

**BUILDING AS-4141
REMEDIAL ACTION OPTIMIZATION
&
REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT
&
PROBE 52 LIMITED SITE ASSESSMENT**

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

JUNE 12, 2006

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LIST OF ACRONYMS

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

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

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

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CATLIN PROJECT NOS. 204-103/205-050/205-077

JUNE 12, 2006

EXECUTIVE SUMMARY

The purpose of this report is to provide relevant information to update the Remedial Action Optimization and Revised Corrective Action Plan (RAO & RCAP) and review the effectiveness of current remedial actions at the Building AS-4141 project site, formerly known as JP-5 Pump and Treat. This report will provide recommendations in order to move towards site closeout at the Building AS-4141 project site while incorporating information associated with a Limited Site Assessment (LSA) at the Probe-52 project site. The Building AS-4141 and Probe-52 project sites are located along White Street aboard the Marine Corps Air Station (MCAS), New River in Onslow County, North Carolina. The Probe 52 project site is located immediately north of the Building AS-4141 project site.

Several site assessments in the early 1980's identified leaks within the JP-5 pipeline within the area of the project site. These assessments initiated the abandonment and replacement of the JP-5 pipeline. Upon discovery of the leaks, the extent of free-phase product, soil contamination and groundwater contamination, if applicable, were assessed. An interim recovery system was installed and operated from October 1986 to November 1987. A total of 4,034 gallons of JP-5 fuel was reportedly recovered during the operation of this interim recovery system.

O'Brien & Gere Engineers, Inc. (OBG) prepared and submitted a CAP for the subject site dated June 1991 that identified the measurable amounts of free-phase product and dissolved phase petroleum hydrocarbons within the groundwater. OBG reported that soil samples from the installation of monitoring well OBG-3 contained detectable levels of organics based on a field organic vapor analyzer (OVA). The remedial system proposed in the CAP consisted of a pump and treat system. It is our understanding that the remediation system pumped recovered groundwater/free-phase product from recovery wells to an oil/water separator followed by an air stripper, carbon adsorption units and then discharged to the Base Wastewater Treatment Plant (WWTP). The system reportedly began operation in February of 1994.

A Remedial Action Operation Optimization Case Study Report dated May 2000 was prepared for the project site by Radian International (Radian). Radian recommended discontinuing the pump and treat product recovery system and implementing the use of Aggressive Fluid Vapor Recovery (AFVR) events for recovering the remaining free-phase product. Radian concluded that soil contamination had been cleaned up to the Industrial/Commercial (I/C) Maximum Soil Contamination Concentrations (MSCCs).

It is CATLIN's understanding that from February 1998 through March 2002, J.A. Jones Environmental Services Company (J.A. Jones) operated, maintained and monitored the Building AS-4141 project site. Based on the recommendations proposed in the Radian Remedial Action Operation Optimization Case Study Report, J.A. Jones shut down the pump and treat remediation system on July 19, 2000. AFVR techniques were subsequently implemented and are currently being performed on an as needed basis when free-phase product thickness is measured to be equal to or greater than 0.1 feet in the recovery wells.

Shaw Environmental, Inc. (Shaw) operated, monitored and maintained the subject site after J.A. Jones until early 2003 when Engineering and Environment, Inc. (E&E) took over site operations. Shaw prepared an Annual Monitoring Report dated January 2004 that documented J.A. Jones' activities between 1998 and April 2002. E&E operated, monitored and maintained the subject site until March 2005 and documented their activities in a report entitled Annual Groundwater Monitoring Report 2004-2005, dated July 29, 2005. Shaw currently operates, monitors and maintains the subject site and has done so since April 2005.

In December 2004, CATLIN completed an RAO & RCAP, which recommended additional investigations in order to effectively evaluate the AFVR remedial approach at the Building AS-4141 project site. As part of the recommendations in the RAO & RCAP to further delineate the extent of the free-phase product plume, Shaw installed five piezometers around recovery well RW-1, two Type II monitoring wells (OBG-03R and USTAS4141-MW15) and one Type III monitoring well (USTAS4141-MW14) in late 2005. Please note that monitoring well USTAS4141-MW15 was installed as a part of LSA investigations at the Probe 52 project site. Based on the free-phase product accumulations in the newly installed piezometers and monitoring well OBG-03R, CATLIN was tasked to install four additional Type II monitoring wells (UST4141-MW16, UST4141-MW17, UST4141-MW18 and UST4141-MW19) to further aid in the delineation of the free-phase product plume. CATLIN also conducted soil sampling per the advancement of thirteen soil borings at the Building AS-4141 project site in which one soil sample was taken as a part of the Probe 52 LSA investigations. The results of soil investigations are provided within.

Current applicable remedial requirements are defined by the Risk Based Corrective Action (RBCA) rules for Petroleum Underground Storage Tanks (USTs) per 15A NCAC 2L .0115 effective date February 1, 2006 and document entitled *"Guidelines for Assessment and Corrective Action"* (2001 Guidelines) as released by the North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management, UST Section, effective July 1, 2001.

Recommendations within this report address the free-phase product at the Building AS-4141 project site. The following is a brief summary of the recommendations:

- Discontinue the use of AFVR events at the Building AS-4141 project site.
- Conduct a pilot test to obtain data to effectively design and implement a Dual Phase Extraction (DPE) System at the Building AS-4141 project site.
- Maintain and operate the DPE system until well gauging indicates no measurable thickness of free-phase product is present in the surrounding monitoring wells at the site for two consecutive quarters. Additionally, operational data should be evaluated on a semi-annual basis by the Operations and Maintenance (O&M) contractor or a third party to ensure remedial objectives are being met.
- Upon removal of free-phase product, the groundwater contaminant levels should be evaluated and the site should be reclassified, if applicable.

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1.0 BACKGROUND

1.1 PURPOSE OF REPORT

The purpose of this report is to provide relevant information to update the Remedial Action Optimization and Revised Corrective Action Plan (RAO & RCAP) and review the effectiveness of current remedial actions at the Building AS-4141 project site, formerly known as JP-5 Pump and Treat. The RAO & RCAP was prepared by CATLIN and dated December 21, 2004. This report will provide recommendations in order to move towards site closeout at the Building AS-4141 project site while incorporating information associated with a Limited Site Assessment (LSA) at the Probe-52 project site. The Building AS-4141 and Probe 52 project sites are located on White Street aboard the Marine Corps Air Station (MCAS), New River in Onslow County, North Carolina. The Probe-52 project site is located immediately to the north of the Building AS-4141 project site. This report has been formatted according to the Naval Facilities Engineering Command (NAVFACENGCOM) "Guidance for Optimizing Remedial Action Operation" document prepared by Radian International and dated April 2001 with the ultimate purpose to "achieve environmentally protective site closeout at the least cost."

1.2 SCOPE OF WORK

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

2.0 UPDATED SITE HISTORY

2.1 BUILDING AS-4141 PROJECT SITE

The Building AS-4141 project site is located along White Street aboard the MCAS, New River in Onslow County, North Carolina. The subject site is divided by White Street and consists of several parking lots and a helicopter hangar. Please refer to Figure 1A for a site vicinity map.

An underground pipeline that transports JP-5 fuel from the Campbell Street Fuel Farm to the flight line transects the subject site. Several site assessments in the early 1980's identified leaks within the JP-5 pipeline within the area of the subject site. Upon discovery of the leaks, the pipeline was reportedly shut down and replaced with a new line in the summer of 1984. The inactive pipeline was reportedly drained and abandoned in-place in 1985. As a result of the leaks, an unknown amount of JP-5 fuel was released into the area of the current project site. J.A. Jones completed the closure of the abandoned fuel line in October 2000, and a closure report was completed on February 13, 2001.

Various site assessments were conducted in the 1980's to delineate the extent of free-phase product, soil contamination and groundwater contamination from the JP-5 fuel released from the former JP-5 pipeline. The findings of the previous assessments have been summarized in reports submitted to NCDENR, Division of Waste Management, UST Section in the Wilmington Regional Office (WiRO). It is our understanding that the monitoring wells identified with a "W" prefix on the attached Figure 2 were installed as part of the initial site assessment activities.

Upon discovery of free-phase product at the site, an interim recovery system was installed and operated from October 1986 to November 1987. A total of 4,034 gallons of JP-5 fuel was reportedly recovered during the operation of this interim recovery system.

The reports from the various site assessments were utilized by O'Brien & Gere Engineers, Inc, (OBG) to develop a CAP dated June 1991. OBG installed six additional monitoring wells, identified with an OBG prefix on the attached Figure 2, to assist with further delineation of the potential contamination. OBG identified measurable amounts of free-phase product and dissolved phase petroleum hydrocarbons within the groundwater in the monitoring wells located at the Building AS-4141 project site. OBG reported that soil samples from the installation of monitoring well OBG-3 contained detectable levels of organics based on a field organic vapor analyzer.

The recommended remediation strategy within the CAP for site restoration was a treatment system consisting of a petroleum hydrocarbon recovery system, intended to replace the interim recovery system previously

discontinued. The system proposed in the CAP consisted of two recovery wells, an oil/water separator, an air stripper tower and carbon contactors. Each well was proposed to contain a pneumatic drawdown pump and a pneumatic product ejector pump. It is our understanding that the remediation system installed consisted of a pump and treat system that pumped recovered groundwater/free-phase product from recovery wells to an oil/water separator, followed by a sump tank, tower air stripper, carbon adsorption units, and then discharged to the Base WWTP. The system reportedly began operation in February of 1994.

A Remedial Action Operation Optimization Case Study Report dated May 2000 was prepared for the Building AS-4141 project site by Radian. This report, referred to herein as the Radian Optimization Report, evaluated and assessed the on-going remedial action operation program at the Building AS-4141 project site as of early 2000. Radian performed additional assessment activities as part of their optimization study that indicated the presence of discrete pockets of free-phase product present along the east side of White Street, rather than a continuous lens of free-phase product across the entire site. Radian recommended discontinuing the pump and treat product recovery system and implementing the use of AFVR events for recovering the remaining free-phase product. Radian also stated that residual fuel exists within the soil; however, it is no longer contributing to groundwater contamination. Radian concluded that soil contamination had been cleaned up to the Industrial/Commercial MSCCs.

It is CATLIN's understanding that from February 1998 through April 2002, J.A. Jones operated, monitored and maintained the Building AS-4141 project site. Based on the recommendations proposed in the Radian Optimization Report, J.A. Jones shut down the pump and treat system on July 19, 2000. AFVR techniques were subsequently implemented and are currently being performed on an as needed basis when free-phase product thickness is measured to be equal to or greater than 0.1 feet in the recovery wells.

Shaw Environmental, Inc. (Shaw) operated, monitored and maintained the subject site after J.A. Jones until early 2003 when Engineering and Environment, Inc. (E&E) took over site operations. Shaw prepared an Annual Monitoring Report dated January 2004 that documented J.A. Jones' activities between 1998 and April 2002. E&E operated, monitored and maintained the subject site until March 2005 and documented their activities in a report entitled Annual Groundwater Monitoring Report 2004-2005, dated July 29, 2005. Shaw currently operates, monitors and maintains the subject site and has done so since April 2005.

In December 2004, CATLIN completed an RAO & RCAP, which recommended additional investigations in order to effectively evaluate the AFVR remedial approach. Based on CATLIN's December 2004 RAO & RCAP, the extent of free-phase product needed to be delineated, the

horizontal extent of groundwater contamination needed to be better defined and the vertical extent of groundwater contamination needed to be established. CATLIN did not recommend additional delineation of soil contamination based on the Radian Report recommendations. Mr. Bruce Reed of NCDENER-UST Section provided subsequent comments to the RAO & RCAP which lead Camp Lejeune to authorize CATLIN and Shaw to collect additional data to further delineate soil and groundwater contamination. This data is incorporated throughout this Report and used to further evaluate the current remedial approach.

2.2 PROBE 52 PROJECT SITE

Camp Lejeune was requested by NCDENR-UST Section to perform an LSA at the Probe 52 project site in 2005. Due to the close proximity of the Probe 52 project site to the Building AS-4141 project site in addition to the timing of activities, it was decided to incorporate the LSA information into this Report.

3.0 UPDATED REMEDIAL ACTION REVIEW

This section has been updated based on the results of the additional investigations following submittal of the December 2004 RAO & RCAP.

3.1 REMEDIAL SYSTEM OBJECTIVES

The remedial system objectives established in the Radian Optimization report were to recover the remaining free-phase product and reduce the remaining groundwater contamination to a quality consistent with the North Carolina Quality Standards outlined in NCAC, Title 15A, Subchapter 2L (2L GWQS).

The RAO & RCAP recommended no additional soil assessments at the Building AS-4141 project site. This recommendation was based on the Radian Optimization Report that concluded soil contamination had been cleaned up to the risk-based Industrial/Commercial MSCC levels. On March 22, 2005 Camp Lejeune was notified by NCDENR, DWM, UST Section WiRO that soil sampling per Risk Based Rules had not been conducted at the site and would need to be completed. Therefore, the remedial system objective may require re-evaluation based on the findings presented within this report.

3.2 RECOMMENDED REMEDIAL SYSTEM

The RAO & RCAP recommended additional free-phase product and groundwater delineation activities be conducted in order to effectively evaluate the effectiveness of the remedial approaches recommended by Radian. Therefore, this Section presents the recommendations within the December 2004 RAO & RCAP.

In order to effectively evaluate the use of AFVR techniques at the Building AS-4141 project site, the RAO & RCAP recommended the installation of piezometers around recovery well RW-1 to further delineate the free-phase product plume in this area. Once installed, the piezometers were to be gauged monthly for three months. If the free-phase product plume delineation remained uncertain, supplementary activities were recommended that included the installation of additional monitoring wells.

As previously mentioned, on March 22, 2005 Camp Lejeune was notified by the NCDENR, DWM, UST Section WiRO that soil sampling per Risk Based Rules had not been conducted at the site and would need to be completed. Therefore, recommendations were made to conduct soil sampling per the advancement of thirteen hand auger borings in areas of previously identified Total Petroleum Hydrocarbon (TPH) soil contamination at the Building AS-4141 project site. The area in which TPH soil contamination was previously identified was presented within Appendix A of the RAO & RCAP. The findings of these additional soil samples are presented within this Report.

The RAO & RCAP recommended the continual use of natural attenuation in shallow groundwater until the 2L GWQS are met or the site is reclassified as low risk. The installation of a Type III monitoring well in the vicinity of the source area was also recommended by CATLIN in order to evaluate deep groundwater conditions. However, the location of USTAS4141-MW14 was moved down gradient of the source area based on recommendations by Mr. Bruce Reed of NCDENR-UST Section.

3.3 IMPLEMENTED REMEDIAL SYSTEM

Subsequent to the RAO & RCAP, E&E and later Shaw continued to implement the remedial approach of AFVR events for the recovery of free-phase product. Natural attenuation of contaminated groundwater was used and no remedial approach for soil contamination was implemented.

3.4 REMEDIAL SYSTEM STATUS

Currently, AFVR events continue to be conducted at the Building AS-4141 project site by Shaw on an as needed basis when free-phase product thicknesses are equal to or greater than 0.1 feet in a recovery well. Since the pump and treat system was shut down on July 19, 2000, J.A. Jones, E&E, and Shaw have reported that approximately 22 AFVR events have been conducted at the site.

3.5 MONITORING STATUS

As previously mentioned, the RAO and RCAP recommended the continual use of natural attenuation in shallow groundwater until the 2L GWQS were

met or the site was reclassified as low risk. The RAO and RCAP also recommended replacing monitoring well OBG-3 to help further delineate the free-phase product plume and monitor current groundwater conditions. Monitoring wells OBG-4, OBG-5, W-7, W-8, and W-13 were recommended to be eliminated from the periodic monitoring efforts since no contaminants had been present in these wells in excess of the 2L GWQS for a period greater than one year. The remaining monitoring wells (OBG-3, OBG-6, W-2, W-10 and the proposed monitoring wells) were recommended to be sampled on a semi-annual basis until groundwater concentrations were below 2L GWQS for at least one year.

The RAO and RCAP also recommended the installation of a deep Type III monitoring well in the vicinity of the source area to evaluate deep groundwater conditions. As previously referenced, the proposed location of the Type III monitoring well was later moved down gradient of the source area. In addition to these recommendations, a semi-annual monitoring schedule was proposed for the Type III monitoring well to examine the COCs in deep groundwater conditions.

It is our understanding that recovery well RW-1 has historically been gauged on a weekly basis. Laboratory analysis of groundwater samples are currently collected on a semi-annual basis from selected Type II monitoring wells as recommended in the RAO & RCAP. During the March 2005 groundwater sampling event, groundwater samples were analyzed per EPA Methods 602 and 625 while groundwater samples collected during the December 2005 sampling event were analyzed per EPA Methods 8260, 8270 and 6010. It should be noted that during the December 2005 groundwater sampling event, Shaw used sample ID USTAS4141-MW02 for samples taken from monitoring well historically known as W-2.

4.0 UPDATED REMEDIATION EFFECTIVENESS EVALUATION

4.1 PROBE 52 LIMITED SITE ASSESSMENT INFORMATION

4.1.1 Risk Characterization

Please refer to Appendix G for the Risk Characterization and Land Use Form for the Probe 52 Area as presented in the 2001 Guidelines.

4.1.2 Site Geology and Hydrogeology

A monitoring well (USTAS4141-MW15) was installed by Shaw at the Probe 52 project site for preparation of this Report. The geology and hydrogeology presented within this Section is based on CATLIN's interpretation of Shaw's data.

According to the Geological Map of North Carolina, (North Carolina Department of Natural Resources and Community Development, 1985), the Probe 52 project site lies within the Coastal Plain Physiographic Province. A deep monitoring well is currently not located at the Probe 52 project site; therefore, recharge to the deeper aquifer cannot be confirmed at this time.

Field observations noted during the monitoring well USTAS4141-MW15 installation indicate site geology at the Probe 52 project site to consist of silty to clayey, very fine sands to a depth of approximately 4 feet below land surface followed by a clay layer with high plasticity approximately 10 feet thick. Boring logs for the USTAS4141-MW15 monitoring well construction are included in Appendix B. Please refer to Section 5.2.1 of this report for site hydrogeology information for the Probe 52 project site.

4.1.3 Sampling Results

Please refer to the Sections 4.3 and 4.4 of this Report.

4.1.4 Free-Phase Product Investigation

The March 2006 gauging event indicated no measurable amounts of free-phase product in monitoring well USTAS4141-MW15 at the Probe 52 project site. Therefore, free-phase product is assumed not to be an issue at the Probe 52 project site. Please refer to Appendix D for historical gauging data.

4.1.5 Limited Site Assessment Recommendations

Based on the findings of the LSA, CATLIN concludes that the Probe 52 project site meets the criteria for Industrial/Commercial Land Use. In addition, a Low Risk classification is applicable for the Probe 52 project site.

Soil samples collected in December 2005 by CATLIN personnel indicated no contaminant concentrations above the NCDENR Soil-to-Groundwater, Industrial/Commercial or Residential MSCCs at the Probe 52 project site. Therefore, if the Industrial/Commercial Land Use Classification is assigned, the site should meet the requirements for NFA status with respect to soil contamination.

Groundwater samples collected from monitoring well USTAS4141-MW15 in December 2005 by Shaw indicated Lead and 2-Methylnaphthalene concentrations in excess of the 2L GWQS. Lead was detected at a concentration of 19.9 µg/L and has an established 2L GWQS of 15 µg/L. 2-Methylnaphthalene was detected at a

concentration of 36.2 µg/L and has an established 2L GWQS of 14 µg/L. Since these are the only contaminants observed and concentration are low, additional sampling is not recommended. However, in the event that NCDENR deems additional sampling to be necessary, then an additional sampling event using low-flow sampling techniques should be used to confirm the elevated results are not an anomaly. No contaminant concentrations were detected above any established GCLs.

Future regulatory requirements for the Probe 52 project site will be based on NCDENR's final determination of the risk classification for the release incident. Should the Probe 52 project site be classified as Low Risk and Industrial/Commercial Land Use, the Industrial/Commercial MSCCs should be applicable for soil cleanup standards and the GCLs should be applicable for the groundwater clean up standards.

4.2 FREE-PHASE PRODUCT

Free-phase product at the Building AS-4141 project site has historically only been identified in the recovery wells (RW-1 and RW-2) since the completion of the CAP. While recovery well RW-1 has continuously exhibited free-phase product accumulations over time, recovery well RW-2 has not exhibited free-phase product accumulations since 2001. Therefore, the RAO & RCAP recommended the installation of piezometers around recovery well RW-1 to help further define the extent of the free-phase product plume.

Based on the recommendations presented within the RAO & RCAP, Shaw installed five 13-foot deep piezometers (TP-1, TP-2, TP-3, TP-4 and TP-5) in October 2005. Gauging events subsequent to the piezometer installation indicated free-phase product accumulations in TP-1, TP-3, and TP-5. Therefore, additional delineation activities were completed by CATLIN in early 2006 which included the installation of four Type II monitoring wells (UST4141-MW16, UST4141-MW17, UST4141-MW18 and UST4141-MW19) at the Building AS-4141 project site. Recent gauging events have indicated free-phase product accumulations in the newly installed monitoring wells UST4141-MW16 and UST4141-MW17. Therefore, it appears that the free-phase product plume expands over a much larger area than historically estimated. Please refer to Figure 6, Appendix D and Table 2 for historical and current free-phase product thickness data.

Based on monitoring well records for the Building AS-4141 project site, it appears there is a continuous clay layer with high plasticity approximately 3 feet below land surface and approximately 7-10 feet thick. The free-phase product appears to be located within this clay layer and therefore, increasing the difficulty of recovery and reducing the likelihood of migration.

4.3 SOIL CONTAMINATION

In December 2005, CATLIN conducted soil sampling by the advancement of thirteen hand auger borings in areas of previously referenced TPH soil contamination. These soil samples were analyzed for Risk Based laboratory analysis as recommended by NCDENR. This sampling was conducted in general accordance with an approved Workplan issued September 29, 2005.

Per the Workplan, soil samples were collected from hand auger borings at one-foot increments until termination of the boring. Each one-foot increment of soil was analyzed in the field by use of an Organic Vapor Analyzer (OVA). One soil sample was collected for laboratory analysis from each boring at the interval with the highest OVA result and above the saturated zone. In the event elevated OVA results were not identified, the sample was collected from the interval just above the capillary fringe. Refer to Appendix B for soil boring logs and Figure 2 for boring locations. Please note that soil boring JP5SB-11 was moved north of the proposed location due to auger refusal during advancement of the soil boring.

All soil sample results were below Residential and Industrial/Commercial MSCCs while multiple locations exhibited contaminants in excess of the Soil-to-Groundwater MSCCs. A summary of the soil laboratory analytical results have been provided in Tables 6A, 6B and 6C and Figures 3, 4 and 5. The laboratory reports are included in Appendix A.

4.4 GROUNDWATER CONTAMINATION

As a part of the recommendations presented in the RAO & RCAP, additional monitoring wells were installed at the Building AS-4141 project site to help further evaluate groundwater conditions. In October 2005, Shaw installed one 13-foot Type II monitoring well (OBG-03R) and one 25-foot Type III monitoring well (USTAS4141-MW14). Conditions in monitoring well USTAS4141-MW14 are representative of the deep groundwater conditions down gradient of the estimated free-phase product plume. As previously stated, Shaw also installed one additional Type II monitoring well (USTAS4141-MW15) as apart of the LSA activities at the Probe 52 project site in October 2005.

In December 2005, Shaw collected additional groundwater samples from monitoring wells OBG-6, RW-2, USTAS4141-MW02 (historically known as W-2), USTAS4141-MW14 and USTAS4141-MW15. The December 2005 laboratory results indicated no contaminants in excess of 2L GWQS per EPA Method 8260. However, the December 2005 laboratory results indicated 2-Methylnaphthalene concentrations above the 2L GWQS in monitoring well USTAS4141-MW15 as per EPA Method 8270 test method. The December 2005 sampling event also indicated monitoring wells USTAS4141-MW15 and USTAS4141-MW02 with lead concentrations in excess of 2L GWQS as per EPA 6010 test method. Although monitoring well locations USTAS4141-

MW15 and USTAS4141-MW02 exhibited contaminant concentrations above 2L GWQS, all contaminant concentrations were below Gross Contaminant Levels (GCL) during the December 2005 sampling event. Please refer to Appendix C for a summary of historical groundwater laboratory results. Bear in mind that monitoring well USTAS4141-MW15 was installed as part of the LSA investigations at the Probe 52 location and the groundwater contamination in this area is most likely due to a separate documented release event.

The Radian Optimization Report identified benzene, ethylbenzene, toluene, total xylenes, naphthalene, bis(2-ethylhexyl)phthalate, 1-methylnaphthalene, 2-methylnaphthalene, pyrene and fluoranthene as the target contaminants of concern (COC) and clean-up concentrations based on the 2L Groundwater Quality Standards (GWQS). Based on previous annual groundwater reports, additional contaminants have been reported above the 2L GWQS. Therefore, the COCs were expanded to include the additional contaminants reported in the annual monitoring reports. These new COCs were used by Shaw during the sampling referenced above. Please refer to Table 5 for the revised table of COCs.

4.5 SYSTEM SUITABILITY

4.5.1 Free-Phase Product

Due to the continual presence of free-phase product and the newly defined plume, it appears that AFVR events are not a suitable method for the elimination of free-phase product at the Building AS-4141 project site.

4.5.2 Soil

Soil analytical results from the December 2005 sampling event by CATLIN indicate soil contamination above the Soil-to-Groundwater MSCCs in multiple locations. However, no contaminants were identified above the Industrial/Commercial MSCCs during the December 2005 sampling event. Therefore, it appears that previous remedial efforts at the Building AS-4141 project site have cleaned up soil contamination to the applicable risk based Industrial/Commercial MSCC levels.

4.5.3 Groundwater

Groundwater analytical results from March/December 2005 have indicated COCs below the 2L GWQS except at monitoring wells USTAS4141-MW15 and USTAS4141-MW02 (formerly known as W-2). However, since free-phase product is still present at the Building AS-4141 project site, suitability of natural attenuation for the remediation of groundwater contaminants outside the extent of free-phase product cannot be determined at this time.

5.0 UPDATED REMEDIATION MODIFICATIONS AND ALTERNATIVES

5.1 REGULATORY FRAMEWORK EVALUATION

The regulatory framework evaluation presented within the RAO & RCAP remains applicable for the Building AS-4141 project site as an Intermediate Risk and Industrial/Commercial Land Use site. The Intermediate Risk is based on the presence of the free-phase product at the Building AS-4141 project site. As previously noted, the Probe 52 project site appears to be a Low Risk and Industrial/Commercial Land Use Site.

5.2 REVISED CONCEPTUAL SITE MODEL

The Conceptual Site Model presented within the RAO & RCAP has been updated as presented in Appendix F of this report and as stated below. Please note that the Conceptual Model is based on current site conditions and knowledge of current contaminant concentrations. This Conceptual Model was used as a tool for CATLIN and Camp Lejeune to effectively evaluate the alternative remedial technologies discussed herein.

5.2.1 Groundwater Depth and Flow Direction

No change to the groundwater flow characteristics is necessary in the revised conceptual model since the submittal of the RAO & RCAP. However, CATLIN noted an obvious survey error in the elevations of the newly installed wells and recommends a site wide well survey be performed.

5.2.2 Potential Receptors

Potential receptors were re-evaluated during the preparation of the RAO & RCAP using the Risk Classification and Land Use Form. The potential receptors remain applicable for the Building AS-4141 project site with the following receptors within 1,500 feet of the site:

- The Wellhead Protection Plan Update (2002) indicated no active water supply wells within 1,500 feet of the site. However, water supply wells listed as "closed" within the latest database provided by Camp Lejeune are present within 1,500 feet of the subject site.
- The site is located within the Coastal Plain and recharge to an unconfined or semi-confined deeper aquifer is a possibility.
- There are numerous surface water bodies located outside of 500 feet and within 1,500 feet of the source area.
- Numerous underground utilities are present throughout the site.
- Athletic fields are located within 1,500 feet of the site.

- A playground is located approximately 1,200 feet west of the site

Based on information provided by MCB, Camp Lejeune, these potential receptors have not been reported to have been impacted by the COCs. The potential receptors are presented on the Site Location Map on Figures 1A and 1B.

5.2.3 Contaminants of Concern

The COC established in the RAO & RCAP remain applicable as presented in Table 5.

5.3 ALTERNATIVE REGULATORY MECHANISMS

5.3.1 Revised Target Cleanup Goals

Although soil samples analyzed in December 2005 indicated multiple locations with contaminant concentrations above Soil-to-Groundwater MSCCs, all contaminant concentrations were detected below Residential and Industrial/Commercial MSCCs. Since the Building AS-4141 project site is an Industrial/Commercial Land Use site, no revisions of Target Cleanup Concentrations are needed for soil.

Based on the installation of additional piezometers and monitoring wells, the free-phase product plume has been delineated at the Building AS-4141 project site. Groundwater samples taken from the monitoring well USTAS4141-MW14 in December 2005 indicate no deep groundwater contamination at the Building AS-4141 project site. Therefore, upon removal of free-phase product at the Building AS-4141 project site, the site can be reclassified as low risk and the groundwater risk-based corrective action GCLs will be applicable.

5.3.2 Notice of Residual Petroleum

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

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

5.4 ALTERNATIVE REMEDIAL TECHNOLOGIES

5.4.1 Free-Phase Product Remediation

As previously stated, it appears that AFVR events are not a suitable method for the elimination of free-phase product at the Building AS-4141 project site. Therefore, the use of AFVR events should be discontinued. As part of the evaluation of alternative remedial technologies, CATLIN developed a Conceptual Model that was submitted to NAVFAC as part of the development of this Report. A copy of the Conceptual Model is provided in the attached Appendix F. This Conceptual Model evaluated five alternative technologies for removal of the free-phase product that is present at the Building AS-4141 project site. These technologies included a Skimmer System, Excavation and Treat, a Groundwater Depression System, a Dual Phase Extraction System and the continued use of AFVR. The evaluation of each technology is presented within the attached Conceptual Model. The life cycle costs were submitted to NAVFAC as part of the Conceptual Model. Based on the life cycle cost comparison and the current site conditions, CATLIN recommends that the Dual Phase Extraction (DPE) approach be considered for removal of the free-phase product.

As briefly discussed in the attached Conceptual Model, the DPE approach consists of the recovery, treatment and disposal of recovered groundwater and free-phase product through a series of well points. A DPE system applies a vacuum to the subsurface to remove various combinations of contaminated groundwater, free-phase product and hydrocarbon vapors. A pilot test is recommended to confirm the spacing of the extraction points; however, 16 extraction points were assumed for development of the life cycle costs. The pilot test will consist of an AFVR event on recovery well RW-1 and recording the vacuum pressure in recovery well RW-1 in addition to adjacent piezometers and monitoring wells. Additional measurements of the pilot test will include depth to groundwater and/or drawdown in the adjacent piezometers and monitoring wells. Upon completion of the pilot test, the locations of extraction points should be finalized. The approximate location of the extraction points are illustrated on the attached Figure 8. At this time, it is assumed that a portion of the former pump and treat system could be used for the DPE system and that the recovered water can be discharged to the sewer system. However, additional coordination with Camp Lejeune personnel and receipt of additional permits will be necessary to confirm the use of these systems. This additional coordination and permitting is recommended upon completion of the pilot test.

5.4.2 Soil Remediation

At this time, no remediation of soil is recommended. This is based upon the land use classification of the site, as Industrial/Commercial and at this time, no soil contamination is identified in excess of the Industrial/Commercial MSCCs.

5.4.3 Groundwater Remediation

Although groundwater samples are not collected from monitoring wells exhibiting free-phase product accumulations, CATLIN assumes consequential dissolved groundwater contamination within the free-phase product plume. As free-phase product is removed via DPE, dissolved contaminated groundwater will be recovered, treated and disposed to the sanitary sewer. Once free-phase product has been removed, it is not expected that dissolved phase contamination will be in excess of the GCLs and no active remediation will be necessary.

5.5 COST EFFICIENCY EVALUATION

A detailed cost efficiency evaluation has been performed comparing possible remediation alternatives at the Building AS-4141 project site. Please refer to Appendix F for a Life Cycle Cost Comparison of the evaluated remedial approaches.

6.0 UPDATED OPTIMIZATION RECOMMENDATIONS

6.1 FREE-PHASE PRODUCT

Based on the life cycle cost presented in the Conceptual Model and the current site conditions, CATLIN recommends dual phase extraction for remediation of the free-phase product plume; specifically:

- Conduct a pilot test to obtain data to effectively design the DPE system. The results of the pilot test should be presented within a brief report.
- Design and install the DPE system based on the findings of the pilot test. The design should consider operation procedures to measure the effectiveness of the system.
- Maintain and operate the DPE system until well gauging indicates no measurable thickness of free-phase product is present in the surrounding monitoring wells at the site for two consecutive quarters. Additionally, operational data should be evaluated on a semi-annual basis by the Operations and Maintenance (O&M) contractor or a third party to ensure remedial objectives are being met.
- Recovery well systems at the MCAS typically are susceptible to biological growth. It is recommended that the recovery well screens and system conveyance lines be evaluated for biological growth and cleaned as necessary on a semi-annual basis.

6.2 SOIL

As previously stated, based on the December 2005 soil investigations, soil contamination has been cleaned up to the risk-based Industrial/Commercial MSCC levels. Therefore, no additional assessment or remediation activities are recommended for the soils at the Building AS-4141 project site.

6.3 GROUNDWATER

Based on the Remedial Effectiveness Evaluation and the Revised Target Cleanup Concentrations discussed within Sections 4.4 and 5.3.1, respectively of this report, dissolved groundwater contamination is not expected to require active remediation. However, as a consequence of the selected dual phase extraction for recovery of free-phase product, groundwater from the core of the plume will be recovered, treated and disposed.

Specific details to meet Risk Based Corrective Action or GCLs are as follows:

- Upon removal of the free-phase product, the groundwater contaminant levels should be evaluated and the site should be reclassified, if applicable. If the site is classified as low risk, then site closure with LUR should be requested.
- Until site closure is requested, the following monitoring wells should be sampled on a semi-annual basis for the test methods referenced above: OBG-03R, OBG-6, W-2, W-10, USTAS4141-MW14, USTAS4141-MW15, UST4141-MW16, UST4141-MW17, UST4141-MW18 and UST4141-MW19
- The groundwater samples collected for lead should be collected using low-flow sampling techniques.
- The results of the sampling should be presented within an Annual Groundwater Monitoring Report. The site closure request should also be summarized in this report.

7.0 IMPLEMENTATION

7.1 IMPLEMENTATION PLAN

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

- Submittal of this RAO & RCAP Addendum Report to the UST Section of NCDENR for approval of recommendations.
- Discontinue the use of AFVR events.

- Conduct a pilot test for the use of DPE.
- Design the DPE system based on the pilot test.
- Installation of the recommended DPE system.
- Implementation of the recommended groundwater sampling strategy.
- Preparation of the Annual Groundwater Monitoring Reports.

7.2 SCHEDULE FOR IMPLEMENTATION

Installation of the recommended remedial system and implementation of the groundwater sampling strategy are recommended to commence as soon as funding allows and upon plan approval by NCDENR. The semi-annual sampling activities should begin at the time of the next scheduled sampling event. The Annual Monitoring reports should be submitted following the approved schedule.

8.0 LIMITATIONS

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

9.0 REFERENCES

- AH Environmental Consultants, *Final Report, Wellhead Protection Plan – 2002 Update, Marine Corps Base, Camp Lejeune*. August 2002.
- CATLIN, *Remedial Action Optimization & Revised Corrective Action Plan, JP-5 Line Area Marine Corps Air Station, New River, Onslow County, North Carolina*. December 2004.
- CATLIN, *Workplan JP-5 Line Area Optimization Addendum, Marine Corps Air Station, New River, North Carolina, issued September 29, 2005*.
- Engineering and Environment, Inc. *Annual Groundwater Monitoring Report 2004-2005, JP-5 Line Site, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina*. July 2005.
- North Carolina Department of Environment and Natural Resources, Division of Waste Management, UST Section, 2001, *Guidelines for Assessment and Corrective Action*. Effective July 1, 2001.
- North Carolina Department of Environment and Natural Resources, Division of Water Quality, 2002, *Title 15A Subchapter 2L-Classifications and Water Quality Standards Applicable To The Groundwaters of North Carolina*. Effective as of December 2002.
- O'Brien & Gere Engineers, Inc, *Corrective Action Plan, JP-5 Line Area, Marine Corps Air Station, New River, North Carolina*. June 1991.
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- Radian International, *Final Remedial Action Operation Optimization Case Study, JP-5 Line Area, Marine Corps Air Station New River, North Carolina*. May 2000.
- S&ME, *JP-5 Fuel Line Investigation, MCAS(H), Camp Lejeune, North Carolina, Contract N62470-81-C-3763, S&ME Job Number 057-83-128*. Date unknown.
- Shaw Environmental Inc., *Final Annual Monitoring Report, JP-5 Line Area, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina*. January 2004.

TABLES

TABLE 1

WELL CONSTRUCTION DATA

BUILDING AS-4141
MARINE CORPS AIR STATION
NEW RIVER, NC

WELL I.D.	DATE CONSTRUCTED	TOP OF CASING (Feet)	DIAMETER (Inches)	TOTAL DEPTH (Feet Below TOC)	CASING INTERVAL (Feet Below TOC)	SCREEN INTERVAL (Feet Below TOC)
TYPE II MONITORING WELLS						
OBG-1	9/27/1989	UKN	2	15.0	0.0-5.0	5.0-15.0
OBG-2	9/28/1989	UKN	2	15.0	0.0-5.0	5.0-15.0
OBG-3	9/27/1989	UKN	6	25.0	0.0-10.0	10.0-25.0
OBG-03R	10/26/2005	20.35	2	13.0	0.0-3.0	3.0-13.0
OBG-4	9/28/1989	21.09	2	15.0	0.0-5.0	5.0-15.0
OBG-5	9/28/1989	22.88	2	13.0	0.0-3.0	3.0-13.0
OBG-6	9/28/1989	21.63	2	15.0	0.0-5.0	5.0-15.0
W-2	5/1/1986	24.29	2	15.0	0.0-5.0	5.0-15.0
W-7	5/1/1986	26.50	2	15.0	0.0-5.0	5.0-15.0
W-8	5/1/1986	26.52	2	15.0	0.0-5.0	5.0-15.0
W-10	5/1/1986	25.88	2	15.0	0.0-5.0	5.0-15.0
W-13	5/1/1986	UKN	2	15.0	0.0-5.0	5.0-15.0
AS3905-TP1	10/25/2005	20.08	1	13.0	0.0-3.0	3.0-13.0
AS3905-TP2	10/26/2005	19.91	1	13.0	0.0-3.0	3.0-13.0
AS3905-TP3	10/25/2005	20.05	1	13.0	0.0-3.0	3.0-13.0
AS3905-TP4	10/25/2005	19.87	1	13.0	0.0-3.0	3.0-13.0
AS3905-TP5	10/25/2005	19.97	1	13.0	0.0-3.0	3.0-13.0

TABLE 1

WELL CONSTRUCTION DATA

BUILDING AS-4141
MARINE CORPS AIR STATION
NEW RIVER, NC

WELL I.D.	DATE CONSTRUCTED	TOP OF CASING (Feet)	DIAMETER (Inches)	TOTAL DEPTH (Feet Below TOC)	CASING INTERVAL (Feet Below TOC)	SCREEN INTERVAL (Feet Below TOC)
TYPE II MONITORING WELLS						
USTAS4141-MW15	10/27/2005	18.21	2	13.0	0.0-3.0	3.0-13.0
USTAS4141-MW16	2/27/2006	17.10*	2	15.0	0.0-5.0	5.0-15.0
USTAS4141-MW17	3/1/2006	22.31*	2	15.0	0.0-5.0	5.0-15.0
USTAS4141-MW18	2/27/2006	17.57*	2	15.0	0.0-5.0	5.0-15.0
USTAS4141-MW19	3/1/2006	19.76*	2	15.0	0.0-5.0	5.0-15.0
TYPE III MONITORING WELLS						
USTAS4141-MW14	10/27/2005	19.23	2	25.0	0.0-20.0	20.0-25.0
RECOVERY WELLS						
RW-1	UKN	UKN	6	23.0	UKN	UKN
RW-2	UKN	UKN	6	23.0	UKN	UKN

1. Casing and screen intervals are assumed to be based on measurements from ground surface.
2. Total depth based on maximum depth of screen interval.
3. Top of casing provided by Shaw Environmental, Inc., except as noted
4. A portion of data for casing and screen intervals obtained from the O'Brien & Gere Engineers, Inc. Corrective Action Plan, dated June 1991.
5. UKN = Unknown.
6. TOC = Top Of Casing.
7. Shading indicates well not located or abandoned. Data from these wells is from previously submitted reports.
8. * Top of casing provided by CATLIN personnel which utilized bench mark provided by Shaw. Top of casing discrepancies have been encountered and implicate that this area be re-surveyed to develop more accurate elevation data.

TABLE 2

**SUMMARY OF HISTORICAL FREE-PHASE PRODUCT
THICKNESS MEASUREMENTS**

**BUILDING AS-4141
MARINE CORPS AIR STATION, NEW RIVER, NC**

WELL ID	MAXIMUM THICKNESS (feet)									
	CAP DATA	1998	1999	2000	2001	2002	2003	2004	2005	2006**
TYPE II MONITORING WELLS										
OBG-1	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
OBG-2	NM	NMT	NMT	NMT	NMT	NMT	NM	NMT	NM	NM
OBG-3	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
OBG-03R	NM	NM	NM	NM	NM	NM	NM	NM	2.36	2.45
OBG-4	0.00	NMT	NMT	NMT	NMT	NMT	NM	NMT	NM	NM
OBG-5	0.00	NMT	NMT	NMT	NMT	NMT	NM	NMT	NM	NMT
OBG-6	0.00	NMT	NMT	NMT	NMT	NMT	NM	NMT	NMT	NMT
W-2	0.00	NMT	NMT	NMT	NMT	NMT	NM	NMT	NM	NM
W-7	0.00	NMT	NMT	NMT	NMT	NMT	NM	NMT	NM	NM
W-8	0.00	NMT	NMT	NMT	NMT	NMT	NM	NMT	NM	NM
W-10	0.80	0.89	NMT	NMT	NMT	NMT	NM	NMT	NM	NM
W-13	NM	NMT	NMT	NMT	NMT	NMT	NM	NMT	NM	NM
AS3905-TP1	NM	NM	NM	NM	NM	NM	NM	NM	0.28	0.60
AS3905-TP2	NM	NM	NM	NM	NM	NM	NM	NM	NMT	NMT
AS3905-TP3	NM	NM	NM	NM	NM	NM	NM	NM	1.02	3.56
AS3905-TP4	NM	NM	NM	NM	NM	NM	NM	NM	NMT	NMT
AS3905-TP5	NM	NM	NM	NM	NM	NM	NM	NM	0.45	2.54

TABLE 2

**SUMMARY OF HISTORICAL FREE-PHASE PRODUCT
THICKNESS MEASUREMENTS**

**BUILDING AS-4141
MARINE CORPS AIR STATION, NEW RIVER, NC**

WELL ID	MAXIMUM THICKNESS (feet)									
	CAP DATA	1998	1999	2000	2001	2002	2003	2004	2005	2006**
TYPE II MONITORING WELLS										
USTAS4141-MW15	NM	NM	NM	NM	NM	NM	NM	NM	NM	NMT
USTAS4141-MW16	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.30
USTAS4141-MW17	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.20
USTAS4141-MW18	NM	NM	NM	NM	NM	NM	NM	NM	NM	NMT
USTAS4141-MW19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NMT
TYPE III MONITORING WELLS										
USTAS4141-MW14	NM	NM	NM	NM	NM	NM	NM	NM	NMT	NMT
RECOVERY WELLS										
RW-1	NM	7.79	5.36	1.10	4.85	0.64	NM	0.61	0.28	1.0
RW-2	NM	4.31	0.03	NMT	0.84	NMT	NM	NMT	NM	NM
No. of AFVR events per year*		0	2	9	11	0	0	5	3	3**

1. NM = Not Measured for product thickness.

2. NMT = No Measureable Thickness.

3. * Refer to Appendix E of this report for AFVR data and Appendix D for Free-Phase Product thickness data.

4. A product recovery system was in operation at the site until July 19, 2000.

5. No AFVR events were conducted between December 12, 2001 and May 27, 2004.

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

7. ** This number is subject to change since this report incorporates data through May 2006.

TABLE 3
GROUNDWATER SAMPLING HISTORICAL DATA

BUILDING AS-4141
MARINE CORPS AIR STATION
NEW RIVER, NC

WELL I.D.	DATE INSTALLED	YEARS SAMPLED																		LAST DATE ABOVE 2L GWQS
		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	
TYPE II MONITORING WELLS																				
OBG-1	9/27/1989	X																		NEVER ABOVE
OBG-2	9/27/1989																			NO DATA
OBG-3	9/27/1989	X																		9/30/1989
OBG-03R	10/26/2005																			NO DATA
OBG-4	9/27/1989	X									X	X	X	X	X	X	X	X		12/2/2002
OBG-5	9/27/1989										X	X	X	X	X	X	X	X		3/30/2003
OBG-6	9/27/1989	X										X						X		NEVER ABOVE
W-2	UNKNOWN																	X		12/22/2005
W-7	UNKNOWN										X	X	X	X	X	X	X	X		3/30/2003
W-8	UNKNOWN										X	X	X	X	X	X	X	X		6/17/2004
W-10	UNKNOWN	X										X					X	X		6/16/2004
W-13	UNKNOWN										X	X	X	X	X	X				12/2/2002
AS3905-TP1	10/25/2005																			NO DATA
AS3905-TP2	10/26/2005																			NO DATA
AS3905-TP3	10/25/2005																			NO DATA
AS3905-TP4	10/25/2005																			NO DATA
AS3905-TP5	10/25/2005																			NO DATA

TABLE 3
GROUNDWATER SAMPLING HISTORICAL DATA

BUILDING AS-4141
MARINE CORPS AIR STATION
NEW RIVER, NC

WELL I.D.	DATE INSTALLED	YEARS SAMPLED																		LAST DATE ABOVE 2L GWQS
		1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	
USTAS4141-MW15	10/27/2005																	X		12/22/2005
USTAS4141-MW16	2/27/2006																			NO DATA
USTAS4141-MW17	3/1/2006																			NO DATA
USTAS4141-MW18	2/27/2006																			NO DATA
USTAS4141-MW19	3/1/2006																			NO DATA
TYPE III MONITORING WELLS																				
USTAS4141-MW14	10/27/2005																	X		NEVER ABOVE
RECOVERY WELLS																				
RW-1	UNKNOWN																			NO DATA
RW-2	UNKNOWN																	X		NEVER ABOVE

1. The information presented within is based on data provided in Appendix C of this report.
2. Last date above 2L GWQS = The last date in which a contaminant of concern was above the 2L GWQS for each monitoring well.
3. NO DATA = No sampling records available for these wells.
4. Shading indicates well not located or damaged. Data from these wells is from previously submitted reports.

