.26			
USTCSFF-DW02		32.10	12:06	5.10			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Date: 4-Oct-06
Site: CSFF/AS4151
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	1133	6.45			
USTCSFF-MW04		18.01	1155	8.11			
USTCSFF-MW05		18.06	1113	8.42			
USTCSFF-MW06		18.51	1004	6.51			
USTCSFF-MW07		17.78	1208	6.60			
USTCSFF-MW08		15.50	1143	5.30			
USTCSFF-MW09		16.51	1140	5.57			
USTCSFF-MW10		17.85	1146	5.87			
USTCSFF-MW11		18.65	1149	7.08			
USTCSFF-MW12		16.70	1136	6.75			
USTCSFF-MW13		17.71	1224	~~5.75~~ 7.45	7.40	0.35	
USTCSFF-MW14		15.62	1138	5.70			
USTCSFF-MW15		18.55	0955	7.02			
USTCSFF-MW16		14.52	1135	6.90			
USTCSFF-MW17		16.62	1151	5.90			
USTCSFF-MW18		17.00	1122	2.18			
USTCSFF-MW20		13.72	1119	5.12			
USTCSFF-MW21		16.51	1121	6.98			
USTCSFF-MW22		16.00	0958	6.77			
USTCSFF-MW24		13.61	1131	7.23			

AS142-MW01 on well tag

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Date: 4-Oct-06
Site: CSFF/AS4151
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW25			1218	5.10			Installed by SOV
USTCSFF-MW26		15.30	1202	4.07			WELL TAG - AS143-MW26 Installed by Catlin
USTCSFF-DW01		32.68	1134	6.32			
USTCSFF-DW02		32.10	1155	8.22			
USTCSFF-DW04		55.10	1142	6.20			
USTCSFF-DW05		44.12	1154	8.17			
USTCSFF-DW06		48.95	1120	7.40			
USTAS4151-DW01		31.90	0920	7.51			In front of AS4151 (122 13DW01)
USTAS4151-DW01A		43.49	0946	4.17			Across the street from AS4151
USTAS4151-DW02		43.16	0937	7.91			Behind AS4151
USTAS4151-MW01		~~18.86~~	See	MW13A			Old ID 122 13MW01
USTAS4151-MW01A		18.65	0934	6.32			Behind AS4151
USTAS4151-MW02		21.27	0936	6.62			
USTAS4151-MW02A		18.13	0926	6.55			Well tag indicated W11
USTAS4151-MW03		16.45	0942	6.84			old ID 122 MW03
USTAS4151-MW04		13.80	0944	3.14			
USTAS4151-MW05		13.11	1042	4.07			
USTAS4151-MW06		18.52					Removed during AST installation
USTAS4151-MW07		13.09	0948	3.47			
USTAS4151-MW08		14.73	0918	6.72			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Date: 4-Oct-06
Site: CSFF/AS4151
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTAS4151-MW09		14.21	0923	4.60			
USTAS4151-MW10		13.98	0925	6.42			
USTAS4151-MW11		8.43	1051	6.18			
USTAS4151-MW12		16.87	0949	5.72			
USTAAAS4151-MW13		15.51	0951	5.61			Old ID 122MW-13
USTAS4151-MW13A		16.49	0920	5.90			Old ID 122 13MW01
USTAS4151-MW14		17.56	0930	7.17			
USTAS4151-RW01		14.90	0922	4.11			
USTJP5-MW01		12.70	0959	3.00			

G. GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 11/11/06
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	1308	5.52			
USTCSFF-MW04		18.01	1328	7.91			
USTCSFF-MW05		18.06	1520	7.99			
USTCSFF-MW06		18.51	1327	6.23			
USTCSFF-MW07		17.78	1326	4.77			
USTCSFF-MW08		15.50	1455	4.03			
USTCSFF-MW09		16.51	1454	5.37			
USTCSFF-MW10		17.85	1458	4.83			
USTCSFF-MW11		18.65	1459	6.77			
USTCSFF-MW12		16.70	1451	6.52			
USTCSFF-MW13		17.71	1506	7.80	7.77	.03	
USTCSFF-MW14		15.62	1452	5.20			
USTCSFF-MW15		18.55	1325	6.87			
USTCSFF-MW16		14.52	1450	6.87			
USTCSFF-MW17		16.62	1501	4.91			
USTCSFF-MW18		17.00	1324	1.31			AS142-MW01 on well tag
USTCSFF-MW20		13.72	1320	0.21			
USTCSFF-MW21		16.51	1319	6.42			
USTCSFF-MW22		16.00	1507	6.55			
USTCSFF-MW24		13.61	1318	6.82			

G. DWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151

Date: 11/1/06

Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW25		18.05	1510	4.90			
USTAS143-MW26		15.30	1515	3.95			
• USTCSFF-DW01		32.68	1312	6.15			
• USTCSFF-DW02		32.10	1314	8.02			
• USTCSFF-DW04		55.10	1456	6.03			
• USTCSFF-DW05		44.12	1443	8.00			
• USTCSFF-DW06		48.95	1316	7.26			
• USTAS4151-DW01		31.90	1336	7.42			In front of AS4151 (122 13DW01)
• USTAS4151-DW01A		43.49	1417	4.07			Across the street from AS4151
• USTAS4151-DW02		43.16	1343	7.82			Behind AS4151
~~USTAS4151-MW01~~		16.49	See MW13A				Old ID 122 13MW01-Changed to AS4151-MW13A
• USTAS4151-MW01A		18.65	1350	6.02			Behind AS4151
• USTAS4151-MW02		21.27	1345	6.60			
• USTAS4151-MW02A		18.13	1402	6.45			Well tag indicated W11
• USTAS4151-MW03		16.45	1341	6.16			
• USTAS4151-MW04		13.80	1339	2.72			
• USTAS4151-MW05		13.11	1416	3.65			
• ~~USTAS4151-MW06~~		18.52					Removed during AST installation
• USTAS4151-MW07		13.09	1331	3.03			
• USTAS4151-MW08		14.73	1334	6.46			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 11/21/06
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTAS4151-MW09		14.21	1406	4.48			
USTAS4151-MW10		13.98	1405	5.72			
USTAS4151-MW11		8.43	1419	5.65			
USTAS4151-MW12		16.87	1330	5.41			
USTAS4151-MW13		15.51	1329	5.21			Old ID 122MW-13
USTAS4151-MW13A		16.49	1335	5.65			Old ID 122 13MW01
USTAS4151-MW14		17.56	1353	7.11			
USTAS4151-RW01		14.90	1408	3.86			
USTJP5-MW01		12.70	1521	2.76			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 12/5/06
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	1122	5.75			
USTCSFF-MW04		18.01	1150	7.72			
USTCSFF-MW05		18.06	1104	8.09			
USTCSFF-MW06		18.51	1407	6.32			
USTCSFF-MW07		17.78	1412	4.57			
USTCSFF-MW08		15.50	1139	4.11			
USTCSFF-MW09		16.51	1134	5.15			
USTCSFF-MW10		17.85	1140	4.92			
USTCSFF-MW11		18.65	1142	6.56			
USTCSFF-MW12		16.70	1131	6.60			
USTCSFF-MW13		17.71	1156	7.75	7.46	0.09	
USTCSFF-MW14		15.62	1133	5.31			
USTCSFF-MW15		18.55	1215	6.70			
USTCSFF-MW16		14.52	1129	6.57			
USTCSFF-MW17		16.62	1144	4.75			
USTCSFF-MW18		17.00	1117	1.60			AS142-MW01 on well tag
USTCSFF-MW20		13.72	1108	2.90			
USTCSFF-MW21		16.51	1111	6.45			
USTCSFF-MW22		16.00	1212	6.70			
USTCSFF-MW24		13.61	1115	6.85			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 12/5/06
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW25		18.05	1205	4.75			
USTAS143-MW26		15.30	1114	3.71			
USTCSFF-DW01		32.68	1124	6.00			
USTCSFF-DW02		32.10	1148	7.82			
USTCSFF-DW04		55.10	1136	5.80			
USTCSFF-DW05		44.12	1146	7.82			
USTCSFF-DW06		48.95	1110	7.11			
USTAS4151-DW01		31.90	1334	7.16			In front of AS4151 (122 13DW01)
USTAS4151-DW01A		43.49	1403	3.90			Across the street from AS4151
USTAS4151-DW02		43.16	1350	7.55			Behind AS4151
~~USTAS4151-MW01~~		16.49					Old ID 122 13MW01-Changed to AS4151-MW13A
USTAS4151-MW01A		18.65	couldn't access area				Behind AS4151
USTAS4151-MW02		21.27	1351	5.82			
USTAS4151-MW02A		18.13	1355	6.41			Well tag indicated W11
USTAS4151-MW03		16.45	1347	5.55			
USTAS4151-MW04		13.80	1345	2.90			
USTAS4151-MW05		13.11	1402	3.63			
~~USTAS4151-MW06~~		18.52					Removed during AST installation
USTAS4151-MW07		13.09	1339	3.18			
USTAS4151-MW08		14.73	1338	6.60			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 12/5/06
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTAS4151-MW09		14.21	1320	4.72			
USTAS4151-MW10		13.98	1356	5.78			
USTAS4151-MW11		8.43	1407	5.98			
USTAS4151-MW12		16.87	1340	5.48			
USTAS4151-MW13		15.51	1342	5.28			Old ID 122MW-13
USTAS4151-MW13A		16.49	1336	5.81			Old ID 122 13MW01
USTAS4151-MW14		17.56	1358	6.21			
USTAS4151-RW01		14.90	1323	4.20			
USTJP5-MW01		12.70	1210	2.88			

G. GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 01/04/07
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03 ✓		17.80	1421	5.26	(1/5/06)		*needs lock/cut
USTCSFF-MW04 ✓		18.01	1400	7.58	(1/5/06)		*needs lock/cut
USTCSFF-MW05 ✓		18.06	1405	7.90	(1/5/06)		*needs lock/cut
USTCSFF-MW06 ✓		18.51	1030	6.22			
USTCSFF-MW07 ✓		17.78	1043	4.36			
USTCSFF-MW08 ✓		15.50	1007	3.85			
USTCSFF-MW09 ✓		16.51	1005	4.97			
USTCSFF-MW10 ✓		17.85	1009	4.62			
USTCSFF-MW11 ✓		18.65	1010	6.27			
USTCSFF-MW12 ✓		16.70	0959	6.42			
USTCSFF-MW13 ✓		17.71	1035	7.37	7.24	.13	
USTCSFF-MW14 ✓		15.62	1003	4.95			
USTCSFF-MW15 ✓		18.55	1025	6.43			
USTCSFF-MW16 ✓		14.52	0958	6.45			
USTCSFF-MW17 ✓		16.62	1011	4.25			
USTCSFF-MW18 ✓		17.00	0950	1.10			AS142-MW01 on well tag
USTCSFF-MW20 ✓		13.72	0951	2.73			
USTCSFF-MW21 ✓		16.51	0946	6.20			
USTCSFF-MW22 ✓		16.00	1027	6.45			
USTCSFF-MW24 ✓		13.61	0949	6.60			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 1/4/01
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW25	✓	18.05	1017	4.45			
USTAS143-MW26	✓	15.30	0941	3.67			
USTCSFF-DW01	✓	32.68	0957	5.82			
USTCSFF-DW02	✓	32.10	~~1006~~ ¹⁴¹⁵	~~5.62~~	7.45 (1/5/06)		*needs lock/cut
USTCSFF-DW04	✓	55.10	1006	5.62			*needs lock
USTCSFF-DW05	✓	44.12	1001	7.65			
USTCSFF-DW06	✓	48.95	0947	6.95			
USTAS4151-DW01		31.90	0846	7.02			In front of AS4151 (122 13DW01)
USTAS4151-DW01A		43.49	0919	3.72			Across the street from AS4151
USTAS4151-DW02		43.16	0849	7.45			Behind AS4151
~~USTAS4151-MW01~~		16.49	—	—			Old ID 122 13MW01-Changed to AS4151-MW13A
USTAS4151-MW01A	✓	18.65	0852	5.80			Behind AS4151
USTAS4151-MW02	✓	21.27	0850	5.43			
USTAS4151-MW02A	✓	18.13	0841	6.36			Well tag indicated W11
USTAS4151-MW03	✓	16.45	*	*			*Blocked by construction activities
USTAS4151-MW04	✓	13.80	0832	1.58			
USTAS4151-MW05	✓	13.11	0919	3.40			
USTAS4151-MW06	✓	18.52	~~0829~~	~~2.77~~			Removed during AST installation
USTAS4151-MW07	✓	13.09	~~0829~~	~~2.77~~	2.77		
USTAS4151-MW08	✓	14.73	0833	6.40			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: ~~7/7/06~~ 01/04/07
Gauged By: te

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTAS4151-MW09 ✓		14.21	0839	4.85			
USTAS4151-MW10 ✓		13.98	0840	5.44			
USTAS4151-MW11 ✓		8.43	0922	5.63			
USTAS4151-MW12 ✓		16.87	0828	5.12			
USTAS4151-MW13 ✓ 122mw13		15.51	0827	4.83			Old ID 122MW-13
USTAS4151-MW13A ✓		16.49	0835	5.60			Old ID 122 13MW01
USTAS4151-MW14 ✓ 122mw14		17.56	0843	5.85			
USTAS4151-RW01 ✓ 122mw01		14.90	0838	4.30			
USTJP5-MW01		12.70	1028	2.67			

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 2/2/07
Gauged By: TE

DTB From TOC

Well ID	Installed	Measured	Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
USTCSFF-MW03		17.80	0915	5.57			* GAUGE Monthly
USTCSFF-MW04		18.01	0917	7.49			* GAUGE Monthly
USTCSFF-MW05		18.06					
USTCSFF-MW06		18.51					
USTCSFF-MW07		17.78					
USTCSFF-MW08		15.50					
USTCSFF-MW09		16.51					
USTCSFF-MW10		17.85					
USTCSFF-MW11		18.65					
USTCSFF-MW12		16.70					
USTCSFF-MW13		17.71	0922	7.18	6.90	.28	* GAUGE Monthly
USTCSFF-MW14		15.62					
USTCSFF-MW15		18.55					
USTCSFF-MW16		14.52	0916	6.37			* GAUGE Monthly
USTCSFF-MW17		16.62	0920	4.01			* GAUGE Monthly
~~USTCSFF-MW18~~		17.00					AS142-MW01 on well tag
USTCSFF-MW20		13.72					
USTCSFF-MW21		16.51					
USTCSFF-MW22		16.00					
USTCSFF-MW24		13.61					

GROUNDWATER MONITORING WELL GAUGING DATA
MCB Camp LeJeune and New River MCAS

Site: CSFF/AS4151
Date: 03/02/07
Gauged By: te SF

Well ID	DTB From TOC		Time of Gauging	DTW From TOC	Depth to LNAPL	LNAPL THICKNESS	COMMENTS
	Installed	Measured					
USTCSFF-MW03		17.80	0931	4.46			* by fence/white st
USTCSFF-MW04		18.01	0935	7.48			* next to DW02
USTCSFF-MW05		18.06					
USTCSFF-MW06		18.51					
USTCSFF-MW07		17.78					
USTCSFF-MW08		15.50					
USTCSFF-MW09		16.51					
USTCSFF-MW10		17.85					
USTCSFF-MW11		18.65					
USTCSFF-MW12		16.70					
USTCSFF-MW13		17.71	N/A	N/A			* abandoned
USTCSFF-MW14		15.62					
USTCSFF-MW15		18.55					
USTCSFF-MW16		14.52	0933	6.43			* near MW12/complex st
USTCSFF-MW17		16.62	0936	3.95			* by fuel pumps
USTCSFF-MW18		17.00					AS142-MW01 on well tag
USTCSFF-MW20		13.72					
USTCSFF-MW21		16.51					
USTCSFF-MW22		16.00					
USTCSFF-MW24		13.61					