TABLE 4

SUMMARY OF HISTORICAL GROUNDWATER CONTAMINANTS OF CONCERN

BUILDING AS-4141
MARINE CORPS AIR STATION, NEW RIVER, NC

COMPOUND	2L GWQS (mg/L)	GCL (mg/L)	MAXIMUM CONCENTRATIONS (mg/L)									
			1999 DATA	1999	1999	2000	2001	2002	2003	2004	2005	2006
Benzene	1	5,000	<100	BQL	0.284J	BQL	BQL	BQL	<1.0	<1.0	<1.0	NA
Methyl Tert-Butyl Ether	200	200,000	<100	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	NA
Ethylbenzene	550	84,500	<100	BQL	0.0820J	BQL	BQL	BQL	8.6	<1.0	1.6	NA
Total Xylenes	530	87,500	490.0	BQL	0.289J	BQL	BQL	BQL	24.7	<3.0	<3.0	NA
Toluene	1,000	257,500	<100	BQL	BQL	BQL	BQL	BQL	60.3	<1.0	<1.0	NA
Naphthalene	21	15,500	NA		0.585J	BQL	BQL	BQL	7.8J	<290	18.1	NA
1-Methylnaphthalene	NE	NE	NA		BQL	BQL	BQL	BQL		NA	38.9	NA
2-Methylnaphthalene	28	12,500	NA		BQL	BQL	BQL	BQL	<8.2	NA		NA
Bis(2-ethylhexyl)phthalate	3	3,000	NA	BQL		BQL						NA
Acenaphthene	80	2,120	NA	NA	1.75J	NA	NA	NA	<8.2	<290	<5.4	NA
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	NA	<8.2	<56	<5.4	NA
Benzo(a)anthracene	0.05	22	NA	NA	NA	NA	NA	NA				NA
Pyrene	210	210	NA	NA	NA	NA	NA	NA	<8.2	<56	<5.4	NA
Fluorene	280	950	NA	NA	1.74J	NA	NA	NA	<8.2	<56	<5.4	NA
Anthracene	2,100	2,100	NA	NA	NA	NA	NA	NA	<8.2	<56	<5.4	NA
Fluoranthene	280	280	NA	NA	NA	NA	NA	NA	<8.2	<56	<5.4	NA
Phenanthrene	210	410	NA	NA	NA	NA	NA	NA	<8.2	<56	<5.4	NA
Trichloroethene	2.8	2.8	<100	NA	NA	NA	NA	NA	NA	NA	<1.0	NA
Tetrachloroethene	0.7	0.07	<100	NA	NA	NA	NA	NA	NA	NA		NA
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA

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

2. NA= Not Analyzed

3. J = Estimated concentration less than reporting limit.

4. BQL = Below Quantitation Limits.

5. Shading represents concentrations above 2L GWQS.

6. A portion of the 1999 data was obtained from the Radian International, Remedial Action Operation Optimization Case Study, dated June 2000.

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

8. The information presented within is based on data provided in Appendix C of this report.

TABLE 5
REVISED TARGET CLEANUP CONCENTRATIONS
BUILDING AS-4141
MARINE CORPS AIR STATION, NEW RIVER, NC

MEDIUM	COMPONENT	CURRENT CONDITIONS	TARGET CLEANUP	
Free Product	Gasoline/Diesel	3.56	<1/8"	
GROUNDWATER			<i>GCL</i>	<i>2L GWQS</i>
	Benzene	<1.0	5,000	1
	Methyl Tert-Butyl Ether	<1.0	200,000	200
	Ethylbenzene	1.6	84,500	550
	Total Xylenes	<3.0	87,500	530
	Toluene	<1.0	257,500	1,000
	Naphthalene	18.1	15,500	21
	1-Methylnaphthalene	38.9	NE	NE
	2-Methylnaphthalene	36.2	12,500	14
	Bis(2-ethylhexyl)phthalate	<5.4	2,500	2.5
	Acenaphthene	<4.8	2,120	80
	Acenaphthylene	<4.8	1,965	210
	Benzo(a)anthracene	<4.8	22	0.0479
	Pyrene	<4.8	210	210
	Fluorene	<4.8	950	280
	Anthracene	<4.8	2,100	2,100
	Fluoranthene	<4.8	280	280
	Phenanthrene	<4.8	410	210
	Trichloroethene	<1.0	2800	2.8
	Tetrachloroethene	<1.0	700	0.7
	Lead	105.0	15,000	15

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

2. NA= Not Analyzed

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

4. Current conditions are maximum levels for specified components as presented in the attached Appendices

TABLE 6A SUMMARY OF SOIL LABORATORY RESULTS

BUILDING AS-4141

Analytical Method: EPA Method 8260

Sample ID	Contaminant of Concern →		Acetone	2-Butanone	n-Butylbenzene	sec-Butylbenzene	Carbon disulfide	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Methylene chloride	Naphthalene	n-Propyl benzene	1,1,2-Trichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Total Xylenes	All Other 8260 Analytes
	Date Collected	Sample Depth (ft. BLS)																
Residential MSCC (mg/kg)			1,564	NE	156	156	1564	1,564	1,564	NE	85	63	156	NE	782	782	32,000	Varies
Industrial/Commercial MSCC (mg/kg)			40,880	NE	4,088	4,088	40,880	40,000	40,880	NE	763	1,635	4,088	NE	20,440	20,440	200,000	Varies
Soil to Groundwater MSCC (mg/kg)			3	NE	4	3	4	0.24	2	NE	0.02	0.58	2	NE	8	7	5	Varies
JP5SB-01	12/8/2005	(2-3)	0.0136 J	<0.00269	<0.00313	<0.00327	<0.00246	<0.00284	<0.00301	<0.00318	0.00276 J	<0.00188	<0.003	<0.00241	<0.00262	<0.00278	<0.00792	BQL
JP5SB-02	12/1/2005	(2-3)	<1.39	<0.0666	2.90	1.06	<0.0847	0.0905 J	0.132 J	2.50	0.210 J	4.70	0.382 J	<0.110	4.35	1.44	0.0740 J	BQL
JP5SB-03	12/1/2005	(5-6)	<0.175	<0.0566	<0.0141	0.0779	<0.0107	<0.0107	0.0145 J	0.0675	0.0483 J	<0.0145	0.0280 J	0.0140 J	<0.0104	<0.00971	<0.02867	BQL
JP5SB-04	12/1/2005	(3-4)	0.0107 J	<0.00243	<0.00282	<0.00295	<0.00222	<0.00256	<0.00271	<0.00286	0.00279 J	<0.00169	<0.00270	<0.00217	<0.00236	<0.00251	<0.00714	BQL
JP5SB-05	12/1/2005	(3-4)	<1.25	<0.403	2.12	0.769	<0.0762	0.285 J	0.226 J	0.806	0.211 J	5.77	0.566	<0.0988	6.13	1.42	0.448 J	BQL
JP5SB-06	12/1/2005	(1-2)	<0.00305	<0.00298	<0.00347	<0.00363	<0.00272	<0.00315	<0.00334	<0.00352	<0.00296	<0.00208	<0.00333	<0.00267	<0.00290	<0.00309	<0.00877	BQL
JP5SB-07	12/1/2005	(3-4)	<0.277	<0.0896	0.656	0.306	<0.0169	0.0230 J	0.0641 J	0.495	0.0707 J	1.10	0.150	<0.0219	0.902	0.155	<0.0454	BQL
JP5SB-08	11/30/2005	(3-3.5)	<0.831	<0.269	3.02	1.16	<0.0508	0.116 J	0.313	1.15	0.158 J	7.97	0.715	<0.0658	5.17	1.81	<0.1363	BQL
JP5SB-09	11/30/2005	(2-3)	0.0354 J	<0.00258	<0.00301	<0.00314	<0.00236	<0.00273	<0.00289	<0.00305	<0.00257	0.00332 J	<0.00288	<0.00231	<0.00251	<0.00267	<0.00760	BQL
JP5SB-10	12/1/2005	(0-1)	0.0336 J	0.00397 J	<0.00340	<0.00356	<0.00267	<0.00309	<0.00327	<0.00345	<0.00291	<0.00204	<0.00326	<0.00262	<0.00284	<0.00303	<0.00860	BQL
JP5SB-11	12/8/2005	(2-3)	0.0229 J	0.00401 J	<0.00412	<0.00431	0.00356 J	<0.00374	<0.00396	<0.00419	<0.00352	<0.00247	<0.00395	<0.00318	<0.00345	<0.00367	<0.0739	BQL
JP5SB-12	12/1/2005	(2-3)	<3.14	<1.02	11.3	3.87	<0.192	0.494 J	0.970	4.13	0.476 J	20.3	2.30	<0.249	25.8	6.84	2.05	BQL
JP5SB-13	12/1/2005	(3-3.75)	0.0190 J	0.00325 J	<0.00316	<0.00330	<0.00248	<0.00286	<0.00303	<0.00320	0.00376 J	<0.00189	<0.00302	<0.00243	<0.00264	<0.00281	<0.00798	BQL

All results in mg/kg

ft. BLS = feet below land surface

NE = None Established

BQL = Below Quantitation Limits

J = Estimated concentration, below calibration range and above MDL

Shaded concentrations exceed the lowest applicable standard

TABLE 6B SUMMARY OF SOIL LABORATORY RESULTS

BUILDING AS-4141

Analytical Method: EPA Method 8270

Sample ID	Contaminant of Concern →		Acenaphthene	Acenaphthylene	Bis(2-ethylhexyl)phthalate	Dibenzofuran	Fluorene	2-Methylnaphthalene	Naphthalene	All Other 8270 Analytes
	Date Collected	Sample Depth (ft. BLS)								
Residential MSCC (mg/kg)			940	469	46	62	620	63	313	Varies
Industrial/Commercial MSCC (mg/kg)			24,000	12,264	410	1,635	16,400	1,635	8176	Varies
Soil to Groundwater MSCC (mg/kg)			8.2	11	5.6	4.7	44	1.7	0.58	Varies
JP5SB-01	12/8/2005	(2-3)	<0.049	<0.045	<0.045	<0.062	<0.042	<0.099	<0.028	BQL
JP5SB-02	12/1/2005	(2-3)	<0.381	<0.381	0.076	<0.381	0.152	6.49	2.16	BQL
JP5SB-03	12/1/2005	(5-6)	<0.388	<0.388	<0.388	<0.388	<0.388	<0.388	<0.388	BQL
JP5SB-04	12/1/2005	(3-4)	<0.358	<0.358	<0.358	<0.358	<0.358	<0.358	<0.358	BQL
JP5SB-05	12/1/2005	(3-4)	0.102	0.189	<0.363	0.142	0.065	6.39	2.76	BQL
JP5SB-06	12/1/2005	(1-2)	<0.338	<0.338	<0.338	<0.338	<0.338	<0.338	<0.338	BQL
JP5SB-07	12/1/2005	(3-4)	<0.368	<0.368	<0.368	<0.368	<0.368	1.11	0.397	BQL
JP5SB-08	11/30/2005	(3-3.5)	0.103	0.096	<0.355	0.163	0.0780	7.04	2.97	BQL
JP5SB-09	11/30/2005	(2-3)	<0.351	<0.351	<0.351	<0.351	<0.351	<0.351	<0.351	BQL
JP5SB-10	12/1/2005	(0-1)	<0.350	<0.350	<0.350	<0.350	<0.350	<0.350	<0.350	BQL
JP5SB-11	12/8/2005	(2-3)	<0.048	<0.045	<0.045	<0.061	<0.042	<0.098	<0.027	BQL
JP5SB-12	12/1/2005	(2-3)	0.287	<0.363	<0.363	<0.363	0.367	16.6	8.94	BQL
JP5SB-13	12/1/2005	(3-3.75)	<0.377	<0.377	<0.377	<0.377	<0.377	<0.377	<0.377	BQL

All results in mg/kg

ft. BLS = feet below land surface

NE = None Established

BQL = Below Quantitation Limits

J = Estimated concentration, below calibration range and above MDL

Shaded concentrations exceed the lowest applicable standard

TABLE 6C SUMMARY OF SOIL LABORATORY RESULTS
BUILDING AS-4141

Analytical Method: MADEP VPH/EPH AS COMPARED TO NCDENR MSCCs

Sample ID	Contaminant of Concern →		C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Date Collected	Sample Depth (ft BLS)				
Residential MSCC (mg/kg)			939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			72	3300	##	34
JP5SB-01	12/8/2005	(2-3)	<10	<30	13	<20
JP5SB-02	12/1/2005	(2-3)	<10	1,790	<50	550
JP5SB-03	12/1/2005	(5-6)	<10	78	<10	34
JP5SB-04	12/1/2005	(3-4)	<10	<20	<10	<20
JP5SB-05	12/1/2005	(3-4)	<10	1,540	<100	590
JP5SB-06	12/1/2005	(1-2)	<10	<20	<10	<20
JP5SB-07	12/1/2005	(3-4)	<10	283	<10	79
JP5SB-08	11/30/2005	(3-3.5)	<10	673	<20	211
JP5SB-09	11/30/2005	(2-3)	<10	<20	<10	<20
JP5SB-10	12/1/2005	(0-1)	<10	<20	<10	12
JP5SB-11	12/8/2005	(2-3)	<10	<20	16	<10
JP5SB-12	12/1/2005	(2-3)	26	4,200	<100	1,350
JP5SB-13	12/1/2005	(3-3.75)	<10	<20	<10	<20

All results in mg/kg

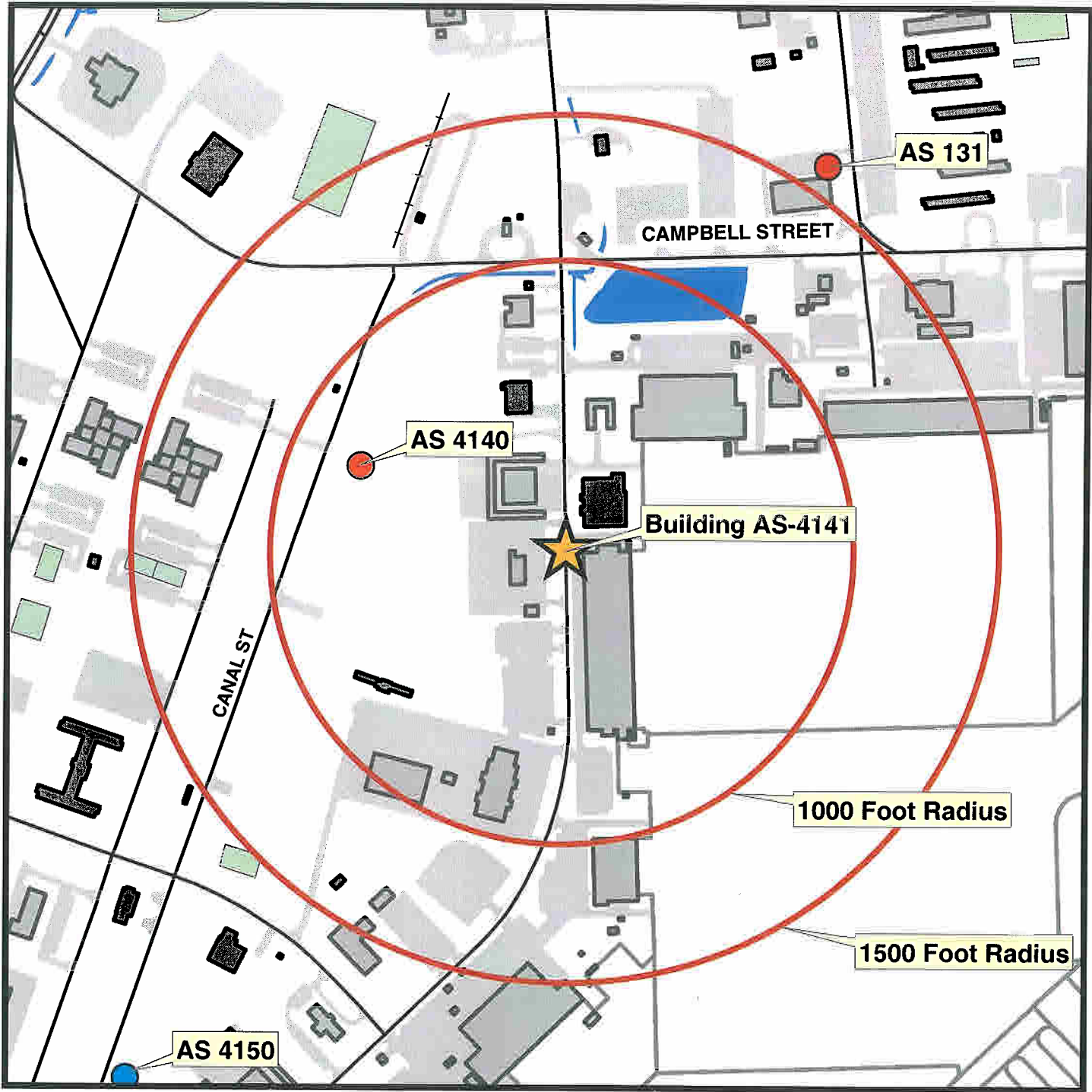
ft. BLS = feet below land surface

Health based level >100%

Considered immobile

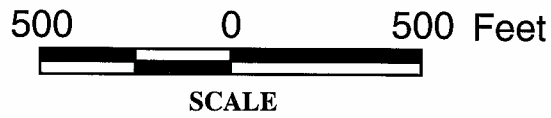
Shaded concentrations exceed the lowest applicable standard

FIGURES



LEGEND

- Water Supply Wells
 - ACTIVE
 - CLOSED
 - INACTIVE
 - PENDING
- Roads
- Railroads
- Recreational Horse Trail
- Buildings and Structures
- Parking Lots
- Playgrounds
- Driveways
- Athletic Fields
- Athletic Courts
- Surface Water
- Creeks
- Surface Water

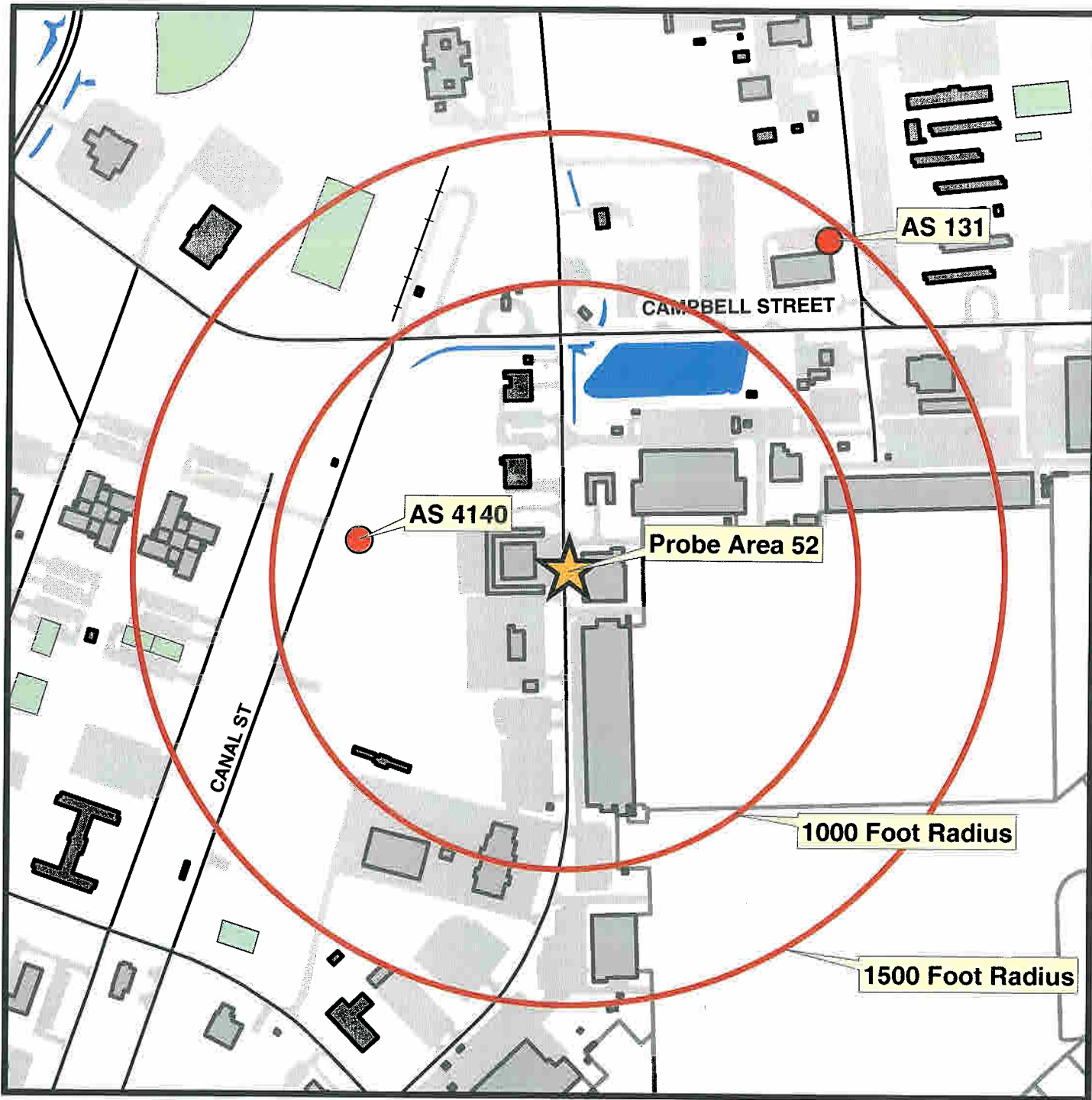


DRAWN BY:	CHECK BY:	APPROVED BY:
THW	JKB	MEM
CATLIN PROJECT No.: 204-103		

SITE LOCATION MAP

BUILDING AS-4141
1500ft. RADIUS WITH RECEPTORS

FIGURE
1A

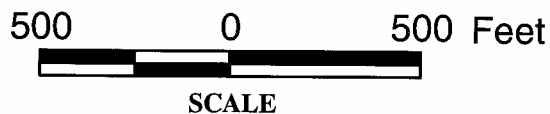


LEGEND

Water Supply Wells

- ACTIVE
- CLOSED
- INACTIVE
- PENDING

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



SITE LOCATION MAP

FIGURE

DRAWN BY: CHECK BY: APPROVED BY:

THW

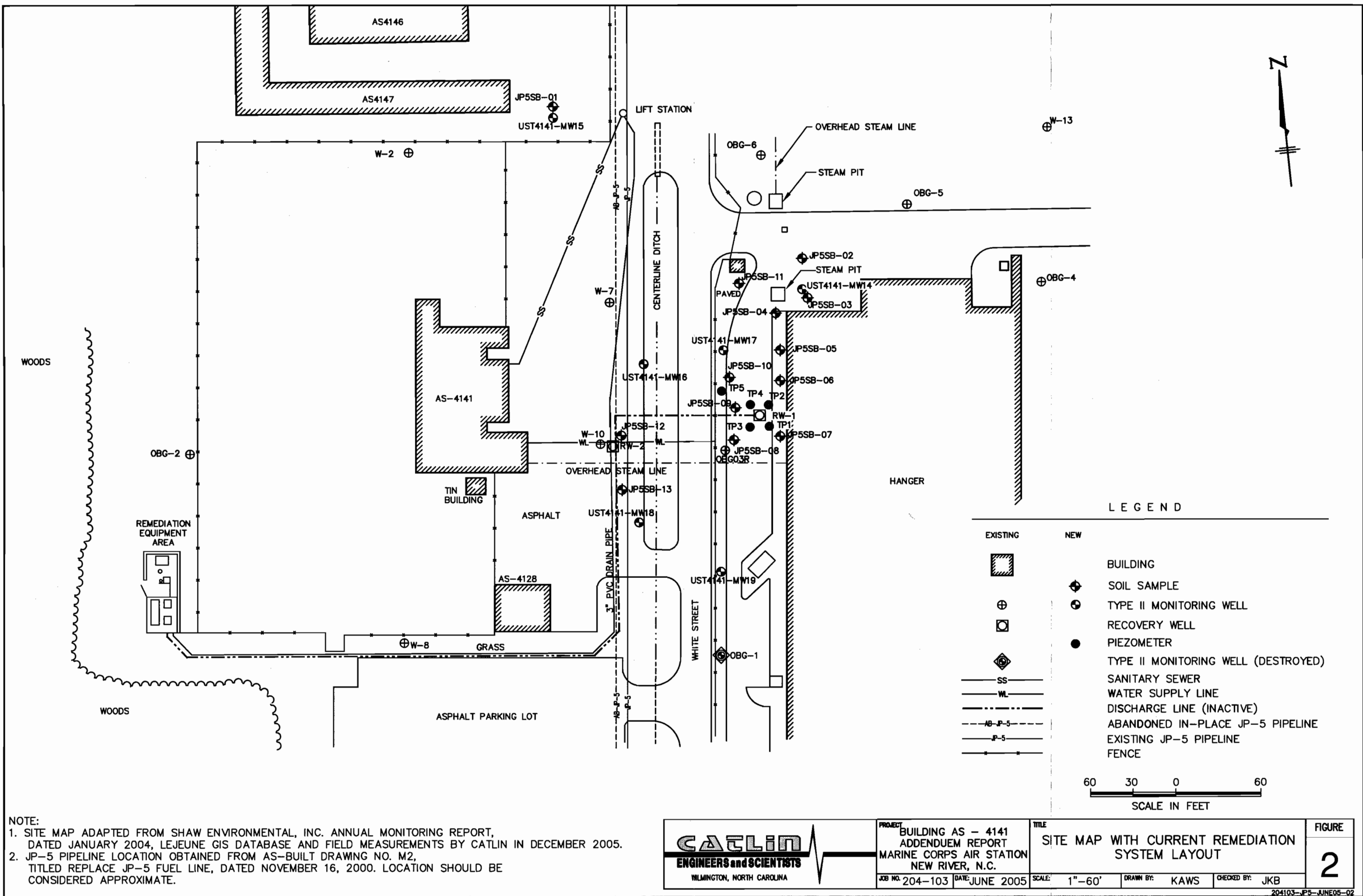
JKB

MEM

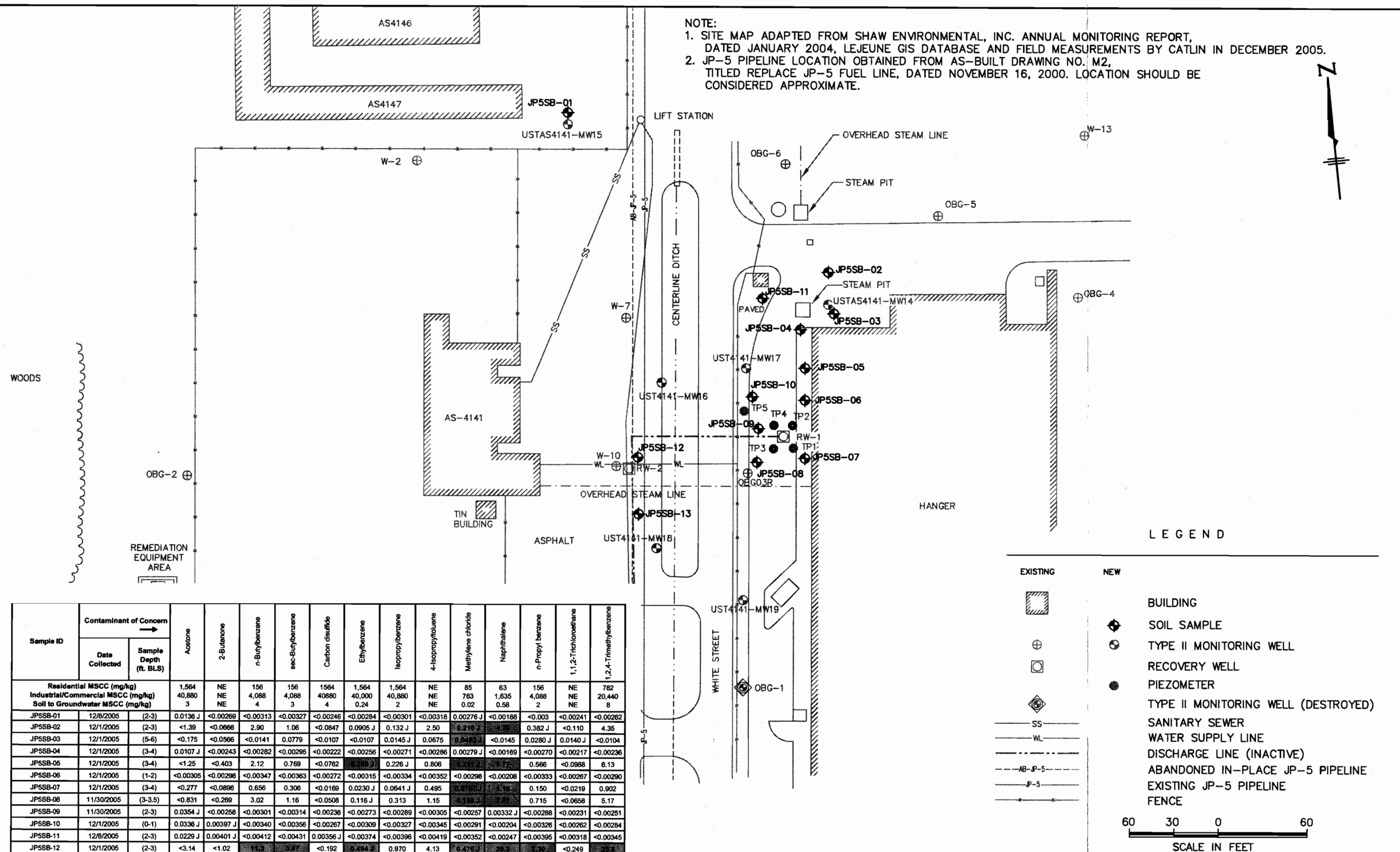
CATLIN PROJECT No.: 204-103

PROBE AREA 52
1500ft. RADIUS WITH RECEPTORS

1B

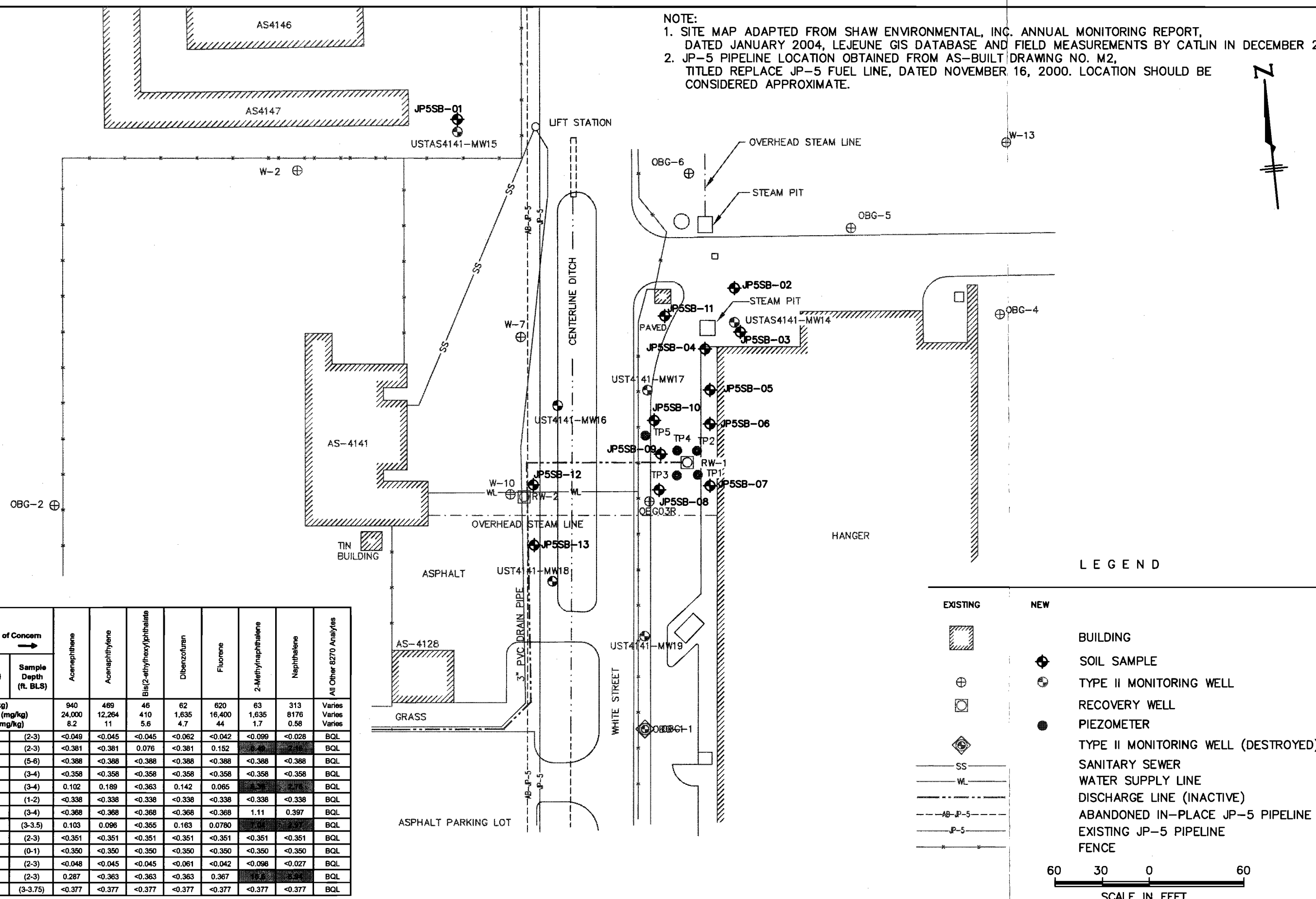


1. SITE MAP ADAPTED FROM SHAW ENVIRONMENTAL, INC. ANNUAL MONITORING REPORT, DATED JANUARY 2004, LEJEUNE GIS DATABASE AND FIELD MEASUREMENTS BY CATLIN IN DECEMBER 2005.
2. JP-5 PIPELINE LOCATION OBTAINED FROM AS-BUILT DRAWING NO. M2, TITLED REPLACE JP-5 FUEL LINE, DATED NOVEMBER 16, 2000. LOCATION SHOULD BE CONSIDERED APPROXIMATE.



All results in mg/kg
ft. BLS = feet below land surface
NE = None Established
J = Estimated concentration, below calibration range and above MDL
Shaded concentrations exceed the lowest applicable standard

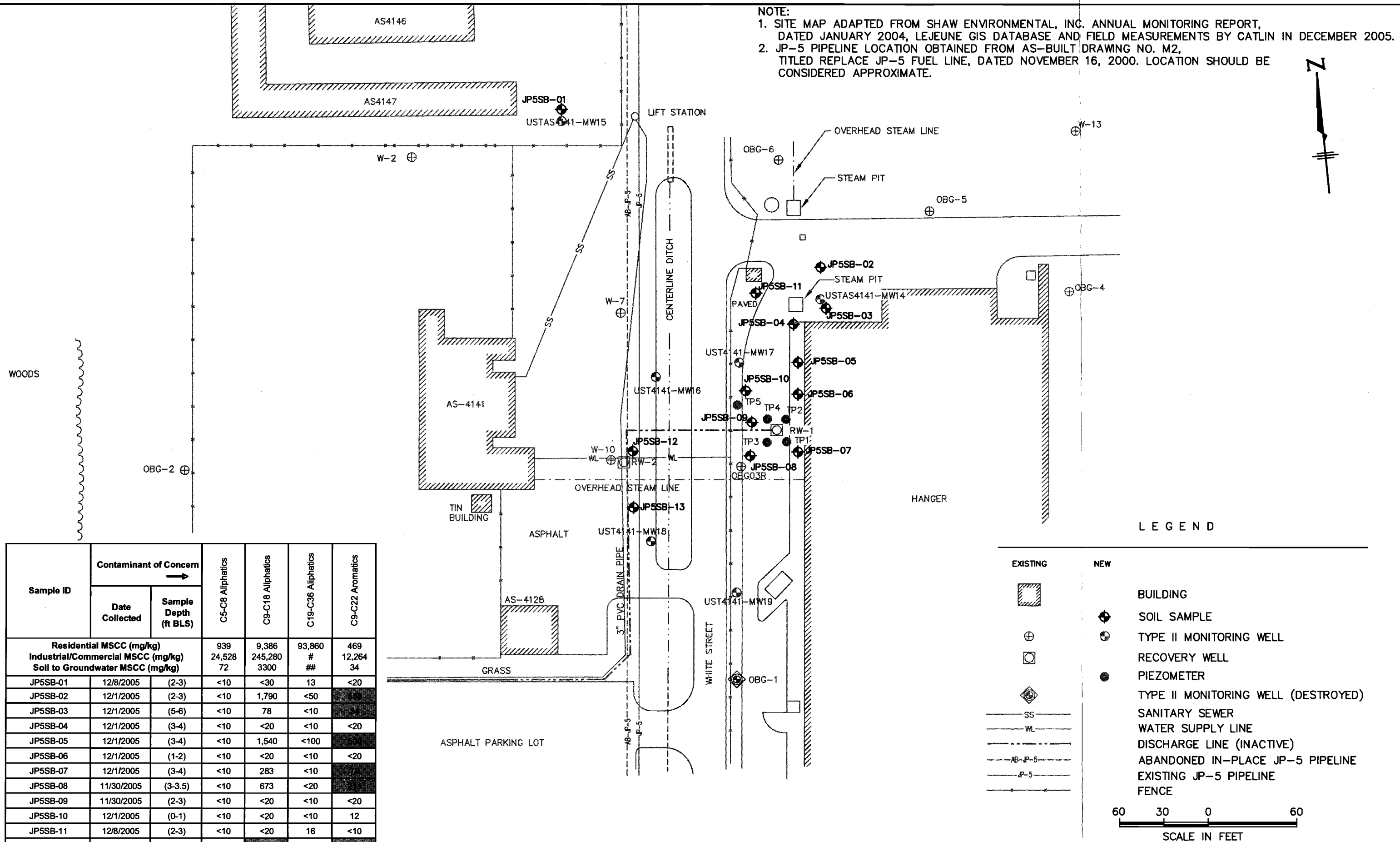
- NOTE:
 1. SITE MAP ADAPTED FROM SHAW ENVIRONMENTAL, INC. ANNUAL MONITORING REPORT, DATED JANUARY 2004, LEJEUNE GIS DATABASE AND FIELD MEASUREMENTS BY CATLIN IN DECEMBER 2005.
 2. JP-5 PIPELINE LOCATION OBTAINED FROM AS-BUILT DRAWING NO. M2, TITLED REPLACE JP-5 FUEL LINE, DATED NOVEMBER 16, 2000. LOCATION SHOULD BE CONSIDERED APPROXIMATE.



Sample ID	Contaminant of Concern		Acenaphthene	Acenaphthylene	Bis(2-ethylhexyl)phthalate	Dibenzofuran	Fluorene	2-Methylnaphthalene	Naphthalene	All Other 8270 Analytes
	Date Collected	Sample Depth (ft. BLS)								
Residential MSCC (mg/kg)			940	469	46	62	620	63	313	Varies
Industrial/Commercial MSCC (mg/kg)			24,000	12,264	410	1,635	16,400	1,635	8176	Varies
Soil to Groundwater MSCC (mg/kg)			8.2	11	5.6	4.7	44	1.7	0.58	Varies
JP5SB-01	12/8/2005	(2-3)	<0.049	<0.045	<0.045	<0.062	<0.042	<0.099	<0.028	BQL
JP5SB-02	12/1/2005	(2-3)	<0.381	<0.381	0.076	<0.381	0.152			BQL
JP5SB-03	12/1/2005	(5-6)	<0.388	<0.388	<0.388	<0.388	<0.388	<0.388	<0.388	BQL
JP5SB-04	12/1/2005	(3-4)	<0.358	<0.358	<0.358	<0.358	<0.358	<0.358	<0.358	BQL
JP5SB-05	12/1/2005	(3-4)	0.102	0.189	<0.363	0.142	0.065			BQL
JP5SB-06	12/1/2005	(1-2)	<0.338	<0.338	<0.338	<0.338	<0.338	<0.338	<0.338	BQL
JP5SB-07	12/1/2005	(3-4)	<0.368	<0.368	<0.368	<0.368	<0.368	1.11	0.397	BQL
JP5SB-08	11/30/2005	(3-3.5)	0.103	0.096	<0.365	0.163	0.0780			BQL
JP5SB-09	11/30/2005	(2-3)	<0.351	<0.351	<0.351	<0.351	<0.351	<0.351	<0.351	BQL
JP5SB-10	12/1/2005	(0-1)	<0.350	<0.350	<0.350	<0.350	<0.350	<0.350	<0.350	BQL
JP5SB-11	12/8/2005	(2-3)	<0.048	<0.045	<0.045	<0.061	<0.042	<0.096	<0.027	BQL
JP5SB-12	12/1/2005	(2-3)	0.287	<0.363	<0.363	<0.363	0.367			BQL
JP5SB-13	12/1/2005	(3-3.75)	<0.377	<0.377	<0.377	<0.377	<0.377	<0.377	<0.377	BQL

All results in mg/kg
 ft. BLS = feet below land surface
 NE = None Established
 BQL = Below Quantitation Limits
 J = Estimated concentration, below calibration range and above MDL
 Shaded concentrations exceed the lowest applicable standard

CATLIN ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT: BUILDING AS - 4141 ADDENDUM REPORT MARINE CORPS AIR STATION NEW RIVER, N.C.	TITLE: LABORATORY ANALYTICAL RESULTS - SOIL 8270 - DECEMBER 2005		FIGURE 4
	JOB NO: 204-103 DATE: JUNE 2005	SCALE: 1"=60'	DRAWN BY: KAWS CHECKED BY: JKB	



Sample ID	Contaminant of Concern		C6-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Date Collected	Sample Depth (ft BLS)				
Residential MSCC (mg/kg)			939	9,386	93,860	469
Industrial/Commercial MSCC (mg/kg)			24,528	245,280	#	12,264
Soil to Groundwater MSCC (mg/kg)			72	3300	##	34
JP5SB-01	12/8/2005	(2-3)	<10	<30	13	<20
JP5SB-02	12/1/2005	(2-3)	<10	1,790	<50	<20
JP5SB-03	12/1/2005	(5-6)	<10	78	<10	<20
JP5SB-04	12/1/2005	(3-4)	<10	<20	<10	<20
JP5SB-05	12/1/2005	(3-4)	<10	1,540	<100	<20
JP5SB-06	12/1/2005	(1-2)	<10	<20	<10	<20
JP5SB-07	12/1/2005	(3-4)	<10	283	<10	<20
JP5SB-08	11/30/2005	(3-3.5)	<10	673	<20	<20
JP5SB-09	11/30/2005	(2-3)	<10	<20	<10	<20
JP5SB-10	12/1/2005	(0-1)	<10	<20	<10	12
JP5SB-11	12/8/2005	(2-3)	<10	<20	16	<10
JP5SB-12	12/1/2005	(2-3)	26	4,200	<100	1,350
JP5SB-13	12/1/2005	(3-3.75)	<10	<20	<10	<20

All results in mg/kg
ft. BLS = feet below land surface
Health based level >100%
Considered immobile
Shaded concentrations exceed the lowest applicable standard

CATLIN
ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT
BUILDING AS - 4141
ADDENDUM REPORT
MARINE CORPS AIR STATION
NEW RIVER, N.C.
JOB NO. 204-103 DATE: JUNE 2005

TITLE
LABORATORY ANALYTICAL RESULTS -
SOIL MADEP COMPARISON TO GUIDELINES
- DECEMBER 2005
SCALE: 1"=60' DRAWN BY: KAWS CHECKED BY: JKB

FIGURE
5
204103-JP5-JUNE05-05

WELL ID	9/29/1989	3/21/2005	3/31/2005	3/15/2006
OBG-1	NM	NM	NM	NM
OBG-2	NM	NMT	NMT	NM
OBG-3	NM	NM	NM	NA
OBG-03R	NM	NM	NM	
OBG-4	NMT	NMT	NMT	NM
OBG-5	NMT	NMT	NMT	NMT
OBG-6	NMT	NMT	NMT	NMT
W-2	NMT	NMT	NMT	NMT
W-7	NMT	NA	NA	NM
W-8	NMT	NMT	NMT	NM
W-10	NMT	NMT	NMT	NM
W-13	NM	NMT	NMT	NM
AS3905-TP1	NM	NM	NM	
AS3905-TP2	NM	NM	NM	NMT
AS3905-TP3	NM	NM	NM	
AS3905-TP4	NM	NM	NM	NMT
AS3905-TP5	NM	NM	NM	
USTAS4141-MW15	NM	NM	NM	NMT
USTAS4141-MW16	NM	NM	NM	
USTAS4141-MW17	NM	NM	NM	
USTAS4141-MW18	NM	NM	NM	NMT
USTAS4141-MW19	NM	NM	NM	NMT
USTAS4141-MW14	NM	NM	NM	NMT
RW-1	NM		NM	
RW-2	NM	NMT	NM	NM

WOODS

OBG-2 ⊕

REMOVAL OF
EQUIPMENT
AREA

⊕ W-8

ASPHALT PARKING LOT

TIN
BUILDING

AS 4141

AS4147

MW15 ⊕

⊕ W-2

⊕ W-7

⊕ W-10

UST4141-MW18 ⊕

UST4141-MW19 ⊕

⊕ OBG-1

⊕ OBG-6

⊕ OBG-5

⊕ W-13

⊕ OBG-4

⊕ MW14

UST4141-MW17 ⊕

UST4141-MW16 ⊕

TP5

TP4

TP3

TP2

TP1

RW-1

OBG03R

HANGER

ESTIMATED EXTENT OF
FREE-PHASE PRODUCT
AS OF MARCH 2006

LEGEND

BUILDING

SOIL SAMPLE

TYPE II MONITORING WELL

RECOVERY WELL

PIEZOMETER

SANITARY SEWER

WATER SUPPLY LINE

DISCHARGE LINE (INACTIVE)

ABANDONED IN-PLACE JP-5 PIPELINE

EXISTING JP-5 PIPELINE

FENCE

60 30 0 60
SCALE IN FEET

NOTE:

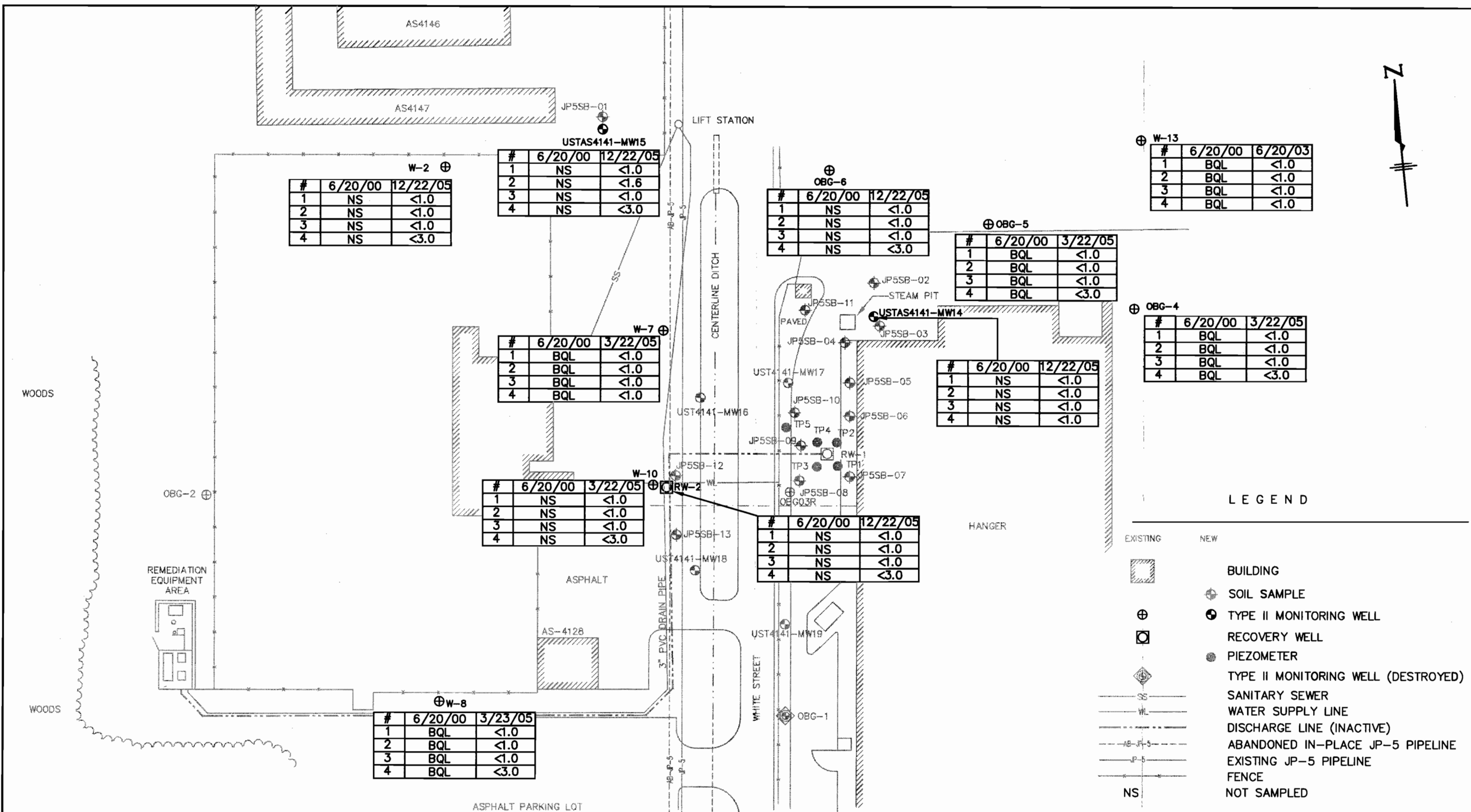
1. SITE MAP ADAPTED FROM SHAW ENVIRONMENTAL, INC. ANNUAL MONITORING REPORT, DATED JANUARY 2004, LEJEUNE GIS DATABASE AND FIELD MEASUREMENTS BY CATLIN IN DECEMBER 2005.
2. JP-5 PIPELINE LOCATION OBTAINED FROM AS-BUILT DRAWING NO. M2, TITLED REPLACE JP-5 FUEL LINE, DATED NOVEMBER 16, 2000. LOCATION SHOULD BE CONSIDERED APPROXIMATE.
3. 1989 DATA OBTAINED FROM O'BRIEN & GERE ENGINEERS, INC. CORRECTIVE ACTION PLAN, 1991.

CATLIN
ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT BUILDING AS-4141
ADDENDUM REPORT
MARINE CORPS AIR STATION
NEW RIVER, N.C.
JOB NO. 204-103 DATE: JUNE 2006

TITLE FREE PHASE PRODUCT PLUME
COMPARISON MAP
SCALE: 1"=60' DRAWN BY: JPC CHECKED BY: JKB

FIGURE
6



NOTE:

1. ALL RESULTS IN ug/L.
2. SITE MAP ADAPTED FROM SHAW ENVIRONMENTAL, INC. ANNUAL MONITORING REPORT, DATED JANUARY 2004, LEJEUNE GIS DATABASE AND FIELD MEASUREMENTS BY CATLIN IN DECEMBER 2005.
3. JP-5 PIPELINE LOCATION OBTAINED FROM AS-BUILT DRAWING NO. M2, TITLED REPLACE JP-5 FUEL LINE, DATED NOVEMBER 16, 2000. LOCATION SHOULD BE CONSIDERED APPROXIMATE.
4. 1989 DATA OBTAINED FROM O'BRIEN & GERE ENGINEERS, INC. CORRECTIVE ACTION PLAN, 1991.

CATLIN
ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT: BUILDING AS - 4141
ADDENDUM REPORT
MARINE CORPS AIR STATION
NEW RIVER, N.C.

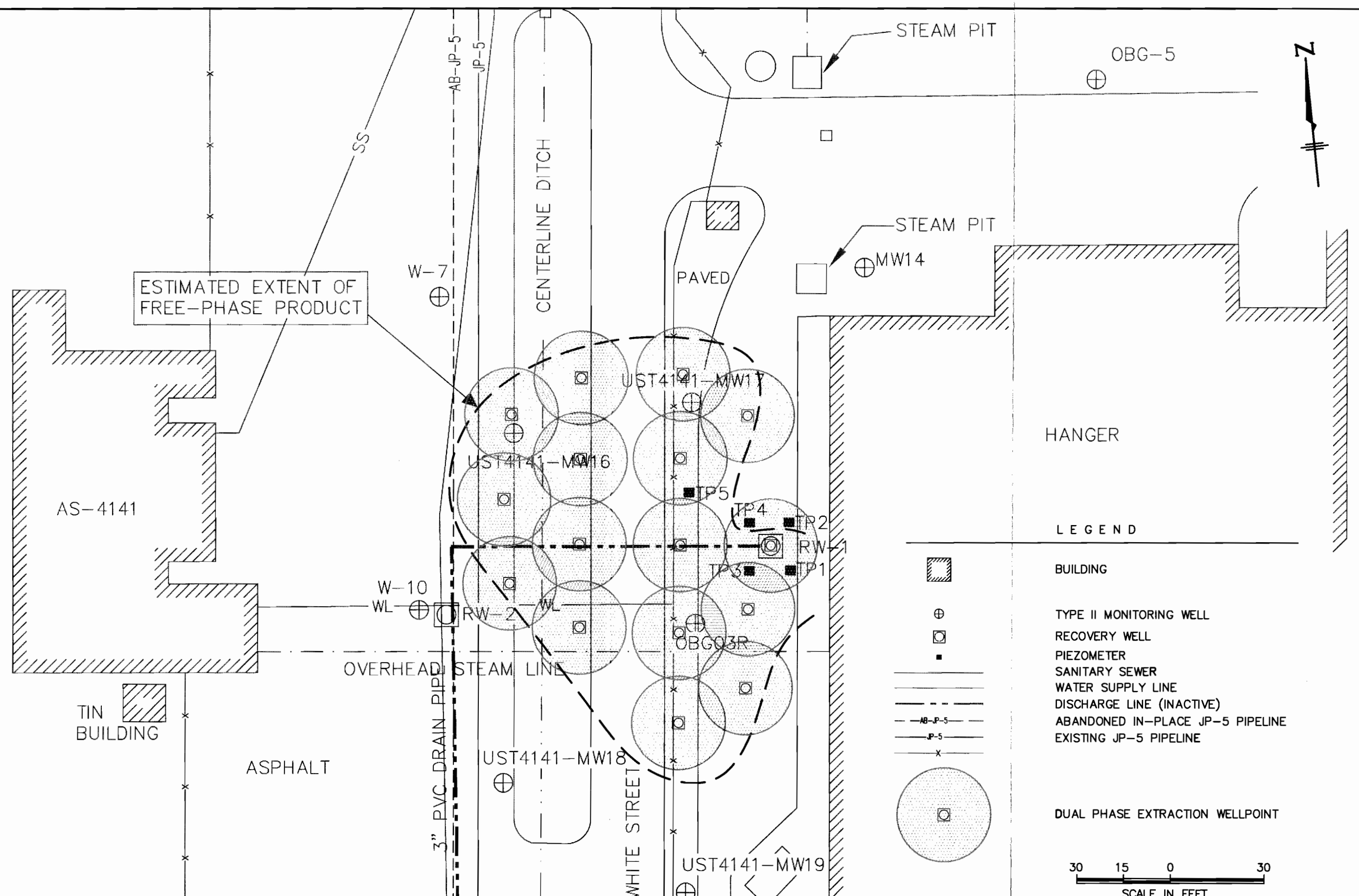
JOB NO. 204-103 DATE: JUNE 2005

TITLE: HISTORICAL LABORATORY ANALYTICAL -
GROUNDWATER - BTEX

SCALE: 1"=60' DRAWN BY: KAWS CHECKED BY: JKB

FIGURE

7



NOTE:
 1. SITE MAP ADAPTED FROM SHAW ENVIRONMENTAL, INC. ANNUAL MONITORING REPORT, DATED JANUARY 2004, LEJEUNE GIS DATABASE AND FIELD MEASUREMENTS BY CATLIN IN DECEMBER 2005.
 2. JP-5 PIPELINE LOCATION OBTAINED FROM AS-BUILT DRAWING NO. M2, TITLED REPLACE JP-5 FUEL LINE, DATED NOVEMBER 16, 2000. LOCATION SHOULD BE CONSIDERED APPROXIMATE.

APPENDICES

APPENDIX A

SOIL LABORATORY RESULTS FROM DECEMBER 2005 SAMPLING EVENT

Mr. Jeff Becken
Richard Catlin & Associates
P.O. Box 10280
Wilmington NC 28404-0280

Report Number: G128-1649

Client Project: JP5-Line Area

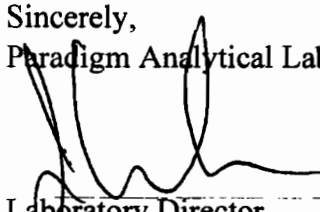
Dear Mr. Becken:

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 Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using 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,
Paradigm Analytical Laboratories, Inc.


Laboratory Director
J. Patrick Weaver

12/16/05
Date

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

Client Sample ID: JP5SB-8
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-1D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 11/30/05 13:00
Date Received: 12/6/05
Matrix: Soil
%Solids: 87.0

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	6.16	0.831	250	12/9/05	
Benzene	BQL	0.246	0.0399	250	12/9/05	
Bromobenzene	BQL	0.246	0.0552	250	12/9/05	
Bromochloromethane	BQL	0.246	0.0769	250	12/9/05	
Bromodichloromethane	BQL	0.246	0.0456	250	12/9/05	
Bromoform	BQL	0.246	0.0237	250	12/9/05	
Bromomethane	BQL	0.246	0.0256	250	12/9/05	
2-Butanone	BQL	6.16	0.269	250	12/9/05	
n-Butylbenzene	3.02	0.246	0.0670	250	12/9/05	
sec-Butylbenzene	1.16	0.246	0.0579	250	12/9/05	
tert-Butylbenzene	BQL	0.246	0.0449	250	12/9/05	
Carbon disulfide	BQL	0.246	0.0508	250	12/9/05	
Carbon tetrachloride	BQL	0.246	0.0446	250	12/9/05	
Chlorobenzene	BQL	0.246	0.0436	250	12/9/05	
Chloroethane	BQL	0.246	0.103	250	12/9/05	
Chloroform	BQL	0.246	0.0542	250	12/9/05	
Chloromethane	BQL	0.246	0.0695	250	12/9/05	
2-Chlorotoluene	BQL	0.246	0.0505	250	12/9/05	
4-Chlorotoluene	BQL	0.246	0.0508	250	12/9/05	
Dibromochloromethane	BQL	0.246	0.0513	250	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	1.23	0.481	250	12/9/05	
Dibromomethane	BQL	0.246	0.0678	250	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.246	0.0651	250	12/9/05	
1,2-Dichlorobenzene	BQL	0.246	0.0468	250	12/9/05	
1,3-Dichlorobenzene	BQL	0.246	0.0577	250	12/9/05	
1,4-Dichlorobenzene	BQL	0.246	0.0449	250	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	1.23	0.350	250	12/9/05	
1,1-Dichloroethane	BQL	0.246	0.0530	250	12/9/05	
1,1-Dichloroethene	BQL	0.246	0.0404	250	12/9/05	
1,2-Dichloroethane	BQL	0.246	0.0601	250	12/9/05	
cis-1,2-Dichloroethene	BQL	0.246	0.0434	250	12/9/05	
trans-1,2-dichloroethene	BQL	0.246	0.0567	250	12/9/05	
1,2-Dichloropropane	BQL	0.246	0.0409	250	12/9/05	
1,3-Dichloropropane	BQL	0.246	0.0417	250	12/9/05	
2,2-Dichloropropane	BQL	0.246	0.0589	250	12/9/05	
1,1-Dichloropropene	BQL	0.246	0.0434	250	12/9/05	
cis-1,3-Dichloropropene	BQL	0.246	0.0498	250	12/9/05	
trans-1,3-Dichloropropene	BQL	0.246	0.0293	250	12/9/05	
Dichlorodifluoromethane	BQL	1.23	0.0949	250	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.246	0.0579	250	12/9/05	
Ethylbenzene	0.116	0.246	0.0508	250	12/9/05	J
Hexachlorobutadiene	BQL	0.246	0.101	250	12/9/05	

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

Client Sample ID: JP5SB-8
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-1D
Lab Project ID: G128-1649
Report Basis: Dry Weight

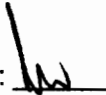
Analyzed By: JTF
Date Collected: 11/30/05 13:00
Date Received: 12/6/05
Matrix: Soil
%Solids: 87.0

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	1.23	0.215	250	12/9/05	
Iodomethane	BQL	0.246	0.0318	250	12/9/05	
Isopropylbenzene	0.313	0.246	0.0426	250	12/9/05	
4-Isopropyltoluene	1.15	0.246	0.0493	250	12/9/05	
Methylene chloride	0.158	1.23	0.0463	250	12/9/05	J
4-Methyl-2-pentanone	BQL	1.23	0.122	250	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.246	0.0527	250	12/9/05	
Naphthalene	7.97	0.246	0.0690	250	12/9/05	
n-Propyl benzene	0.715	0.246	0.0520	250	12/9/05	
Styrene	BQL	0.246	0.0589	250	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.246	0.0710	250	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.246	0.0631	250	12/9/05	
Tetrachloroethene	BQL	0.246	0.0749	250	12/9/05	
Toluene	BQL	0.246	0.0431	250	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.246	0.0490	250	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.246	0.0601	250	12/9/05	
Trichloroethene	BQL	0.246	0.0515	250	12/9/05	
1,1,1-Trichloroethane	BQL	0.246	0.0486	250	12/9/05	
1,1,2-Trichloroethane	BQL	0.246	0.0658	250	12/9/05	
Trichlorofluoromethane	BQL	0.246	0.105	250	12/9/05	
1,2,3-Trichloropropane	BQL	0.246	0.0577	250	12/9/05	
1,2,4-Trimethylbenzene	5.17	0.246	0.0493	250	12/9/05	
1,3,5-Trimethylbenzene	1.81	0.246	0.0461	250	12/9/05	
Vinyl chloride	BQL	0.246	0.0986	250	12/9/05	
m-,p-Xylene	BQL	0.493	0.0951	250	12/9/05	
o-Xylene	BQL	0.246	0.0412	250	12/9/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.01	0.0109	109
1,2-Dichloroethane-d4	0.01	0.0104	104
Toluene-d8	0.01	0.0102	102

Comments:**Flags:**

BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Reviewed By: 

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

Client Sample ID: JP5SB-9
Client Project ID: JP5-Line Area
Lab Sample ID G128-1649-2A
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 11-30-2005 13:15
Date Received: 12/6/05
Matrix: Soil
%Solids: 87.8

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0354	0.0449	0.00264	1	12/13/05	J
Benzene	BQL	0.00449	0.00256	1	12/13/05	
Bromobenzene	BQL	0.00449	0.00221	1	12/13/05	
Bromochloromethane	BQL	0.00449	0.00262	1	12/13/05	
Bromodichloromethane	BQL	0.00449	0.00255	1	12/13/05	
Bromoform	BQL	0.00449	0.00217	1	12/13/05	
Bromomethane	BQL	0.00449	0.00376	1	12/13/05	
2-Butanone	BQL	0.0224	0.00258	1	12/13/05	
n-Butylbenzene	BQL	0.00449	0.00301	1	12/13/05	
sec-Butylbenzene	BQL	0.00449	0.00314	1	12/13/05	
tert-Butylbenzene	BQL	0.00449	0.00311	1	12/13/05	
Carbon disulfide	BQL	0.00449	0.00236	1	12/13/05	
Carbon tetrachloride	BQL	0.00449	0.00310	1	12/13/05	
Chlorobenzene	BQL	0.00449	0.00225	1	12/13/05	
Chloroethane	BQL	0.00449	0.00282	1	12/13/05	
Chloroform	BQL	0.00449	0.00225	1	12/13/05	
Chloromethane	BQL	0.00449	0.00216	1	12/13/05	
2-Chlorotoluene	BQL	0.00449	0.00267	1	12/13/05	
4-Chlorotoluene	BQL	0.00449	0.00249	1	12/13/05	
Dibromochloromethane	BQL	0.00449	0.00201	1	12/13/05	
1,2-Dibromo-3-chloropropane	BQL	0.00449	0.00951	1	12/13/05	
Dibromomethane	BQL	0.00449	0.00269	1	12/13/05	
1,2-Dibromoethane (EDB)	BQL	0.00449	0.00209	1	12/13/05	
1,2-Dichlorobenzene	BQL	0.00449	0.00216	1	12/13/05	
1,3-Dichlorobenzene	BQL	0.00449	0.00210	1	12/13/05	
1,4-Dichlorobenzene	BQL	0.00449	0.00221	1	12/13/05	
trans-1,4-Dichloro-2-butene	BQL	0.00449	0.00960	1	12/13/05	
1,1-Dichloroethane	BQL	0.00449	0.00258	1	12/13/05	
1,1-Dichloroethene	BQL	0.00449	0.00345	1	12/13/05	
1,2-Dichloroethane	BQL	0.00449	0.00257	1	12/13/05	
cis-1,2-Dichloroethene	BQL	0.00449	0.00221	1	12/13/05	
trans-1,2-dichloroethene	BQL	0.00449	0.00292	1	12/13/05	
1,2-Dichloropropane	BQL	0.00449	0.00230	1	12/13/05	
1,3-Dichloropropane	BQL	0.00449	0.00205	1	12/13/05	
2,2-Dichloropropane	BQL	0.00449	0.00285	1	12/13/05	
1,1-Dichloropropene	BQL	0.00449	0.00324	1	12/13/05	
cis-1,3-Dichloropropene	BQL	0.00449	0.00249	1	12/13/05	
trans-1,3-Dichloropropene	BQL	0.00449	0.00254	1	12/13/05	
Dichlorodifluoromethane	BQL	0.00449	0.00335	1	12/13/05	
Diisopropyl ether (DIPE)	BQL	0.00449	0.00213	1	12/13/05	
Ethylbenzene	BQL	0.00449	0.00273	1	12/13/05	
Hexachlorobutadiene	BQL	0.00449	0.00354	1	12/13/05	

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

Client Sample ID: JP5SB-9
Client Project ID: JP5-Line Area
Lab Sample ID G128-1649-2A
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 11-30-2005 13:15
Date Received: 12/6/05
Matrix: Soil
%Solids: 87.8

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00449	0.00196	1	12/13/05	
Iodomethane	BQL	0.00449	0.00417	1	12/13/05	
Isopropylbenzene	BQL	0.00449	0.00289	1	12/13/05	
4-Isopropyltoluene	BQL	0.00449	0.00305	1	12/13/05	
Methylene chloride	BQL	0.0179	0.00257	1	12/13/05	
4-Methyl-2-pentanone	BQL	0.00449	0.00207	1	12/13/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.00449	0.00228	1	12/13/05	
Naphthalene	0.00332	0.00449	0.00180	1	12/13/05	J
n-Propyl benzene	BQL	0.00449	0.00288	1	12/13/05	
Styrene	BQL	0.00449	0.00321	1	12/13/05	
1,1,1,2-Tetrachloroethane	BQL	0.00449	0.00244	1	12/13/05	
1,1,2,2-Tetrachloroethane	BQL	0.00449	0.00221	1	12/13/05	
Tetrachloroethene	BQL	0.00449	0.00283	1	12/13/05	
Toluene	BQL	0.00449	0.00266	1	12/13/05	
1,2,3-Trichlorobenzene	BQL	0.00449	0.00196	1	12/13/05	
1,2,4-Trichlorobenzene	BQL	0.00449	0.00201	1	12/13/05	
Trichloroethene	BQL	0.00449	0.00280	1	12/13/05	
1,1,1-Trichloroethane	BQL	0.00449	0.00310	1	12/13/05	
1,1,2-Trichloroethane	BQL	0.00449	0.00231	1	12/13/05	
Trichlorofluoromethane	BQL	0.00449	0.00371	1	12/13/05	
1,2,3-Trichloropropane	BQL	0.00449	0.00238	1	12/13/05	
1,2,4-Trimethylbenzene	BQL	0.00449	0.00251	1	12/13/05	
1,3,5-Trimethylbenzene	BQL	0.00449	0.00267	1	12/13/05	
Vinyl chloride	BQL	0.00449	0.00296	1	12/13/05	
m-,p-Xylene	BQL	0.00897	0.00509	1	12/13/05	
o-Xylene	BQL	0.00449	0.00251	1	12/13/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0482	96
1,2-Dichloroethane-d4	0.05	0.0716	143
Toluene-d8	0.05	0.049	98

Comments:**Flags:**

BQL = Below Quantitation Limits.
J = Detected below the quantitation limit.

Reviewed By: 

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

Client Sample ID: JP5SB-5
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-3D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12/1/05 10:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 83.4

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	9.25	1.25	400	12/9/05	
Benzene	BQL	0.370	0.0599	400	12/9/05	
Bromobenzene	BQL	0.370	0.0829	400	12/9/05	
Bromochloromethane	BQL	0.370	0.115	400	12/9/05	
Bromodichloromethane	BQL	0.370	0.0684	400	12/9/05	
Bromoform	BQL	0.370	0.0355	400	12/9/05	
Bromomethane	BQL	0.370	0.0385	400	12/9/05	
2-Butanone	BQL	9.25	0.403	400	12/9/05	
n-Butylbenzene	2.12	0.370	0.101	400	12/9/05	
sec-Butylbenzene	0.769	0.370	0.0869	400	12/9/05	
tert-Butylbenzene	BQL	0.370	0.0673	400	12/9/05	
Carbon disulfide	BQL	0.370	0.0762	400	12/9/05	
Carbon tetrachloride	BQL	0.370	0.0670	400	12/9/05	
Chlorobenzene	BQL	0.370	0.0655	400	12/9/05	
Chloroethane	BQL	0.370	0.154	400	12/9/05	
Chloroform	BQL	0.370	0.0814	400	12/9/05	
Chloromethane	BQL	0.370	0.104	400	12/9/05	
2-Chlorotoluene	BQL	0.370	0.0758	400	12/9/05	
4-Chlorotoluene	BQL	0.370	0.0762	400	12/9/05	
Dibromochloromethane	BQL	0.370	0.0769	400	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	1.85	0.721	400	12/9/05	
Dibromomethane	BQL	0.370	0.102	400	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.370	0.0977	400	12/9/05	
1,2-Dichlorobenzene	BQL	0.370	0.0703	400	12/9/05	
1,3-Dichlorobenzene	BQL	0.370	0.0866	400	12/9/05	
1,4-Dichlorobenzene	BQL	0.370	0.0673	400	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	1.85	0.525	400	12/9/05	
1,1-Dichloroethane	BQL	0.370	0.0795	400	12/9/05	
1,1-Dichloroethene	BQL	0.370	0.0607	400	12/9/05	
1,2-Dichloroethane	BQL	0.370	0.0903	400	12/9/05	
cis-1,2-Dichloroethene	BQL	0.370	0.0651	400	12/9/05	
trans-1,2-dichloroethene	BQL	0.370	0.0851	400	12/9/05	
1,2-Dichloropropane	BQL	0.370	0.0614	400	12/9/05	
1,3-Dichloropropane	BQL	0.370	0.0625	400	12/9/05	
2,2-Dichloropropane	BQL	0.370	0.0884	400	12/9/05	
1,1-Dichloropropene	BQL	0.370	0.0651	400	12/9/05	
cis-1,3-Dichloropropene	BQL	0.370	0.0747	400	12/9/05	
trans-1,3-Dichloropropene	BQL	0.370	0.0440	400	12/9/05	
Dichlorodifluoromethane	BQL	1.85	0.142	400	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.370	0.0869	400	12/9/05	
Ethylbenzene	0.285	0.370	0.0762	400	12/9/05	J
Hexachlorobutadiene	BQL	0.370	0.151	400	12/9/05	

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

Client Sample ID: JP5SB-5
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-3D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12/1/05 10:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 83.4

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	1.85	0.323	400	12/9/05	
Iodomethane	BQL	0.370	0.0477	400	12/9/05	
Isopropylbenzene	0.226	0.370	0.0640	400	12/9/05	J
4-Isopropyltoluene	0.806	0.370	0.0740	400	12/9/05	
Methylene chloride	0.211	1.85	0.0695	400	12/9/05	J
4-Methyl-2-pentanone	BQL	1.85	0.183	400	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.370	0.0792	400	12/9/05	
Naphthalene	5.77	0.370	0.104	400	12/9/05	
n-Propyl benzene	0.566	0.370	0.0781	400	12/9/05	
Styrene	BQL	0.370	0.0884	400	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.370	0.107	400	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.370	0.0947	400	12/9/05	
Tetrachloroethene	BQL	0.370	0.112	400	12/9/05	
Toluene	BQL	0.370	0.0647	400	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.370	0.0736	400	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.370	0.0903	400	12/9/05	
Trichloroethene	BQL	0.370	0.0773	400	12/9/05	
1,1,1-Trichloroethane	BQL	0.370	0.0729	400	12/9/05	
1,1,2-Trichloroethane	BQL	0.370	0.0988	400	12/9/05	
Trichlorofluoromethane	BQL	0.370	0.158	400	12/9/05	
1,2,3-Trichloropropane	BQL	0.370	0.0866	400	12/9/05	
1,2,4-Trimethylbenzene	6.13	0.370	0.0740	400	12/9/05	
1,3,5-Trimethylbenzene	1.42	0.370	0.0692	400	12/9/05	
Vinyl chloride	BQL	0.370	0.148	400	12/9/05	
m-,p-Xylene	0.448	0.740	0.143	400	12/9/05	J
o-Xylene	BQL	0.370	0.0618	400	12/9/05	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.01	0.0104	104		
1,2-Dichloroethane-d4		0.01	0.0111	111		
Toluene-d8		0.01	0.0102	102		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

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

Client Sample ID: JP5SB-2
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-4D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12/1/05 9:00
Date Received: 12/6/05
Matrix: Soil
%Solids: 81.9

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	10.3	1.39	400	12/9/05	
Benzene	BQL	0.411	0.0666	400	12/9/05	
Bromobenzene	BQL	0.411	0.0921	400	12/9/05	
Bromochloromethane	BQL	0.411	0.128	400	12/9/05	
Bromodichloromethane	BQL	0.411	0.0761	400	12/9/05	
Bromoform	BQL	0.411	0.0395	400	12/9/05	
Bromomethane	BQL	0.411	0.0428	400	12/9/05	
2-Butanone	BQL	10.3	0.448	400	12/9/05	
n-Butylbenzene	2.90	0.411	0.112	400	12/9/05	
sec-Butylbenzene	1.06	0.411	0.0966	400	12/9/05	
tert-Butylbenzene	BQL	0.411	0.0748	400	12/9/05	
Carbon disulfide	BQL	0.411	0.0847	400	12/9/05	
Carbon tetrachloride	BQL	0.411	0.0744	400	12/9/05	
Chlorobenzene	BQL	0.411	0.0728	400	12/9/05	
Chloroethane	BQL	0.411	0.171	400	12/9/05	
Chloroform	BQL	0.411	0.0905	400	12/9/05	
Chloromethane	BQL	0.411	0.116	400	12/9/05	
2-Chlorotoluene	BQL	0.411	0.0843	400	12/9/05	
4-Chlorotoluene	BQL	0.411	0.0847	400	12/9/05	
Dibromochloromethane	BQL	0.411	0.0855	400	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	2.06	0.802	400	12/9/05	
Dibromomethane	BQL	0.411	0.113	400	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.411	0.109	400	12/9/05	
1,2-Dichlorobenzene	BQL	0.411	0.0781	400	12/9/05	
1,3-Dichlorobenzene	BQL	0.411	0.0962	400	12/9/05	
1,4-Dichlorobenzene	BQL	0.411	0.0748	400	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	2.06	0.584	400	12/9/05	
1,1-Dichloroethane	BQL	0.411	0.0884	400	12/9/05	
1,1-Dichloroethene	BQL	0.411	0.0674	400	12/9/05	
1,2-Dichloroethane	BQL	0.411	0.100	400	12/9/05	
cis-1,2-Dichloroethene	BQL	0.411	0.0724	400	12/9/05	
trans-1,2-dichloroethene	BQL	0.411	0.0946	400	12/9/05	
1,2-Dichloropropane	BQL	0.411	0.0683	400	12/9/05	
1,3-Dichloropropane	BQL	0.411	0.0695	400	12/9/05	
2,2-Dichloropropane	BQL	0.411	0.0983	400	12/9/05	
1,1-Dichloropropene	BQL	0.411	0.0724	400	12/9/05	
cis-1,3-Dichloropropene	BQL	0.411	0.0831	400	12/9/05	
trans-1,3-Dichloropropene	BQL	0.411	0.0489	400	12/9/05	
Dichlorodifluoromethane	BQL	2.06	0.158	400	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.411	0.0966	400	12/9/05	
Ethylbenzene	0.0905	0.411	0.0847	400	12/9/05	J
Hexachlorobutadiene	BQL	0.411	0.168	400	12/9/05	

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

Client Sample ID: JP5SB-2
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-4D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12/1/05 9:00
Date Received: 12/6/05
Matrix: Soil
%Solids: 81.9

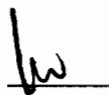
Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	2.06	0.359	400	12/9/05	
Iodomethane	BQL	0.411	0.0531	400	12/9/05	
Isopropylbenzene	0.132	0.411	0.0711	400	12/9/05	J
4-Isopropyltoluene	2.50	0.411	0.0823	400	12/9/05	
Methylene chloride	0.210	2.06	0.0773	400	12/9/05	J
4-Methyl-2-pentanone	BQL	2.06	0.204	400	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.411	0.0880	400	12/9/05	
Naphthalene	4.70	0.411	0.115	400	12/9/05	
n-Propyl benzene	0.382	0.411	0.0868	400	12/9/05	J
Styrene	BQL	0.411	0.0983	400	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.411	0.118	400	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.411	0.105	400	12/9/05	
Tetrachloroethene	BQL	0.411	0.125	400	12/9/05	
Toluene	BQL	0.411	0.0720	400	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.411	0.0818	400	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.411	0.100	400	12/9/05	
Trichloroethene	BQL	0.411	0.0860	400	12/9/05	
1,1,1-Trichloroethane	BQL	0.411	0.0810	400	12/9/05	
1,1,2-Trichloroethane	BQL	0.411	0.110	400	12/9/05	
Trichlorofluoromethane	BQL	0.411	0.176	400	12/9/05	
1,2,3-Trichloropropane	BQL	0.411	0.0962	400	12/9/05	
1,2,4-Trimethylbenzene	4.35	0.411	0.0823	400	12/9/05	
1,3,5-Trimethylbenzene	1.44	0.411	0.0769	400	12/9/05	
Vinyl chloride	BQL	0.411	0.165	400	12/9/05	
m-,p-Xylene	BQL	0.823	0.159	400	12/9/05	
o-Xylene	0.0740	0.411	0.0687	400	12/9/05	J

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.01	0.0108	108
1,2-Dichloroethane-d4	0.01	0.0111	110
Toluene-d8	0.01	0.0103	103

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

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

Client Sample ID: JP5SB-6
Client Project ID: JP5-Line Area
Lab Sample ID G128-1649-5A
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12-01-2005 09:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 91.2

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	0.0518	0.00305	1	12/12/05	
Benzene	BQL	0.00518	0.00295	1	12/12/05	
Bromobenzene	BQL	0.00518	0.00255	1	12/12/05	
Bromochloromethane	BQL	0.00518	0.00302	1	12/12/05	
Bromodichloromethane	BQL	0.00518	0.00294	1	12/12/05	
Bromoform	BQL	0.00518	0.00251	1	12/12/05	
Bromomethane	BQL	0.00518	0.00434	1	12/12/05	
2-Butanone	BQL	0.0259	0.00298	1	12/12/05	
n-Butylbenzene	BQL	0.00518	0.00347	1	12/12/05	
sec-Butylbenzene	BQL	0.00518	0.00363	1	12/12/05	
tert-Butylbenzene	BQL	0.00518	0.00359	1	12/12/05	
Carbon disulfide	BQL	0.00518	0.00272	1	12/12/05	
Carbon tetrachloride	BQL	0.00518	0.00358	1	12/12/05	
Chlorobenzene	BQL	0.00518	0.00260	1	12/12/05	
Chloroethane	BQL	0.00518	0.00325	1	12/12/05	
Chloroform	BQL	0.00518	0.00260	1	12/12/05	
Chloromethane	BQL	0.00518	0.00250	1	12/12/05	
2-Chlorotoluene	BQL	0.00518	0.00309	1	12/12/05	
4-Chlorotoluene	BQL	0.00518	0.00288	1	12/12/05	
Dibromochloromethane	BQL	0.00518	0.00232	1	12/12/05	
1,2-Dibromo-3-chloropropane	BQL	0.00518	0.0110	1	12/12/05	
Dibromomethane	BQL	0.00518	0.00311	1	12/12/05	
1,2-Dibromoethane (EDB)	BQL	0.00518	0.00241	1	12/12/05	
1,2-Dichlorobenzene	BQL	0.00518	0.00250	1	12/12/05	
1,3-Dichlorobenzene	BQL	0.00518	0.00242	1	12/12/05	
1,4-Dichlorobenzene	BQL	0.00518	0.00255	1	12/12/05	
trans-1,4-Dichloro-2-butene	BQL	0.00518	0.0111	1	12/12/05	
1,1-Dichloroethane	BQL	0.00518	0.00298	1	12/12/05	
1,1-Dichloroethene	BQL	0.00518	0.00399	1	12/12/05	
1,2-Dichloroethane	BQL	0.00518	0.00297	1	12/12/05	
cis-1,2-Dichloroethene	BQL	0.00518	0.00255	1	12/12/05	
trans-1,2-dichloroethene	BQL	0.00518	0.00337	1	12/12/05	
1,2-Dichloropropane	BQL	0.00518	0.00265	1	12/12/05	
1,3-Dichloropropane	BQL	0.00518	0.00237	1	12/12/05	
2,2-Dichloropropane	BQL	0.00518	0.00329	1	12/12/05	
1,1-Dichloropropene	BQL	0.00518	0.00374	1	12/12/05	
cis-1,3-Dichloropropene	BQL	0.00518	0.00288	1	12/12/05	
trans-1,3-Dichloropropene	BQL	0.00518	0.00293	1	12/12/05	
Dichlorodifluoromethane	BQL	0.00518	0.00386	1	12/12/05	
Diisopropyl ether (DIPE)	BQL	0.00518	0.00246	1	12/12/05	
Ethylbenzene	BQL	0.00518	0.00315	1	12/12/05	
Hexachlorobutadiene	BQL	0.00518	0.00409	1	12/12/05	

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

Client Sample ID: JP5SB-6
Client Project ID: JP5-Line Area
Lab Sample ID G128-1649-5A
Lab Project ID: G128-1649
Report Basis: Dry Weight

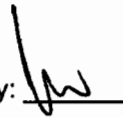
Analyzed By: JTF
Date Collected: 12-01-2005 09:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 91.2

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00518	0.00226	1	12/12/05	
Iodomethane	BQL	0.00518	0.00482	1	12/12/05	
Isopropylbenzene	BQL	0.00518	0.00334	1	12/12/05	
4-Isopropyltoluene	BQL	0.00518	0.00352	1	12/12/05	
Methylene chloride	BQL	0.0207	0.00296	1	12/12/05	
4-Methyl-2-pentanone	BQL	0.00518	0.00239	1	12/12/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.00518	0.00263	1	12/12/05	
Naphthalene	BQL	0.00518	0.00208	1	12/12/05	
n-Propyl benzene	BQL	0.00518	0.00333	1	12/12/05	
Styrene	BQL	0.00518	0.00371	1	12/12/05	
1,1,1,2-Tetrachloroethane	BQL	0.00518	0.00282	1	12/12/05	
1,1,2,2-Tetrachloroethane	BQL	0.00518	0.00255	1	12/12/05	
Tetrachloroethene	BQL	0.00518	0.00326	1	12/12/05	
Toluene	BQL	0.00518	0.00307	1	12/12/05	
1,2,3-Trichlorobenzene	BQL	0.00518	0.00227	1	12/12/05	
1,2,4-Trichlorobenzene	BQL	0.00518	0.00232	1	12/12/05	
Trichloroethene	BQL	0.00518	0.00323	1	12/12/05	
1,1,1-Trichloroethane	BQL	0.00518	0.00357	1	12/12/05	
1,1,2-Trichloroethane	BQL	0.00518	0.00267	1	12/12/05	
Trichlorofluoromethane	BQL	0.00518	0.00428	1	12/12/05	
1,2,3-Trichloropropane	BQL	0.00518	0.00275	1	12/12/05	
1,2,4-Trimethylbenzene	BQL	0.00518	0.00290	1	12/12/05	
1,3,5-Trimethylbenzene	BQL	0.00518	0.00309	1	12/12/05	
Vinyl chloride	BQL	0.00518	0.00342	1	12/12/05	
m-,p-Xylene	BQL	0.0104	0.00587	1	12/12/05	
o-Xylene	BQL	0.00518	0.00290	1	12/12/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.046	92
1,2-Dichloroethane-d4	0.05	0.0719	144
Toluene-d8	0.05	0.0511	102

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

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

Client Sample ID: JP5SB-4
Client Project ID: JP5-Line Area
Lab Sample ID G128-1649-6A
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12-01-2005 09:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 86.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0107	0.0421	0.00248	1	12/9/05	J
Benzene	BQL	0.00421	0.00240	1	12/9/05	
Bromobenzene	BQL	0.00421	0.00207	1	12/9/05	
Bromochloromethane	BQL	0.00421	0.00246	1	12/9/05	
Bromodichloromethane	BQL	0.00421	0.00239	1	12/9/05	
Bromoform	BQL	0.00421	0.00204	1	12/9/05	
Bromomethane	BQL	0.00421	0.00353	1	12/9/05	
2-Butanone	BQL	0.0211	0.00243	1	12/9/05	
n-Butylbenzene	BQL	0.00421	0.00282	1	12/9/05	
sec-Butylbenzene	BQL	0.00421	0.00295	1	12/9/05	
tert-Butylbenzene	BQL	0.00421	0.00292	1	12/9/05	
Carbon disulfide	BQL	0.00421	0.00222	1	12/9/05	
Carbon tetrachloride	BQL	0.00421	0.00291	1	12/9/05	
Chlorobenzene	BQL	0.00421	0.00211	1	12/9/05	
Chloroethane	BQL	0.00421	0.00265	1	12/9/05	
Chloroform	BQL	0.00421	0.00211	1	12/9/05	
Chloromethane	BQL	0.00421	0.00203	1	12/9/05	
2-Chlorotoluene	BQL	0.00421	0.00251	1	12/9/05	
4-Chlorotoluene	BQL	0.00421	0.00234	1	12/9/05	
Dibromochloromethane	BQL	0.00421	0.00189	1	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	0.00421	0.00893	1	12/9/05	
Dibromomethane	BQL	0.00421	0.00253	1	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.00421	0.00196	1	12/9/05	
1,2-Dichlorobenzene	BQL	0.00421	0.00203	1	12/9/05	
1,3-Dichlorobenzene	BQL	0.00421	0.00197	1	12/9/05	
1,4-Dichlorobenzene	BQL	0.00421	0.00207	1	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	0.00421	0.00901	1	12/9/05	
1,1-Dichloroethane	BQL	0.00421	0.00243	1	12/9/05	
1,1-Dichloroethene	BQL	0.00421	0.00324	1	12/9/05	
1,2-Dichloroethane	BQL	0.00421	0.00242	1	12/9/05	
cis-1,2-Dichloroethene	BQL	0.00421	0.00207	1	12/9/05	
trans-1,2-dichloroethene	BQL	0.00421	0.00274	1	12/9/05	
1,2-Dichloropropane	BQL	0.00421	0.00216	1	12/9/05	
1,3-Dichloropropane	BQL	0.00421	0.00193	1	12/9/05	
2,2-Dichloropropane	BQL	0.00421	0.00268	1	12/9/05	
1,1-Dichloropropene	BQL	0.00421	0.00304	1	12/9/05	
cis-1,3-Dichloropropene	BQL	0.00421	0.00234	1	12/9/05	
trans-1,3-Dichloropropene	BQL	0.00421	0.00238	1	12/9/05	
Dichlorodifluoromethane	BQL	0.00421	0.00314	1	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.00421	0.00200	1	12/9/05	
Ethylbenzene	BQL	0.00421	0.00256	1	12/9/05	
Hexachlorobutadiene	BQL	0.00421	0.00333	1	12/9/05	

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

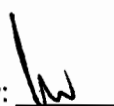
Client Sample ID: JP5SB-4
 Client Project ID: JP5-Line Area
 Lab Sample ID G128-1649-6A
 Lab Project ID: G128-1649
 Report Basis: Dry Weight

Analyzed By: JTF
 Date Collected: 12-01-2005 09:30
 Date Received: 12/6/05
 Matrix: Soil
 %Solids: 86.6

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00421	0.00184	1	12/9/05	
Iodomethane	BQL	0.00421	0.00392	1	12/9/05	
Isopropylbenzene	BQL	0.00421	0.00271	1	12/9/05	
4-Isopropyltoluene	BQL	0.00421	0.00286	1	12/9/05	
Methylene chloride	0.00279	0.0168	0.00241	1	12/9/05	J
4-Methyl-2-pentanone	BQL	0.00421	0.00195	1	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.00421	0.00214	1	12/9/05	
Naphthalene	BQL	0.00421	0.00169	1	12/9/05	
n-Propyl benzene	BQL	0.00421	0.00270	1	12/9/05	
Styrene	BQL	0.00421	0.00302	1	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.00421	0.00229	1	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.00421	0.00207	1	12/9/05	
Tetrachloroethene	BQL	0.00421	0.00265	1	12/9/05	
Toluene	BQL	0.00421	0.00249	1	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.00421	0.00185	1	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.00421	0.00189	1	12/9/05	
Trichloroethene	BQL	0.00421	0.00263	1	12/9/05	
1,1,1-Trichloroethane	BQL	0.00421	0.00291	1	12/9/05	
1,1,2-Trichloroethane	BQL	0.00421	0.00217	1	12/9/05	
Trichlorofluoromethane	BQL	0.00421	0.00348	1	12/9/05	
1,2,3-Trichloropropane	BQL	0.00421	0.00223	1	12/9/05	
1,2,4-Trimethylbenzene	BQL	0.00421	0.00236	1	12/9/05	
1,3,5-Trimethylbenzene	BQL	0.00421	0.00251	1	12/9/05	
Vinyl chloride	BQL	0.00421	0.00278	1	12/9/05	
m-,p-Xylene	BQL	0.00842	0.00478	1	12/9/05	
o-Xylene	BQL	0.00421	0.00236	1	12/9/05	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.05	0.0485	97		
1,2-Dichloroethane-d4		0.05	0.0736	147		
Toluene-d8		0.05	0.051	102		

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

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

Client Sample ID: JP5SB-10
Client Project ID: JP5-Line Area
Lab Sample ID G128-1649-7A
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12-01-2005 11:00
Date Received: 12/6/05
Matrix: Soil
%Solids: 89.3