GROUNDWATER MONITORING WELL GAUGING DATA

[illegible]

Gauged By: KM & SF

GROUNDWATER MONITORING WELL GAUGING DATA

[illegible]

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JUN 20 2007
Sovereign Consulting, Inc.
Virginia Beach, VA

**APPENDIX E
USTCSFF-MW13 SOIL EXCAVATION DOCUMENTATION
(SOIL DISPOSAL MANIFESTS, EXCAVATION PHOTO)**



Marine Corps Base, Camp Lejeune

Non-Hazardous Waste Shipping Document

Document #: _____

Site: <u>CAMPBELL STREET FUEL FARM</u>		Page 1 of	
Generator's Name & Mailing Address: COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		US EPA ID Number: <u>NC6170022580</u>	
Generator's Telephone #: <u>(910) 451-1482</u>			
Transporter's Name, Mailing Address & Telephone Number: <u>252-443-4083</u> <u>PFF ENVIRONMENTAL</u> <u>4352 N. OLD CARRIAGE RD., ROCKY MOUNT, NC 27804</u>		US EPA ID Number: <u>SR0500106</u>	
Destination's Name, Mailing Address & Telephone Number: <u>252-443-1083</u> <u>STEIGLITS CHAPEL RD</u> <u>WHALEFISH, NC 27891</u>		US EPA ID Number: <u>SR0500196</u>	
Waste Shipping Name and Description	Containers	Total Quantity	Units
	Number	Type	
<u>CONTAMINATED SOIL / NON HAZ</u>		<u>61530</u>	<u>GROSS</u>
		<u>23560</u>	<u>TARE</u>
		<u>37970</u>	<u>NET</u>
			<u>TONS</u>
Container/Tag Number: _____		Profile #: _____	
Lab: _____			
Additional Information and Discrepancy Indication: <u>CDL # 3890292/NC</u> <u>TEU-L # 101</u> <u>TAG # 3B 12254</u> <u>NC</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>LARRY LANIER</u>	<u>[Signature]</u>	<u>2-9-97</u>	
Transporter's Name	Signature:	Date:	
<u>GREG TRIDGEN</u>	<u>[Signature]</u>	<u>2-7-97</u>	
Accounting Facility	Signature:	Date:	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: _____

Site: <u>CAMPBELL STREET FUEL FARM, NEW ENGL</u>		Page 1 of		
Generator's Name & Mailing Address: <u>COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004</u>		US EPA ID Number: <u>NC6170022580</u>		
Generator's Telephone #: <u>(910) 451-1482</u>				
Transporter's Name, Mailing Address & Telephone Number: <u>252 443-4083</u> <u>P+P ENVIRONMENTAL</u> <u>4352 W. OLD CARRIAGE RD. ROLLY MOUNT, NC 27804</u>		US EPA ID Number: <u>510500106</u>		
Destination's Name, Mailing Address & Telephone Number: <u>252 443-4033</u> <u>STEWARTS CHAPEL RD</u> <u>WHITAKERS, NC 27871</u>		US EPA ID Number: <u>52050006</u>		
Waste Shipping Name and Description	Containers		Total Quantity	Units
	Number	Type		
<u>CONTAMINATED SOIL / NON HAZ</u>			<u>53570</u>	<u>LB</u>
Container/Tag Number: Lab:		Profile #:		
Additional Information and Discrepancy Indication: <u>CDL# 4538892/NC</u> <u>TRUCK 102</u> <u>TAG AY59538/NC</u>				
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:				
Printed/Typed Name	Signature:	Date:		
<u>LARRY LANIER</u>	<u>[Signature]</u>	<u>2-8-07</u>		
Transporter's Name	Signature:	Date:		
<u>WALTER PARKER</u>	<u>[Signature]</u>	<u>2-8-07</u>		
Accepting Facility	Signature:	Date:		

Return Original form to Generator