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0336	0.0508	0.00299	1	12/9/05	J
Benzene	BQL	0.00508	0.00290	1	12/9/05	
Bromobenzene	BQL	0.00508	0.00250	1	12/9/05	
Bromochloromethane	BQL	0.00508	0.00297	1	12/9/05	
Bromodichloromethane	BQL	0.00508	0.00288	1	12/9/05	
Bromoform	BQL	0.00508	0.00246	1	12/9/05	
Bromomethane	BQL	0.00508	0.00426	1	12/9/05	
2-Butanone	0.00397	0.0254	0.00293	1	12/9/05	J
n-Butylbenzene	BQL	0.00508	0.00340	1	12/9/05	
sec-Butylbenzene	BQL	0.00508	0.00356	1	12/9/05	
tert-Butylbenzene	BQL	0.00508	0.00352	1	12/9/05	
Carbon disulfide	BQL	0.00508	0.00267	1	12/9/05	
Carbon tetrachloride	BQL	0.00508	0.00351	1	12/9/05	
Chlorobenzene	BQL	0.00508	0.00255	1	12/9/05	
Chloroethane	BQL	0.00508	0.00319	1	12/9/05	
Chloroform	BQL	0.00508	0.00255	1	12/9/05	
Chloromethane	BQL	0.00508	0.00245	1	12/9/05	
2-Chlorotoluene	BQL	0.00508	0.00303	1	12/9/05	
4-Chlorotoluene	BQL	0.00508	0.00282	1	12/9/05	
Dibromochloromethane	BQL	0.00508	0.00228	1	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	0.00508	0.0108	1	12/9/05	
Dibromomethane	BQL	0.00508	0.00305	1	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.00508	0.00237	1	12/9/05	
1,2-Dichlorobenzene	BQL	0.00508	0.00245	1	12/9/05	
1,3-Dichlorobenzene	BQL	0.00508	0.00238	1	12/9/05	
1,4-Dichlorobenzene	BQL	0.00508	0.00250	1	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	0.00508	0.0109	1	12/9/05	
1,1-Dichloroethane	BQL	0.00508	0.00293	1	12/9/05	
1,1-Dichloroethene	BQL	0.00508	0.00391	1	12/9/05	
1,2-Dichloroethane	BQL	0.00508	0.00292	1	12/9/05	
cis-1,2-Dichloroethene	BQL	0.00508	0.00250	1	12/9/05	
trans-1,2-dichloroethene	BQL	0.00508	0.00330	1	12/9/05	
1,2-Dichloropropane	BQL	0.00508	0.00260	1	12/9/05	
1,3-Dichloropropane	BQL	0.00508	0.00233	1	12/9/05	
2,2-Dichloropropane	BQL	0.00508	0.00323	1	12/9/05	
1,1-Dichloropropene	BQL	0.00508	0.00367	1	12/9/05	
cis-1,3-Dichloropropene	BQL	0.00508	0.00282	1	12/9/05	
trans-1,3-Dichloropropene	BQL	0.00508	0.00287	1	12/9/05	
Dichlorodifluoromethane	BQL	0.00508	0.00379	1	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.00508	0.00241	1	12/9/05	
Ethylbenzene	BQL	0.00508	0.00309	1	12/9/05	
Hexachlorobutadiene	BQL	0.00508	0.00401	1	12/9/05	

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

Client Sample ID: JP5SB-10
 Client Project ID: JP5-Line Area
 Lab Sample ID G128-1649-7A
 Lab Project ID: G128-1649
 Report Basis: Dry Weight

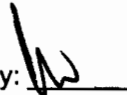
Analyzed By: JTF
 Date Collected: 12-01-2005 11:00
 Date Received: 12/6/05
 Matrix: Soil
 %Solids: 89.3

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00508	0.00221	1	12/9/05	
Iodomethane	BQL	0.00508	0.00472	1	12/9/05	
Isopropylbenzene	BQL	0.00508	0.00327	1	12/9/05	
4-Isopropyltoluene	BQL	0.00508	0.00345	1	12/9/05	
Methylene chloride	BQL	0.0203	0.00291	1	12/9/05	
4-Methyl-2-pentanone	BQL	0.00508	0.00235	1	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.00508	0.00258	1	12/9/05	
Naphthalene	BQL	0.00508	0.00204	1	12/9/05	
n-Propyl benzene	BQL	0.00508	0.00326	1	12/9/05	
Styrene	BQL	0.00508	0.00364	1	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.00508	0.00276	1	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.00508	0.00250	1	12/9/05	
Tetrachloroethene	BQL	0.00508	0.00320	1	12/9/05	
Toluene	BQL	0.00508	0.00301	1	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.00508	0.00222	1	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.00508	0.00228	1	12/9/05	
Trichloroethene	BQL	0.00508	0.00317	1	12/9/05	
1,1,1-Trichloroethane	BQL	0.00508	0.00350	1	12/9/05	
1,1,2-Trichloroethane	BQL	0.00508	0.00262	1	12/9/05	
Trichlorofluoromethane	BQL	0.00508	0.00420	1	12/9/05	
1,2,3-Trichloropropane	BQL	0.00508	0.00269	1	12/9/05	
1,2,4-Trimethylbenzene	BQL	0.00508	0.00284	1	12/9/05	
1,3,5-Trimethylbenzene	BQL	0.00508	0.00303	1	12/9/05	
Vinyl chloride	BQL	0.00508	0.00335	1	12/9/05	
m-,p-Xylene	BQL	0.0102	0.00576	1	12/9/05	
o-Xylene	BQL	0.00508	0.00284	1	12/9/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.051	102
1,2-Dichloroethane-d4	0.05	0.0755	151
Toluene-d8	0.05	0.0511	102

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

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

Client Sample ID: JP5SB-13
Client Project ID: JP5-Line Area
Lab Sample ID G128-1649-8A
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12-01-2005 11:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 81.4

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0190	0.0471	0.00277	1	12/9/05	J
Benzene	BQL	0.00471	0.00269	1	12/9/05	
Bromobenzene	BQL	0.00471	0.00232	1	12/9/05	
Bromochloromethane	BQL	0.00471	0.00275	1	12/9/05	
Bromodichloromethane	BQL	0.00471	0.00268	1	12/9/05	
Bromoform	BQL	0.00471	0.00228	1	12/9/05	
Bromomethane	BQL	0.00471	0.00395	1	12/9/05	
2-Butanone	0.00325	0.0236	0.00271	1	12/9/05	J
n-Butylbenzene	BQL	0.00471	0.00316	1	12/9/05	
sec-Butylbenzene	BQL	0.00471	0.00330	1	12/9/05	
tert-Butylbenzene	BQL	0.00471	0.00327	1	12/9/05	
Carbon disulfide	BQL	0.00471	0.00248	1	12/9/05	
Carbon tetrachloride	BQL	0.00471	0.00326	1	12/9/05	
Chlorobenzene	BQL	0.00471	0.00236	1	12/9/05	
Chloroethane	BQL	0.00471	0.00296	1	12/9/05	
Chloroform	BQL	0.00471	0.00236	1	12/9/05	
Chloromethane	BQL	0.00471	0.00227	1	12/9/05	
2-Chlorotoluene	BQL	0.00471	0.00281	1	12/9/05	
4-Chlorotoluene	BQL	0.00471	0.00262	1	12/9/05	
Dibromochloromethane	BQL	0.00471	0.00211	1	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	0.00471	0.00999	1	12/9/05	
Dibromomethane	BQL	0.00471	0.00283	1	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.00471	0.00220	1	12/9/05	
1,2-Dichlorobenzene	BQL	0.00471	0.00227	1	12/9/05	
1,3-Dichlorobenzene	BQL	0.00471	0.00220	1	12/9/05	
1,4-Dichlorobenzene	BQL	0.00471	0.00232	1	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	0.00471	0.0101	1	12/9/05	
1,1-Dichloroethane	BQL	0.00471	0.00271	1	12/9/05	
1,1-Dichloroethene	BQL	0.00471	0.00363	1	12/9/05	
1,2-Dichloroethane	BQL	0.00471	0.00270	1	12/9/05	
cis-1,2-Dichloroethene	BQL	0.00471	0.00232	1	12/9/05	
trans-1,2-dichloroethene	BQL	0.00471	0.00306	1	12/9/05	
1,2-Dichloropropane	BQL	0.00471	0.00241	1	12/9/05	
1,3-Dichloropropane	BQL	0.00471	0.00216	1	12/9/05	
2,2-Dichloropropane	BQL	0.00471	0.00300	1	12/9/05	
1,1-Dichloropropene	BQL	0.00471	0.00340	1	12/9/05	
cis-1,3-Dichloropropene	BQL	0.00471	0.00262	1	12/9/05	
trans-1,3-Dichloropropene	BQL	0.00471	0.00267	1	12/9/05	
Dichlorodifluoromethane	BQL	0.00471	0.00351	1	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.00471	0.00223	1	12/9/05	
Ethylbenzene	BQL	0.00471	0.00286	1	12/9/05	
Hexachlorobutadiene	BQL	0.00471	0.00372	1	12/9/05	

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

Client Sample ID: JP5SB-13
 Client Project ID: JP5-Line Area
 Lab Sample ID G128-1649-8A
 Lab Project ID: G128-1649
 Report Basis: Dry Weight

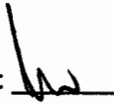
Analyzed By: JTF
 Date Collected: 12-01-2005 11:30
 Date Received: 12/6/05
 Matrix: Soil
 %Solids: 81.4

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00471	0.00205	1	12/9/05	
Iodomethane	BQL	0.00471	0.00438	1	12/9/05	
Isopropylbenzene	BQL	0.00471	0.00303	1	12/9/05	
4-Isopropyltoluene	BQL	0.00471	0.00320	1	12/9/05	
Methylene chloride	0.00376	0.0188	0.00269	1	12/9/05	J
4-Methyl-2-pentanone	BQL	0.00471	0.00218	1	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.00471	0.00239	1	12/9/05	
Naphthalene	BQL	0.00471	0.00189	1	12/9/05	
n-Propyl benzene	BQL	0.00471	0.00302	1	12/9/05	
Styrene	BQL	0.00471	0.00337	1	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.00471	0.00256	1	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.00471	0.00232	1	12/9/05	
Tetrachloroethene	BQL	0.00471	0.00297	1	12/9/05	
Toluene	BQL	0.00471	0.00279	1	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.00471	0.00206	1	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.00471	0.00211	1	12/9/05	
Trichloroethene	BQL	0.00471	0.00294	1	12/9/05	
1,1,1-Trichloroethane	BQL	0.00471	0.00325	1	12/9/05	
1,1,2-Trichloroethane	BQL	0.00471	0.00243	1	12/9/05	
Trichlorofluoromethane	BQL	0.00471	0.00389	1	12/9/05	
1,2,3-Trichloropropane	BQL	0.00471	0.00250	1	12/9/05	
1,2,4-Trimethylbenzene	BQL	0.00471	0.00264	1	12/9/05	
1,3,5-Trimethylbenzene	BQL	0.00471	0.00281	1	12/9/05	
Vinyl chloride	BQL	0.00471	0.00311	1	12/9/05	
m-,p-Xylene	BQL	0.00942	0.00534	1	12/9/05	
o-Xylene	BQL	0.00471	0.00264	1	12/9/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0499	100
1,2-Dichloroethane-d4	0.05	0.0754	151
Toluene-d8	0.05	0.0505	101

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

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

Client Sample ID: JP5SB-7
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-9D
 Lab Project ID: G128-1649
 Report Basis: Dry Weight

Analyzed By: JTF
 Date Collected: 12/1/05 12:00
 Date Received: 12/6/05
 Matrix: Soil
 %Solids: 83.8

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	2.05	0.277	100	12/9/05	
Benzene	BQL	0.0822	0.0133	100	12/9/05	
Bromobenzene	BQL	0.0822	0.0184	100	12/9/05	
Bromochloromethane	BQL	0.0822	0.0256	100	12/9/05	
Bromodichloromethane	BQL	0.0822	0.0152	100	12/9/05	
Bromoform	BQL	0.0822	0.00789	100	12/9/05	
Bromomethane	BQL	0.0822	0.00855	100	12/9/05	
2-Butanone	BQL	2.05	0.0896	100	12/9/05	
n-Butylbenzene	0.656	0.0822	0.0224	100	12/9/05	
sec-Butylbenzene	0.306	0.0822	0.0193	100	12/9/05	
tert-Butylbenzene	BQL	0.0822	0.0150	100	12/9/05	
Carbon disulfide	BQL	0.0822	0.0169	100	12/9/05	
Carbon tetrachloride	BQL	0.0822	0.0149	100	12/9/05	
Chlorobenzene	BQL	0.0822	0.0145	100	12/9/05	
Chloroethane	BQL	0.0822	0.0342	100	12/9/05	
Chloroform	BQL	0.0822	0.0181	100	12/9/05	
Chloromethane	BQL	0.0822	0.0232	100	12/9/05	
2-Chlorotoluene	BQL	0.0822	0.0168	100	12/9/05	
4-Chlorotoluene	BQL	0.0822	0.0169	100	12/9/05	
Dibromochloromethane	BQL	0.0822	0.0171	100	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	0.411	0.160	100	12/9/05	
Dibromomethane	BQL	0.0822	0.0226	100	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.0822	0.0217	100	12/9/05	
1,2-Dichlorobenzene	BQL	0.0822	0.0156	100	12/9/05	
1,3-Dichlorobenzene	BQL	0.0822	0.0192	100	12/9/05	
1,4-Dichlorobenzene	BQL	0.0822	0.0150	100	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	0.411	0.117	100	12/9/05	
1,1-Dichloroethane	BQL	0.0822	0.0177	100	12/9/05	
1,1-Dichloroethene	BQL	0.0822	0.0135	100	12/9/05	
1,2-Dichloroethane	BQL	0.0822	0.0201	100	12/9/05	
cis-1,2-Dichloroethene	BQL	0.0822	0.0145	100	12/9/05	
trans-1,2-dichloroethene	BQL	0.0822	0.0189	100	12/9/05	
1,2-Dichloropropane	BQL	0.0822	0.0136	100	12/9/05	
1,3-Dichloropropane	BQL	0.0822	0.0139	100	12/9/05	
2,2-Dichloropropane	BQL	0.0822	0.0196	100	12/9/05	
1,1-Dichloropropene	BQL	0.0822	0.0145	100	12/9/05	
cis-1,3-Dichloropropene	BQL	0.0822	0.0166	100	12/9/05	
trans-1,3-Dichloropropene	BQL	0.0822	0.00978	100	12/9/05	
Dichlorodifluoromethane	BQL	0.411	0.0316	100	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.0822	0.0193	100	12/9/05	
Ethylbenzene	0.0230	0.0822	0.0169	100	12/9/05	J
Hexachlorobutadiene	BQL	0.0822	0.0336	100	12/9/05	

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

Client Sample ID: JP5SB-7
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-9D
 Lab Project ID: G128-1649
 Report Basis: Dry Weight

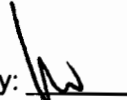
Analyzed By: JTF
 Date Collected: 12/1/05 12:00
 Date Received: 12/6/05
 Matrix: Soil
 %Solids: 83.8

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.411	0.0718	100	12/9/05	
Iodomethane	BQL	0.0822	0.0106	100	12/9/05	
Isopropylbenzene	0.0641	0.0822	0.0142	100	12/9/05	J
4-Isopropyltoluene	0.495	0.0822	0.0164	100	12/9/05	
Methylene chloride	0.0707	0.411	0.0155	100	12/9/05	J
4-Methyl-2-pentanone	BQL	0.411	0.0407	100	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.0822	0.0176	100	12/9/05	
Naphthalene	1.10	0.0822	0.0230	100	12/9/05	
n-Propyl benzene	0.150	0.0822	0.0173	100	12/9/05	
Styrene	BQL	0.0822	0.0196	100	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.0822	0.0237	100	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.0822	0.0210	100	12/9/05	
Tetrachloroethene	BQL	0.0822	0.0250	100	12/9/05	
Toluene	BQL	0.0822	0.0144	100	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.0822	0.0164	100	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.0822	0.0201	100	12/9/05	
Trichloroethene	BQL	0.0822	0.0172	100	12/9/05	
1,1,1-Trichloroethane	BQL	0.0822	0.0162	100	12/9/05	
1,1,2-Trichloroethane	BQL	0.0822	0.0219	100	12/9/05	
Trichlorofluoromethane	BQL	0.0822	0.0352	100	12/9/05	
1,2,3-Trichloropropane	BQL	0.0822	0.0192	100	12/9/05	
1,2,4-Trimethylbenzene	0.902	0.0822	0.0164	100	12/9/05	
1,3,5-Trimethylbenzene	0.155	0.0822	0.0154	100	12/9/05	
Vinyl chloride	BQL	0.0822	0.0329	100	12/9/05	
m-,p-Xylene	BQL	0.164	0.0317	100	12/9/05	
o-Xylene	BQL	0.0822	0.0137	100	12/9/05	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.01	0.011	110		
1,2-Dichloroethane-d4		0.01	0.0108	108		
Toluene-d8		0.01	0.0102	102		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

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

Client Sample ID: JP5SB-3
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-10D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12/1/05 12:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 79.2

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	1.30	0.175	50	12/9/05	
Benzene	BQL	0.0519	0.00841	50	12/9/05	
Bromobenzene	BQL	0.0519	0.0116	50	12/9/05	
Bromochloromethane	BQL	0.0519	0.0162	50	12/9/05	
Bromodichloromethane	BQL	0.0519	0.00960	50	12/9/05	
Bromoform	BQL	0.0519	0.00498	50	12/9/05	
Bromomethane	BQL	0.0519	0.00540	50	12/9/05	
2-Butanone	BQL	1.30	0.0566	50	12/9/05	
n-Butylbenzene	BQL	0.0519	0.0141	50	12/9/05	
sec-Butylbenzene	0.0779	0.0519	0.0122	50	12/9/05	
tert-Butylbenzene	BQL	0.0519	0.00945	50	12/9/05	
Carbon disulfide	BQL	0.0519	0.0107	50	12/9/05	
Carbon tetrachloride	BQL	0.0519	0.00940	50	12/9/05	
Chlorobenzene	BQL	0.0519	0.00919	50	12/9/05	
Chloroethane	BQL	0.0519	0.0216	50	12/9/05	
Chloroform	BQL	0.0519	0.0114	50	12/9/05	
Chloromethane	BQL	0.0519	0.0146	50	12/9/05	
2-Chlorotoluene	BQL	0.0519	0.0106	50	12/9/05	
4-Chlorotoluene	BQL	0.0519	0.0107	50	12/9/05	
Dibromochloromethane	BQL	0.0519	0.0108	50	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	0.260	0.101	50	12/9/05	
Dibromomethane	BQL	0.0519	0.0143	50	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.0519	0.0137	50	12/9/05	
1,2-Dichlorobenzene	BQL	0.0519	0.00986	50	12/9/05	
1,3-Dichlorobenzene	BQL	0.0519	0.0121	50	12/9/05	
1,4-Dichlorobenzene	BQL	0.0519	0.00945	50	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	0.260	0.0737	50	12/9/05	
1,1-Dichloroethane	BQL	0.0519	0.0112	50	12/9/05	
1,1-Dichloroethene	BQL	0.0519	0.00851	50	12/9/05	
1,2-Dichloroethane	BQL	0.0519	0.0127	50	12/9/05	
cis-1,2-Dichloroethene	BQL	0.0519	0.00914	50	12/9/05	
trans-1,2-dichloroethene	BQL	0.0519	0.0119	50	12/9/05	
1,2-Dichloropropane	BQL	0.0519	0.00862	50	12/9/05	
1,3-Dichloropropane	BQL	0.0519	0.00877	50	12/9/05	
2,2-Dichloropropane	BQL	0.0519	0.0124	50	12/9/05	
1,1-Dichloropropene	BQL	0.0519	0.00914	50	12/9/05	
cis-1,3-Dichloropropene	BQL	0.0519	0.0105	50	12/9/05	
trans-1,3-Dichloropropene	BQL	0.0519	0.00618	50	12/9/05	
Dichlorodifluoromethane	BQL	0.260	0.0200	50	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.0519	0.0122	50	12/9/05	
Ethylbenzene	BQL	0.0519	0.0107	50	12/9/05	
Hexachlorobutadiene	BQL	0.0519	0.0212	50	12/9/05	

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

Client Sample ID: JP5SB-3
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-10D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12/1/05 12:30
Date Received: 12/6/05
Matrix: Soil
%Solids: 79.2

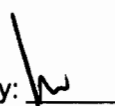
Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.260	0.0454	50	12/9/05	
Iodomethane	BQL	0.0519	0.00670	50	12/9/05	
Isopropylbenzene	0.0145	0.0519	0.00898	50	12/9/05	J
4-Isopropyltoluene	0.0675	0.0519	0.0104	50	12/9/05	
Methylene chloride	0.0483	0.260	0.00976	50	12/9/05	J
4-Methyl-2-pentanone	BQL	0.260	0.0257	50	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.0519	0.0111	50	12/9/05	
Naphthalene	BQL	0.0519	0.0145	50	12/9/05	
n-Propyl benzene	0.0280	0.0519	0.0110	50	12/9/05	J
Styrene	BQL	0.0519	0.0124	50	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.0519	0.0150	50	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.0519	0.0133	50	12/9/05	
Tetrachloroethene	BQL	0.0519	0.0158	50	12/9/05	
Toluene	BQL	0.0519	0.00909	50	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.0519	0.0103	50	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.0519	0.0127	50	12/9/05	
Trichloroethene	BQL	0.0519	0.0109	50	12/9/05	
1,1,1-Trichloroethane	BQL	0.0519	0.0102	50	12/9/05	
1,1,2-Trichloroethane	0.0140	0.0519	0.0139	50	12/9/05	J
Trichlorofluoromethane	BQL	0.0519	0.0222	50	12/9/05	
1,2,3-Trichloropropane	BQL	0.0519	0.0121	50	12/9/05	
1,2,4-Trimethylbenzene	BQL	0.0519	0.0104	50	12/9/05	
1,3,5-Trimethylbenzene	BQL	0.0519	0.00971	50	12/9/05	
Vinyl chloride	BQL	0.0519	0.0208	50	12/9/05	
m-,p-Xylene	BQL	0.104	0.0200	50	12/9/05	
o-Xylene	BQL	0.0519	0.00867	50	12/9/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.01	0.0106	106
1,2-Dichloroethane-d4	0.01	0.0106	106
Toluene-d8	0.01	0.0103	103

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

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

Client Sample ID: JP5SB-12
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-11D
Lab Project ID: G128-1649
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12/1/05 13:00
Date Received: 12/6/05
Matrix: Soil
%Solids: 84.3

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	BQL	23.3	3.14	800	12/9/05	
Benzene	BQL	0.933	0.151	800	12/9/05	
Bromobenzene	BQL	0.933	0.209	800	12/9/05	
Bromochloromethane	BQL	0.933	0.291	800	12/9/05	
Bromodichloromethane	BQL	0.933	0.173	800	12/9/05	
Bromoform	BQL	0.933	0.0895	800	12/9/05	
Bromomethane	BQL	0.933	0.0970	800	12/9/05	
2-Butanone	BQL	23.3	1.02	800	12/9/05	
n-Butylbenzene	11.3	0.933	0.254	800	12/9/05	
sec-Butylbenzene	3.87	0.933	0.219	800	12/9/05	
tert-Butylbenzene	BQL	0.933	0.170	800	12/9/05	
Carbon disulfide	BQL	0.933	0.192	800	12/9/05	
Carbon tetrachloride	BQL	0.933	0.169	800	12/9/05	
Chlorobenzene	BQL	0.933	0.165	800	12/9/05	
Chloroethane	BQL	0.933	0.388	800	12/9/05	
Chloroform	BQL	0.933	0.205	800	12/9/05	
Chloromethane	BQL	0.933	0.263	800	12/9/05	
2-Chlorotoluene	BQL	0.933	0.191	800	12/9/05	
4-Chlorotoluene	BQL	0.933	0.192	800	12/9/05	
Dibromochloromethane	BQL	0.933	0.194	800	12/9/05	
1,2-Dibromo-3-chloropropane	BQL	4.66	1.82	800	12/9/05	
Dibromomethane	BQL	0.933	0.256	800	12/9/05	
1,2-Dibromoethane (EDB)	BQL	0.933	0.246	800	12/9/05	
1,2-Dichlorobenzene	BQL	0.933	0.177	800	12/9/05	
1,3-Dichlorobenzene	BQL	0.933	0.218	800	12/9/05	
1,4-Dichlorobenzene	BQL	0.933	0.170	800	12/9/05	
trans-1,4-Dichloro-2-butene	BQL	4.66	1.32	800	12/9/05	
1,1-Dichloroethane	BQL	0.933	0.200	800	12/9/05	
1,1-Dichloroethene	BQL	0.933	0.153	800	12/9/05	
1,2-Dichloroethane	BQL	0.933	0.228	800	12/9/05	
cis-1,2-Dichloroethene	BQL	0.933	0.164	800	12/9/05	
trans-1,2-dichloroethene	BQL	0.933	0.214	800	12/9/05	
1,2-Dichloropropane	BQL	0.933	0.155	800	12/9/05	
1,3-Dichloropropane	BQL	0.933	0.158	800	12/9/05	
2,2-Dichloropropane	BQL	0.933	0.223	800	12/9/05	
1,1-Dichloropropene	BQL	0.933	0.164	800	12/9/05	
cis-1,3-Dichloropropene	BQL	0.933	0.188	800	12/9/05	
trans-1,3-Dichloropropene	BQL	0.933	0.111	800	12/9/05	
Dichlorodifluoromethane	BQL	4.66	0.359	800	12/9/05	
Diisopropyl ether (DIPE)	BQL	0.933	0.219	800	12/9/05	
Ethylbenzene	0.494	0.933	0.192	800	12/9/05	J
Hexachlorobutadiene	BQL	0.933	0.381	800	12/9/05	

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

Client Sample ID: JP5SB-12
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-11D
Lab Project ID: G128-1649
Report Basis: Dry Weight

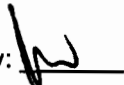
Analyzed By: JTF
Date Collected: 12/1/05 13:00
Date Received: 12/6/05
Matrix: Soil
%Solids: 84.3

Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	4.66	0.815	800	12/9/05	
Iodomethane	BQL	0.933	0.120	800	12/9/05	
Isopropylbenzene	0.970	0.933	0.161	800	12/9/05	
4-Isopropyltoluene	4.13	0.933	0.187	800	12/9/05	
Methylene chloride	0.476	4.66	0.175	800	12/9/05	J
4-Methyl-2-pentanone	BQL	4.66	0.462	800	12/9/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.933	0.200	800	12/9/05	
Naphthalene	20.3	0.933	0.261	800	12/9/05	
n-Propyl benzene	2.30	0.933	0.197	800	12/9/05	
Styrene	BQL	0.933	0.223	800	12/9/05	
1,1,1,2-Tetrachloroethane	BQL	0.933	0.269	800	12/9/05	
1,1,2,2-Tetrachloroethane	BQL	0.933	0.239	800	12/9/05	
Tetrachloroethene	BQL	0.933	0.283	800	12/9/05	
Toluene	BQL	0.933	0.163	800	12/9/05	
1,2,3-Trichlorobenzene	BQL	0.933	0.186	800	12/9/05	
1,2,4-Trichlorobenzene	BQL	0.933	0.228	800	12/9/05	
Trichloroethene	BQL	0.933	0.195	800	12/9/05	
1,1,1-Trichloroethane	BQL	0.933	0.184	800	12/9/05	
1,1,2-Trichloroethane	BQL	0.933	0.249	800	12/9/05	
Trichlorofluoromethane	BQL	0.933	0.399	800	12/9/05	
1,2,3-Trichloropropane	BQL	0.933	0.218	800	12/9/05	
1,2,4-Trimethylbenzene	25.8	0.933	0.187	800	12/9/05	
1,3,5-Trimethylbenzene	6.84	0.933	0.174	800	12/9/05	
Vinyl chloride	BQL	0.933	0.373	800	12/9/05	
m-,p-Xylene	2.05	1.87	0.360	800	12/9/05	
o-Xylene	BQL	0.933	0.156	800	12/9/05	
		Spike Added	Spike Result	Percent Recovered		
4-Bromofluorobenzene		0.01	0.0106	105		
1,2-Dichloroethane-d4		0.01	0.0113	113		
Toluene-d8		0.01	0.0104	104		

Comments:**Flags:**

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: JP5-Line Area

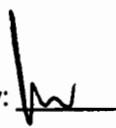
Sample Information and Analytical Results	
Sample Identification	JP5SB-8
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	11/30/05
Date Received	12/06/05
Date Extracted	11/30/05
Date Analyzed	12/10/05
Dry Weight	87
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	73 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	81 (mg/Kg)
Surrogate % Recovery - PID	230***
Surrogate % Recovery - FID	260***

* = 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: g128-1649-1e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-9
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	11/30/05
Date Received	12/06/05
Date Extracted	11/30/05
Date Analyzed	12/10/05
Dry Weight	88
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	93
Surrogate % Recovery - FID	95

* = 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: g128-1649-2e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

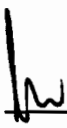
Sample Information and Analytical Results	
Sample Identification	JP5SB-5
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/10/05
Dry Weight	83
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	140 (mg/Kg)
C ₈ -C ₁₀ Aromatics**	250 (mg/Kg)
Surrogate % Recovery - PID	280***
Surrogate % Recovery - FID	630***

* = 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: g128-1649-3e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

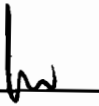
Sample Information and Analytical Results	
Sample Identification	JP5SB-2
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/10/05
Dry Weight	82
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	190 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	330 (mg/Kg)
Surrogate % Recovery - PID	260***
Surrogate % Recovery - FID	730***

* = 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: g128-1649-4e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-6
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/10/05
Dry Weight	91
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	92
Surrogate % Recovery - FID	93

* = 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: g128-1649-5e

Reviewed By: 

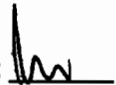
VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-4
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/10/05
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	90
Surrogate % Recovery - FID	99

* = 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: g128-1649-6e

Reviewed By: 

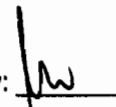
VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-10
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/10/05
Dry Weight	89
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	89
Surrogate % Recovery - FID	94

* = 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: g128-1649-7e

Reviewed By: 

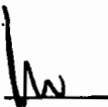
VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-13
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/10/05
Dry Weight	81
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	89
Surrogate % Recovery - FID	92

* = 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: g128-1649-8e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-7
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/10/05
Dry Weight	84
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	53 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	47 (mg/Kg)
Surrogate % Recovery - PID	150***
Surrogate % Recovery - FID	200***

* = 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: g128-1649-9e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

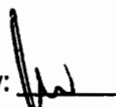
Sample Information and Analytical Results	
Sample Identification	JP5SB-3
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/12/05
Dry Weight	79
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 10 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	40 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	34 (mg/Kg)
Surrogate % Recovery - PID	120
Surrogate % Recovery - FID	140***

* = 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: g128-1649-10e

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

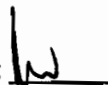
Sample Information and Analytical Results	
Sample Identification	JP5SB-12
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/01/05
Date Analyzed	12/12/05
Dry Weight	84
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	26 (mg/Kg)
C ₉ -C ₁₂ Aliphatics**	400 (mg/Kg)
C ₉ -C ₁₀ Aromatics**	700 (mg/Kg)
Surrogate % Recovery - PID	470***
Surrogate % Recovery - FID	2000***

* = 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: g128-1649-11e

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 10/31/05PID Initial Calibration Date: 10/31/05

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	7.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	1.00	Linear Regression
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	16.20	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/09/05

Calibration Check

Range	Levels (µg/L) (mg/Kg)	RPD
C ₅ -C ₈ Aliphatics	2000 200	2.6
C ₉ -C ₁₂ Aliphatics	500 50	-10.9
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: 10/31/05PID Initial Calibration Date: 10/31/05

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	7.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	1.00	Linear Regression
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	16.20	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/12/05

Calibration Check

Range	Levels (mg/Kg)	(µg/L)	RPD
C ₅ -C ₈ Aliphatics	2000	200	4.6
C ₉ -C ₁₂ Aliphatics	500	50	-7.4
C ₉ -C ₁₀ Aromatics	500	50	10.5

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-8
Sample Matrix	Soil
Date Collected	11/30/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	87
Dilution Factor	2:1
C ₉ -C ₁₈ Aliphatics*	600 (mg/Kg)
C ₁₉ -C ₃₈ Aliphatics*	< 20 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	130 (mg/Kg)
Aliphatic Surrogate % Recovery	94
Aromatic Surrogate % Recovery	84
Fractionation Surrogate 1 % Recovery	90

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-1G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-9
Sample Matrix	Soil
Date Collected	11/30/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/13/05
Dry Weight	87.8
Dilution Factor	1:1
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	78
Aromatic Surrogate % Recovery	72
Fractionation Surrogate 1 % Recovery	71

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-2G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

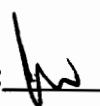
Sample Information and Analytical Results	
Sample Identification	JP5SB-5
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	83.4
Dilution Factor	10:1
C ₉ -C ₁₈ Aliphatics*	1400 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	340 (mg/Kg)
Aliphatic Surrogate % Recovery	NA
Aromatic Surrogate % Recovery	75
Fractionation Surrogate 1 % Recovery	88

Comments:

* = Excludes any surrogates or internal standards.

NA = Non-applicable, surrogate diluted out.

Lab info: G128-1649-3G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

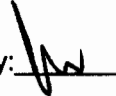
Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-2
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	81.9
Dilution Factor	5:1
C ₉ -C ₁₈ Aliphatics*	1600 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 50 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	220 (mg/Kg)
Aliphatic Surrogate % Recovery	70
Aromatic Surrogate % Recovery	74
Fractionation Surrogate 1 % Recovery	84

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-4G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-6
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	91.2
Dilution Factor	1:1
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	81
Aromatic Surrogate % Recovery	75
Fractionation Surrogate 1 % Recovery	59

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-5G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

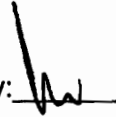
Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-4
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	86.6
Dilution Factor	1:1
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	79
Aromatic Surrogate % Recovery	69
Fractionation Surrogate 1 % Recovery	66

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-6G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

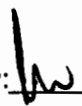
Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-10
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	89.3
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	12 (mg/Kg)
Aliphatic Surrogate % Recovery	83
Aromatic Surrogate % Recovery	80
Fractionation Surrogate 1 % Recovery	69

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-7G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

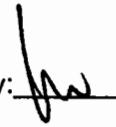
Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-13
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	81.4
Dilution Factor	1:1
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	81
Aromatic Surrogate % Recovery	72
Fractionation Surrogate 1 % Recovery	71

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-8G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

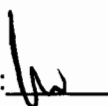
Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-7
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	83.8
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	230 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	32 (mg/Kg)
Aliphatic Surrogate % Recovery	80
Aromatic Surrogate % Recovery	73
Fractionation Surrogate 1 % Recovery	79

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-9G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

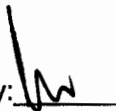
Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

Sample Information and Analytical Results	
Sample Identification	JP5SB-3
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	79.2
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	38 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 10 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	81
Aromatic Surrogate % Recovery	75
Fractionation Surrogate 1 % Recovery	59

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1649-10G

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: JP5-Line Area

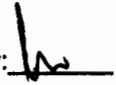
Sample Information and Analytical Results	
Sample Identification	JP5SB-12
Sample Matrix	Soil
Date Collected	12/01/05
Date Received	12/06/05
Date Extracted	12/08/05
Date Analyzed	12/14/05
Dry Weight	84.3
Dilution Factor	10:1
C ₉ -C ₁₈ Aliphatics*	3800 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	650 (mg/Kg)
Aliphatic Surrogate % Recovery	NA
Aromatic Surrogate % Recovery	80
Fractionation Surrogate 1 % Recovery	100

Comments:

* = Excludes any surrogates or internal standards.

NA = Non-applicable, surrogate diluted out.

Lab info: G128-1649-11G

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

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	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/13/05

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	14.5
C ₁₉ -C ₃₆ Aliphatics	160	11.9
C ₁₁ -C ₂₂ Aromatics	340	10.4

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 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

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	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/15/05

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	4.9
C ₁₉ -C ₃₆ Aliphatics	160	10.9
C ₁₁ -C ₂₂ Aromatics	340	0.2

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-8
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-1H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 11/30/2005 13:00
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 86.99

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	0.103	0.355	0.051	1	12/13/2005	J
Acenaphthylene	0.096	0.355	0.047	1	12/13/2005	J
Anthracene	BQL	0.355	0.051	1	12/13/2005	
Benzo[a]anthracene	BQL	0.355	0.061	1	12/13/2005	
Benzo[a]pyrene	BQL	0.355	0.054	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.355	0.062	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.355	0.097	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.355	0.069	1	12/13/2005	
Benzoic Acid	BQL	0.709	0.709	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.355	0.053	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.355	0.043	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.355	0.044	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.355	0.048	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.355	0.060	1	12/13/2005	
Butylbenzylphthalate	BQL	0.355	0.055	1	12/13/2005	
2-Chloronaphthalene	BQL	0.355	0.056	1	12/13/2005	
2-Chlorophenol	BQL	0.355	0.111	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.355	0.111	1	12/13/2005	
4-Chloroaniline	BQL	1.77	0.270	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.355	0.052	1	12/13/2005	
Chrysene	BQL	0.355	0.038	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.355	0.099	1	12/13/2005	
Dibenzofuran	0.163	0.355	0.065	1	12/13/2005	J
Di-n-Butylphthalate	BQL	0.355	0.042	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.355	0.039	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.355	0.039	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.355	0.040	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.709	0.089	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.355	0.128	1	12/13/2005	
Diethylphthalate	BQL	0.355	0.046	1	12/13/2005	
Dimethylphthalate	BQL	0.355	0.043	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.355	0.254	1	12/13/2005	
Di-n-octylphthalate	BQL	0.355	0.059	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.77	0.209	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.77	0.781	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.355	0.046	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.355	0.065	1	12/13/2005	
Diphenylamine *	BQL	0.355	0.035	1	12/13/2005	
Fluoranthene	BQL	0.355	0.050	1	12/13/2005	
Fluorene	0.078	0.355	0.044	1	12/13/2005	J
Hexachlorobenzene	BQL	0.355	0.055	1	12/13/2005	
Hexachlorobutadiene	BQL	0.355	0.057	1	12/13/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-8
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-1H
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 11/30/2005 13:00
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 86.99

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.709	0.037	1	12/13/2005	
Hexachloroethane	BQL	0.355	0.032	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.355	0.091	1	12/13/2005	
Isophorone	BQL	0.355	0.052	1	12/13/2005	
2-Methylnaphthalene	7.04	0.355	0.104	1	12/13/2005	
2-Methylphenol	BQL	0.355	0.125	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.355	0.120	1	12/13/2005	
Naphthalene	2.97	0.355	0.029	1	12/13/2005	
2-Nitroaniline	BQL	0.355	0.056	1	12/13/2005	
3-Nitroaniline	BQL	1.77	0.365	1	12/13/2005	
4-Nitroaniline	BQL	1.77	0.109	1	12/13/2005	
Nitrobenzene	BQL	0.355	0.048	1	12/13/2005	
2-Nitrophenol	BQL	0.355	0.110	1	12/13/2005	
4-Nitrophenol	BQL	1.77	0.098	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.355	0.045	1	12/13/2005	
Pentachlorophenol	BQL	1.77	0.093	1	12/13/2005	
Phenanthrene	BQL	0.355	0.040	1	12/13/2005	
Phenol	BQL	0.355	0.097	1	12/13/2005	
Pyrene	BQL	0.355	0.068	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.355	0.044	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.355	0.137	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.355	0.126	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10.5	105
2-Fluorophenol	10	9.9	99
Nitrobenzene-d5	10	11.4	114
Phenol-d6	10	9.6	96
2,4,6-Tribromophenol	10	9.8	98
4-Terphenyl-d14	10	10.6	106

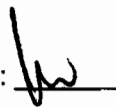
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-9
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-2H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 11/30/2005 13:15
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 87.77

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.351	0.050	1	12/12/2005	
Acenaphthylene	BQL	0.351	0.047	1	12/12/2005	
Anthracene	BQL	0.351	0.051	1	12/12/2005	
Benzo[a]anthracene	BQL	0.351	0.061	1	12/12/2005	
Benzo[a]pyrene	BQL	0.351	0.054	1	12/12/2005	
Benzo[b]fluoranthene	BQL	0.351	0.061	1	12/12/2005	
Benzo[g,h,i]perylene	BQL	0.351	0.095	1	12/12/2005	
Benzo[k]fluoranthene	BQL	0.351	0.068	1	12/12/2005	
Benzoic Acid	BQL	0.701	0.701	1	12/12/2005	
Bis(2-chloroethoxy)methane	BQL	0.351	0.052	1	12/12/2005	
Bis(2-chloroethyl)ether	BQL	0.351	0.042	1	12/12/2005	
Bis(2-chloroisopropyl)ether	BQL	0.351	0.044	1	12/12/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.351	0.047	1	12/12/2005	
4-bromophenyl phenyl ether	BQL	0.351	0.059	1	12/12/2005	
Butylbenzylphthalate	BQL	0.351	0.054	1	12/12/2005	
2-Chloronaphthalene	BQL	0.351	0.055	1	12/12/2005	
2-Chlorophenol	BQL	0.351	0.110	1	12/12/2005	
4-Chloro-3-methylphenol	BQL	0.351	0.109	1	12/12/2005	
4-Chloroaniline	BQL	1.75	0.267	1	12/12/2005	
4-Chlorophenyl phenyl ether	BQL	0.351	0.052	1	12/12/2005	
Chrysene	BQL	0.351	0.038	1	12/12/2005	
Dibenzo[a,h]anthracene	BQL	0.351	0.098	1	12/12/2005	
Dibenzofuran	BQL	0.351	0.064	1	12/12/2005	
Di-n-Butylphthalate	BQL	0.351	0.042	1	12/12/2005	
1,2-Dichlorobenzene	BQL	0.351	0.039	1	12/12/2005	
1,3-Dichlorobenzene	BQL	0.351	0.038	1	12/12/2005	
1,4-Dichlorobenzene	BQL	0.351	0.040	1	12/12/2005	
3,3'-Dichlorobenzidine	BQL	0.701	0.088	1	12/12/2005	
2,4-Dichlorophenol	BQL	0.351	0.126	1	12/12/2005	
Diethylphthalate	BQL	0.351	0.045	1	12/12/2005	
Dimethylphthalate	BQL	0.351	0.042	1	12/12/2005	
2,4-Dimethylphenol	BQL	0.351	0.251	1	12/12/2005	
Di-n-octylphthalate	BQL	0.351	0.058	1	12/12/2005	
4,6-Dinitro-2-methylphenol	BQL	1.75	0.206	1	12/12/2005	
2,4-Dinitrophenol	BQL	1.75	0.772	1	12/12/2005	
2,4-Dinitrotoluene	BQL	0.351	0.046	1	12/12/2005	
2,6-Dinitrotoluene	BQL	0.351	0.064	1	12/12/2005	
Diphenylamine *	BQL	0.351	0.034	1	12/12/2005	
Fluoranthene	BQL	0.351	0.049	1	12/12/2005	
Fluorene	BQL	0.351	0.044	1	12/12/2005	
Hexachlorobenzene	BQL	0.351	0.054	1	12/12/2005	
Hexachlorobutadiene	BQL	0.351	0.056	1	12/12/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-9
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-2H
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 11/30/2005 13:15
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 87.77

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.701	0.036	1	12/12/2005	
Hexachloroethane	BQL	0.351	0.032	1	12/12/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.351	0.090	1	12/12/2005	
Isophorone	BQL	0.351	0.052	1	12/12/2005	
2-Methylnaphthalene	BQL	0.351	0.102	1	12/12/2005	
2-Methylphenol	BQL	0.351	0.123	1	12/12/2005	
3- & 4-Methylphenol	BQL	0.351	0.119	1	12/12/2005	
Naphthalene	BQL	0.351	0.028	1	12/12/2005	
2-Nitroaniline	BQL	0.351	0.055	1	12/12/2005	
3-Nitroaniline	BQL	1.75	0.361	1	12/12/2005	
4-Nitroaniline	BQL	1.75	0.108	1	12/12/2005	
Nitrobenzene	BQL	0.351	0.047	1	12/12/2005	
2-Nitrophenol	BQL	0.351	0.109	1	12/12/2005	
4-Nitrophenol	BQL	1.75	0.097	1	12/12/2005	
N-Nitrosodi-n-propylamine	BQL	0.351	0.045	1	12/12/2005	
Pentachlorophenol	BQL	1.75	0.092	1	12/12/2005	
Phenanthrene	BQL	0.351	0.040	1	12/12/2005	
Phenol	BQL	0.351	0.096	1	12/12/2005	
Pyrene	BQL	0.351	0.067	1	12/12/2005	
1,2,4-Trichlorobenzene	BQL	0.351	0.044	1	12/12/2005	
2,4,5-Trichlorophenol	BQL	0.351	0.136	1	12/12/2005	
2,4,6-Trichlorophenol	BQL	0.351	0.125	1	12/12/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.5	95
2-Fluorophenol	10	9.4	94
Nitrobenzene-d5	10	9.1	91
Phenol-d6	10	9.3	93
2,4,6-Tribromophenol	10	9	90
4-Terphenyl-d14	10	10	100

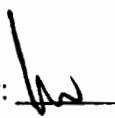
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-5
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-3H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 10:30
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 83.43

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	0.102	0.363	0.052	1	12/13/2005	J
Acenaphthylene	0.189	0.363	0.048	1	12/13/2005	J
Anthracene	BQL	0.363	0.053	1	12/13/2005	
Benzo[a]anthracene	BQL	0.363	0.063	1	12/13/2005	
Benzo[a]pyrene	BQL	0.363	0.056	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.363	0.064	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.363	0.099	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.363	0.070	1	12/13/2005	
Benzoic Acid	BQL	0.727	0.727	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.363	0.054	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.363	0.044	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.363	0.045	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.363	0.049	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.363	0.061	1	12/13/2005	
Butylbenzylphthalate	BQL	0.363	0.056	1	12/13/2005	
2-Chloronaphthalene	BQL	0.363	0.057	1	12/13/2005	
2-Chlorophenol	BQL	0.363	0.114	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.363	0.113	1	12/13/2005	
4-Chloroaniline	BQL	1.82	0.277	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.363	0.053	1	12/13/2005	
Chrysene	BQL	0.363	0.039	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.363	0.102	1	12/13/2005	
Dibenzofuran	0.142	0.363	0.066	1	12/13/2005	J
Di-n-Butylphthalate	BQL	0.363	0.043	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.363	0.040	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.363	0.040	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.363	0.041	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.727	0.092	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.363	0.131	1	12/13/2005	
Diethylphthalate	BQL	0.363	0.047	1	12/13/2005	
Dimethylphthalate	BQL	0.363	0.044	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.363	0.260	1	12/13/2005	
Di-n-octylphthalate	BQL	0.363	0.060	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.82	0.214	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.82	0.800	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.363	0.047	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.363	0.066	1	12/13/2005	
Diphenylamine *	BQL	0.363	0.036	1	12/13/2005	
Fluoranthene	BQL	0.363	0.051	1	12/13/2005	
Fluorene	0.065	0.363	0.045	1	12/13/2005	J
Hexachlorobenzene	BQL	0.363	0.056	1	12/13/2005	
Hexachlorobutadiene	BQL	0.363	0.058	1	12/13/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-5
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-3H
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/1/2005 10:30
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 83.43

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.727	0.037	1	12/13/2005	
Hexachloroethane	BQL	0.363	0.033	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.363	0.093	1	12/13/2005	
Isophorone	BQL	0.363	0.053	1	12/13/2005	
2-Methylnaphthalene	6.39	0.363	0.106	1	12/13/2005	
2-Methylphenol	BQL	0.363	0.128	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.363	0.123	1	12/13/2005	
Naphthalene	2.76	0.363	0.029	1	12/13/2005	
2-Nitroaniline	BQL	0.363	0.057	1	12/13/2005	
3-Nitroaniline	BQL	1.82	0.374	1	12/13/2005	
4-Nitroaniline	BQL	1.82	0.112	1	12/13/2005	
Nitrobenzene	BQL	0.363	0.049	1	12/13/2005	
2-Nitrophenol	BQL	0.363	0.113	1	12/13/2005	
4-Nitrophenol	BQL	1.82	0.101	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.363	0.046	1	12/13/2005	
Pentachlorophenol	BQL	1.82	0.095	1	12/13/2005	
Phenanthrene	BQL	0.363	0.041	1	12/13/2005	
Phenol	BQL	0.363	0.100	1	12/13/2005	
Pyrene	BQL	0.363	0.070	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.363	0.045	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.363	0.141	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.363	0.129	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	10.3	103
2-Fluorophenol	10	10.2	102
Nitrobenzene-d5	10	11.1	111
Phenol-d6	10	9.7	97
2,4,6-Tribromophenol	10	9.8	98
4-Terphenyl-d14	10	10.8	108

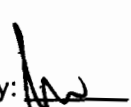
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-2
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-4J
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 9:00
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 81.87

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.381	0.055	1	12/12/2005	
Acenaphthylene	BQL	0.381	0.051	1	12/12/2005	
Anthracene	BQL	0.381	0.055	1	12/12/2005	
Benzo[a]anthracene	BQL	0.381	0.066	1	12/12/2005	
Benzo[a]pyrene	BQL	0.381	0.058	1	12/12/2005	
Benzo[b]fluoranthene	BQL	0.381	0.067	1	12/12/2005	
Benzo[g,h,i]perylene	BQL	0.381	0.104	1	12/12/2005	
Benzo[k]fluoranthene	BQL	0.381	0.074	1	12/12/2005	
Benzoic Acid	BQL	0.762	0.762	1	12/12/2005	
Bis(2-chloroethoxy)methane	BQL	0.381	0.057	1	12/12/2005	
Bis(2-chloroethyl)ether	BQL	0.381	0.046	1	12/12/2005	
Bis(2-chloroisopropyl)ether	BQL	0.381	0.048	1	12/12/2005	
Bis(2-ethylhexyl)phthalate	0.076	0.381	0.051	1	12/12/2005	J
4-bromophenyl phenyl ether	BQL	0.381	0.064	1	12/12/2005	
Butylbenzylphthalate	BQL	0.381	0.059	1	12/12/2005	
2-Chloronaphthalene	BQL	0.381	0.060	1	12/12/2005	
2-Chlorophenol	BQL	0.381	0.119	1	12/12/2005	
4-Chloro-3-methylphenol	BQL	0.381	0.119	1	12/12/2005	
4-Chloroaniline	BQL	1.90	0.290	1	12/12/2005	
4-Chlorophenyl phenyl ether	BQL	0.381	0.056	1	12/12/2005	
Chrysene	BQL	0.381	0.041	1	12/12/2005	
Dibenzo[a,h]anthracene	BQL	0.381	0.107	1	12/12/2005	
Dibenzofuran	BQL	0.381	0.069	1	12/12/2005	
Di-n-Butylphthalate	BQL	0.381	0.045	1	12/12/2005	
1,2-Dichlorobenzene	BQL	0.381	0.042	1	12/12/2005	
1,3-Dichlorobenzene	BQL	0.381	0.042	1	12/12/2005	
1,4-Dichlorobenzene	BQL	0.381	0.043	1	12/12/2005	
3,3'-Dichlorobenzidine	BQL	0.762	0.096	1	12/12/2005	
2,4-Dichlorophenol	BQL	0.381	0.137	1	12/12/2005	
Diethylphthalate	BQL	0.381	0.049	1	12/12/2005	
Dimethylphthalate	BQL	0.381	0.046	1	12/12/2005	
2,4-Dimethylphenol	BQL	0.381	0.272	1	12/12/2005	
Di-n-octylphthalate	BQL	0.381	0.063	1	12/12/2005	
4,6-Dinitro-2-methylphenol	BQL	1.90	0.224	1	12/12/2005	
2,4-Dinitrophenol	BQL	1.90	0.839	1	12/12/2005	
2,4-Dinitrotoluene	BQL	0.381	0.050	1	12/12/2005	
2,6-Dinitrotoluene	BQL	0.381	0.069	1	12/12/2005	
Diphenylamine *	BQL	0.381	0.037	1	12/12/2005	
Fluoranthene	BQL	0.381	0.053	1	12/12/2005	
Fluorene	0.152	0.381	0.047	1	12/12/2005	J
Hexachlorobenzene	BQL	0.381	0.059	1	12/12/2005	
Hexachlorobutadiene	BQL	0.381	0.061	1	12/12/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-2
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-4J
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/1/2005 9:00
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 81.87

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.762	0.039	1	12/12/2005	
Hexachloroethane	BQL	0.381	0.034	1	12/12/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.381	0.098	1	12/12/2005	
Isophorone	BQL	0.381	0.056	1	12/12/2005	
2-Methylnaphthalene	6.49	0.381	0.111	1	12/12/2005	
2-Methylphenol	BQL	0.381	0.134	1	12/12/2005	
3- & 4-Methylphenol	BQL	0.381	0.129	1	12/12/2005	
Naphthalene	2.16	0.381	0.031	1	12/12/2005	
2-Nitroaniline	BQL	0.381	0.060	1	12/12/2005	
3-Nitroaniline	BQL	1.90	0.392	1	12/12/2005	
4-Nitroaniline	BQL	1.90	0.117	1	12/12/2005	
Nitrobenzene	BQL	0.381	0.051	1	12/12/2005	
2-Nitrophenol	BQL	0.381	0.118	1	12/12/2005	
4-Nitrophenol	BQL	1.90	0.106	1	12/12/2005	
N-Nitrosodi-n-propylamine	BQL	0.381	0.048	1	12/12/2005	
Pentachlorophenol	BQL	1.90	0.099	1	12/12/2005	
Phenanthrene	BQL	0.381	0.043	1	12/12/2005	
Phenol	BQL	0.381	0.104	1	12/12/2005	
Pyrene	BQL	0.381	0.073	1	12/12/2005	
1,2,4-Trichlorobenzene	BQL	0.381	0.048	1	12/12/2005	
2,4,5-Trichlorophenol	BQL	0.381	0.147	1	12/12/2005	
2,4,6-Trichlorophenol	BQL	0.381	0.136	1	12/12/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	9.7	97
Nitrobenzene-d5	10	11.7	117
Phenol-d6	10	8.9	89
2,4,6-Tribromophenol	10	11.4	114
4-Terphenyl-d14	10	9.3	93

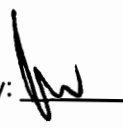
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-6
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-5H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 9:30
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 91.24

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.338	0.048	1	12/13/2005	
Acenaphthylene	BQL	0.338	0.045	1	12/13/2005	
Anthracene	BQL	0.338	0.049	1	12/13/2005	
Benzo[a]anthracene	BQL	0.338	0.059	1	12/13/2005	
Benzo[a]pyrene	BQL	0.338	0.052	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.338	0.059	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.338	0.092	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.338	0.065	1	12/13/2005	
Benzoic Acid	BQL	0.677	0.677	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.338	0.050	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.338	0.041	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.338	0.042	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.338	0.045	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.338	0.057	1	12/13/2005	
Butylbenzylphthalate	BQL	0.338	0.052	1	12/13/2005	
2-Chloronaphthalene	BQL	0.338	0.053	1	12/13/2005	
2-Chlorophenol	BQL	0.338	0.106	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.338	0.106	1	12/13/2005	
4-Chloroaniline	BQL	1.69	0.258	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.338	0.050	1	12/13/2005	
Chrysene	BQL	0.338	0.037	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.338	0.095	1	12/13/2005	
Dibenzofuran	BQL	0.338	0.062	1	12/13/2005	
Di-n-Butylphthalate	BQL	0.338	0.040	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.338	0.038	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.338	0.037	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.338	0.038	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.677	0.085	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.338	0.122	1	12/13/2005	
Diethylphthalate	BQL	0.338	0.044	1	12/13/2005	
Dimethylphthalate	BQL	0.338	0.041	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.338	0.242	1	12/13/2005	
Di-n-octylphthalate	BQL	0.338	0.056	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.69	0.199	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.69	0.745	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.338	0.044	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.338	0.062	1	12/13/2005	
Diphenylamine *	BQL	0.338	0.033	1	12/13/2005	
Fluoranthene	BQL	0.338	0.047	1	12/13/2005	
Fluorene	BQL	0.338	0.042	1	12/13/2005	
Hexachlorobenzene	BQL	0.338	0.052	1	12/13/2005	
Hexachlorobutadiene	BQL	0.338	0.054	1	12/13/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-6
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-5H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 9:30
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 91.24

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.677	0.035	1	12/13/2005	
Hexachloroethane	BQL	0.338	0.031	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.338	0.087	1	12/13/2005	
Isophorone	BQL	0.338	0.050	1	12/13/2005	
2-Methylnaphthalene	BQL	0.338	0.099	1	12/13/2005	
2-Methylphenol	BQL	0.338	0.119	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.338	0.115	1	12/13/2005	
Naphthalene	BQL	0.338	0.027	1	12/13/2005	
2-Nitroaniline	BQL	0.338	0.053	1	12/13/2005	
3-Nitroaniline	BQL	1.69	0.349	1	12/13/2005	
4-Nitroaniline	BQL	1.69	0.104	1	12/13/2005	
Nitrobenzene	BQL	0.338	0.046	1	12/13/2005	
2-Nitrophenol	BQL	0.338	0.105	1	12/13/2005	
4-Nitrophenol	BQL	1.69	0.094	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.338	0.043	1	12/13/2005	
Pentachlorophenol	BQL	1.69	0.088	1	12/13/2005	
Phenanthrene	BQL	0.338	0.039	1	12/13/2005	
Phenol	BQL	0.338	0.093	1	12/13/2005	
Pyrene	BQL	0.338	0.065	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.338	0.042	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.338	0.131	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.338	0.121	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.9	99
2-Fluorophenol	10	9	90
Nitrobenzene-d5	10	9.1	91
Phenol-d6	10	8.8	88
2,4,6-Tribromophenol	10	9.4	94
4-Terphenyl-d14	10	10.6	106

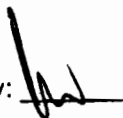
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-4
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-6H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 9:30
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 86.64

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.358	0.051	1	12/13/2005	
Acenaphthylene	BQL	0.358	0.048	1	12/13/2005	
Anthracene	BQL	0.358	0.052	1	12/13/2005	
Benzo[a]anthracene	BQL	0.358	0.062	1	12/13/2005	
Benzo[a]pyrene	BQL	0.358	0.055	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.358	0.063	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.358	0.097	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.358	0.069	1	12/13/2005	
Benzoic Acid	BQL	0.715	0.715	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.358	0.053	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.358	0.043	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.358	0.045	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.358	0.048	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.358	0.060	1	12/13/2005	
Butylbenzylphthalate	BQL	0.358	0.055	1	12/13/2005	
2-Chloronaphthalene	BQL	0.358	0.056	1	12/13/2005	
2-Chlorophenol	BQL	0.358	0.112	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.358	0.112	1	12/13/2005	
4-Chloroaniline	BQL	1.79	0.272	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.358	0.053	1	12/13/2005	
Chrysene	BQL	0.358	0.039	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.358	0.100	1	12/13/2005	
Dibenzofuran	BQL	0.358	0.065	1	12/13/2005	
Di-n-Butylphthalate	BQL	0.358	0.043	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.358	0.040	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.358	0.039	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.358	0.040	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.715	0.090	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.358	0.129	1	12/13/2005	
Diethylphthalate	BQL	0.358	0.046	1	12/13/2005	
Dimethylphthalate	BQL	0.358	0.043	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.358	0.256	1	12/13/2005	
Di-n-octylphthalate	BQL	0.358	0.059	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.79	0.211	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.79	0.787	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.358	0.047	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.358	0.065	1	12/13/2005	
Diphenylamine *	BQL	0.358	0.035	1	12/13/2005	
Fluoranthene	BQL	0.358	0.050	1	12/13/2005	
Fluorene	BQL	0.358	0.044	1	12/13/2005	
Hexachlorobenzene	BQL	0.358	0.055	1	12/13/2005	
Hexachlorobutadiene	BQL	0.358	0.057	1	12/13/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-4
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-6H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 9:30
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 86.64

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.715	0.037	1	12/13/2005	
Hexachloroethane	BQL	0.358	0.032	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.358	0.092	1	12/13/2005	
Isophorone	BQL	0.358	0.053	1	12/13/2005	
2-Methylnaphthalene	BQL	0.358	0.104	1	12/13/2005	
2-Methylphenol	BQL	0.358	0.126	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.358	0.121	1	12/13/2005	
Naphthalene	BQL	0.358	0.029	1	12/13/2005	
2-Nitroaniline	BQL	0.358	0.056	1	12/13/2005	
3-Nitroaniline	BQL	1.79	0.368	1	12/13/2005	
4-Nitroaniline	BQL	1.79	0.110	1	12/13/2005	
Nitrobenzene	BQL	0.358	0.048	1	12/13/2005	
2-Nitrophenol	BQL	0.358	0.111	1	12/13/2005	
4-Nitrophenol	BQL	1.79	0.099	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.358	0.045	1	12/13/2005	
Pentachlorophenol	BQL	1.79	0.093	1	12/13/2005	
Phenanthrene	BQL	0.358	0.041	1	12/13/2005	
Phenol	BQL	0.358	0.098	1	12/13/2005	
Pyrene	BQL	0.358	0.069	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.358	0.045	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.358	0.138	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.358	0.127	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.4	84
2-Fluorophenol	10	9.4	94
Nitrobenzene-d5	10	9	90
Phenol-d6	10	9.4	94
2,4,6-Tribromophenol	10	8.9	89
4-Terphenyl-d14	10	9.3	93

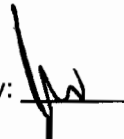
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-10
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-7H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 11:00
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 89.33

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.350	0.050	1	12/13/2005	
Acenaphthylene	BQL	0.350	0.047	1	12/13/2005	
Anthracene	BQL	0.350	0.051	1	12/13/2005	
Benzo[a]anthracene	BQL	0.350	0.061	1	12/13/2005	
Benzo[a]pyrene	BQL	0.350	0.054	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.350	0.061	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.350	0.095	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.350	0.068	1	12/13/2005	
Benzoic Acid	BQL	0.699	0.699	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.350	0.052	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.350	0.042	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.350	0.044	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.350	0.047	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.350	0.059	1	12/13/2005	
Butylbenzylphthalate	BQL	0.350	0.054	1	12/13/2005	
2-Chloronaphthalene	BQL	0.350	0.055	1	12/13/2005	
2-Chlorophenol	BQL	0.350	0.109	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.350	0.109	1	12/13/2005	
4-Chloroaniline	BQL	1.75	0.266	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.350	0.051	1	12/13/2005	
Chrysene	BQL	0.350	0.038	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.350	0.098	1	12/13/2005	
Dibenzofuran	BQL	0.350	0.064	1	12/13/2005	
Di-n-Butylphthalate	BQL	0.350	0.042	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.350	0.039	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.350	0.038	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.350	0.040	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.699	0.088	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.350	0.126	1	12/13/2005	
Diethylphthalate	BQL	0.350	0.045	1	12/13/2005	
Dimethylphthalate	BQL	0.350	0.042	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.350	0.250	1	12/13/2005	
Di-n-octylphthalate	BQL	0.350	0.058	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.75	0.206	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.75	0.770	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.350	0.046	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.350	0.064	1	12/13/2005	
Diphenylamine *	BQL	0.350	0.034	1	12/13/2005	
Fluoranthene	BQL	0.350	0.049	1	12/13/2005	
Fluorene	BQL	0.350	0.043	1	12/13/2005	
Hexachlorobenzene	BQL	0.350	0.054	1	12/13/2005	
Hexachlorobutadiene	BQL	0.350	0.056	1	12/13/2005	

Results for Semivolatiles by GCMS 8270

Client Sample ID: JP5SB-10
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-7H
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/1/2005 11:00
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 89.33

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.699	0.036	1	12/13/2005	
Hexachloroethane	BQL	0.350	0.032	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.350	0.090	1	12/13/2005	
Isophorone	BQL	0.350	0.051	1	12/13/2005	
2-Methylnaphthalene	BQL	0.350	0.102	1	12/13/2005	
2-Methylphenol	BQL	0.350	0.123	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.350	0.119	1	12/13/2005	
Naphthalene	BQL	0.350	0.028	1	12/13/2005	
2-Nitroaniline	BQL	0.350	0.055	1	12/13/2005	
3-Nitroaniline	BQL	1.75	0.360	1	12/13/2005	
4-Nitroaniline	BQL	1.75	0.108	1	12/13/2005	
Nitrobenzene	BQL	0.350	0.047	1	12/13/2005	
2-Nitrophenol	BQL	0.350	0.108	1	12/13/2005	
4-Nitrophenol	BQL	1.75	0.097	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.350	0.044	1	12/13/2005	
Pentachlorophenol	BQL	1.75	0.091	1	12/13/2005	
Phenanthrene	BQL	0.350	0.040	1	12/13/2005	
Phenol	BQL	0.350	0.096	1	12/13/2005	
Pyrene	BQL	0.350	0.067	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.350	0.044	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.350	0.135	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.350	0.124	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.8	88
2-Fluorophenol	10	9.3	93
Nitrobenzene-d5	10	9	90
Phenol-d6	10	9.2	92
2,4,6-Tribromophenol	10	9.3	93
4-Terphenyl-d14	10	9.9	99

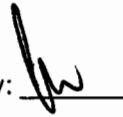
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-13
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-8H
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/1/2005 11:30
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 81.39

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.377	0.054	1	12/13/2005	
Acenaphthylene	BQL	0.377	0.050	1	12/13/2005	
Anthracene	BQL	0.377	0.055	1	12/13/2005	
Benzo[a]anthracene	BQL	0.377	0.065	1	12/13/2005	
Benzo[a]pyrene	BQL	0.377	0.058	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.377	0.066	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.377	0.103	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.377	0.073	1	12/13/2005	
Benzoic Acid	BQL	0.754	0.754	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.377	0.056	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.377	0.046	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.377	0.047	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.377	0.051	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.377	0.064	1	12/13/2005	
Butylbenzylphthalate	BQL	0.377	0.058	1	12/13/2005	
2-Chloronaphthalene	BQL	0.377	0.059	1	12/13/2005	
2-Chlorophenol	BQL	0.377	0.118	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.377	0.118	1	12/13/2005	
4-Chloroaniline	BQL	1.89	0.287	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.377	0.055	1	12/13/2005	
Chrysene	BQL	0.377	0.041	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.377	0.106	1	12/13/2005	
Dibenzofuran	BQL	0.377	0.069	1	12/13/2005	
Di-n-Butylphthalate	BQL	0.377	0.045	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.377	0.042	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.377	0.041	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.377	0.043	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.754	0.095	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.377	0.136	1	12/13/2005	
Diethylphthalate	BQL	0.377	0.049	1	12/13/2005	
Dimethylphthalate	BQL	0.377	0.046	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.377	0.270	1	12/13/2005	
Di-n-octylphthalate	BQL	0.377	0.062	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.89	0.222	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.89	0.830	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.377	0.049	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.377	0.069	1	12/13/2005	
Diphenylamine *	BQL	0.377	0.037	1	12/13/2005	
Fluoranthene	BQL	0.377	0.053	1	12/13/2005	
Fluorene	BQL	0.377	0.047	1	12/13/2005	
Hexachlorobenzene	BQL	0.377	0.058	1	12/13/2005	
Hexachlorobutadiene	BQL	0.377	0.060	1	12/13/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-13
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-8H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 11:30
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 81.39

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.754	0.039	1	12/13/2005	
Hexachloroethane	BQL	0.377	0.034	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.377	0.097	1	12/13/2005	
Isophorone	BQL	0.377	0.055	1	12/13/2005	
2-Methylnaphthalene	BQL	0.377	0.110	1	12/13/2005	
2-Methylphenol	BQL	0.377	0.133	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.377	0.128	1	12/13/2005	
Naphthalene	BQL	0.377	0.031	1	12/13/2005	
2-Nitroaniline	BQL	0.377	0.059	1	12/13/2005	
3-Nitroaniline	BQL	1.89	0.388	1	12/13/2005	
4-Nitroaniline	BQL	1.89	0.116	1	12/13/2005	
Nitrobenzene	BQL	0.377	0.051	1	12/13/2005	
2-Nitrophenol	BQL	0.377	0.117	1	12/13/2005	
4-Nitrophenol	BQL	1.89	0.104	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.377	0.048	1	12/13/2005	
Pentachlorophenol	BQL	1.89	0.098	1	12/13/2005	
Phenanthrene	BQL	0.377	0.043	1	12/13/2005	
Phenol	BQL	0.377	0.103	1	12/13/2005	
Pyrene	BQL	0.377	0.072	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.377	0.047	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.377	0.146	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.377	0.134	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.8	88
2-Fluorophenol	10	10.2	102
Nitrobenzene-d5	10	9.4	94
Phenol-d6	10	10.3	103
2,4,6-Tribromophenol	10	9.4	94
4-Terphenyl-d14	10	10.1	101

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-7
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-9H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 12:00
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 83.8

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.368	0.053	1	12/13/2005	
Acenaphthylene	BQL	0.368	0.049	1	12/13/2005	
Anthracene	BQL	0.368	0.053	1	12/13/2005	
Benzo[a]anthracene	BQL	0.368	0.064	1	12/13/2005	
Benzo[a]pyrene	BQL	0.368	0.056	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.368	0.064	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.368	0.100	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.368	0.071	1	12/13/2005	
Benzoic Acid	BQL	0.736	0.736	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.368	0.055	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.368	0.045	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.368	0.046	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.368	0.049	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.368	0.062	1	12/13/2005	
Butylbenzylphthalate	BQL	0.368	0.057	1	12/13/2005	
2-Chloronaphthalene	BQL	0.368	0.058	1	12/13/2005	
2-Chlorophenol	BQL	0.368	0.115	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.368	0.115	1	12/13/2005	
4-Chloroaniline	BQL	1.84	0.280	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.368	0.054	1	12/13/2005	
Chrysene	BQL	0.368	0.040	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.368	0.103	1	12/13/2005	
Dibenzofuran	BQL	0.368	0.067	1	12/13/2005	
Di-n-Butylphthalate	BQL	0.368	0.044	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.368	0.041	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.368	0.040	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.368	0.042	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.736	0.093	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.368	0.132	1	12/13/2005	
Diethylphthalate	BQL	0.368	0.048	1	12/13/2005	
Dimethylphthalate	BQL	0.368	0.045	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.368	0.263	1	12/13/2005	
Di-n-octylphthalate	BQL	0.368	0.061	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.84	0.217	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.84	0.810	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.368	0.048	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.368	0.067	1	12/13/2005	
Diphenylamine *	BQL	0.368	0.036	1	12/13/2005	
Fluoranthene	BQL	0.368	0.052	1	12/13/2005	
Fluorene	BQL	0.368	0.046	1	12/13/2005	
Hexachlorobenzene	BQL	0.368	0.057	1	12/13/2005	
Hexachlorobutadiene	BQL	0.368	0.059	1	12/13/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-7
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-9H
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/1/2005 12:00
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 83.8

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.736	0.038	1	12/13/2005	
Hexachloroethane	BQL	0.368	0.033	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.368	0.094	1	12/13/2005	
Isophorone	BQL	0.368	0.054	1	12/13/2005	
2-Methylnaphthalene	1.11	0.368	0.107	1	12/13/2005	
2-Methylphenol	BQL	0.368	0.129	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.368	0.125	1	12/13/2005	
Naphthalene	0.397	0.368	0.030	1	12/13/2005	
2-Nitroaniline	BQL	0.368	0.058	1	12/13/2005	
3-Nitroaniline	BQL	1.84	0.379	1	12/13/2005	
4-Nitroaniline	BQL	1.84	0.113	1	12/13/2005	
Nitrobenzene	BQL	0.368	0.050	1	12/13/2005	
2-Nitrophenol	BQL	0.368	0.114	1	12/13/2005	
4-Nitrophenol	BQL	1.84	0.102	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.368	0.047	1	12/13/2005	
Pentachlorophenol	BQL	1.84	0.096	1	12/13/2005	
Phenanthrene	BQL	0.368	0.042	1	12/13/2005	
Phenol	BQL	0.368	0.101	1	12/13/2005	
Pyrene	BQL	0.368	0.071	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.368	0.046	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.368	0.142	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.368	0.131	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.4	84
2-Fluorophenol	10	9.6	96
Nitrobenzene-d5	10	9	90
Phenol-d6	10	9.7	97
2,4,6-Tribromophenol	10	10.3	103
4-Terphenyl-d14	10	9.3	93

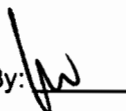
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-3
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-10H
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 12:30
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 79.2

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.388	0.056	1	12/13/2005	
Acenaphthylene	BQL	0.388	0.052	1	12/13/2005	
Anthracene	BQL	0.388	0.056	1	12/13/2005	
Benzo[a]anthracene	BQL	0.388	0.067	1	12/13/2005	
Benzo[a]pyrene	BQL	0.388	0.059	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.388	0.068	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.388	0.106	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.388	0.075	1	12/13/2005	
Benzoic Acid	BQL	0.777	0.777	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.388	0.058	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.388	0.047	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.388	0.049	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.388	0.052	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.388	0.066	1	12/13/2005	
Butylbenzylphthalate	BQL	0.388	0.060	1	12/13/2005	
2-Chloronaphthalene	BQL	0.388	0.061	1	12/13/2005	
2-Chlorophenol	BQL	0.388	0.122	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.388	0.121	1	12/13/2005	
4-Chloroaniline	BQL	1.94	0.296	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.388	0.057	1	12/13/2005	
Chrysene	BQL	0.388	0.042	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.388	0.109	1	12/13/2005	
Dibenzofuran	BQL	0.388	0.071	1	12/13/2005	
Di-n-Butylphthalate	BQL	0.388	0.046	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.388	0.043	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.388	0.042	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.388	0.044	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.777	0.098	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.388	0.140	1	12/13/2005	
Diethylphthalate	BQL	0.388	0.050	1	12/13/2005	
Dimethylphthalate	BQL	0.388	0.047	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.388	0.278	1	12/13/2005	
Di-n-octylphthalate	BQL	0.388	0.064	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.94	0.229	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.94	0.855	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.388	0.051	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.388	0.071	1	12/13/2005	
Diphenylamine *	BQL	0.388	0.038	1	12/13/2005	
Fluoranthene	BQL	0.388	0.054	1	12/13/2005	
Fluorene	BQL	0.388	0.048	1	12/13/2005	
Hexachlorobenzene	BQL	0.388	0.060	1	12/13/2005	
Hexachlorobutadiene	BQL	0.388	0.062	1	12/13/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-3
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-10H
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/1/2005 12:30
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 79.2

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.777	0.040	1	12/13/2005	
Hexachloroethane	BQL	0.388	0.035	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.388	0.099	1	12/13/2005	
Isophorone	BQL	0.388	0.057	1	12/13/2005	
2-Methylnaphthalene	BQL	0.388	0.113	1	12/13/2005	
2-Methylphenol	BQL	0.388	0.137	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.388	0.132	1	12/13/2005	
Naphthalene	BQL	0.388	0.032	1	12/13/2005	
2-Nitroaniline	BQL	0.388	0.061	1	12/13/2005	
3-Nitroaniline	BQL	1.94	0.400	1	12/13/2005	
4-Nitroaniline	BQL	1.94	0.120	1	12/13/2005	
Nitrobenzene	BQL	0.388	0.052	1	12/13/2005	
2-Nitrophenol	BQL	0.388	0.120	1	12/13/2005	
4-Nitrophenol	BQL	1.94	0.108	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.388	0.049	1	12/13/2005	
Pentachlorophenol	BQL	1.94	0.101	1	12/13/2005	
Phenanthrene	BQL	0.388	0.044	1	12/13/2005	
Phenol	BQL	0.388	0.106	1	12/13/2005	
Pyrene	BQL	0.388	0.075	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.388	0.049	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.388	0.150	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.388	0.138	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.2	72
2-Fluorophenol	10	9.2	92
Nitrobenzene-d5	10	8.3	83
Phenol-d6	10	9.4	94
2,4,6-Tribromophenol	10	8.3	83
4-Terphenyl-d14	10	8.8	88

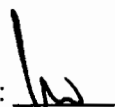
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-12
 Client Project ID: JP5-Line Area
 Lab Sample ID: G128-1649-111
 Lab Project ID: G128-1649
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/1/2005 13:00
 Date Received: 12/6/2005
 Date Extracted: 12/9/2005
 Matrix: Soil
 % Solids: 84.27

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	0.287	0.363	0.052	1	12/13/2005	J
Acenaphthylene	BQL	0.363	0.048	1	12/13/2005	
Anthracene	BQL	0.363	0.053	1	12/13/2005	
Benzo[a]anthracene	BQL	0.363	0.063	1	12/13/2005	
Benzo[a]pyrene	BQL	0.363	0.056	1	12/13/2005	
Benzo[b]fluoranthene	BQL	0.363	0.064	1	12/13/2005	
Benzo[g,h,i]perylene	BQL	0.363	0.099	1	12/13/2005	
Benzo[k]fluoranthene	BQL	0.363	0.070	1	12/13/2005	
Benzoic Acid	BQL	0.727	0.727	1	12/13/2005	
Bis(2-chloroethoxy)methane	BQL	0.363	0.054	1	12/13/2005	
Bis(2-chloroethyl)ether	BQL	0.363	0.044	1	12/13/2005	
Bis(2-chloroisopropyl)ether	BQL	0.363	0.045	1	12/13/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.363	0.049	1	12/13/2005	
4-bromophenyl phenyl ether	BQL	0.363	0.061	1	12/13/2005	
Butylbenzylphthalate	BQL	0.363	0.056	1	12/13/2005	
2-Chloronaphthalene	BQL	0.363	0.057	1	12/13/2005	
2-Chlorophenol	BQL	0.363	0.114	1	12/13/2005	
4-Chloro-3-methylphenol	BQL	0.363	0.113	1	12/13/2005	
4-Chloroaniline	BQL	1.82	0.277	1	12/13/2005	
4-Chlorophenyl phenyl ether	BQL	0.363	0.053	1	12/13/2005	
Chrysene	BQL	0.363	0.039	1	12/13/2005	
Dibenzo[a,h]anthracene	BQL	0.363	0.102	1	12/13/2005	
Dibenzofuran	BQL	0.363	0.066	1	12/13/2005	
Di-n-Butylphthalate	BQL	0.363	0.043	1	12/13/2005	
1,2-Dichlorobenzene	BQL	0.363	0.040	1	12/13/2005	
1,3-Dichlorobenzene	BQL	0.363	0.040	1	12/13/2005	
1,4-Dichlorobenzene	BQL	0.363	0.041	1	12/13/2005	
3,3'-Dichlorobenzidine	BQL	0.727	0.092	1	12/13/2005	
2,4-Dichlorophenol	BQL	0.363	0.131	1	12/13/2005	
Diethylphthalate	BQL	0.363	0.047	1	12/13/2005	
Dimethylphthalate	BQL	0.363	0.044	1	12/13/2005	
2,4-Dimethylphenol	BQL	0.363	0.260	1	12/13/2005	
Di-n-octylphthalate	BQL	0.363	0.060	1	12/13/2005	
4,6-Dinitro-2-methylphenol	BQL	1.82	0.214	1	12/13/2005	
2,4-Dinitrophenol	BQL	1.82	0.800	1	12/13/2005	
2,4-Dinitrotoluene	BQL	0.363	0.047	1	12/13/2005	
2,6-Dinitrotoluene	BQL	0.363	0.066	1	12/13/2005	
Diphenylamine *	BQL	0.363	0.036	1	12/13/2005	
Fluoranthene	BQL	0.363	0.051	1	12/13/2005	
Fluorene	0.367	0.363	0.045	1	12/13/2005	
Hexachlorobenzene	BQL	0.363	0.056	1	12/13/2005	
Hexachlorobutadiene	BQL	0.363	0.058	1	12/13/2005	

Results for Semivolatiles by GCMS 8270

Client Sample ID: JP5SB-12
Client Project ID: JP5-Line Area
Lab Sample ID: G128-1649-111
Lab Project ID: G128-1649
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/1/2005 13:00
Date Received: 12/6/2005
Date Extracted: 12/9/2005
Matrix: Soil
% Solids: 84.27

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.727	0.037	1	12/13/2005	
Hexachloroethane	BQL	0.363	0.033	1	12/13/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.363	0.093	1	12/13/2005	
Isophorone	BQL	0.363	0.053	1	12/13/2005	
2-Methylnaphthalene	16.6	0.363	0.106	1	12/13/2005	
2-Methylphenol	BQL	0.363	0.128	1	12/13/2005	
3- & 4-Methylphenol	BQL	0.363	0.123	1	12/13/2005	
Naphthalene	8.94	0.363	0.029	1	12/13/2005	
2-Nitroaniline	BQL	0.363	0.057	1	12/13/2005	
3-Nitroaniline	BQL	1.82	0.374	1	12/13/2005	
4-Nitroaniline	BQL	1.82	0.112	1	12/13/2005	
Nitrobenzene	BQL	0.363	0.049	1	12/13/2005	
2-Nitrophenol	BQL	0.363	0.113	1	12/13/2005	
4-Nitrophenol	BQL	1.82	0.101	1	12/13/2005	
N-Nitrosodi-n-propylamine	BQL	0.363	0.046	1	12/13/2005	
Pentachlorophenol	BQL	1.82	0.095	1	12/13/2005	
Phenanthrene	BQL	0.363	0.041	1	12/13/2005	
Phenol	BQL	0.363	0.100	1	12/13/2005	
Pyrene	BQL	0.363	0.070	1	12/13/2005	
1,2,4-Trichlorobenzene	BQL	0.363	0.045	1	12/13/2005	
2,4,5-Trichlorophenol	BQL	0.363	0.141	1	12/13/2005	
2,4,6-Trichlorophenol	BQL	0.363	0.129	1	12/13/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	10.9	109
Nitrobenzene-d5	10	11.2	112
Phenol-d6	10	9.4	94
2,4,6-Tribromophenol	10	12.4	124
4-Terphenyl-d14	10	9.2	92

Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

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.

Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

Page 1 of 2

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Report To: CATLIN WILM.

Invoice To: CATLIN WILM

N/C CERTIFICATION #481

ORIGINAL

Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 52698

Page 2 of 2

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Report To: CATLIN WILM

Invoice To: CATLIN WILM

PARADIGM ANALYTICAL LABORATORIES, INC.

Sample ID	Date	Time	Matrix	Preservatives				Analyses								Comments: Please specify any special reporting requirements		
				SOD. BI.	METH	ICE		Seal 0928	VPH	KPH/BZD								
PSSB-12	12/1	100	S					✓	✓	✓								G128-1649

ORIGINAL

INC CERTIFICATION #481

Mr. Jeff Becken
Richard Catlin & Associates
P.O. Box 10280
Wilmington NC 28404-0280

Report Number: G128-1653

Client Project: JPS Fuelline

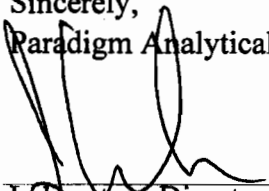
Dear Mr. Becken:

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 Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using 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,
Paradigm Analytical Laboratories, Inc.



Laboratory Director
J. Patrick Weaver

12/22/05

Date

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

Client Sample ID: JP5SB-1
Client Project ID: JPS Fuelline
Lab Sample ID G128-1653-1A
Lab Project ID: G128-1653
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12-08-2005 15:00
Date Received: 12/9/05
Matrix: Soil
%Solids: 89.5

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0136	0.0467	0.00275	1	12/20/05	J
Benzene	BQL	0.00467	0.00266	1	12/20/05	
Bromobenzene	BQL	0.00467	0.00230	1	12/20/05	
Bromochloromethane	BQL	0.00467	0.00273	1	12/20/05	
Bromodichloromethane	BQL	0.00467	0.00265	1	12/20/05	
Bromoform	BQL	0.00467	0.00226	1	12/20/05	
Bromomethane	BQL	0.00467	0.00391	1	12/20/05	
2-Butanone	BQL	0.0234	0.00269	1	12/20/05	
n-Butylbenzene	BQL	0.00467	0.00313	1	12/20/05	
sec-Butylbenzene	BQL	0.00467	0.00327	1	12/20/05	
tert-Butylbenzene	BQL	0.00467	0.00324	1	12/20/05	
Carbon disulfide	BQL	0.00467	0.00246	1	12/20/05	
Carbon tetrachloride	BQL	0.00467	0.00323	1	12/20/05	
Chlorobenzene	BQL	0.00467	0.00234	1	12/20/05	
Chloroethane	BQL	0.00467	0.00293	1	12/20/05	
Chloroform	BQL	0.00467	0.00234	1	12/20/05	
Chloromethane	BQL	0.00467	0.00225	1	12/20/05	
2-Chlorotoluene	BQL	0.00467	0.00278	1	12/20/05	
4-Chlorotoluene	BQL	0.00467	0.00260	1	12/20/05	
Dibromochloromethane	BQL	0.00467	0.00209	1	12/20/05	
1,2-Dibromo-3-chloropropane	BQL	0.00467	0.00990	1	12/20/05	
Dibromomethane	BQL	0.00467	0.00280	1	12/20/05	
1,2-Dibromoethane (EDB)	BQL	0.00467	0.00218	1	12/20/05	
1,2-Dichlorobenzene	BQL	0.00467	0.00225	1	12/20/05	
1,3-Dichlorobenzene	BQL	0.00467	0.00219	1	12/20/05	
1,4-Dichlorobenzene	BQL	0.00467	0.00230	1	12/20/05	
trans-1,4-Dichloro-2-butene	BQL	0.00467	0.0100	1	12/20/05	
1,1-Dichloroethane	BQL	0.00467	0.00269	1	12/20/05	
1,1-Dichloroethene	BQL	0.00467	0.00360	1	12/20/05	
1,2-Dichloroethane	BQL	0.00467	0.00268	1	12/20/05	
cis-1,2-Dichloroethene	BQL	0.00467	0.00230	1	12/20/05	
trans-1,2-dichloroethene	BQL	0.00467	0.00304	1	12/20/05	
1,2-Dichloropropane	BQL	0.00467	0.00239	1	12/20/05	
1,3-Dichloropropane	BQL	0.00467	0.00214	1	12/20/05	
2,2-Dichloropropane	BQL	0.00467	0.00297	1	12/20/05	
1,1-Dichloropropene	BQL	0.00467	0.00337	1	12/20/05	
cis-1,3-Dichloropropene	BQL	0.00467	0.00260	1	12/20/05	
trans-1,3-Dichloropropene	BQL	0.00467	0.00264	1	12/20/05	
Dichlorodifluoromethane	BQL	0.00467	0.00348	1	12/20/05	
Diisopropyl ether (DIPE)	BQL	0.00467	0.00221	1	12/20/05	
Ethylbenzene	BQL	0.00467	0.00284	1	12/20/05	
Hexachlorobutadiene	BQL	0.00467	0.00369	1	12/20/05	

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

Client Sample ID: JP5SB-1
 Client Project ID: JPS Fuelline
 Lab Sample ID G128-1653-1A
 Lab Project ID: G128-1653
 Report Basis: Dry Weight

Analyzed By: JTF
 Date Collected: 12-08-2005 15:00
 Date Received: 12/9/05
 Matrix: Soil
 %Solids: 89.5

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00467	0.00204	1	12/20/05	
Iodomethane	BQL	0.00467	0.00434	1	12/20/05	
Isopropylbenzene	BQL	0.00467	0.00301	1	12/20/05	
4-Isopropyltoluene	BQL	0.00467	0.00318	1	12/20/05	
Methylene chloride	0.00276	0.0187	0.00267	1	12/20/05	J
4-Methyl-2-pentanone	BQL	0.00467	0.00216	1	12/20/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.00467	0.00237	1	12/20/05	
Naphthalene	BQL	0.00467	0.00188	1	12/20/05	
n-Propyl benzene	BQL	0.00467	0.00300	1	12/20/05	
Styrene	BQL	0.00467	0.00334	1	12/20/05	
1,1,1,2-Tetrachloroethane	BQL	0.00467	0.00254	1	12/20/05	
1,1,2,2-Tetrachloroethane	BQL	0.00467	0.00230	1	12/20/05	
Tetrachloroethene	BQL	0.00467	0.00294	1	12/20/05	
Toluene	BQL	0.00467	0.00277	1	12/20/05	
1,2,3-Trichlorobenzene	BQL	0.00467	0.00205	1	12/20/05	
1,2,4-Trichlorobenzene	BQL	0.00467	0.00209	1	12/20/05	
Trichloroethene	BQL	0.00467	0.00291	1	12/20/05	
1,1,1-Trichloroethane	BQL	0.00467	0.00322	1	12/20/05	
1,1,2-Trichloroethane	BQL	0.00467	0.00241	1	12/20/05	
Trichlorofluoromethane	BQL	0.00467	0.00386	1	12/20/05	
1,2,3-Trichloropropane	BQL	0.00467	0.00248	1	12/20/05	
1,2,4-Trimethylbenzene	BQL	0.00467	0.00262	1	12/20/05	
1,3,5-Trimethylbenzene	BQL	0.00467	0.00278	1	12/20/05	
Vinyl chloride	BQL	0.00467	0.00308	1	12/20/05	
m-,p-Xylene	BQL	0.00934	0.00530	1	12/20/05	
o-Xylene	BQL	0.00467	0.00262	1	12/20/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.0476	95
1,2-Dichloroethane-d4	0.05	0.0813	163
Toluene-d8	0.05	0.0498	100

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

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

Client Sample ID: JP5SB-11
Client Project ID: JPS Fuelline
Lab Sample ID G128-1653-2A
Lab Project ID: G128-1653
Report Basis: Dry Weight

Analyzed By: JTF
Date Collected: 12-08-2005 11:40
Date Received: 12/9/05
Matrix: Soil
%Solids: 89.5

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
Acetone	0.0229	0.0616	0.00362	1	12/20/05	J
Benzene	BQL	0.00616	0.00351	1	12/20/05	
Bromobenzene	BQL	0.00616	0.00303	1	12/20/05	
Bromochloromethane	BQL	0.00616	0.00360	1	12/20/05	
Bromodichloromethane	BQL	0.00616	0.00350	1	12/20/05	
Bromoform	BQL	0.00616	0.00298	1	12/20/05	
Bromomethane	BQL	0.00616	0.00516	1	12/20/05	
2-Butanone	0.00401	0.0308	0.00355	1	12/20/05	J
n-Butylbenzene	BQL	0.00616	0.00412	1	12/20/05	
sec-Butylbenzene	BQL	0.00616	0.00431	1	12/20/05	
tert-Butylbenzene	BQL	0.00616	0.00427	1	12/20/05	
Carbon disulfide	0.00356	0.00616	0.00324	1	12/20/05	J
Carbon tetrachloride	BQL	0.00616	0.00426	1	12/20/05	
Chlorobenzene	BQL	0.00616	0.00309	1	12/20/05	
Chloroethane	BQL	0.00616	0.00387	1	12/20/05	
Chloroform	BQL	0.00616	0.00309	1	12/20/05	
Chloromethane	BQL	0.00616	0.00297	1	12/20/05	
2-Chlorotoluene	BQL	0.00616	0.00367	1	12/20/05	
4-Chlorotoluene	BQL	0.00616	0.00342	1	12/20/05	
Dibromochloromethane	BQL	0.00616	0.00276	1	12/20/05	
1,2-Dibromo-3-chloropropane	BQL	0.00616	0.0131	1	12/20/05	
Dibromomethane	BQL	0.00616	0.00369	1	12/20/05	
1,2-Dibromoethane (EDB)	BQL	0.00616	0.00287	1	12/20/05	
1,2-Dichlorobenzene	BQL	0.00616	0.00297	1	12/20/05	
1,3-Dichlorobenzene	BQL	0.00616	0.00288	1	12/20/05	
1,4-Dichlorobenzene	BQL	0.00616	0.00303	1	12/20/05	
trans-1,4-Dichloro-2-butene	BQL	0.00616	0.0132	1	12/20/05	
1,1-Dichloroethane	BQL	0.00616	0.00355	1	12/20/05	
1,1-Dichloroethene	BQL	0.00616	0.00474	1	12/20/05	
1,2-Dichloroethane	BQL	0.00616	0.00353	1	12/20/05	
cis-1,2-Dichloroethene	BQL	0.00616	0.00303	1	12/20/05	
trans-1,2-dichloroethene	BQL	0.00616	0.00400	1	12/20/05	
1,2-Dichloropropane	BQL	0.00616	0.00315	1	12/20/05	
1,3-Dichloropropane	BQL	0.00616	0.00282	1	12/20/05	
2,2-Dichloropropane	BQL	0.00616	0.00392	1	12/20/05	
1,1-Dichloropropene	BQL	0.00616	0.00444	1	12/20/05	
cis-1,3-Dichloropropene	BQL	0.00616	0.00342	1	12/20/05	
trans-1,3-Dichloropropene	BQL	0.00616	0.00348	1	12/20/05	
Dichlorodifluoromethane	BQL	0.00616	0.00459	1	12/20/05	
Diisopropyl ether (DIPE)	BQL	0.00616	0.00292	1	12/20/05	
Ethylbenzene	BQL	0.00616	0.00374	1	12/20/05	
Hexachlorobutadiene	BQL	0.00616	0.00486	1	12/20/05	

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

Client Sample ID: JP5SB-11
 Client Project ID: JPS Fuelline
 Lab Sample ID G128-1653-2A
 Lab Project ID: G128-1653
 Report Basis: Dry Weight

Analyzed By: JTF
 Date Collected: 12-08-2005 11:40
 Date Received: 12/9/05
 Matrix: Soil
 %Solids: 89.5

Report Name Compound	Result MG/KG	Quantitation Limit MG/KG	MDL MG/KG	Dilution Factor	Date Analyzed	Flag
2-Hexanone	BQL	0.00616	0.00268	1	12/20/05	
Iodomethane	BQL	0.00616	0.00573	1	12/20/05	
Isopropylbenzene	BQL	0.00616	0.00396	1	12/20/05	
4-Isopropyltoluene	BQL	0.00616	0.00419	1	12/20/05	
Methylene chloride	BQL	0.0246	0.00352	1	12/20/05	
4-Methyl-2-pentanone	BQL	0.00616	0.00284	1	12/20/05	
Methyl-tert-butyl ether (MTBE)	BQL	0.00616	0.00313	1	12/20/05	
Naphthalene	BQL	0.00616	0.00247	1	12/20/05	
n-Propyl benzene	BQL	0.00616	0.00395	1	12/20/05	
Styrene	BQL	0.00616	0.00441	1	12/20/05	
1,1,1,2-Tetrachloroethane	BQL	0.00616	0.00335	1	12/20/05	
1,1,2,2-Tetrachloroethane	BQL	0.00616	0.00303	1	12/20/05	
Tetrachloroethene	BQL	0.00616	0.00388	1	12/20/05	
Toluene	BQL	0.00616	0.00364	1	12/20/05	
1,2,3-Trichlorobenzene	BQL	0.00616	0.00270	1	12/20/05	
1,2,4-Trichlorobenzene	BQL	0.00616	0.00276	1	12/20/05	
Trichloroethene	BQL	0.00616	0.00384	1	12/20/05	
1,1,1-Trichloroethane	BQL	0.00616	0.00425	1	12/20/05	
1,1,2-Trichloroethane	BQL	0.00616	0.00318	1	12/20/05	
Trichlorofluoromethane	BQL	0.00616	0.00508	1	12/20/05	
1,2,3-Trichloropropane	BQL	0.00616	0.00326	1	12/20/05	
1,2,4-Trimethylbenzene	BQL	0.00616	0.00345	1	12/20/05	
1,3,5-Trimethylbenzene	BQL	0.00616	0.00367	1	12/20/05	
Vinyl chloride	BQL	0.00616	0.00406	1	12/20/05	
m-,p-Xylene	BQL	0.0123	0.00698	1	12/20/05	
o-Xylene	BQL	0.00616	0.00345	1	12/20/05	

	Spike Added	Spike Result	Percent Recovered
4-Bromofluorobenzene	0.05	0.047	94
1,2-Dichloroethane-d4	0.05	0.0792	158
Toluene-d8	0.05	0.0492	98

Comments:**Flags:**

BQL = Below Quantitation Limits.

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JPS Fuelline

Sample Information and Analytical Results	
Sample Identification	JP5SB-1
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/08/05
Date Analyzed	12/16/05
Dry Weight	90
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	100
Surrogate % Recovery - FID	120

* = 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: g128-1653-1e

Reviewed By: 

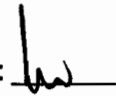
VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: JPS Fuelline

Sample Information and Analytical Results	
Sample Identification	JP5SB-11
Sample Matrix	Soil
Collection Option (for Soil)*	2
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/08/05
Date Analyzed	12/16/05
Dry Weight	89
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	100
Surrogate % Recovery - FID	100

* = 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: g128-1653-2e

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 10/31/05PID Initial Calibration Date: 10/31/05

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	7.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	1.00	Linear Regression
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	16.20	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/16/05

Calibration Check

Range	Levels (mg/Kg)	(µg/L)	RPD
C ₅ -C ₈ Aliphatics	2000	200	6.9
C ₉ -C ₁₂ Aliphatics	500	50	-7.7
C ₉ -C ₁₀ Aromatics	500	50	7.6

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 (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: JPS Fuelline

Sample Information and Analytical Results	
Sample Identification	JP5SB-1
Sample Matrix	Soil
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/13/05
Date Analyzed	12/16/05
Dry Weight	89.5
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	20 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	13 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	94
Aromatic Surrogate % Recovery	91
Fractionation Surrogate 1 % Recovery	66

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1653-1G

Reviewed By: WJ

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

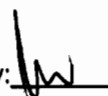
Client Name: Richard Catlin & AssociatesProject Name: JPS Fuelline

Sample Information and Analytical Results	
Sample Identification	JP5SB-11
Sample Matrix	Soil
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/13/05
Date Analyzed	12/16/05
Dry Weight	89.5
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 10 (mg/Kg)
C ₁₉ -C ₃₆ Aliphatics*	16 (mg/Kg)
C ₁₁ -C ₂₂ Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	99
Aromatic Surrogate % Recovery	88
Fractionation Surrogate 1 % Recovery	77

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1653-2G

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

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	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/16/05

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	4.3
C ₁₉ -C ₃₆ Aliphatics	160	2.8
C ₁₁ -C ₂₂ Aromatics	340	8.3

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 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

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	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/15/05

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	4.9
C ₁₉ -C ₃₆ Aliphatics	160	10.9
C ₁₁ -C ₂₂ Aromatics	340	0.2

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-1
Client Project ID: JPS Fuelline
Lab Sample ID: G128-1653-1H
Lab Project ID: G128-1653
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/8/2005 15:00
Date Received: 12/9/2005
Date Extracted: 12/22/2005
Matrix: Soil
% Solids: 89.5

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.339	0.049	1	12/23/2005	
Acenaphthylene	BQL	0.339	0.045	1	12/23/2005	
Anthracene	BQL	0.339	0.049	1	12/23/2005	
Benzo[a]anthracene	BQL	0.339	0.059	1	12/23/2005	
Benzo[a]pyrene	BQL	0.339	0.052	1	12/23/2005	
Benzo[b]fluoranthene	BQL	0.339	0.059	1	12/23/2005	
Benzo[g,h,i]perylene	BQL	0.339	0.092	1	12/23/2005	
Benzo[k]fluoranthene	BQL	0.339	0.065	1	12/23/2005	
Benzoic Acid	BQL	0.678	0.678	1	12/23/2005	
Bis(2-chloroethoxy)methane	BQL	0.339	0.051	1	12/23/2005	
Bis(2-chloroethyl)ether	BQL	0.339	0.041	1	12/23/2005	
Bis(2-chloroisopropyl)ether	BQL	0.339	0.042	1	12/23/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.339	0.045	1	12/23/2005	
4-bromophenyl phenyl ether	BQL	0.339	0.057	1	12/23/2005	
Butylbenzylphthalate	BQL	0.339	0.052	1	12/23/2005	
2-Chloronaphthalene	BQL	0.339	0.053	1	12/23/2005	
2-Chlorophenol	BQL	0.339	0.106	1	12/23/2005	
4-Chloro-3-methylphenol	BQL	0.339	0.106	1	12/23/2005	
4-Chloroaniline	BQL	1.69	0.258	1	12/23/2005	
4-Chlorophenyl phenyl ether	BQL	0.339	0.050	1	12/23/2005	
Chrysene	BQL	0.339	0.037	1	12/23/2005	
Dibenzo[a,h]anthracene	BQL	0.339	0.095	1	12/23/2005	
Dibenzofuran	BQL	0.339	0.062	1	12/23/2005	
Di-n-Butylphthalate	BQL	0.339	0.040	1	12/23/2005	
1,2-Dichlorobenzene	BQL	0.339	0.038	1	12/23/2005	
1,3-Dichlorobenzene	BQL	0.339	0.037	1	12/23/2005	
1,4-Dichlorobenzene	BQL	0.339	0.038	1	12/23/2005	
3,3'-Dichlorobenzidine	BQL	0.678	0.085	1	12/23/2005	
2,4-Dichlorophenol	BQL	0.339	0.122	1	12/23/2005	
Diethylphthalate	BQL	0.339	0.044	1	12/23/2005	
Dimethylphthalate	BQL	0.339	0.041	1	12/23/2005	
2,4-Dimethylphenol	BQL	0.339	0.242	1	12/23/2005	
Di-n-octylphthalate	BQL	0.339	0.056	1	12/23/2005	
4,6-Dinitro-2-methylphenol	BQL	1.69	0.200	1	12/23/2005	
2,4-Dinitrophenol	BQL	1.69	0.746	1	12/23/2005	
2,4-Dinitrotoluene	BQL	0.339	0.044	1	12/23/2005	
2,6-Dinitrotoluene	BQL	0.339	0.062	1	12/23/2005	
Diphenylamine *	BQL	0.339	0.033	1	12/23/2005	
Fluoranthene	BQL	0.339	0.048	1	12/23/2005	
Fluorene	BQL	0.339	0.042	1	12/23/2005	
Hexachlorobenzene	BQL	0.339	0.052	1	12/23/2005	
Hexachlorobutadiene	BQL	0.339	0.054	1	12/23/2005	

Results for Semivolatiles by GCMS 8270

Client Sample ID: JP5SB-1
 Client Project ID: JPS Fuelline
 Lab Sample ID: G128-1653-1H
 Lab Project ID: G128-1653
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/8/2005 15:00
 Date Received: 12/9/2005
 Date Extracted: 12/22/2005
 Matrix: Soil
 % Solids: 89.5

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.678	0.035	1	12/23/2005	
Hexachloroethane	BQL	0.339	0.031	1	12/23/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.339	0.087	1	12/23/2005	
Isophorone	BQL	0.339	0.050	1	12/23/2005	
2-Methylnaphthalene	BQL	0.339	0.099	1	12/23/2005	
2-Methylphenol	BQL	0.339	0.119	1	12/23/2005	
3- & 4-Methylphenol	BQL	0.339	0.115	1	12/23/2005	
Naphthalene	BQL	0.339	0.028	1	12/23/2005	
2-Nitroaniline	BQL	0.339	0.053	1	12/23/2005	
3-Nitroaniline	BQL	1.69	0.349	1	12/23/2005	
4-Nitroaniline	BQL	1.69	0.104	1	12/23/2005	
Nitrobenzene	BQL	0.339	0.046	1	12/23/2005	
2-Nitrophenol	BQL	0.339	0.105	1	12/23/2005	
4-Nitrophenol	BQL	1.69	0.094	1	12/23/2005	
N-Nitrosodi-n-propylamine	BQL	0.339	0.043	1	12/23/2005	
Pentachlorophenol	BQL	1.69	0.089	1	12/23/2005	
Phenanthrene	BQL	0.339	0.039	1	12/23/2005	
Phenol	BQL	0.339	0.093	1	12/23/2005	
Pyrene	BQL	0.339	0.065	1	12/23/2005	
1,2,4-Trichlorobenzene	BQL	0.339	0.042	1	12/23/2005	
2,4,5-Trichlorophenol	BQL	0.339	0.131	1	12/23/2005	
2,4,6-Trichlorophenol	BQL	0.339	0.121	1	12/23/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.6	96
2-Fluorophenol	10	8.8	88
Nitrobenzene-d5	10	8.8	88
Phenol-d6	10	8.7	87
2,4,6-Tribromophenol	10	8.8	88
4-Terphenyl-d14	10	11.7	117

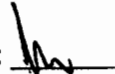
Comments:

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

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-11
Client Project ID: JPS Fuelline
Lab Sample ID: G128-1653-2H
Lab Project ID: G128-1653
Report Basis: Dry weight

Analyzed By: MRC
Date Collected: 12/8/2005 11:40
Date Received: 12/9/2005
Date Extracted: 12/22/2005
Matrix: Soil
% Solids: 89.45

Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	0.335	0.048	1	12/23/2005	
Acenaphthylene	BQL	0.335	0.045	1	12/23/2005	
Anthracene	BQL	0.335	0.049	1	12/23/2005	
Benzo[a]anthracene	BQL	0.335	0.058	1	12/23/2005	
Benzo[a]pyrene	BQL	0.335	0.051	1	12/23/2005	
Benzo[b]fluoranthene	BQL	0.335	0.059	1	12/23/2005	
Benzo[g,h,i]perylene	BQL	0.335	0.091	1	12/23/2005	
Benzo[k]fluoranthene	BQL	0.335	0.065	1	12/23/2005	
Benzoic Acid	BQL	0.670	0.670	1	12/23/2005	
Bis(2-chloroethoxy)methane	BQL	0.335	0.050	1	12/23/2005	
Bis(2-chloroethyl)ether	BQL	0.335	0.041	1	12/23/2005	
Bis(2-chloroisopropyl)ether	BQL	0.335	0.042	1	12/23/2005	
Bis(2-ethylhexyl)phthalate	BQL	0.335	0.045	1	12/23/2005	
4-bromophenyl phenyl ether	BQL	0.335	0.057	1	12/23/2005	
Butylbenzylphthalate	BQL	0.335	0.052	1	12/23/2005	
2-Chloronaphthalene	BQL	0.335	0.053	1	12/23/2005	
2-Chlorophenol	BQL	0.335	0.105	1	12/23/2005	
4-Chloro-3-methylphenol	BQL	0.335	0.104	1	12/23/2005	
4-Chloroaniline	BQL	1.67	0.255	1	12/23/2005	
4-Chlorophenyl phenyl ether	BQL	0.335	0.049	1	12/23/2005	
Chrysene	BQL	0.335	0.036	1	12/23/2005	
Dibenzo[a,h]anthracene	BQL	0.335	0.094	1	12/23/2005	
Dibenzofuran	BQL	0.335	0.061	1	12/23/2005	
Di-n-Butylphthalate	BQL	0.335	0.040	1	12/23/2005	
1,2-Dichlorobenzene	BQL	0.335	0.037	1	12/23/2005	
1,3-Dichlorobenzene	BQL	0.335	0.037	1	12/23/2005	
1,4-Dichlorobenzene	BQL	0.335	0.038	1	12/23/2005	
3,3'-Dichlorobenzidine	BQL	0.670	0.084	1	12/23/2005	
2,4-Dichlorophenol	BQL	0.335	0.121	1	12/23/2005	
Diethylphthalate	BQL	0.335	0.043	1	12/23/2005	
Dimethylphthalate	BQL	0.335	0.041	1	12/23/2005	
2,4-Dimethylphenol	BQL	0.335	0.239	1	12/23/2005	
Di-n-octylphthalate	BQL	0.335	0.055	1	12/23/2005	
4,6-Dinitro-2-methylphenol	BQL	1.67	0.197	1	12/23/2005	
2,4-Dinitrophenol	BQL	1.67	0.737	1	12/23/2005	
2,4-Dinitrotoluene	BQL	0.335	0.044	1	12/23/2005	
2,6-Dinitrotoluene	BQL	0.335	0.061	1	12/23/2005	
Diphenylamine *	BQL	0.335	0.033	1	12/23/2005	
Fluoranthene	BQL	0.335	0.047	1	12/23/2005	
Fluorene	BQL	0.335	0.042	1	12/23/2005	
Hexachlorobenzene	BQL	0.335	0.052	1	12/23/2005	
Hexachlorobutadiene	BQL	0.335	0.054	1	12/23/2005	

**Results for Semivolatiles
by GCMS 8270**

Client Sample ID: JP5SB-11
 Client Project ID: JPS Fuelline
 Lab Sample ID: G128-1653-2H
 Lab Project ID: G128-1653
 Report Basis: Dry weight

Analyzed By: MRC
 Date Collected: 12/8/2005 11:40
 Date Received: 12/9/2005
 Date Extracted: 12/22/2005
 Matrix: Soil
 % Solids: 89.45

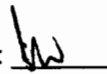
Compound	Result mg/Kg	Quantitation Limit mg/Kg	MDL mg/Kg	Dilution Factor	Date Analyzed	Flag
Hexachlorocyclopentadiene	BQL	0.670	0.035	1	12/23/2005	
Hexachloroethane	BQL	0.335	0.030	1	12/23/2005	
Indeno(1,2,3-c,d)pyrene	BQL	0.335	0.086	1	12/23/2005	
Isophorone	BQL	0.335	0.049	1	12/23/2005	
2-Methylnaphthalene	BQL	0.335	0.098	1	12/23/2005	
2-Methylphenol	BQL	0.335	0.118	1	12/23/2005	
3- & 4-Methylphenol	BQL	0.335	0.114	1	12/23/2005	
Naphthalene	BQL	0.335	0.027	1	12/23/2005	
2-Nitroaniline	BQL	0.335	0.053	1	12/23/2005	
3-Nitroaniline	BQL	1.67	0.345	1	12/23/2005	
4-Nitroaniline	BQL	1.67	0.103	1	12/23/2005	
Nitrobenzene	BQL	0.335	0.045	1	12/23/2005	
2-Nitrophenol	BQL	0.335	0.104	1	12/23/2005	
4-Nitrophenol	BQL	1.67	0.093	1	12/23/2005	
N-Nitrosodi-n-propylamine	BQL	0.335	0.043	1	12/23/2005	
Pentachlorophenol	BQL	1.67	0.087	1	12/23/2005	
Phenanthrene	BQL	0.335	0.038	1	12/23/2005	
Phenol	BQL	0.335	0.092	1	12/23/2005	
Pyrene	BQL	0.335	0.064	1	12/23/2005	
1,2,4-Trichlorobenzene	BQL	0.335	0.042	1	12/23/2005	
2,4,5-Trichlorophenol	BQL	0.335	0.130	1	12/23/2005	
2,4,6-Trichlorophenol	BQL	0.335	0.119	1	12/23/2005	
		Spike Added	Spike Result	Percent Recovered		
2-Fluorobiphenyl		10	9.1	91		
2-Fluorophenol		10	8.9	89		
Nitrobenzene-d5		10	9	90		
Phenol-d6		10	8.9	89		
2,4,6-Tribromophenol		10	9.4	94		
4-Terphenyl-d14		10	11.1	111		

Comments:

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

Flags:

BQL = Below Quantitation Limits.
 J = Detected below the quantitation limit.

Reviewed By: 

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

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.

Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

Page 1 of 1

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Invoice To: Caitlin Wilmington

~~N.C. CERTIFICATION #481~~

ORIGINAL

APPENDIX B

WELL CONSTRUCTION RECORDS & BORING LOGS INSTALLED IN 2005/2006

**BORING LOGS FOR SOIL BORINGS INSTALLED BY CATLIN AS PART OF THIS
REPORT**

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-01
		DRILLER:	
NORTHING:	EASTING:	CREW: Michele Croot	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 3.5
START DATE: 12/08/05	FINISH DATE: 12/08/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
0.0			0 1000 2000 3000 4000				0.0	LAND SURFACE	
							0.3	Brown, clayey SAND and topsoil with grassy vegetation.	
		▲.1							
1.0							1.0	Brown, slightly plastic, clayey, very fine to fine SAND.	
		▲3.1							
2.0								Dark brown, slightly plastic, clayey, fine to medium SAND with organic debris. Slight HCO.	
		▲3.4		2-3			2.5		
3.0								Same as above with grey sandy CLAY, redox features. Wet at 3.5 ft. depth. Slight HCO.	
3.5							3.5	Boring Terminated at Depth 3.5 ft	

▽ = 0hr. DTW

▼ = 24hr. DTW

CATLIN\ENVIRO.LOG-204-103.JP-5 LINE AREA.GPJ CATLIN.GDT 01/24/06

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-02
		DRILLER:	
NORTHING: 355,313.5	EASTING: 2,465,536.6	CREW: Chris Obrian	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 3.8
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.3	Asphalt	
			▲476.6				0.8	Tan, compacted, fine to medium, SAND with some medium sized gravel. No HCO.	
1.0							1.8	Tan, silty, fine to medium, SAND with organic debris. No HCO.	
2.0							2.5	Black organic layer of wood debris. Mild HCO.	
			3811▲	2-3			3.8	Black with tan mottles, very fine to fine, very plastic CLAY with some organic debris. Moist to wet at 3.75 ft. depth. HCO.	
3.0			▲1904						
3.8								Boring Terminated at Depth 3.8 ft	

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA GEL CATLIN.GDI 01/24/06

▽ = 0hr. DTW

▼ = 24hr. DTW

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS

204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-03
		DRILLER:	
NORTHING: 355,284.6	EASTING: 2,465,527.1	CREW: Chris Obrian	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 6.0
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.1	Dark brown CLAY with grassy debris.	
			▲202						
1.0								Gray with some tan mottles, very fine to fine, sandy, slightly plastic CLAY. No HCO.	
			▲205						
2.0							2.0		
							2.5	Gray, fine to medium, well sorted SAND. No HCO	
			▲3280						
							3.0	Black, very fine to fine, very plastic CLAY. No HCO	
3.0									
			▲1493						
4.0								Dark gray with some tan mottling, very fine to fine, very plastic CLAY. Mild HCO.	
			▲1993						
5.0							5.0		
			4594▲	5-6				Gray with purple and tan mottles, very fine to fine, very plastic CLAY. Wet at 6 ft. depth. Mild HCO.	
6.0							6.0		
								Boring Terminated at Depth 6.0 ft	

▽ = 0hr. DTW

▼ = 24hr. DTW

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA GEL CATLIN.GDI 01/24/06

BORING LOG

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204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-04
		DRILLER:	
NORTHING: 355,276.4	EASTING: 2,465,515.1	CREW: Chris Obrian	
SYSTEM:		BORING LOCATION:	LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 4.0
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.1	White medium sized gravel	
								Black, clayey, fine to coarse, SAND with small gravel fragments. No HCO.	
							0.8		
1.0								Tannish black, ver fine to fine, ver plastic, CLAY. No HCO.	
			▲92:1				1.5		
								Orange, plastic, clayey, very fine to fine, SAND. No HCO.	
2.0							2.5		
			▲114:3					Tan and gray, plastic, clayey, very fine to fine, SAND. Moist to wet at 4.0 ft. depth. No HCO.	
3.0									
			▲150	3-4			4.0		
4.0								Boring Terminated at Depth 4.0 ft	

▽ = 0hr. DTW

▼ = 24hr. DTW

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA GP1 CATLIN GDI 01/24/06

BORING LOG

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ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-05
NORTHING:		EASTING:	CREW: Chris Obrian
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 4.0
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0								White, medium sized GRAVEL. No HCO.	
			▲201				0.5		
1.0								Grey and tan, slightly plastic, clayey, fine to medium, SAND. No HCO.	
			▲38.5				2.0		
2.0								Black organic layer with some slightly plastic CLAY. Moderate HCO.	
			▲286				3.3		
3.0								Tan and grey, very palstic CLAY. Wet at 4 ft. depth. Strong HCO.	
			4594▲	3-4			4.0		
4.0								Boring Terminated at Depth 4.0 ft	

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA GEI.CATLIN.GDI 01/24/06

▽ = 0hr. DTW

▼ = 24hr. DTW

BORING LOG

CATLIN
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204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-06
		DRILLER:	
NORTHING:	EASTING:	CREW: Chris Obrian	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 3.3
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.3	White, medium sized GRAVEL.	
			▲146.7						
1.0							1.3	Grey and tan, fine to medium, SAND with some silt/clay. No HCO.	
			▲183.5	1-2					
2.0									
			▲92.5					Tan, fine to medium, SAND with some silt/clay. Wet at 3.25 ft. depth. No HCO.	
3.0									
3.3							3.3	Boring Terminated at Depth 3.3 ft	

▽ = 0hr. DTW

▼ = 24hr. DTW

CATLIN ENVIRO LOG_204-103 JP-5 LINE AREA.GPJ CATLIN GDT_01/24/06

BORING LOG

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Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-07
		DRILLER:	
NORTHING:	EASTING:	CREW: Chris Obrian	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 4.0
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.3	White medium sized GRAVEL.	
			▲166				0.5	Black, silty, very fine to fine, SAND. No HCO.	
1.0							1.3	Orange, moderately plastic CLAY with some fine to coarse GRAVEL. No HCO.	
			▲84:3				2.5	Orange, fine to medium, SAND with grey, slightly plastic CLAY. No HCO.	
2.0							3.5	Greyish-black, very fine to fine, sandy CLAY mixture, with some organic debris. Mild HCO.	
			▲117:1				4.0	Dark grey to grey, moderately plastic, clayey, very fine to fine, SAND. Wet at 4 ft. depth. HCO.	
3.0								Boring Terminated at Depth 4.0 ft	
			4268▲	3-4					
4.0									

CATLIN\ENVIRO.LOG_204-103_JP-5 LINE AREA.GPJ.CATLIN.GDT 01/24/06

▽ = 0hr. DTW

▼ = 24hr. DTW

BORING LOG

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204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-08
		DRILLER:	
NORTHING: 355,184.4	EASTING: 2,465,487.2	CREW: Chris Obrian	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 3.5
START DATE: 11/30/05	FINISH DATE: 11/30/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.3	Asphalt	
			▲574.1				0.8	Tan, fine to medium, SAND with some medium sized gravel. Compacted non-plastic. No HCO	
1.0							1.5	Black, silty, very fine to fine, plastic, CLAY. No HCO.	
			▲1620				2.0	Tannish gray, slightly plastic, clayey, veryfine to fine, SAND. No HCO.	
2.0							2.3	Grayish brown, very fine to fine, very plastic, CLAY. No HCO.	
			▲2661				3.0	Tan and brown, slightly plastic, clayey, fine to medium, SAND. HCO.	
3.0							3.5	Same as above but stronger HCO. Wet around 3.5 ft. depth.	
			3578 ▲	3-3.5					
3.5								Boring Terminated at Depth 3.5 ft	

▽ = 0hr. DTW

▼ = 24hr. DTW

CATLIN\WRO.LOG 204-103.JP-5 LINE AREA.GPJ CATLIN.GDT 01/24/06

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-09
NORTHING: 355,206.7		EASTING: 2,465,489.3	CREW: Chris Obrian
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 3.5
START DATE: 11/30/05	FINISH DATE: 11/30/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.3	Asphalt	
			▲212				0.8	Tan, fine to medium, SAND with medium sized gravel. Compacted. No HCO.	
1.0							1.5	Black, silty, very fine to fine, plastic, CLAY. No HCO.	
			▲1402						
2.0							3.0	Tannish gray, slightly plastic, clayey, very fine to medium, SAND. Mild HCO.	
			▲1423	2-3					
3.0							3.5	Tannish gray, very fine to fine, very plastic, CLAY. Moist to wet at 3.5 ft. depth. Strong HCO.	
			▲1420						
3.5								Boring Terminated at Depth 3.5 ft	

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA G.P.I. CATLIN GDT 01/24/06

▽ = 0hr. DTW

▼ = 24hr. DTW

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS

204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-10
		DRILLER:	
NORTHING: 355,227.7	EASTING: 2,465,485.1	CREW: Chris Obrian	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 4.3
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.3	ASPHALT	
			4406▲	0-1			0.8	Tan, medium to coarse, SAND with gravel. Compacted. HCO.	
1.0							1.5	Black, silty, plastic, CLAY with some sand and gravel fragments. HCO.	
			▲3075						
2.0							3.5	Tan, slightly palstic, clayey, fine to medium, SAND. HCO.	
			▲900						
3.0							4.3	Tan/grey moderately plastic CLAY. Wet around 4.25 ft. depth. HCO.	
			▲1400						
4.3								Boring Terminated at Depth 4.3 ft	

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA.GPJ.CATLIN.GDT 01/24/06

▽ = 0hr. DTW

▼ = 24hr. DTW

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-11
		DRILLER:	
NORTHING: 355,298.9	EASTING: 2,465,491.1	CREW: Michele Croot	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 3.3
START DATE: 12/08/05	FINISH DATE: 12/08/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	OVA RESULTS (ppm) 0 1000 2000 3000 4000	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
0.0							0.0	LAND SURFACE	
							0.3	Grassy vegetation, dark grey sandy CLAY, and topsoil.	
1.0			▲3.9						
								Mottled Dark grey and orange, slightly plastic, clayey, very fine to fine, SAND. No HCO.	
			▲3.2						
2.0							2.0		
								Orange, slightly plastic, clayey, fine to medium, SAND. No HCO.	
			▲4.5	2-3			2.5		
3.0								Black organic debris in fine to medium SAND. Very moist to wet around 3.3 ft. depth. Slight HCO.	
3.3							3.3		
								Boring Terminated at Depth 3.3 ft	

▽ = 0hr. DTW

▼ = 24hr. DTW

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA GEL CATLIN.GDT 01/24/06

BORING LOG

CATLIN
ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-12
		DRILLER:	
NORTHING:	EASTING:	CREW: Chris Obrian	
SYSTEM:	BORING LOCATION:		LAND ELEV.: NM
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 4.0
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT	MOI.	OVA RESULTS (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
	0.5 0.5 0.5 0.5		0 1000 2000 3000 4000				0.0	LAND SURFACE	
0.0							0.3	ASPHALT	
			▲255.6				0.5	Compacted GRAVEL.	
1.0			▲111					Tannish black, slightly plastic, clayey, very fine to fine, SAND. HCO.	
2.0			▲875	2-3			2.0	Dark black, slightly plastic, clayey, fine to medium, SAND. Strong HCO.	
3.0			▲485				3.0	Tan, fine to medium, SAND. Wet at 4 ft. depth. Strong HCO.	
4.0							4.0	Boring Terminated at Depth 4.0 ft	

CATLIN ENVIRO. LOG 204-103 JP-5 LINE AREA GEL CATLIN.GDT 01/24/06

▽ = 0hr. DTW

▼ = 24hr. DTW

BORING LOG

CATLIN
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204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area		LOGGED BY: Jason Cook	BORING ID: JP5SB-13
NORTHING:		EASTING:	CREW: Chris Obrian
SYSTEM:		BORING LOCATION:	
DRILL MACHINE: Hand Auger	METHOD: Hand Auger	0 HOUR DTW:	BORING DEPTH: 3.8
START DATE: 12/01/05	FINISH DATE: 12/01/05	24 HOUR DTW:	ROCK DEPTH: --

DEPTH	BLOW COUNT 0.5 0.5 0.5 0.5	MOI.	OVA RESULTS (ppm)	LAB.	U S C S	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION
0.0			0 1000 2000 3000 4000				0.0	LAND SURFACE	
							0.3	ASPHALT	
							0.5	Compacted GRAVEL.	
1.0			▲1553						
								Tannish black, slightly plastic, clayey, fine to medium, SAND. No HCO.	
2.0			▲2617				2.3		
								Dark grey, slightly plastic, clayey, fine to medium, SAND. Wet around 3.75 ft. depth. No HCO.	
3.0			▲1617						
			3633 ▲	3-3.75			3.8		
3.8								Boring Terminated at Depth 3.8 ft	

▽ = 0hr. DTW

▼ = 24hr. DTW

CATLIN ENVIRO. LOG 204-103.JP-5 LINE AREA.GPJ CATLIN.GDT 01/24/06

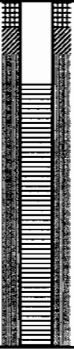
**BORING LOGS FOR PIEZOMETERS AND MONITORING WELLS INSTALLED BY
SHAW AS PART OF THIS REPORT**

BORING LOG

1 of 1

Project Name: **Building AS4141**
 Client: **Marine Corps Air Station**
 Location: **New River, NC**

Project No.: **115122**
 Boring No.: **AS3905-TP1**
 Well Diameter: **1-inch**
 Date: **25-Oct-05**

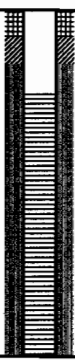
Well Construct	Description	USCS	Depth (feet)	OVA-FID (ppm)	Blows per 6"	Recovery (inches)	Drilling Observations
	2-inches asphalt						
	6-inches sand and gravel						
	Sand, f-med, silty, lt brown dry	SM					
	Clay, silty, sandy, gray	CL	5.0	0			
10			10.0	0			
15			15.0				End of Boring
20			20.0				
25			25.0				
30			30.0				
35			35.0				
40			40.0				
45			45.0				
50			50.0				
							LEGEND  Grout (with bentonite) Seal  Sand Pack  Well Screen  Bentonite Seal

BORING LOG

1 of 1

Project Name: **Building AS4141**
 Client: **Marine Corps Air Station**
 Location: **New River, NC**

Project No.: **115122**
 Boring No.: **AS3905-TP2**
 Well Diameter: **1-inch**
 Date: **26-Oct-05**

Well Construct	Description	USCS	Depth (feet)	OVA-FID (ppm)	Blows per 6"	Recovery (inches)	Drilling Observations
	2-inches asphalt						
	6-inches sand and gravel						
	Sand, f-med, silty, lt brown dry	SM					
	Clay, silty, sandy, gray	CL	5.0	0			
10			10.0	0			
15			15.0				End of Boring
20			20.0				
25			25.0				
30			30.0				
35			35.0				
40			40.0				
45			45.0				
50			50.0				

LEGEND

-  Grout (with bentonite) Seal
-  Sand Pack
-  Well Screen
-  Bentonite Seal

BORING LOG

1 of 1

Project Name: **Building AS4141**
 Client: **Marine Corps Air Station**
 Location: **New River, NC**

Project No.: **115122**
 Boring No.: **AS3905-TP3**
 Well Diameter: **1-inch**
 Date: **25-Oct-05**

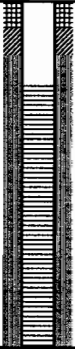
Well Construct	Description	USCS	Depth (feet)	OVA-FID (ppm)	Blows per 6"	Recovery (inches)	Drilling Observations
	2-inches asphalt						
	6-inches sand and gravel						
	Sand, f-med, silty, lt brown dry	SM					
	Clay, silty, sandy, gray	CL	5.0	0			
10			10.0	0			
15			15.0				End of Boring
20			20.0				
25			25.0				
30			30.0				
35			35.0				
40			40.0				
45			45.0				
50			50.0				
							LEGEND  Grout (with bentonite) Seal  Sand Pack  Well Screen  Bentonite Seal

BORING LOG

1 of 1

Project Name: **Building AS4141**
 Client: **Marine Corps Air Station**
 Location: **New River, NC**

Project No.: **115122**
 Boring No.: **AS3905-TP4**
 Well Diameter: **1-inch**
 Date: **25-Oct-05**

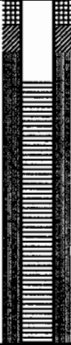
Well Construct	Description	USCS	Depth (feet)	OVA-FID (ppm)	Blows per 6"	Recovery (inches)	Drilling Observations
	2-inches asphalt						
	6-inches sand and gravel						
	Sand, f-med, silty, lt brown dry	SM					
	Clay, silty, sandy, gray	CL	5.0	0			
10			10.0	0			
15			15.0				End of Boring
20			20.0				
25			25.0				
30			30.0				
35			35.0				
40			40.0				
45			45.0				
50			50.0				
							LEGEND  Grout (with bentonite) Seal  Sand Pack  Well Screen  Bentonite Seal

BORING LOG

1 of 1

Project Name: **Building AS4141**
 Client: **Marine Corps Air Station**
 Location: **New River, NC**

Project No.: **115122**
 Boring No.: **AS3905-TP5**
 Well Diameter: **1-inch**
 Date: **25-Oct-05**

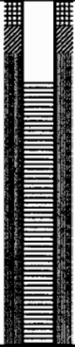
Well Construct	Description	USCS	Depth (feet)	OVA-FID (ppm)	Blows per 6"	Recovery (inches)	Drilling Observations
	2-inches asphalt						
	6-inches sand and gravel						
	Sand, f-med, silty, lt brown dry	SM					
	Clay, silty, sandy, gray	CL	5.0	0			
10			10.0	0			
15			15.0				End of Boring
20			20.0				
25			25.0				
30			30.0				
35			35.0				
40			40.0				
45			45.0				
50			50.0				
							LEGEND  Grout (with bentonite) Seal  Sand Pack  Well Screen  Bentonite Seal

BORING LOG

1 of 1

Project Name: **Building AS4141**
 Client: **Marine Corps Air Station**
 Location: **New River, NC**

Project No.: **115122**
 Boring No.: **USTAS4141-OBG03R**
 Well Diameter: **2-inch**
 Date: **26-Oct-05**

Well Construct	Description	USCS	Depth (feet)	OVA-FID (ppm)	Blows per 6"	Recovery (inches)	Drilling Observations
	2-inches asphalt						
	6-inches sand and gravel						
	Sand, f-med, silty, gray	SM	5.0	0			
	Clay, silty, sandy, gray	CL	10.0	0			
15			15.0				End of Boring
20			20.0				
25			25.0				
30			30.0				
35			35.0				
40			40.0				
45			45.0				
50			50.0				
							LEGEND  Grout (with bentonite) Seal  Sand Pack  Well Screen  Bentonite Seal

BORING LOG

1 of 1

Project Name: Building AS4141
Client: Marine Corps Air Station
Location: New River, NC

Project No.: 115122
Boring No.: USTAS4141-MW14
Well Diameter: 2-inch
Date: 27-Oct-05

Well Construct	Description	USCS	Depth (feet)	OVA-FID (ppm)	Blows per 6"	Recovery (inches)	Drilling Observations	
5 10 15 20 25 30 35 40 45 50	2-inches asphalt	CL					6-inch diameter PVC casing installed from ground surface to 15 feet bls	
	6-inches sand and gravel							
	Clay, silty, sandy gray							
				5.0	0			
				10.0	0			
		Sand, silty, some clay	SM					Mud rotary drilling from 15 to 25 feet bls
				15.0	0			
				20.0				
		Clay, silty, gray	CL					2-inch diameter riser and 5 feet of well screen installed from ground surface to 25 feet bls
				25.0				
			30.0				End of Boring	
			35.0					
			40.0					
			45.0					
			50.0					

Grout (with bentonite) Seal

Sand Pack

Well Screen

Bentonite Seal

1 of 1

Project No.: 115122
Boring No.: USTAS4141-MW15
Well Diameter: 2-inch
Date: 27-Oct-05

[illegible]

**BORING LOGS AND WELL CONSTRUCTION RECORDS FOR MONITORING
WELLS INSTALLED BY CATLIN AS PART OF THIS REPORT**

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area	LOGGED BY: Tom Stetler	WELL ID: UST4141-MW16	
	DRILLER: Bobbie Fowler		
NORTHING: 355235.4	EASTING: 2465430.5	CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Near bridge over ditch.	T.O.C. ELEV.: 100.99	
DRILL MACHINE: Diedrich D-50	METHOD: HSA	0 HOUR DTW: 13.8	BORING DEPTH: 15.0
START DATE: 02/27/06	FINISH DATE: 02/27/06	24 HOUR DTW: 6.7	WELL DEPTH: 15.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
6in	6in	6in	6in									
0.0									0.0	LAND SURFACE	101.0	0.0
									0.2	ASPHALT	100.8	
					31.9		GW		1.0	GRAVEL	100.0	
							SM		2.0	Dark brown, SILTY, v.f. SAND. Trace. clay. Slight HCO? Moist. Logged from auger cuttings.	99.0	
3.0									3.0		98.0	2" Sch. 40 PVC
	3	2	3	4	673.1		CH		5.0	Gray, fat CLAY. Trace. interlayered f. to v.f. SAND. Moist. High plasticity. Slight HCO.	96.0	5.0
									8.0		93.0	
8.0	1	1	1	1	808.1		CH		10.0	Gray, fat CLAY. V. soft. Wet. High plasticity. Slight HCO.	91.0	2" Slot .010 Sch. 40 PVC
									13.0		88.0	
13.0	3	6	6	9	288.5		SM		15.0	Dark gray, SILTY f. to v.f. SAND. No HCO. Wet. Trace. clay at top of spoon.	86.0	15.0
										Boring Terminated at Elevation 86.0 ft		

 Portland Cement
  Bentonite Pellets
  #2 Medium Sand

CATLIN BORING LOG 204-103 JP-5 LINE AREA GPL TEST GDI 04/06/06

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WO PERMIT # N/A
(if applicable) (if applicable)

UST4141-MW16

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____
2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: MCAS New River County: Onslow
New River Air Station, NC
(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)
3. OWNER: Commanding General MCB
Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)
Camp Lejeune NC 28542-0004
City or Town State Zip Code
Area code - Phone number _____
4. DATE DRILLED: 2/27/2006
5. TOTAL DEPTH: 15
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing 6.67 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 0 FT. Above Land Surface*
* Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C.0118
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): Surficial Aquifer
12. DISINFECTION: Type N/A Amount N/A
13. CASING: Depth Diameter Wall Thickness or Weight/Ft. Material
From 0 To 5 ft. 2 in. Sch. 40 PVC
From _____ To _____ ft. _____ in. _____
From _____ To _____ ft. _____ in. _____
14. GROUT: Depth Material Method
From 0 To 2 ft. Portland Cement Surface Pour
From 2 To 4 ft. Bent. Pellets Surface Pour
15. SCREEN: Depth Diameter Slot Size Material
From 5 To 15 ft. 2 in. Slot .010 in. PVC
From _____ To _____ ft. _____ in. _____
16. SAND/GRAVEL PACK: Depth Size Material
From 4 To 15 ft. #2 Medium Torpedo Sand
From _____ To _____ ft. _____
17. REMARKS: _____

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

355235.408/2465430.508

NCSP NAD 83 (USft)

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least two State Roads or County Roads. Include road numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area	LOGGED BY: Tom Stetler	WELL ID: UST4141-MW17	
	DRILLER: Bobbie Fowler		
NORTHING: 355246.2	EASTING: 2465482.5	CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Near security entrance	T.O.C. ELEV.: 99.14	
DRILL MACHINE: Diedrich D-50	METHOD: HSA	0 HOUR DTW: 6.5	BORING DEPTH: 15.0
START DATE: 03/01/06	FINISH DATE: 03/01/06	24 HOUR DTW: NM	WELL DEPTH: 15.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
0.0									0.0	LAND SURFACE	99.1	0.0
									0.3	ASPHALT	98.8	
					6.7		GW		1.0	GRAVEL. Well graded limestone road gravel.	98.1	
									1.4	ASPHALT. Similar thickness as asphalt layer at surface. Thin gravel layer below.	97.7	
							SC/SM		2.0	Dark grayish-brown, SILTY to CLAYEY, f. to v.f. SAND. Moist.	97.1	
3.0									3.0		96.1	2" Sch. 40 PVC
	1	1	1	2	1659		CH		5.0	Orange-brown to gray, SILTY to fat CLAY. Mod. HCO. High plasticity. V. soft. Moist. Color grades downward from orange-brown to gray. Trace v.f. sand.	94.1	5.0
8.0									8.0		91.1	
	WOH/24"				1491		CH		10.0	Gray, fat CLAY. High plasticity. Moist to wet. V. soft. Strong HCO. Trace v.f. sand.	89.1	2" Slot 010 Sch. 40 PVC
13.0									13.0		86.1	
	12	18	19	21	3724		SP		15.0	Brownish gray, f. to v.f. SAND w/trace silt. Sat. Strong HCO.	84.1	15.0
										Boring Terminated at Elevation 84.1 ft		



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 204-103 JP-5 LINE AREA.GPJ TEST.GDT 04/06/06

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WQ PERMIT # N/A
(if applicable) (if applicable)

UST4141-MW17

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

2. WELL LOCATION: (Show sketch of the location below)

Nearest Town: MCAS New River County: Onslow

New River Air Station, NC

(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)

3. OWNER: Commanding General MCB

Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)

Camp Lejeune NC 28542-0004
City or Town State Zip Code

Area code - Phone number

4. DATE DRILLED: 3/1/2006

5. TOTAL DEPTH: 15

6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

7. STATIC WATER LEVEL Below Top of Casing 6.48 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS 0 FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires
a variance in accordance with 15A NCAC 2C.0118

9. YIELD (gpm): N/A METHOD OF TEST N/A

10. WATER ZONES (depth): Surficial Aquifer

12. DISINFECTION: Type N/A Amount N/A

13. CASING: Depth Diameter Wall Thickness or Weight/Ft. Material
From 0 To 5 ft. 2 in. Sch. 40 PVC
From _____ To _____ ft. _____ in. _____
From _____ To _____ ft. _____ in. _____

14. GROUT: Depth Material Method
From 0 To 1.5 ft. Portland Cement Surface Pour
From 1.5 To 3 ft. Bent. Pellets Surface Pour

15. SCREEN: Depth Diameter Slot Size Material
From 5 To 15 ft. 2 in. Slot .010 in. PVC
From _____ To _____ ft. _____ in. _____ in. _____

16. SAND/GRAVEL PACK: Depth Size Material
From 3 To 15 ft. #2 Medium Torpedo Sand
From _____ To _____ ft. _____ _____

17. REMARKS: _____

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

355246.227/2465482.51

NCSP NAD 83 (USft)

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least
two State Roads or County Roads. Include road
numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL
CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC
27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area	LOGGED BY: Tom Stetler	WELL ID: UST4141-MW18	
	DRILLER: Bobbie Fowler		
NORTHING: 355124.9	EASTING: 2465440.2	CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Edge of parking area.	T.O.C. ELEV.: 100.84	
DRILL MACHINE: Diedrich D-50	METHOD: HSA	0 HOUR DTW: 7.4	BORING DEPTH: 16.0
START DATE: 02/27/06	FINISH DATE: 02/27/06	24 HOUR DTW: 6.3	WELL DEPTH: 15.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
0.0									0.0	LAND SURFACE	100.8	0.0
					122.5				0.3	ASPHALT	100.5	0.0
							GW		1.0	GRAVEL	99.8	
							SC/SM		2.0	Dark brown, SILTY to CLAYEY f. to v.f. SAND. Moist. Slight HCO. Logged from auger cuttings.	98.8	1.5
4.0									4.0		96.8	4.0
	WOH/12"	2	2		420.2		CH		6.0	Gray to orange-brown, mottled, fat CLAY. Slight HCO? Moist. V. soft. High plasticity.	94.8	5.0
									9.0		91.8	
9.0							CH		11.0	Gray, fat CLAY. V. soft. No HCO. Wet. High plasticity.	89.8	
	WOH/24"				18.8				14.0		86.8	
14.0									16.0		84.8	15.0
	6	8	7	6	24.0		SP			Gray, f. to v.f. SAND. Trace. silt to clay component, decreasing with depth. Saturated. No HCO.		15.0
										Boring Terminated at Elevation 84.8 ft		

2" Sch. 40 PVC

2" Slot. 010 Sch. 40 PVC

 Portland Cement
  Bentonite Pellets
  #2 Medium Sand

CATLIN BORING LOG 204-103 JP-5 LINE AREA GEL TEST GDI 04/06/06

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WQ PERMIT # N/A
(if applicable) (if applicable)

UST4141-MW18

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

2. WELL LOCATION: (Show sketch of the location below)

Nearest Town: MCAS New River County: Onslow

New River Air Station, NC

(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)

3. OWNER: Commanding General MCB

Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)

Camp Lejeune
City or Town

NC
State

28542-0004
Zip Code

Area code - Phone number

4. DATE DRILLED: 2/27/2006

5. TOTAL DEPTH: 15

6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

7. STATIC WATER LEVEL Below Top of Casing 6.34 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS 0 FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C.0118

9. YIELD (gpm): N/A METHOD OF TEST N/A

10. WATER ZONES (depth): Surficial Aquifer

12. DISINFECTION: Type N/A Amount N/A

13. CASING: Depth Diameter Wall Thickness or Weight/Ft. Material
From 0 To 5 ft. 2 in. Sch. 40 PVC
From _____ To _____ ft. _____ in. _____
From _____ To _____ ft. _____ in. _____

14. GROUT: Depth Material Method
From 0 To 1.5 ft. Portland Cement Surface Pour
From 1.5 To 4 ft. Bent. Pellets Surface Pour

15. SCREEN: Depth Diameter Slot Size Material
From 5 To 15 ft. 2 in. Slot .010 in. PVC
From _____ To _____ ft. _____ in. _____ in. _____

16. SAND/GRAVEL PACK: Depth Size Material
From 4 To 15 ft. #2 Medium Torpedo Sand
From _____ To _____ ft. _____

17. REMARKS: _____

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

355124.929/2465440.219

NCSP NAD 83 (USft)

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least two State Roads or County Roads. Include road numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

204-103
Wilmington, North Carolina

SHEET 1 OF 1

PROJECT NO.: 204-103	STATE: NC	COUNTY: Onslow	LOCATION: MCAS New River
PROJECT NAME: JP-5 Line Area	LOGGED BY: Tom Stetler	WELL ID: UST4141-MW19	
NORTHING: 355092.0	EASTING: 2465490.1	DRILLER: Bobbie Fowler	
		CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Southern well inside fence.	T.O.C. ELEV.: 100.18	
DRILL MACHINE: Diedrich D-50	METHOD: HSA	0 HOUR DTW: 7.0	BORING DEPTH: 15.0
START DATE: 03/01/06	FINISH DATE: 03/01/06	24 HOUR DTW: NM	WELL DEPTH: 15.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	U S C S	L O G	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
6in	6in	6in	6in								
0.0									0.0 LAND SURFACE	100.2	0.0
					8.0				0.4 ASPHALT	99.8	0.0
							GW		1.0 GRAVEL	99.2	
							SC/SM		Dark brown, SILTY to CLAYEY, f. to v.f. SAND. Moist. Slight HCO?	98.2	1.5
3.0									2.0		
									3.0	97.2	3.0
	1	2	2	3	10.2		CH		Orange-brown to gray, high plasticity CLAY. Soft to med. stiff. Moist. Slight HCO.		
									5.0	95.2	5.0
									8.0	92.2	
8.0							CH		Same as above but gray in color. Moist.		
	1	1	1	2	14.5				9.5	90.7	
							SC/SM		Brownish-gray, SILTY to CLAYEY, v.f. SAND. Sat. No HCO.	90.2	
									10.0		
									13.0	87.2	
13.0							SP		Lt. brown, v.f. SAND w/trace silt. Sat. No HCO.		
	8	14	18	22	6.3				15.0	85.2	15.0
									Boring Terminated at Elevation 85.2 ft		15.0



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 204-103 JP-5 LINE AREA GPL TEST GDT 04/06/06

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WO PERMIT # N/A
(if applicable) (if applicable)

UST4141-MW19

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

2. WELL LOCATION: (Show sketch of the location below)

Nearest Town: MCAS New River County: Onslow

New River Air Station, NC
(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)

3. OWNER: Commanding General MCB

Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)

Camp Lejeune NC 28542-0004
City or Town State Zip Code

Area code - Phone number

4. DATE DRILLED: 3/1/2006

5. TOTAL DEPTH: 15

6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

7. STATIC WATER LEVEL Below Top of Casing 7.04 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS 0 FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires
a variance in accordance with 15A NCAC 2C.0118

9. YIELD (gpm): N/A METHOD OF TEST N/A

10. WATER ZONES (depth): Surficial Aquifer

12. DISINFECTION: Type N/A Amount N/A

13. CASING: Depth Diameter Wall Thickness or Weight/Ft. Material
From 0 To 5 ft. 2 in. Sch. 40 PVC
From _____ To _____ ft. _____ in. _____
From _____ To _____ ft. _____ in. _____

14. GROUT: Depth Material Method
From 0 To 1.5 ft. Portland Cement Surface Pour
From 1.5 To 3 ft. Bent. Pellets Surface Pour

15. SCREEN: Depth Diameter Slot Size Material
From 5 To 15 ft. 2 in. Slot .010 in. PVC
From _____ To _____ ft. _____ in. _____ in. _____

16. SAND/GRAVEL PACK: Depth Size Material
From 3 To 15 ft. #2 Medium Torpedo Sand
From _____ To _____ ft. _____ _____

17. REMARKS: _____

Topographic/Land Setting

☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

355091.975/2465490.074

NCSP NAD 83 (USft)

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least
two State Roads or County Roads. Include road
numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL
CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Bobbie Fowler
SIGNATURE OF PERSON CONSTRUCTING THE WELL

3/4/06
DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC
27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

APPENDIX C

SUMMARY OF HISTORICAL GROUNDWATER LABORATORY RESULTS

CORRECTIVE ACTION PLAN



Laboratory Report

CLIENT O'BRIEN & GERE ENGINEERS, INC. JOB NO. 3435.001.130
DESCRIPTION Camp Le Jeune JP - 5
Waters
DATE COLLECTED 9-29/30-89 DATE REC'D. 10-2-89 DATE ANALYZED 10-5/6-89

Description	OBG-3	OBG-4	OBG-6	OBG-1	W-10
Sample #	J1354	J1355	J1356	J1357	J1358
Volatile Petroleum Hydrocarbons and Solvents by Purge & Trap/GC:					
BENZENE	13.	<1.	<1.	<1.	<100.
TOLUENE	<10.	↓	2.	↓	↓
ETHYLBENZENE	49.	↓	<1.	↓	↓
XYLENES	220.	↓	2.	↓	490.
TRICHLOROETHENE	<10.	<1.	<1.	<1.	<100.
TETRACHLOROETHENE	<10.	<1.	<1.	<1.	<100.
MTBE	<100.	<10.	<10.	<10.	<100.
TOTAL HYDROCARBONS	4500.	<10.	<10.	29.	890,000.
COMMENTS	gasoline	-	-	-	Fuel
UNITS: µg/l					

Methodology: Federal Register — 40 CFR, Part 136, October 26, 1984

Units: mg/l (ppm) unless otherwise noted

Comments:

OBG Laboratories, Inc., an O'Brien & Gere Limited Company
Box 4942 / 1304 Buckley Rd. / Syracuse, NY 13221 / (315) 457-1494

Authorized: Thomas A. Alexander
Date: October 18, 1989



Laboratory Report

CLIENT O'BRIEN & GERE ENGINEERS, INC. JOB NO. 3435.001.130
DESCRIPTION Camp Le Jeune JP - 5
Waters
DATE COLLECTED 9-29/30-89 DATE REC'D. 10-2-89 DATE ANALYZED 10-5/6-89

Description	QC Trip Blank	Field Blank		
Sample #	J1359	J1360		
Volatile Petroleum Hydrocarbons and Solvents by Purge & Trap/GC:				
BENZENE	<1.	<1.		
TOLUENE	↓	↓		
ETHYLBENZENE				
XYLENES	↓	↓		
TRICHLOROETHENE	<1.	<1.		
TETRACHLOROETHENE	<1.	<1.		
MTBE	<10.	<10.		
TOTAL HYDROCARBONS	<10.	<10.		
COMMENTS	-	-		
			UNITS:	µg/l

Methodology: Federal Register — 40 CFR, Part 136, October 26, 1984

Units: mg/l (ppm) unless otherwise noted

Comments:

Authorized: Thomas A. Alexander

OBG Laboratories, Inc., an O'Brien & Gere Limited Company
Box 4942 / 1304 Buckley Rd. / Syracuse, NY 13221 / (315) 457-1494

Date: October 18, 1989

REMEDIAL ACTION OPERATION OPTIMIZATION CASE STUDY

**Table 4-4. Summary of Validated Analytical Results
Volatile Organic Compounds
December 1999
JP-5 Line Area**

Analyte	Groundwater Standard	W-7	W-8	W-10	OBG-4	OBG-5	OBG-6
Benzene	1	ND (0.0469)	ND (0.0469)	0.284 J	ND (0.0469)	ND (0.0469)	ND (0.0469)
Ethylbenzene	29	ND (0.0563)	ND (0.0563)	0.0820 J	ND (0.0563)	ND (0.0563)	ND (0.0563)
o-Xylene	530	ND (0.0732)	ND (0.0732)	0.183 J	ND (0.0732)	ND (0.0732)	ND (0.0732)
M,p-Xylenes	530	ND (0.112)	ND (0.112)	0.106 J	ND (0.112)	ND (0.112)	ND (0.112)

Note: Target analytes not listed were not detected.
All results reported in micrograms per liter.
ND = Not detected at (detection limit).
J = Estimated value.

**Table 4-5. Summary of Validated Analytical Results
Semivolatile Organic Compounds
December 1999
JP-5 Line Area**

Analyte	Groundwater Standard	W-7	W-8	W-10	OBG-4	OBG-5	OBG-6
Acenaphthene	80	ND (0.133)	ND (0.151)	1.75 J	ND (0.130)	ND (0.129)	ND (0.128)
bis(2-ethylhexyl) phthalate	3	ND (0.772)	ND (3.01)	34.0	ND (0.757)	ND (0.750)	ND (0.743)
Dibenzofuran	28	ND (0.150)	ND (0.170)	2.55 J	ND (0.148)	ND (0.146)	ND (0.145)
Fluorene	280	ND (0.132)	ND (0.149)	1.74 J	ND (0.130)	ND (0.128)	ND (0.127)
Napthalene	21	ND (0.126)	ND (0.143)	ND (0.126)	0.585 J	ND (0.123)	ND (0.121)

Note: Target analytes not listed were not detected.
All results reported in micrograms per liter.
ND = Not detected at (detection limit).
J = Estimated value.

APPENDIX C OF ANNUAL MONITORING REPORT 2004-2005

Table C-1 Groundwater Quality Data Over Time at JP Line Site - Well OBG4

Sample Date	NCGWQS	9/29/1989 EPA 602	3/9/1998 EPA 602	6/25/1998 EPA 602	9/23/1998 EPA 602	12/21/1998 EPA 602	3/22/1999 EPA 602	6/16/1999 EPA 602	9/23/1999 EPA 602	12/2/1999 ⁽¹⁾ EPA 602	12/28/1999 EPA 602	3/23/2000 EPA 602	6/20/2000 EPA 602	9/18/2000 EPA 602	12/20/2000 EPA 602	3/19/2001 EPA 602	6/19/2001 EPA 602	9/24/2001 EPA 602	12/18/2001 EPA 602	3/19/2002 EPA 602
Compound (ug/L) / Method																				
Benzene	1	<1.0	ND	ND	ND	ND	ND	ND	ND	<0.0469	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	29	<1.0	ND	ND	ND	ND	ND	ND	ND	<0.0563	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tert Butyl Ether	200	<10.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Toluene	1000	<1.0	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	530	<2.0	ND	ND	ND	ND	ND	ND	ND	<0.0844	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	140	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pentachlorophenol	0.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phenol	300	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthene	80	NR	NR	NR	NR	NR	NR	NR	NR	<0.130	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Anthracene	2100	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)anthracene	0.05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)pyrene	0.00479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(b)fluoranthene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(g,h,i)perylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(k)fluoranthene	0.479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Bromophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butyl benzyl phthalate	10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Chloronaphthalene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloroaniline	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chrysene	5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chlorophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Diphenylhydrazine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3,3'-Dichlorobenzidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dibenzo(a,h)anthracene	0.0047	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-butyl phthalate	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-octyl phthalate	14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Diethyl phthalate	500	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dimethyl phthalate	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Ethylhexyl)phthalate	3	NR	ND	ND	ND	ND	ND	ND	ND	<0.757	ND	ND	ND	ND	ND	NR	NR	NR	NR	NR
Fluoranthene	280	NR	NR	NR	NR	NR	NR	NR	NR	<0.130	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Fluorene	280	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobenzene	0.002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobutadiene	0.044	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachloroethane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Isophorone	3.68	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	21	NR	ND	ND	39	ND	ND	ND	ND	0.585 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodimethylamine	0.00007	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodiphenylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1-Methylnaphthalene	RL	NR	ND	ND	16	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	14	NR	ND	ND	28	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	NR	NR	NR	NR
Phenanthrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pyrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

/ #: Denotes primary/duplicate sample results

⁽¹⁾: Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-1 Groundwater Quality Data Over Time at JP Line Site - Well OBG4

Sample Date Compound (ug/L) / Method	NCGWQS	6/19/2002 EPA 602	9/18/2002 EPA 602	12/2/2002 EPA 602	3/30/2003 EPA 602	6/20/2003 EPA 602	4/5/2004 EPA 602	6/16/2004 EPA 602	9/7/2004 EPA 602	12/9/2004 EPA 602	3/22/2005 EPA 602
Benzene	1	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	50	NR	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
Ethylbenzene	29	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Tert Butyl Ether	200	NR	NR	NR	<1.0	<1.0	NR	<1.0	NR	<1.0	<1.0
Toluene	1000	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	ND	ND	ND	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
2,4-Dichlorophenol	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
2,4-Dimethylphenol	140	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
2,4-Dinitrophenol	RL	NR	NR	NR	NR	NR	<25.0	<27.0	<24.0	<24.0	<26.0
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	NR	<10.0	<11.0	<9.7	<9.6	<11.0
2-Nitrophenol	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
4-Nitrophenol	RL	NR	NR	NR	NR	NR	<25.0	<27.0	<24.0	<24.0	<26.0
Pentachlorophenol	0.3	NR	NR	NR	NR	NR	<25.0	<27.0	<24.0	<24.0	<26.0
Phenol	300	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Acenaphthene	80	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Acenaphthylene	210	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Anthracene	2100	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Benzidine	RL	NR	NR	NR	NR	NR	<51.0	<54.0	<49	<48	<26.0
Benzo(a)anthracene	0.05	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Benzo(a)pyrene	0.00479	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Benzo(b)fluoranthene	0.0479	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Benzo(g,h,i)perylene	210	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Benzo(k)fluoranthene	0.479	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
4-Bromophenyl phenyl ether	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Butyl benzyl phthalate	10	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
2-Chloronaphthalene	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
4-Chloroaniline	RL	NR	NR	NR	NR	NR	<10.0	<11.0	<9.7	<9.6	<11.0
Chrysene	5	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
4-Chlorophenyl phenyl ether	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
1,2-Diphenylhydrazine	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
3,3'-Dichlorobenzidine	RL	NR	NR	NR	NR	NR	<10.0	<11.0	<9.7	<9.6	<11.0
Dibenzo(a,h)anthracene	0.0047	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Di-n-butyl phthalate	70	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Di-n-octyl phthalate	14	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Diethyl phthalate	500	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Dimethyl phthalate	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Bis(2-Ethylhexyl)phthalate	3	23	ND	14	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Fluoranthene	280	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Fluorene	280	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Hexachlorobenzene	0.002	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Hexachlorobutadiene	0.044	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Hexachloroethane	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Isophorone	3.68	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
Naphthalene	21	ND	ND	ND	<5.1	3.4 J	<5.1	<5.4	<4.9	<4.8	<5.3
Nitrobenzene	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
N-Nitrosodimethylamine	0.00007	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
N-Nitrosodiphenylamine	RL	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3
1-Methylnaphthalene	RL	ND	ND	ND	<5.1	<5.1	NR	NR	NR	NR	NR
2-Methylnaphthalene	14	ND	ND	ND	<5.1	<5.1	NR	NR	NR	NR	NR
Phenanthrene	210	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
Pyrene	210	NR	NR	NR	<5.1	<5.1	<5.1	<5.4	<4.9	<4.8	<5.3
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	NR	<5.1	<5.4	<4.9	<4.8	<5.3

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

(1): Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-2 Groundwater Quality Data Over Time at JP5 Line Site - Well OBG5

Sample Date	Compound (ug/L) / Method	3/9/1998 EPA 602	6/25/1998 EPA 602	9/23/1998 EPA 602	12/21/1998 EPA 602	3/22/1999 EPA 602	6/16/1999 EPA 602	9/23/1999 EPA 602	12/2/1999 ⁽¹⁾ EPA 602	12/28/1999 EPA 602	3/23/2000 EPA 602	6/20/2000 EPA 602	9/18/2000 EPA 602	12/20/2000 EPA 602	3/19/2001 EPA 602	6/19/2001 EPA 602	9/24/2001 EPA 602	12/18/2001 EPA 602	3/19/2002 EPA 602	6/19/2002 EPA 602
Compound (ug/L) / Method	NCGWQS																			
Benzene	1	ND	ND	ND	ND	ND	ND	ND	<0.0469	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	29	ND	ND	ND	ND	ND	ND	ND	<0.0563	ND	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Methyl Tert Butyl Ether	200	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Toluene	1000	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	530	ND	ND	ND	ND	ND	ND	ND	<0.1852	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	140	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pentachlorophenol	0.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phenol	300	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthene	80	NR	NR	NR	NR	NR	NR	NR	<0.129	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Anthracene	2100	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)anthracene	0.05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)pyrene	0.00479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(b)fluoranthene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(g,h,i)perylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(k)fluoranthene	0.479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Bromophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butyl benzyl phthalate	10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Chloronaphthalene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloroaniline	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chrysene	5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chlorophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Diphenylhydrazine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3,3'-Dichlorobenzidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dibenzo(a,h)anthracene	0.0047	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-butyl phthalate	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-octyl phthalate	14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Diethyl phthalate	500	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dimethyl phthalate	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Ethylhexyl)phthalate	3	ND	ND	ND	ND	ND	ND	ND	<0.750	ND	ND	ND	ND	ND	ND	13	41	25	22	42
Fluoranthene	280	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Fluorene	280	NR	NR	NR	NR	NR	NR	NR	<0.128	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobenzene	0.002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobutadiene	0.044	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachloroethane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Isophorone	3.68	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	21	ND	ND	32	ND	ND	ND	ND	<0.123	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodimethylamine	0.00007	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodiphenylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1-Methylnaphthalene	RL	ND	ND	11	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	14	ND	ND	24	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pyrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantization range

(1): Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-2 Groundwater Quality Data Over Time at JP5 Line Site - Well OBG5

Sample Date Compound (ug/L) / Method	NCGWQS	9/18/2002 EPA 602	12/2/2002 EPA 602	3/30/2003 EPA 602	6/20/2003 EPA 602	4/5/2004 EPA 602	6/15/2004 EPA 602	9/7/2004 EPA 602	12/9/2004 EPA 602	3/22/2005 EPA 602
Benzene	1	ND	ND	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	50	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
Ethylbenzene	29	ND	ND	0.92 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Tert Butyl Ether	200	NR	NR	<1.0	<1.0	NR	<1.0	NR	<1.0	<1.0
Toluene	1000	ND	ND	0.65 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	ND	ND	1.2 J	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
2,4-Dichlorophenol	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
2,4-Dimethylphenol	140	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
2,4-Dinitrophenol	RL	NR	NR	NR	NR	<25.0	<27.0	<24.0	<280	<27.0
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	<10.0	<11.0	<9.7	<110	<11.0
2-Nitrophenol	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
4-Nitrophenol	RL	NR	NR	NR	NR	<25.0	<27.0	<24.0	<280	<27.0
Pentachlorophenol	0.3	NR	NR	NR	NR	<25.0	<27.0	<24.0	<280	<27.0
Phenol	300	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Acenaphthene	80	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Acenaphthylene	210	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Anthracene	2100	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Benzidine	RL	NR	NR	NR	NR	<50.0	<54.0	<49	<560	<27.0
Benzo(a)anthracene	0.05	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Benzo(a)pyrene	0.00479	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Benzo(b)fluoranthene	0.0479	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Benzo(g,h,i)perylene	210	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Benzo(k)fluoranthene	0.479	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
4-Bromophenyl phenyl ether	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Butyl benzyl phthalate	10	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
2-Chloronaphthalene	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
4-Chloroaniline	RL	NR	NR	NR	NR	<10.0	<11.0	<9.7	<110	<11.0
Chrysene	5	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
4-Chlorophenyl phenyl ether	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
1,2-Dichlorobenzene	620	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
1,2-Diphenylhydrazine	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
1,3-Dichlorobenzene	620	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
1,4-Dichlorobenzene	75	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
3,3'-Dichlorobenzidine	RL	NR	NR	NR	NR	<10.0	<11.0	<9.7	<110	<11.0
Dibenzo(a,h)anthracene	0.0047	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Di-n-butyl phthalate	70	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Di-n-octyl phthalate	14	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Diethyl phthalate	500	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Dimethyl phthalate	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Bis(2-Ethylhexyl)phthalate	3	31	50	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Fluoranthene	280	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Fluorene	280	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Hexachlorobenzene	0.002	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Hexachlorobutadiene	0.044	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Hexachloroethane	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Isophorone	3.68	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
Naphthalene	21	ND	ND	<5.1	5.4	<5.0	<5.4	<4.9	<56	<5.4
Nitrobenzene	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
N-Nitrosodimethylamine	0.00007	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
N-Nitrosodiphenylamine	RL	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4
1-Methylnaphthalene	RL	ND	ND	<5.1	<5.1	NR	NR	NR	NR	NR
2-Methylnaphthalene	14	ND	ND	<5.1	<5.1	NR	NR	NR	NR	NR
Phenanthrene	210	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
Pyrene	210	NR	NR	<5.1	<5.1	<5.0	<5.4	<4.9	<56	<5.4
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	<5.0	<5.4	<4.9	<56	<5.4

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

(1): Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-3 Groundwater Quality Data Over Time at JP5 Line Site - Well W7

Sample Date	Compound (ug/L) / Method	NCGWQS	3/9/1998 EPA 602	6/25/1998 EPA 602	9/23/1998 EPA 602	12/21/1998 EPA 602	3/22/1999 EPA 602	6/16/1999 EPA 602	9/23/1999 EPA 602	12/2/1999 ⁽¹⁾ EPA 602	12/28/1999 EPA 602	3/23/2000 EPA 602	6/20/2000 EPA 602	9/18/2000 EPA 602	12/20/2000 EPA 602	3/19/2001 EPA 602	6/19/2001 EPA 602	9/24/2001 EPA 602	12/18/2001 EPA 602	3/19/2002 EPA 602	6/19/2002 EPA 602
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	<0.0469	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	29	ND	ND	ND	ND	ND	ND	ND	ND	<0.0563	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tert Butyl Ether	200	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Toluene	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	530	ND	ND	ND	ND	ND	ND	ND	ND	<0.1852	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	140	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pentachlorophenol	0.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phenol	300	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthene	80	NR	NR	NR	NR	NR	NR	NR	NR	<0.133	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Anthracene	2100	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)anthracene	0.05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)pyrene	0.00479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(b)fluoranthene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(g,h,i)perylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(k)fluoranthene	0.479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Bromophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butyl benzyl phthalate	10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Chloronaphthalene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloroaniline	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chrysene	5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chlorophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Diphenylhydrazine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3,3'-Dichlorobenzidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dibenzo(a,h)anthracene	0.0047	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-butyl phthalate	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-octyl phthalate	14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Diethyl phthalate	500	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dimethyl phthalate	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Ethylhexyl)phthalate	3	ND	ND	ND	ND	21	15	10	<0.772	24	ND	ND	ND	ND	ND	ND	140	100	180	110	250
Fluoranthene	280	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Fluorene	280	NR	NR	NR	NR	NR	NR	NR	NR	<0.132	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobenzene	0.002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobutadiene	0.044	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachloroethane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Isophorone	3.68	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	21	ND	ND	ND	ND	ND	ND	ND	ND	<0.126	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodimethylamine	0.00007	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodiphenylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1-Methylnaphthalene	RL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pyrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

⁽¹⁾: Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-3 Groundwater Quality Data Over Time at JP5 Line Site - Well W7

Sample Date	Compound (ug/L) / Method	9/18/2002 EPA 602	12/2/2002 EPA 602	3/30/2003 EPA 602	6/20/2003 EPA 602	3/31/2004 EPA 602	6/16/2004 EPA 602	9/7/2004 EPA 602	12/9/2004 EPA 602	3/22/2005 EPA 602
Benzene	1	ND	ND	29.8 / 29.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	50	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
Ethylbenzene	29	ND	ND	7.6 / 7.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Tert Butyl Ether	200	NR	NR	<1.0	<1.0	NR	<1.0	NR	<1.0 / 0.58 J	<1.0
Toluene	1000	ND	ND	44.5 / 45	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	ND	ND	22.2 / 22.6	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
2,4-Dichlorophenol	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
2,4-Dimethylphenol	140	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
2,4-Dinitrophenol	RL	NR	NR	NR	NR	<25.0	<25.0	<25.0	<26.0	<27.0
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	<10.0	<10.0	<9.8	<10.0	<11.0
2-Nitrophenol	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
4-Nitrophenol	RL	NR	NR	NR	NR	<25.0	<25.0	<25.0	<26.0	<27.0
Pentachlorophenol	0.3	NR	NR	NR	NR	<25.0	<25.0	<25.0	<26.0	<27.0
Phenol	300	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Acenaphthene	80	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Acenaphthylene	210	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Anthracene	2100	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Benzidine	RL	NR	NR	NR	NR	<50.0	<50.0	<49.0	<52.0	<27.0
Benzo(a)anthracene	0.05	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Benzo(a)pyrene	0.00479	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Benzo(b)fluoranthene	0.0479	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Benzo(g,h,i)perylene	210	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Benzo(k)fluoranthene	0.479	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
4-Bromophenyl phenyl ether	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Butyl benzyl phthalate	10	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
2-Chloronaphthalene	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
4-Chloroaniline	RL	NR	NR	NR	NR	<10.0	<10.0	<9.8	<10.0	<11.0
Chrysene	5	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
4-Chlorophenyl phenyl ether	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
1,2-Dichlorobenzene	620	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
1,2-Diphenylhydrazine	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
1,3-Dichlorobenzene	620	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
1,4-Dichlorobenzene	75	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
3,3'-Dichlorobenzidine	RL	NR	NR	NR	NR	<10.0	<10.0	<9.8	<10.0	<11.0
Dibenzo(a,h)anthracene	0.0047	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Di-n-butyl phthalate	70	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Di-n-octyl phthalate	14	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Diethyl phthalate	500	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Dimethyl phthalate	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Bis(2-Ethylhexyl)phthalate	3	23	290	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Fluoranthene	280	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Fluorene	280	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Hexachlorobenzene	0.002	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Hexachlorobutadiene	0.044	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Hexachloroethane	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Isophorone	3.68	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
Naphthalene	21	ND	ND	<5.1 / 1.3 J	4.4 J	<5.0	<5.0	<4.9	<5.2	<5.3
Nitrobenzene	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
N-Nitrosodimethylamine	0.00007	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
N-Nitrosodiphenylamine	RL	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3
1-Methylnaphthalene	RL	ND	ND	<5.1	<5.2	NR	NR	NR	NR	NR
2-Methylnaphthalene	14	ND	ND	<5.1	<5.2	NR	NR	NR	NR	NR
Phenanthrene	210	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
Pyrene	210	NR	NR	<5.1	<5.2	<5.0	<5.0	<4.9	<5.2	<5.3
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	<5.0	<5.0	<4.9	<5.2	<5.3

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

(1): Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-4 Groundwater Quality Data Over Time at JP5 Line Site - Well W8

Sample Date Compound (ug/L) / Method	NCGWQS	3/9/1998 EPA 602	6/25/1998 EPA 602	9/23/1998 EPA 602	12/21/1998 EPA 602	3/22/1999 EPA 602	6/16/1999 EPA 602	9/23/1999 EPA 602	12/2/1999 ⁽¹⁾ EPA 602	12/28/1999 EPA 602	3/23/2000 EPA 602	6/20/2000 EPA 602	9/18/2000 EPA 602	12/20/2000 EPA 602	3/19/2001 EPA 602	6/19/2001 EPA 602	9/24/2001 EPA 602	12/18/2001 EPA 602	3/19/2002 EPA 602	6/19/2002 EPA 602
Benzene	1	ND	ND	ND	ND	ND	ND	ND	<0.0469	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	29	ND	ND	ND	ND	ND	ND	ND	<0.0563	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tert Butyl Ether	200	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Toluene	1000	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	530	ND	ND	ND	ND	ND	ND	ND	<0.1852	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	140	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pentachlorophenol	0.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phenol	300	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthene	80	NR	NR	NR	NR	NR	NR	NR	<0.151	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthylene	2100	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Anthracene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzidine	0.05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)anthracene	0.00479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)pyrene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(b)fluoranthene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(g,h,i)perylene	0.479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(k)fluoranthene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Bromophenyl phenyl ether	10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butyl benzyl phthalate	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Chloronaphthalene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloroaniline	5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chrysene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethoxy)methane	0.0031	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethyl)ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chlorophenyl phenyl ether	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Diphenylhydrazine	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3,3'-Dichlorobenzidine	0.0047	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dibenzo(a,h)anthracene	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-butyl phthalate	14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-octyl phthalate	500	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Diethyl phthalate	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dimethyl phthalate	3	ND	ND	ND	ND	ND	ND	ND	<3.01	ND	ND	ND	ND	ND	11	29	38	48	70	30
Bis(2-Ethylhexyl)phthalate	280	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Fluoranthene	280	NR	NR	NR	NR	NR	NR	NR	<0.149	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Fluorene	0.002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobenzene	0.044	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobutadiene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachloroethane	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Indeno(1,2,3-cd)pyrene	3.68	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Isophorone	21	ND	ND	11	ND	ND	ND	ND	<0.143	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Nitrobenzene	0.00007	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodimethylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodiphenylamine	RL	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	14	ND	ND	ND	ND	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phenanthrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pyrene	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

⁽¹⁾: Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-4 Groundwater Quality Data Over Time at JP5 Line Site - Well W8

Sample Date	Compound (ug/L) / Method	NCGWQS	9/18/2002 EPA 602	12/2/2002 EPA 602	3/30/2003 EPA 602	6/20/2003 EPA 602	3/31/2004 EPA 602	6/17/2004 EPA 602	9/7/2004 EPA 602	12/9/2004 EPA 602	3/23/2005 EPA 602
Benzene	1		ND	ND	52.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	50		NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620		NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620		NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75		NR	NR	<1.0	<1.0	NR	NR	NR	NR	NR
Ethylbenzene	29		ND	ND	8.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Tert Butyl Ether	200		NR	NR	<1.0	<1.0	NR	<1.0	NR	<1.0	<1.0
Toluene	1000		ND	ND	60.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530		ND	ND	24.7	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Compound (ug/L) / Method			EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
4-Chloro-3-methyl phenol	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
2,4-Dichlorophenol	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
2,4-Dimethylphenol	140		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
2,4-Dinitrophenol	RL		NR	NR	NR	NR	<30.0	<28.0	<24.0	<27.0	<24.0
4,6-Dinitro-o-cresol	RL		NR	NR	NR	NR	<12.0	<11.0	<9.5	<11.0	<9.5
2-Nitrophenol	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
4-Nitrophenol	RL		NR	NR	NR	NR	<30.0	<28.0	<24.0	<27.0	<24.0
Pentachlorophenol	0.3		NR	NR	NR	NR	<30.0	<28.0	<24.0	<27.0	<24.0
Phenol	300		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
2,4,6-Trichlorophenol	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Acenaphthene	80		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Acenaphthylene	210		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Anthracene	2100		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Benzidine	RL		NR	NR	NR	NR	<61.0	<56.0	<48	<54	<24.0
Benzo(a)anthracene	0.05		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Benzo(a)pyrene	0.00479		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Benzo(b)fluoranthene	0.0479		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Benzo(g,h,i)perylene	210		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Benzo(k)fluoranthene	0.479		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
4-Bromophenyl phenyl ether	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Butyl benzyl phthalate	10		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
2-Chloronaphthalene	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
4-Chloroaniline	RL		NR	NR	NR	NR	<12.0	<11.0	<9.5	<11.0	<9.5
Chrysene	5		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Bis(2-Chloroethoxy)methane	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Bis(2-Chloroethyl)ether	0.0031		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Bis(2-Chloroisopropyl)ether	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
4-Chlorophenyl phenyl ether	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
1,2-Dichlorobenzene	620		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
1,2-Diphenylhydrazine	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
1,3-Dichlorobenzene	620		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
1,4-Dichlorobenzene	75		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
2,4-Dinitrotoluene	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
2,6-Dinitrotoluene	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
3,3'-Dichlorobenzidine	RL		NR	NR	NR	NR	<12.0	<11.0	<9.5	<11.0	<9.5
Dibenzo(a,h)anthracene	0.0047		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Di-n-butyl phthalate	70		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Di-n-octyl phthalate	14		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Diethyl phthalate	500		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Dimethyl phthalate	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Bis(2-Ethylhexyl)phthalate	3		34	22	NR	NR	<6.1	12.3	<4.8	<5.4	<4.8
Fluoranthene	280		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Fluorene	280		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Hexachlorobenzene	0.002		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Hexachlorobutadiene	0.044		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Hexachlorocyclopentadiene	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Hexachloroethane	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Indeno(1,2,3-cd)pyrene	0.0479		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Isophorone	3.68		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
Naphthalene	21		ND	ND	2.3 J	7.8 J	<6.1	<5.6	<4.8	<5.4	<4.8
Nitrobenzene	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
N-Nitrosodimethylamine	0.00007		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
N-Nitroso-di-n-propylamine	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
N-Nitrosodiphenylamine	RL		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8
1-Methylnaphthalene	RL		ND	ND	<5.7	<8.2	NR	NR	NR	NR	NR
2-Methylnaphthalene	14		ND	ND	<5.7	<8.2	NR	NR	NR	NR	NR
Phenanthrene	210		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
Pyrene	210		NR	NR	<5.7	<8.2	<6.1	<5.6	<4.8	<5.4	<4.8
1,2,4-Trichlorobenzene	70		NR	NR	NR	NR	<6.1	<5.6	<4.8	<5.4	<4.8

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

(1): Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).

Bold type indicates detectable concentrations.

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

Table C-5 Groundwater Quality Data Over Time at JP5 Line Site - Well W10

Sample Date	Compound (ug/L) / Method	NCGWQS	9/29/1989 EPA 602	12/2/1999 ⁽¹⁾ EPA 602	3/31/2004 EPA 602	6/16/2004 EPA 602	9/7/2004 EPA 602	12/9/2004 EPA 602	3/22/2005 EPA 602
	Benzene	1	<100.0	0.284 J	<1.0	<1.0	<1.0	<1.0	<1.0
	Chlorobenzene	50	NR	NR	NR	NR	NR	NR	NR
	1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR
	1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR
	1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR
	Ethylbenzene	29	<100.0	0.082 J	<1.0	<1.0	<1.0	<1.0	<1.0
	Methyl Tert Butyl Ether	200	<100.0	NR	NR	<1.0	NR	<1.0	<1.0
	Toluene	1000	<100.0	NR	<1.0	<1.0	<1.0	<1.0	<1.0
	Xylenes (total)	530	490	0.289 J	<3.0	<3.0	<3.0	<3.0	<3.0
	Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
	2-Chlorophenol	0.1	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	4-Chloro-3-methyl phenol	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	2,4-Dichlorophenol	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	2,4-Dimethylphenol	140	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	2,4-Dinitrophenol	RL	NR	NR	<25.0	<29.0	<24.0	<1500	<25.0
	4,6-Dinitro-o-cresol	RL	NR	NR	<10.0	<11.0	<9.6	<590	<9.8
	2-Nitrophenol	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	4-Nitrophenol	RL	NR	NR	<25.0	<29.0	<24.0	<1500	<25.0
	Pentachlorophenol	0.3	NR	NR	<25.0	<29.0	<24.0	<1500	<25.0
	Phenol	300	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	2,4,6-Trichlorophenol	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Acenaphthene	80	NR	1.75 J	<5.0	<5.7	<4.8	<290	<4.9
	Acenaphthylene	210	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Anthracene	2100	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Benidine	RL	NR	NR	<50.0	<57.0	<48	<2900	<25.0
	Benzo(a)anthracene	0.05	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Benzo(a)pyrene	0.00479	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Benzo(b)fluoranthene	0.0479	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Benzo(g,h,i)perylene	210	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Benzo(k)fluoranthene	0.479	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	4-Bromophenyl phenyl ether	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Butyl benzyl phthalate	10	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	2-Chloronaphthalene	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	4-Chloroaniline	RL	NR	NR	<10.0	<11.0	<9.6	<590	<9.8
	Chrysene	5	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Bis(2-Chloroethoxy)methane	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Bis(2-Chloroethyl)ether	0.0031	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Bis(2-Chloroisopropyl)ether	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	4-Chlorophenyl phenyl ether	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	1,2-Dichlorobenzene	620	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	1,2-Diphenylhydrazine	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	1,3-Dichlorobenzene	620	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	1,4-Dichlorobenzene	75	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	2,4-Dinitrotoluene	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	2,6-Dinitrotoluene	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	3,3'-Dichlorobenzidine	RL	NR	NR	<10.0	<11.0	<9.6	<590	<9.8
	Dibenzo(a,h)anthracene	0.0047	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Di-n-butyl phthalate	70	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Di-n-octyl phthalate	14	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Diethyl phthalate	500	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Dimethyl phthalate	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Bis(2-Ethylhexyl)phthalate	3	NR	34	33.1	115-156	<4.8	<290	<4.9
	Fluoranthene	280	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Fluorene	280	NR	1.74 J	<5.0	<5.7	<4.8	<290	<4.9
	Hexachlorobenzene	0.002	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Hexachlorobutadiene	0.044	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Hexachlorocyclopentadiene	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Hexachloroethane	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Isophorone	3.68	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Naphthalene	21	NR	<0.126	2.2 J	3.6 J / 3.2 J	3.1 J	<290	2.4 J
	Nitrobenzene	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	N-Nitrosodimethylamine	0.00007	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	N-Nitroso-di-n-propylamine	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	N-Nitrosodiphenylamine	RL	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	1-Methylnaphthalene	RL	NR	NR	NR	NR	NR	NR	NR
	2-Methylnaphthalene	14	NR	NR	NR	NR	NR	NR	NR
	Phenanthrene	210	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	Pyrene	210	NR	NR	<5.0	<5.7	<4.8	<290	<4.9
	1,2,4-Trichlorobenzene	70	NR	NR	<5.0	<5.7	<4.8	<290	<4.9

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

⁽¹⁾: Sampling data reported as 2 December 1999 is estimated based on text of source document (RADIAN, 2000).⁽²⁾: Dibenzofuran reported at an estimated concentration of 2.55 ug/L

Bold type indicates detectable concentrations.

Table C-6 Groundwater Quality Data Over Time at JP5 Line Site - Well W13

Sample Date Compound (ug/L) / Method	NCGWQS	3/9/1998 EPA 602	6/25/1998 EPA 602	9/23/1998 EPA 602	12/21/1998 EPA 602	3/22/1999 EPA 602	6/16/1999 EPA 602	9/23/1999 EPA 602	12/28/1999 EPA 602	3/23/2000 EPA 602	6/20/2000 EPA 602	9/18/2000 EPA 602	12/20/2000 EPA 602	3/19/2001 EPA 602	6/19/2001 EPA 602	9/24/2001 EPA 602	12/18/2001 EPA 602	3/19/2002 EPA 602	6/19/2002 EPA 602	9/18/2002 EPA 602
Benzene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ethylbenzene	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Tert Butyl Ether	200	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Toluene	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	530	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloro-3-methyl phenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	140	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4,6-Dinitro-o-cresol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Nitrophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pentachlorophenol	0.3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phenol	300	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4,6-Trichlorophenol	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthene	80	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Acenaphthylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Anthracene	2100	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)anthracene	0.05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(a)pyrene	0.00479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(b)fluoranthene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(g,h,i)perylene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Benzo(k)fluoranthene	0.479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Bromophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Butyl benzyl phthalate	10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2-Chloronaphthalene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chloroaniline	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chrysene	5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4-Chlorophenyl phenyl ether	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2-Diphenylhydrazine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,4-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
2,6-Dinitrotoluene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
3,3'-Dichlorobenzidine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dibenzo(a,h)anthracene	0.0047	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-butyl phthalate	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Di-n-octyl phthalate	14	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Diethyl phthalate	500	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Dimethyl phthalate	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bis(2-Ethylhexyl)phthalate	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	280	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Fluorene	280	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobenzene	0.002	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorobutadiene	0.044	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachlorocyclopentadiene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Hexachloroethane	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Indeno(1,2,3-cd)pyrene	0.0479	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Isophorone	3.68	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Naphthalene	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodimethylamine	0.00007	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitroso-di-n-propylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
N-Nitrosodiphenylamine	RL	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1-Methylnaphthalene	RL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Pyrene	210	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	70	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

#/#: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

Bold type indicates detectable concentrations.

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

Table C-6 Groundwater Quality Data Over Time at JP5 Line Site - Well W13

Sample Date Compound (ug/L) / Method	NCGWQS	12/2/2002 EPA 602	3/30/2003 EPA 602	6/20/2003 EPA 602
Benzene	1	ND	<1.0	<1.0
Chlorobenzene	50	NR	<1.0	<1.0
1,2-Dichlorobenzene	620	NR	<1.0	<1.0
1,3-Dichlorobenzene	620	NR	<1.0	<1.0
1,4-Dichlorobenzene	75	NR	<1.0	<1.0
Ethylbenzene	29	ND	0.64 J	<1.0
Methyl Tert Butyl Ether	200	NR	<1.0	<1.0
Toluene	1000	ND	<1.0	<1.0
Xylenes (total)	530	ND	<3.0	<3.0
Compound (ug/L) / Method		EPA 625	EPA 625	EPA 625
2-Chlorophenol	0.1	NR	NR	NR
4-Chloro-3-methyl phenol	RL	NR	NR	NR
2,4-Dichlorophenol	RL	NR	NR	NR
2,4-Dimethylphenol	140	NR	NR	NR
2,4-Dinitrophenol	RL	NR	NR	NR
4,6-Dinitro-o-cresol	RL	NR	NR	NR
2-Nitrophenol	RL	NR	NR	NR
4-Nitrophenol	RL	NR	NR	NR
Pentachlorophenol	0.3	NR	NR	NR
Phenol	300	NR	NR	NR
2,4,6-Trichlorophenol	RL	NR	NR	NR
Acenaphthene	80	NR	<5.2	<5.1
Acenaphthylene	210	NR	<5.2	<5.1
Anthracene	2100	NR	<5.2	<5.1
Benzidine	RL	NR	NR	NR
Benzo(a)anthracene	0.05	NR	<5.2	<5.1
Benzo(a)pyrene	0.00479	NR	<5.2	<5.1
Benzo(b)fluoranthene	0.0479	NR	<5.2	<5.1
Benzo(g,h,i)perylene	210	NR	<5.2	<5.1
Benzo(k)fluoranthene	0.479	NR	<5.2	<5.1
4-Bromophenyl phenyl ether	RL	NR	NR	NR
Butyl benzyl phthalate	10	NR	NR	NR
2-Chloronaphthalene	RL	NR	NR	NR
4-Chloroaniline	RL	NR	NR	NR
Chrysene	5	NR	<5.2	<5.1
Bis(2-Chloroethoxy)methane	RL	NR	NR	NR
Bis(2-Chloroethyl)ether	0.0031	NR	NR	NR
Bis(2-Chloroisopropyl)ether	RL	NR	NR	NR
4-Chlorophenyl phenyl ether	RL	NR	NR	NR
1,2-Dichlorobenzene	620	NR	NR	NR
1,2-Diphenylhydrazine	RL	NR	NR	NR
1,3-Dichlorobenzene	620	NR	NR	NR
1,4-Dichlorobenzene	75	NR	NR	NR
2,4-Dinitrotoluene	RL	NR	NR	NR
2,6-Dinitrotoluene	RL	NR	NR	NR
3,3'-Dichlorobenzidine	RL	NR	NR	NR
Dibenzo(a,h)anthracene	0.0047	NR	<5.2	<5.1
Di-n-butyl phthalate	70	NR	NR	NR
Di-n-octyl phthalate	14	NR	NR	NR
Diethyl phthalate	500	NR	NR	NR
Dimethyl phthalate	RL	NR	NR	NR
Bis(2-Ethylhexyl)phthalate	3	380	NR	NR
Fluoranthene	280	NR	<5.2	<5.1
Fluorene	280	NR	<5.2	<5.1
Hexachlorobenzene	0.002	NR	NR	NR
Hexachlorobutadiene	0.044	NR	NR	NR
Hexachlorocyclopentadiene	RL	NR	NR	NR
Hexachloroethane	RL	NR	NR	NR
Indeno(1,2,3-cd)pyrene	0.0479	NR	<5.2	<5.1
Isophorone	3.68	NR	NR	NR
Naphthalene	21	ND	<5.2	1.3 J / 1.2 J
Nitrobenzene	RL	NR	NR	NR
N-Nitrosodimethylamine	0.00007	NR	NR	NR
N-Nitroso-di-n-propylamine	RL	NR	NR	NR
N-Nitrosodiphenylamine	RL	NR	NR	NR
1-Methylnaphthalene	RL	ND	<5.2	<5.1
2-Methylnaphthalene	14	ND	<5.2	<5.1
Phenanthrene	210	NR	<5.2	<5.1
Pyrene	210	NR	<5.2	<5.1
1,2,4-Trichlorobenzene	70	NR	NR	NR

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

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: Not Detected - compound not detected and reporting limit not specified in source document summary tables; NR: Not Reported - compound not reported in source document summary tables

mg/L: micrograms per liter

<#: not detected at the indicated reporting limit

/ #: Denotes primary/duplicate sample results

J: estimated concentration less than reporting limit; B: compound detected in the sample and the laboratory blank; E: concentration exceeds the linear quantitation range

Bold type indicates detectable concentrations.

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

DATA PROVIDED BY SHAW DECEMBER 2005

Table
JP5 Line Area (Building AS-4141)
Groundwater Analytical Results
VOC, SVOC (PAHs Only) and Lead

Date: 1/27/2006			Incident Number and Name: 115122 JP 5 Wells																		
Analytical Method:			8260B																		
Contaminant of Concern			Acetone	Benzene	Bromodichloromethane	Bromoform	Chlorobenzene	Chloroethane	Chloroform	Carbon disulfide	Carbon tetrachloride	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichloropropane	Dibromochloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Ethylbenzene
Sample ID	Date Collected	Sample Depth (ft bgs)																			
USTAS4141-MW15	12/22/2005	N/A	<25	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.6
USTAS4141-MW14	12/22/2005	N/A	<25	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
USTAS4141-OBG06	12/22/2005	N/A	<25	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
USTAS4141-MW02	12/22/2005	N/A	9.5 J	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
USTAS4141-RW2	12/22/2005	N/A	<25	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
USTAS4141-RW2-DUP	12/22/2005	N/A	<25	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
USTAS4141-TB	12/22/2005	N/A	<25	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
GWQS (ug/L)			700	1	0.56	4.43	50	2800	70	700	0.269	70	7	0.38	0.51	0.41	70	0.19	100	0.19	550
GCL (ug/L)			700000	5000	NS	NS	NS	NS	190	700000	NS	700000	7000	380	560	68	70000	200	70000	200	29000

Date: 1/27/2006			Incident Number and Name: 115122 JP 5 Wells														
Analytical Method:			8260B														
Contaminant of Concern			2-Hexanone	4-Methyl-2-pentanone	Methyl bromide	Methyl chloride	Methylene chloride	Methyl ethyl ketone	Styrene	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	Tetrachloroethene	Toluene	Trichloroethene	Vinyl chloride	Xylenes (total)
Sample ID	Date Collected	Sample Depth (ft bgs)															
USTAS4141-MW15	12/22/2005	N/A	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
USTAS4141-MW14	12/22/2005	N/A	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
USTAS4141-OBG06	12/22/2005	N/A	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
USTAS4141-MW02	12/22/2005	N/A	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
USTAS4141-RW2	12/22/2005	N/A	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
USTAS4141-RW2-DUP	12/22/2005	N/A	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
USTAS4141-TB	12/22/2005	N/A	<5.0	<5.0	<2.0	<2.0	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0
		GWQS (ug/L)	280	NS	NS	2.6	4.6	4200	100	200	0.17	NS	0.7	1000	2.8	0.015	530
		GCL (ug/L)	280000	NS	NS	2600	5000	170000	100000	NS	170	NS	700	257500	2800	15	875000

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

Detected concentration exceeds GWQS

GWQS = Groundwater Quality Standard NC Administrative Code Title 15A Subchapter 2L - Groundwater Classifications and Standards 04/01/05

GCL = Gross Contamination Level

Results must be reported in ug/L

ug/L = micrograms per liter

NA = not applicable

NS = no standard

J Numerical value is an estimate between laboratory reporting limit and laboratory method detection limit

Table
JP5 Line Area (Building AS-4141)
Groundwater Analytical Results
VOC, SVOC (PAHs Only) and Lead

Date: 1/27/2006			Incident Number and Name: 115122 JP 5 Wells																		
Analytical Method:			6010B	8270C																	
Contaminant of Concern			Lead	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
Sample ID	Date Collected	Sample Depth (ft bgs)																			
USTAS4141-MW15	12/22/2005	N/A		<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	38.9		18.1	<4.8	<4.8
USTAS4141-MW14	12/22/2005	N/A	5.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
USTAS4141-OBG06	12/22/2005	N/A	14.3	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
USTAS4141-MW02	12/22/2005	N/A		<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
USTAS4141-RW2	12/22/2005	N/A	1.7 B	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	4.2 J	<4.8	5.0	<4.8	<4.8
USTAS4141-RW2-DUP	12/22/2005	N/A	2.3 B	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	4.6 J	<4.8	5.6	<4.8	<4.8
GWQS (ug/L)			15	80	210	2100	0.048	0.0048	0.048	210	0.48	4.8	0.0047	280	280	0.048	NS	14	21	210	210
GCL (ug/L)			15000	2120	1965	2100	22	1.5	0.6	210	0.47	5	0.25	280	950	31	NS	12500	15500	410	210

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

Detected concentration exceeds GWQS

GWQS = Groundwater Quality Standard NC Administrative Code Title 15A Subchapter 2L - Groundwater Classifications and Standards 04/01/05

GCL = Gross Contamination Level

Results must be reported in ug/L

ug/L = micrograms per liter

NA = not applicable

NS = no standard

J Numerical value is an estimate between laboratory reporting limit and laboratory method detection limit

B Indicates a result > =Instrument detection limit but < reporting limit

APPENDIX D

HISTORICAL GROUNDWATER ELEVATION DATA AND FREE-PHASE PRODUCT THICKNESS

CORRECTIVE ACTION PLAN

TABLE 1
JP-5 LINE AREA
GROUNDWATER ELEVATIONS
Sept. 29 1989

Well #	TOC Elevation	DTW Below Grade	Product Thickness	Corrected Groundwater Elevation
	(AMSL)	(in feet)	(in feet)	(AMSL)
W-2	24.29	7.33*	0.00	16.96
W-7	26.50	6.65	0.00	19.85
W-8	26.52	6.20	0.00	20.32
W-10	25.88	6.46	0.80	20.03
OBG-4	21.09	6.45	0.00	14.64
OBG-5	22.88	8.25	0.00	14.63
OBG-6	21.63	5.97	0.00	15.66

AMSL - Above Mean Sea Level

DTW - Depth To Water

* - DTW taken from Metal Outer Casing

APPENDIX A OF ANNUAL MONITORING REPORT: 2004-2005

TABLE A-1
Depth to Groundwater Data Over Time
JP5 Line Site

Location	Top of Casing Elevation ⁽¹⁾	Depth to Water (feet BTOC)																							
		9/29/1989	3/9/1998	4/29/1998	5/25/1998	6/25/1998	7/21/1998	9/23/1998	10/21/1998	12/22/1998	1/22/1999	3/22/1999	4/26/1999	5/10/1999	6/16/1999	7/22/1999	8/17/1999	8/17/1999	9/1/1999	9/1/1999	9/23/1999	10/22/1999	11/18/1999	11/30/1999	12/28/1999
OBG-2	InD	NM	0.79	2.15	NM	3.85	3.62	3.24	3.85	3.22	3.31	2.36	NM	2.88	3.42	2.89	3.58	3.58	2.51	2.55	1.96	1.96	3.42	NM	3.68
OBG-4	21.09	6.45	5.32	6.43	NM	6.62	6.87	6.27	7.21	8.02	8.09	7.18	7.19	6.74	7.41	7.05	7.64	7.75	7.07	7.24	5.96	5.66	6.68	7.05	7.40
OBG-5	22.88	8.25	6.95	8.37	NM	8.69	6.72	7.90	9.03	9.69	9.71	7.72	8.87	8.35	9.21	6.86	6.65	6.93	5.75	5.96	4.73	4.61	5.63	6.52	6.55
OBG-6	21.63	5.97	5.60	6.78	NM	6.49	6.62	8.17	7.07	8.31	8.21	6.12	6.71	6.17	6.48	6.64	7.21	7.51	6.15	6.51	5.66	5.43	6.55	7.11	7.69
W-2	24.29	7.33	2.85	3.75	NM	3.82	3.93	4.45	5.10	4.35	4.30	6.45	7.15	6.82	3.80	6.80	7.20	7.18	6.80	6.80	6.31	6.45	7.58	NM	7.30
W-7	26.50	6.65	5.31	7.16	NM	7.19	6.91	7.31	7.85	6.92	6.35	5.79	7.63	7.06	7.44	7.23	8.03	8.02	6.10	6.17	5.48	7.56	7.59	7.71	7.36
W-7(rs)	21.98	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-8	26.52	6.20	5.10	7.09	NM	7.02	7.09	8.88	9.25	9.79	7.26	6.96	7.20	7.38	10.57	8.66	12.07	12.14	7.11	7.18	5.96	6.31	9.09	10.58	11.66
W-10	25.88	6.46	4.61	6.74	NM	7.25	7.28	6.84	7.62	6.79	6.33	5.02	6.55	5.90	6.24	6.42	7.36	8.05	5.59	6.12	5.61	5.35	6.85	6.88	6.63
W-10(rs)	22.80	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-13	InD	NM	4.98	6.05	NM	6.14	6.26	5.74	6.68	8.51	8.46	5.76	NM	5.37	5.76	NM	NM	NM	NM	NM	4.49	NM	5.17	NM	5.94
RW-1	InD	NM	NM	11.23	11.42	8.60	8.53	6.18	8.12	13.69	12.67	10.16	13.02	10.89	12.27	8.82	6.23	6.75	6.80	6.10	7.00	14.22	10.31	NM	7.40
RW-2	InD	NM	NM	10.80	10.35	8.33	8.01	7.05	8.37	8.98	14.17	9.40	8.11	7.54	8.35	7.84	8.56	10.80	4.90	9.22	14.12	NM	8.96	NM	8.96

Location	Top of Casing Elevation ⁽¹⁾	Depth to Water (feet BTOC)																							
		1/27/2000	2/23/2000	3/7/2000	3/7/2000	3/23/2000	3/27/2000	3/27/2000	4/17/2000	4/26/2000	4/26/2000	5/11/2000	5/11/2000	5/25/2000	5/31/2000	5/31/2000	6/20/2000	6/20/2000	6/29/2000	6/29/2000	7/13/2000	7/13/2000	9/18/2000	11/16/2000	11/16/2000
OBG-2	InD	2.57	3.15	3.41	3.39	2.76	2.64	2.64	2.37	2.21	2.21	2.91	2.98	3.27	3.73	3.80	2.65	2.71	3.26	3.16	3.72	3.76	3.27	4.12	4.14
OBG-4	21.09	6.75	6.64	6.85	7.40	NM	6.75	6.75	6.61	5.49	7.20	6.51	7.18	6.89	7.03	7.73	7.18	7.77	7.14	7.84	7.45	8.15	6.34	7.32	8.01
OBG-5	22.88	5.45	5.69	6.93	7.15	5.53	5.79	5.79	5.43	5.23	5.95	NM	NM	NM	5.98	6.53	6.18	7.33	NM	NM	6.62	7.65	5.28	6.28	6.92
OBG-6	21.63	6.54	6.68	6.91	7.37	6.13	6.50	6.50	6.33	6.22	7.45	6.40	7.62	6.93	7.09	8.22	6.93	8.19	7.11	8.23	7.39	8.93	5.83	7.02	7.87
W-2	24.29	6.53	6.80	6.93	6.87	6.72	6.29	6.29	6.24	6.34	6.38	6.32	6.38	6.72	7.27	7.29	6.50	6.59	6.72	6.69	7.11	7.13	6.67	7.62	7.60
W-7	26.50	5.43	6.98	7.21	7.21	6.20	6.59	6.59	5.97	5.93	6.02	7.20	7.22	7.58	7.65	7.67	7.35	7.30	7.36	7.40	7.70	7.73	7.15	7.76	7.75
W-7(rs)	21.98	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-8	26.52	9.28	10.96	11.36	11.50	10.40	10.78	10.78	10.13	9.98	10.38	10.46	10.79	11.30	11.60	11.86	11.82	12.35	11.76	12.29	12.23	12.62	9.82	11.96	12.13
W-10	25.88	4.98	5.50	5.15	5.44	5.22	5.19	5.19	5.30	5.57	5.62	5.91	5.98	6.12	6.27	6.51	6.14	6.15	6.32	6.48	7.01	7.19	6.25	6.77	6.76
W-10(rs)	22.80	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-13	InD	5.25	5.28	NM	NM	5.06	5.36	5.37	4.98	5.02	5.72	4.80	5.75	5.41	5.60	6.30	5.35	6.45	5.80	6.23	6.02	6.63	4.60	5.86	6.51
RW-1	InD	5.95	5.72	No Data	8.54	5.33	5.30	7.29	5.70	6.92	8.90	5.07	7.40	5.34	5.50	8.30	5.90	8.18	5.65	8.09	6.15	9.10	4.88	5.85	9.43
RW-2	InD	2.13	8.92	8.62	8.90	8.34	9.16	11.12	8.15	7.90	9.20	7.65	8.83	9.13	8.20	10.20	8.60	9.27	8.40	9.44	8.16	10.35	7.24	7.98	10.52

Location	Top of Casing Elevation ⁽¹⁾	Depth to Water (feet BTOC)																							
		12/20/2000	1/17/2001	1/17/2001	2/28/2001	2/28/2001	3/19/2001	3/30/2001	3/30/2001	4/25/2001	4/25/2001	5/29/2001	5/29/2001	6/19/2001	6/27/2001	7/26/2001	7/26/2001	8/27/2001	8/27/2001	9/24/2001	10/2/2001	10/2/2001	10/29/2001	10/29/2001	11/26/2001
OBG-2	InD	3.14	3.45	3.40	2.42	2.42	3.96	2.26	2.32	3.40	3.42	NM	NM	6.42	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
OBG-4	21.09	6.55	6.99	7.79	6.65	7.60	6.64	6.35	7.22	6.93	7.90	7.12	7.97	6.54	6.33	6.79	7.03	6.76	7.46	6.90	7.20	7.91	7.79	8.58	8.05
OBG-5	22.88	5.47	NM	NM	5.26	6.24	5.41	5.12	6.21	5.83	6.50	6.10	7.50	5.25	5.03	5.43	NM	5.51	6.93	5.80	6.25	7.28	6.92	8.03	7.23
OBG-6	21.63	6.09	6.70	7.62	5.92	6.83	6.13	7.93	6.80	6.68	7.69	6.82	7.21	5.28	5.02	5.61	5.90	5.70	6.50	6.26	6.62	7.30	7.31	8.00	7.83
W-2	24.29	6.87	6.75	6.74	5.93	6.00	6.65	5.55	5.63	6.78	6.50	NM	NM	6.42	6.35	6.60	6.68	6.87	6.88	6.98	NM	NM	NM	NM	NM
W-7	26.50	6.18	6.36	6.38	5.62	5.55	6.61	5.52	5.59	7.38	7.40	6.65	5.76	6.20	6.13	6.25	6.35	6.89	6.90	7.1					

TABLE A-2
Depth to Product Data Over Time
JP5 Line Site

Location	Top of Casing Elevation ⁽¹⁾	Depth to Product (feet BTOC)																							
		9/29/1989	3/9/1998	4/29/1998	5/25/1998	6/25/1998	7/21/1998	9/23/1998	10/21/1998	12/22/1998	1/22/1999	3/22/1999	4/26/1999	5/10/1999	6/16/1999	7/22/1999	8/17/1999	8/17/1999	9/1/1999	9/1/1999	9/23/1999	10/22/1999	11/18/1999	11/30/1999	12/28/1999
OBG-2	InD	NM	—	—	NM	—	—	—	—	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	NM	—
OBG-4	21.09	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OBG-5	22.88	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OBG-6	21.63	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-2	24.29	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	—
W-7	26.50	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-7(rs)	21.98	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-8	26.52	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-10	25.88	—	—	5.87	NM	6.36	6.40	Trace	—	6.78	Trace	Trace	—	—	—	—	—	—	—	—	—	—	—	—	—
W-10(rs)	22.80	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-13	InD	NM	—	—	NM	—	—	—	—	—	—	—	NM	—	—	NM	NM	NM	NM	NM	NM	NM	NM	NM	—
RW-1	InD	NM	NM	3.44	3.75	4.31	5.83	4.25	5.13	12.67	11.59	4.80	8.46	7.20	8.65	4.63	6.00	—	6.15	—	6.40	—	9.54	NM	—
RW-2	InD	NM	NM	6.49	6.08	7.37	7.03	—	8.33	8.94	—	—	—	7.52	8.32	7.82	—	—	—	—	—	NM	—	NM	—

Location	Top of Casing Elevation ⁽¹⁾	Depth to Product (feet BTOC)																							
		1/27/2000	2/23/2000	3/7/2000	3/7/2000	3/23/2000	3/27/2000	3/27/2000	4/17/2000	4/26/2000	4/26/2000	5/11/2000	5/11/2000	5/25/2000	5/31/2000	5/31/2000	6/20/2000	6/20/2000	6/29/2000	6/29/2000	7/13/2000	7/13/2000	9/18/2000	11/16/2000	11/16/2000
OBG-2	InD	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OBG-4	21.09	—	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OBG-5	22.88	—	—	—	—	—	—	—	—	—	—	NM	NM	NM	—	—	—	—	NM	NM	—	—	—	—	—
OBG-6	21.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-2	24.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-7	26.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-7(rs)	21.98	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-8	26.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-10	25.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-10(rs)	22.80	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-13	InD	—	—	NM	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RW-1	InD	4.92	5.02	No Data	—	5.15	5.00	—	4.80	5.82	—	4.89	—	5.30	5.45	—	5.51	—	—	—	5.77	—	4.75	5.65	—
RW-2	InD	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	Top of Casing Elevation ⁽¹⁾	Depth to Product (feet BTOC)																							
		12/20/2000	1/17/2001	1/17/2001	2/28/2001	2/28/2001	3/19/2001	3/30/2001	3/30/2001	4/25/2001	4/25/2001	5/29/2001	5/29/2001	6/19/2001	6/27/2001	7/26/2001	7/26/2001	8/27/2001	8/27/2001	9/24/2001	10/2/2001	10/2/2001	10/29/2001	10/29/2001	11/26/2001
OBG-2	InD	—	—	—	—	—	—	—	—	—	—	NM	NM	—	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
OBG-4	21.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OBG-5	22.88	—	NM	NM	—	—	—	—	—	—	—	—	—	—	—	—	NM	—	—	—	—	—	—	—	—
OBG-6	21.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W-2	24.29	—	—	—	—	—	—	—	—	—	—	NM	NM	—	—	—	—	—	—	—	—	NM	NM	NM	NM
W-7	26.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM	NM	NM
W-7(rs)	21.98	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-8	26.52	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM	NM	NM	NM
W-10	25.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM	NM	NM	NM
W-10(rs)	22.80	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-13	InD	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
RW-1	InD	5.10	5.58	—	5.10	—	4.93	4.76	—	5.45	—	5.56	—	4.90	4.65	4.98	—	5.02	—	—	5.45	5.45	6.10	6.10	6.50
RW-2	InD	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM	NM	NM	5.24	NM	NM	NM	NM	NM

Location	Top of Casing Elevation ⁽¹⁾	Depth to Product (feet BTOC)																				
		11/26/2001	12/12/2001	12/18/2001	2/14/2002	3/19/2002	4/12/2002	4/5/2004	5/4/2004	6/16/2004	7/6/2004	8/3/2004	9/2/2004	10/1/2004	10/4/2004	11/4/2004	12/9/2004	1/5/2005	2/3/2005	3/21/2005	3/31/2005	4/5/2005
OBG-2	InD	NM	NM	NM	—	NM	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM
OBG-4	21.09	—	—	—	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	NM	—
OBG-5	22.88	—	—	—	—	—	—	NM	—	—	—	—	—	—	—	—	—	—	—	—	NM	—
OBG-6	21.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM
W-2	24.29	NM	—	NM	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM
W-7	26.50	NM	—	—	—	—	—	—	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-7(rs)	21.98	na	na	na	na	na	na	na	—	—	—	—	—	—	—	—	NM	NM	—	—	—	NM
W-8	26.52	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NM
W-10	25.88	NM	—	—	—	—	—	—	na	na	na	na	na	na	na	na	na	na	na	na	na	na
W-10(rs)	22.80	na	na	na	na	na	na	na	—	—	—	4.95	—	—	—	—	NM	NM	—	—	—	NM
W-13	InD	—	—	—	—	—	—	—	—	—	—	NM	NM	NM	—	—	—	—	—	—	NM	NM
RW-1	InD	—	NM	6.42	5.68	5.51	5.55	4.90	4.15	5.25	5.35	—	4.10	4.35	4.62	5.39	5.75	5.85	5.65	5.28	NM	NM
RW-2	InD	NM	NM	—	—	—	—	—	—	—	—	—	—	—	—	—	NM	NM	—	—	NM	NM

⁽¹⁾ Top of casing elevation expressed in feet above/below MSL
BTOC - below top of casing

MSL - mean sea level

Wells W-7 and W-10 had the upper portion of the casings removed during construction activities in April 2004; the resurveyed casing elevations are listed as W-7 (rs) and W-10 (rs)

--: indicates no measurable product detected

NM - Not measured (e.g., for the indicated date, the well was not accessible, the well was not installed, or the well was not included in gauging program)

na: Not applicable, for indicated measurement date, the measurement not referenced to the indicated TOC elevation datum

InD: Insufficient data or data unavailable

DATA PROVIDED BY SHAW

12/6/05 to 4/26/06

Date: 12-6-05

AS 4141 Well Gauging

[illegible]

AS 4141 Well Gauging

[illegible]

12.23-05

AS 4141 Well Gauging

[illegible]

1-6-06

AS 4141 Well Gauging

[illegible]

1-11-06

AS 4141 Well Gauging

[illegible]

AS 4141 Well Gauging

Used Peristaltic pump to pull product from wells TP-1, TP-3 and TP-5			
--	--	--	--

AS 4141 Well Gauging

Used Peristaltic pump to pull product from wells	TP-1, TP-3
and TP-5	

Date: 4-18-06

AS-4141 Well Gauging

Well#	DTW	DTP	Total	DTB	DIA
USTAS 4141-MW 14	6.04	0	0	24.82	2"
USTAS 4141-MW 15	4.17	0	0	12.79	2"
AS 3905-TP 1	7.28	6.78	0.50	12.25	1"
AS 3905-TP 2	6.68	0	0	12.98	1"
AS 3905-TP 3	9.69	6.13	3.56	12.59	1"
AS 3905-TP 4	5.56	0	0	12.61	1"
AS 3905-TP 5	9.09	6.55	2.54	12.32	1"
UST AS 4141-OBG 03 R	6.90	6.67	0.23	12.71	2"
RW-1	5.96	5.10	0.86	21.48	8"
OBG-6	6.28	0	0	17.39	2"

4-21-06 - Used peristaltic pump to recover product from
TP-1, TP-3 + TP-5

Date: 4-26-06

AS-4141 Well Gauging

Well#	DTW	DTP	Total	DTB	DIA
USTAS 4141-MW 14	5.98	0	0	24.82	2"
USTAS 4141-MW 15	3.02	0	0	12.79	2"
AS 3905-TP 1	6.85	6.78	0.17	12.25	1"
AS 3905-TP 2	6.58	0	0	12.96	1"
AS 3905-TP 3	7.64	6.50	1.14	12.59	1"
AS 3905-TP 4	5.70	0	0	12.61	1"
AS 3905-TP 5	7.40	6.58	0.82	12.32	1"
UST AS 4141-OBG 03 R	7.08	6.81	0.27	12.71	2"
RW-1	5.20	5.18	0.02	21.48	6"
OBG-6	5.13	0	0	17.39	2"

DATA COLLECTED BY CATLIN AS PART OF THIS REPORT

CATLIN
PROJECT: Building AS-4141
CATLIN PROJECT # : 204-103
LOGGED BY: _____

NAVFAC

3/15/2006

METHOD:

Specific Gravity Adjustments: Paraxylene = 0.73, #2 Fuel Oil = 0.86, Diesel = 0.86, Gasoline = 0.77, JP-5 = 0.82, Kerosene = 0.82

Calculations - $E = B - D$; $F = B - C$; $G = F - E$; $I = (A - E) + (G * H)$;

APPENDIX E
AGGRESSIVE FLUID/VAPOR RECOVERY DATA

FINAL ANNUAL MONITORING REPORT – JANUARY 2004

Table 3-1 TRANSPORTATION AND DISPOSAL LOG
J.A. JONES ENVIRONMENTAL SERVICES COMPANY
MCAS NEW RIVER, NORTH CAROLINA
PROJECT NUMBER: 005-0671

GALLONS TO DATE 51,455.50
TONS TO DATE 36.00
DRUMS TO DATE 10.00

DATE SHIPPED	DISPOSAL FACILITY	HAULER	TONS	GALLONS	DRUMS	MANIFEST NUMBER	LOAD NUMBER	COMMENTS
JP-5 Line								
4/22/1999	ES&J Enterprises 1555 Holland Rd. Autryville, North Carolina	ES&J Enterprises	18			834	S-001	Petroleum Contaminated Soil from Storage Tank Spill
4/22/1999	ES&J Enterprises 1555 Holland Rd. Autryville, North Carolina	ES&J Enterprises	18			836	S-002	Petroleum Contaminated Soil from Storage Tank Spill
5/27/1999	Fisher Industrial Service, Inc 402 Webster Chapel Rd Glencoe, AL 35905	Envirochem			7	195	D-001	Petroleum Contaminated Water from Storage Tank Spill
5/27/1999	Fisher Industrial Service, Inc 402 Webster Chapel Rd Glencoe, AL 35905	Envirochem			3	195	D-002	Empty Drums
8/18/1999	Building 976 North Plant	J.A. Jones		738		821	W-001	AFVR
9/1/1999	Building 976 North Plant	J.A. Jones		627.5		821	W-002	AFVR
1/28/2000	Building 976 North Plant	J.A. Jones		735		821	W-003	AFVR
3/27/2000	Shaw North Plant	J.A. Jones		400		821	W-004	AFVR
4/27/2000	Shaw North Plant	J.A. Jones		2,220		821	W-005	AFVR
5/11/2000	Shaw North Plant	J.A. Jones		2,215		1018	W-006	AFVR
5/31/2000	Shaw North Plant	J.A. Jones		1,875		948	W-007	AFVR
6/20/000	Shaw North Plant	J.A. Jones		2,270		958	W-008	AFVR
6/29/2000	Shaw North Plant	J.A. Jones		2,483		961	W-009	AFVR
7/13/2000	Shaw North Plant	J.A. Jones		2,242		967	W-010	AFVR
11/16/2000	Shaw North Plant	J.A. Jones		2,373		1053	W-011	AFVR
1/17/2001	Shaw North Plant	J.A. Jones		2,345		1288	W-012	AFVR
2/28/2001	Shaw North Plant	J.A. Jones		2,108		1298	W-013	AFVR
3/30/2001	Shaw North Plant	J.A. Jones		2,361		1453	W-014	AFVR
4/25/2001	Shaw North Plant	J.A. Jones		3,159		2544	W-015	AFVR
5/29/2001	Shaw North Plant	J.A. Jones		3,554		2569	W-016	AFVR
6/27/2001	Shaw North Plant	J.A. Jones		3,159		2597	W-017	AFVR
8/27/2001	Shaw North Plant	J.A. Jones		3,370		2647	W-018	AFVR
10/2/2001	Shaw North Plant	J.A. Jones		2,966		2671	W-019	AFVR
10/29/2001	Shaw North Plant	J.A. Jones		3,340		2692	W-020	AFVR
11/26/2001	Shaw North Plant	J.A. Jones		3,510		2684	W-021	AFVR
12/12/2001	Shaw North Plant	J.A. Jones		3,405		2725	W-022	AFVR
TOTAL as of 4/31/02			36.00	48,050.50	10.00	SOIL:	2	Loads
						WATER:	22	Loads
						DRUMS:	2	Loads

APPENDIX D OF ANNUAL MONITORING REPORT – 2004-2005

AFVR Removal Volume Calculations - Well RW-1

Table D-1

Date	Stack Temperature (F°)	Stack Gas Velocity (ft/sec)	Stack Diameter (in)	Assumed Stack Pressure at PID Port (in Hg)	Flow Rate (DSCFM)	Vacuum Applied (in Hg)	Measured PPM ("wet")	Elapsed Time Interval (min)	Calibration Gas	Direct Liquid Product Volume Removed (gal)	Liquid Mass Removed (lbs)	Product Volume Removed from Vapor (gal)	Vapor Mass Removed (lbs)	Total Product Volume Removed (gal)	Total Product Mass Removed (lbs)
	T _s	V	D	P	Q _{STD}	P _v	PPM _w	ET _M	C _G	VOL	Mass	VOL	Mass	VOL	Mass
4/7/2004	77	400	6	0.0	4488	23.0	200,000	15	Methane	0.5	3.1	76	505		
	75	400	6	0.0	4515	23.0	200,000	15	Methane			76	507		
	75	400	6	0.0	4515	23.0	186,224	15	Methane			71	472		
	74	400	6	0.0	4527	23.0	158,120	15	Methane			60	402		
	74	400	6	0.0	4527	22.0	142,884	15	Methane			54	363		
TOTAL for 07 Apr 2004														337	2,252
5/27/2004	87	400	6	0.0	4352	23.0	200,000	15	Methane	0.3	1.6	74	496		
	89	400	6	0.0	4323	23.0	200,000	15	Methane			74	494		
	92	400	6	0.0	4279	23.0	200,000	15	Methane			74	491		
	95	400	6	0.0	4234	23.0	196,812	15	Methane			72	481		
	95	400	6	0.0	4234	23.0	176,226	15	Methane			64	431		
	98	400	6	0.0	4187	23.0	166,440	15	Methane			61	405		
	101	400	6	0.0	4139	23.0	159,680	15	Methane			58	386		
TOTAL for 27 May 2004														477	3,185
6/11/2004	90	400	6	0.0	4309	23.0	200,000	15	Methane	0.5	3.1	74	493		
	95	400	6	0.0	4234	23.0	200,000	15	Methane			73	489		
	98	400	6	0.0	4187	23.0	182,146	15	Methane			66	443		
	101	400	6	0.0	4139	23.0	170,782	15	Methane			62	413		
	100	400	6	0.0	4155	23.0	156,440	15	Methane			57	379		
	101	400	6	0.0	4139	23.0	143,260	15	Methane			52	346		
TOTAL for 11 Jun 2004														384	2,566
10/26/2004	64	400	6	0.0	4653	17.0	197,016	15	Methane	0.5	3.1	76	510		
	71	400	6	0.0	4566	17.0	186,420	15	Methane			71	476		
	72	400	6	0.0	4554	17.0	178,224	15	Methane			68	454		
	73	400	6	0.0	4540	17.0	165,748	15	Methane			63	422		
	73	400	6	0.0	4540	17.0	159,576	15	Methane			61	406		
TOTAL for 26 Oct 2004														340	2,272
12/21/2004	42	400	6	0.0	4912	23.0	191,458	15	Methane	0.3	1.6	77	517		
	45	400	6	0.0	4878	23.0	180,032	15	Methane			72	484		
	46	400	6	0.0	4866	23.0	164,952	15	Methane			66	442		
	46	400	6	0.0	4866	23.0	140,660	15	Methane			56	377		
TOTAL for 21 Dec 2004														273	1,822

Table D-1

AFVR Removal Volume Calculations - Well RW-1

Date	Stack Temperature (F°)	Stack Gas Velocity (ft/sec)	Stack Diameter (in)	Assumed Stack Pressure at PID Port (in Hg)	Flow Rate (DSCFM)	Vacuum Applied (in Hg)	Measured PPM ("wet")	Elapsed Time Interval (min)	Calibration Gas	Direct Liquid Product Volume Removed (gal)	Liquid Mass Removed (lbs)	Product Volume Removed from Vapor (gal)	Vapor Mass Removed (lbs)	Total Product Volume Removed (gal)	Total Product Mass Removed (lbs)
	T _s	V	D	P	Q _{STD}	P _v	PPM _w	ET _M	C _G	VOL	Mass	VOL	Mass	VOL	Mass
2/4/2005	40	400	6	0.0	4935	24.0	187,168	15	Methane	0.1	0.8	76	508		
	46	400	6	0.0	4866	24.0	168,264	15	Methane			68	451		
	47	400	6	0.0	4855	24.0	153,720	15	Methane			62	411		
	47	400	6	0.0	4855	24.0	135,692	15	Methane			54	363		
TOTAL for 04 Feb 2005														260	1,734
3/23/2005	67	400	6		4616	22.0	178,064	15	Methane	0.1	0.6	69	458		
	71	400	6		4566	22.0	157,368	15	Methane			60	402		
	72	400	6		4554	22.0	135,496	15	Methane			52	345		
TOTAL for 23 Mar 2005														181	1,206

**DATA PROVIDED BY SHAW
11/11/05 TO 4/21/06**

Aggressive Fluid Vapor Recovery (AFVR) Data Sheet

Facility: MCB Camp Lejeune, NC

Location: MCAS New River Bldg AS-3905

Baseline Data - AFVR and Observation Wells

WELL IDENTIFICATION	RW-1	OBG-6			
AFVR WELL (YES/NO)	yes	no			
WELL DEPTH (FT BLS)	21.48	17.39			
DIAMETER (INCH)	6"	2"			
DEPTH TO PRODUCT (FT)	4.82	0			
DEPTH TO WATER (FT)	5.40	5.35			
PRODUCT THICKNESS (FT)	.58	0			
SCREEN INTERV. (FT BLS)	N/A	N/A			

Water level Measurements - AFVR and Observation Wells (from TOC)

Actual Time	Elapsed Time	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP
0800	0:00	5.40	4.82	5.35	0						
0815	0:15	-	-	5.35	0						
0830	0:30	-	-	5.35	0						
0845	0:45	-	-	5.35	0						
0900	1:00	-	-	5.35	0						
0915	1:15	5.31	0	5.36	0						
	1:30										
	1:45										
	2:00										
	2:30										
	3:00										
	3:30										
	4:00										
	4:30										
	5:00										
	5:30										
	6:00										

NOTE: DTW - Depth to Water (ft, TOC) :: DTP - Depth to Product (ft, TOC)

Project #: 117407

Initials: ML/JM

Date: 11-11-05

Start Time: 0800

AFVR Stack and Vacuum Truck Data

Stack Diameter	6 inches
FID Calibration Gas	Methane
Calibrated yes/no	yes

Fluids Recovered	
Water (gals)	75
Product (gals)	3/4

AFVR Stack and Vacuum Truck Measurements

Elapsed Time	FID (ppm)	Velocity (ft/sec m/sec)	Temp (°F) (°C)	Vac Truck ("Hg) (RPM)
0:00	2200,000	400 -	40 -	23 600
0:15	186,420	400 -	43 -	
0:30	178,244	400 -	45 -	
0:45	105,748	400 -	46 -	
1:00	158,584	400 -	49 -	23 600
1:15	140,764	400 -	51 -	
1:30				
1:45				
2:00				
2:30				
3:00				
3:30				
4:00				
4:30				
5:00				
5:30				
6:00				

Aggressive Fluid Vapor Recovery (AFVR) Data Sheet

Facility: MCB Camp Lejeune, NC

Location: MCAS New River Bldg AS-4141

Baseline Data - AFVR and Observation Wells

WELL IDENTIFICATION	OBG-03R	OBG-6			
AFVR WELL (YES/NO)	yes	no			
WELL DEPTH (FT BLS)	12.71	12.39			
DIAMETER (INCH)	2"	2"			
DEPTH TO PRODUCT (FT)	5.85	0			
DEPTH TO WATER (FT)	8.30	4.67			
PRODUCT THICKNESS (FT)	2.45	0			
SCREEN INTERV. (FT BLS)	N/A	N/A			

Project #: 115123

Initials: ML

Date: 1-11-06

Start Time: 0915

AFVR Stack and Vacuum Truck Data

Stack Diameter	6 inches
FID Calibration Gas	Methane
Calibrated yes/no	yes

Fluids Recovered	
Water (gals)	80
Product (gals)	1

Water level Measurements - AFVR and Observation Wells (from TOC)

Actual Time	Elapsed Time	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP
0915	0:00	8.30	5.85	4.67	0						
0930	0:15	-	-	4.67	0						
0945	0:30	-	-	4.67	0						
1000	0:45	-	-	4.67	0						
1015	1:00	-	-	4.67	0						
1030	1:15	-	-	4.67	0						
1045	1:30	-	-	4.68	0						
1100	1:45	6.88	0	4.68	0						
	2:00										
	2:30										
	3:00										
	3:30										
	4:00										
	4:30										
	5:00										
	5:30										
	6:00										

NOTE: DTW - Depth to Water (ft, TOC) :: DTP - Depth to Product (ft, TOC)

AFVR Stack and Vacuum Truck Measurements

Elapsed Time	FID (ppm)	Velocity (ft/sec)	Temp (°F)	Temp (°C)	Vac Truck ("Hg)	Vac Truck (RPM)
0:00	2200,000	400	51	-	24	600
0:15	2200,000	400	55	-		
0:30	2200,000	400	57	-		
0:45	2200,000	400	58	-		
1:00	186,078	400	61	-	22	600
1:15	172,342	400	62	-		
1:30	163,562	400	64	-		
1:45	141,692	400	65	-		
2:00						
2:30						
3:00						
3:30						
4:00						
4:30						
5:00						
5:30						
6:00						

Aggressive Fluid Vapor Recovery (AFVR) Data Sheet

Facility: MCB Camp Lejeune, NC

Location: MCAS NEW RIVER Bldg. AS-4141

Baseline Data - AFVR and Observation Wells

WELL IDENTIFICATION	OBG-3R	OBG-06			
AFVR WELL (YES/NO)	YES	NO			
WELL DEPTH (FT BLS)	12.71	12.39			
DIAMETER (INCH)	2"	2"			
DEPTH TO PRODUCT (FT)	6.27	0			
DEPTH TO WATER (FT)	7.46	5.03			
PRODUCT THICKNESS (FT)	1.19	0			
SCREEN INTERV. (FT BLS)	N/A	N/A			

Project #: 115123

Initials: mmz

Date: 01/19/06

Start Time: 1300

AFVR Stack and Vacuum Truck Data

Stack Diameter	6 inches
FID Calibration Gas	Methane
Calibrated yes/no	yes

Fluids Recovered	
Water (gals)	125
Product (gals)	1 1/2

Water level Measurements - AFVR and Observation Wells (from TOC)

Actual Time	Elapsed Time	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP
1300	0:00	7.46	6.27	5.03	0						
1315	0:15	-	-	5.03	0						
1330	0:30	-	-	5.03	0						
1345	0:45	-	-	5.03	0						
1400	1:00	-	-	5.03	0						
1415	1:15	-	-	5.04	0						
1430	1:30	6.79	0	5.03	0						
	1:45										
	2:00										
	2:30										
	3:00										
	3:30										
	4:00										
	4:30										
	5:00										
	5:30										
	6:00										

AFVR Stack and Vacuum Truck Measurements

Elapsed Time	FID (ppm)	Velocity (ft/sec m/sec)	Temp (°F °C)	Vac Truck (°Hg RPM)
0:00	> 200,000	400 -	58 -	22 600
0:15	> 200,000	400 -	63 -	
0:30	> 200,000	400 -	65 -	
0:45	186,826	400 -	66 -	
1:00	172,384	400 -	69 -	22 600
1:15	158,584	400 -	71 -	
1:30	140,614	400 -	73 -	
1:45				
2:00				
2:30				
3:00				
3:30				
4:00				
4:30				
5:00				
5:30				
6:00				

NOTE: DTW - Depth to Water (ft, TOC) :: DTP - Depth to Product (ft, TOC)

Aggressive Fluid Vapor Recovery (AFVR) Data Sheet

Facility: MCB Camp Lejeune, NC

Location: MCAs New River, Bldg AS-4141

Baseline Data - AFVR and Observation Wells

WELL IDENTIFICATION	KW-1	DBG-6			
AFVR WELL (YES/NO)	yes	no			
WELL DEPTH (FT BLS)	21.48	12.39			
DIAMETER (INCH)	6"	2"			
DEPTH TO PRODUCT (FT)	5.07	0			
DEPTH TO WATER (FT)	5.93	5.72			
PRODUCT THICKNESS (FT)	0.86	0			
SCREEN INTERV. (FT BLS)	N/A	N/A			

Water level Measurements - AFVR and Observation Wells (from TOC)

Actual Time	Elapsed Time	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP	DTW	DTP
1615	0:00	5.93	5.07	5.72							
1630	0:15	-	-	5.72							
1645	0:30	-	-	5.72							
1700	0:45	-	-	5.72							
1715	1:00	5.81	0	5.73							
	1:15										
	1:30										
	1:45										
	2:00										
	2:30										
	3:00										
	3:30										
	4:00										
	4:30										
	5:00										
	5:30										
	6:00										

NOTE: DTW - Depth to Water (ft, TOC)

DTP - Depth to Product (ft, TOC)

Project #: 115123

Initials: ML

Date: 4-21-06

Start Time: 1615

AFVR Stack and Vacuum Truck Data

Stack Diameter	6 inches
FID Calibration Gas	Methane
Calibrated yes/no	yes

Fluids Recovered	
Water (gals)	100
Product (gals)	1/2

AFVR Stack and Vacuum Truck Measurements

Elapsed Time	FID (ppm)	Velocity (ft/sec, m/sec)	Temp (°F, °C)	Vac Truck (°Hg, (RPM))
0:00	2200.000	400 -	58° -	20 600
0:15	196.824	400 -	58° -	
0:30	181.328	400 -	60° -	
0:45	164.464	400 -	62° -	
1:00	149.448	400 -	63° -	20 600
1:15				
1:30				
1:45				
2:00				
2:30				
3:00				
3:30				
4:00				
4:30				
5:00				
5:30				
6:00				

APPENDIX F

CONCEPTUAL MODEL

Conceptual Model for RAO & RCAP Addendum Report

**Building AS-4141
MCAS Cherry Point**

Prepared By:



Introduction

CATLIN has prepared a conceptual model for optimization of the remedial approach at the Building AS-4141 project site aboard MCAS New River, NC. This presentation of our conceptual model is outlined as follows:

- Existing Site Conditions
- Site Remediation Goals
- Remedial Evaluation
- Recommendations

Existing Site Conditions

◆ Intermediate Risk

- Due to presence of free-phase product in monitoring wells, recovery wells and temporary piezometers.

◆ Industrial/Commercial Land Use

- Due to active industrial and commercial areas surrounding the subject site.

Existing Site Conditions (cont.)

◆ Free-Phase Product (March 15, 2006)

- 1.0 feet in recovery well RW-1.
- 0.4 feet in monitoring well OBG03R.
- 0.6 feet in temporary piezometer TP1.
- 0.7 feet in temporary piezometer TP3.
- 0.05 feet in temporary piezometer TP5.
- 0.3 feet in monitoring well UST4141-MW16.
- 0.2 feet in monitoring well UST4141-MW17.

Existing Site Conditions (cont.)

◆ Dissolved Groundwater Contamination

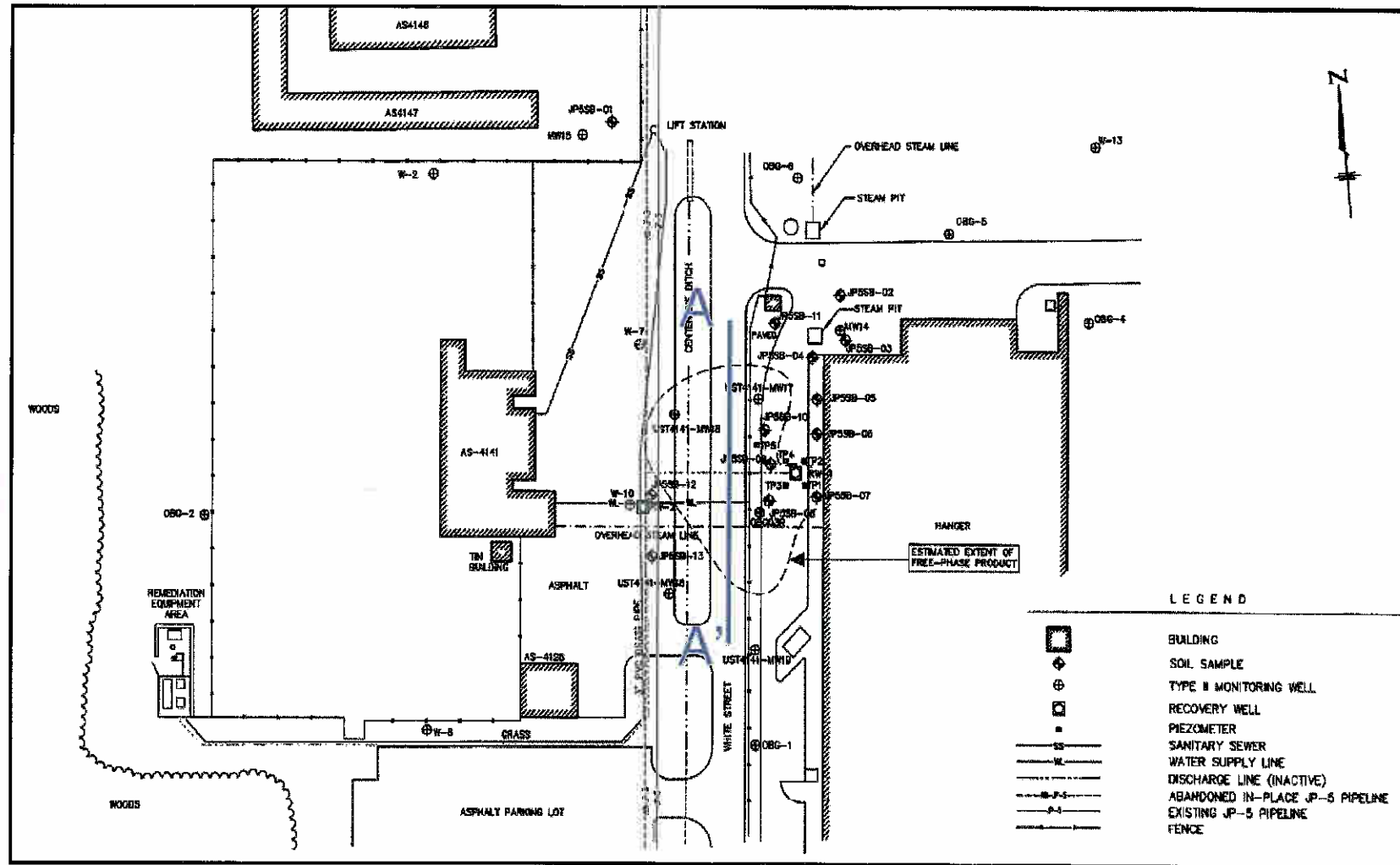
- December 22, 2005 groundwater sampling event by Shaw revealed lead concentrations above 2L GWQS in monitoring wells USTAS4141-MW15 and USTAS4141-MW02. Monitoring well USTAS4141-MW15 also revealed 2-Methylnaphthanene concentrations above 2L GWQS.
- All other monitoring wells without free-phase product accumulations were below 2L GWQS during the December 22, 2005 sampling event.

Existing Site Conditions (cont.)

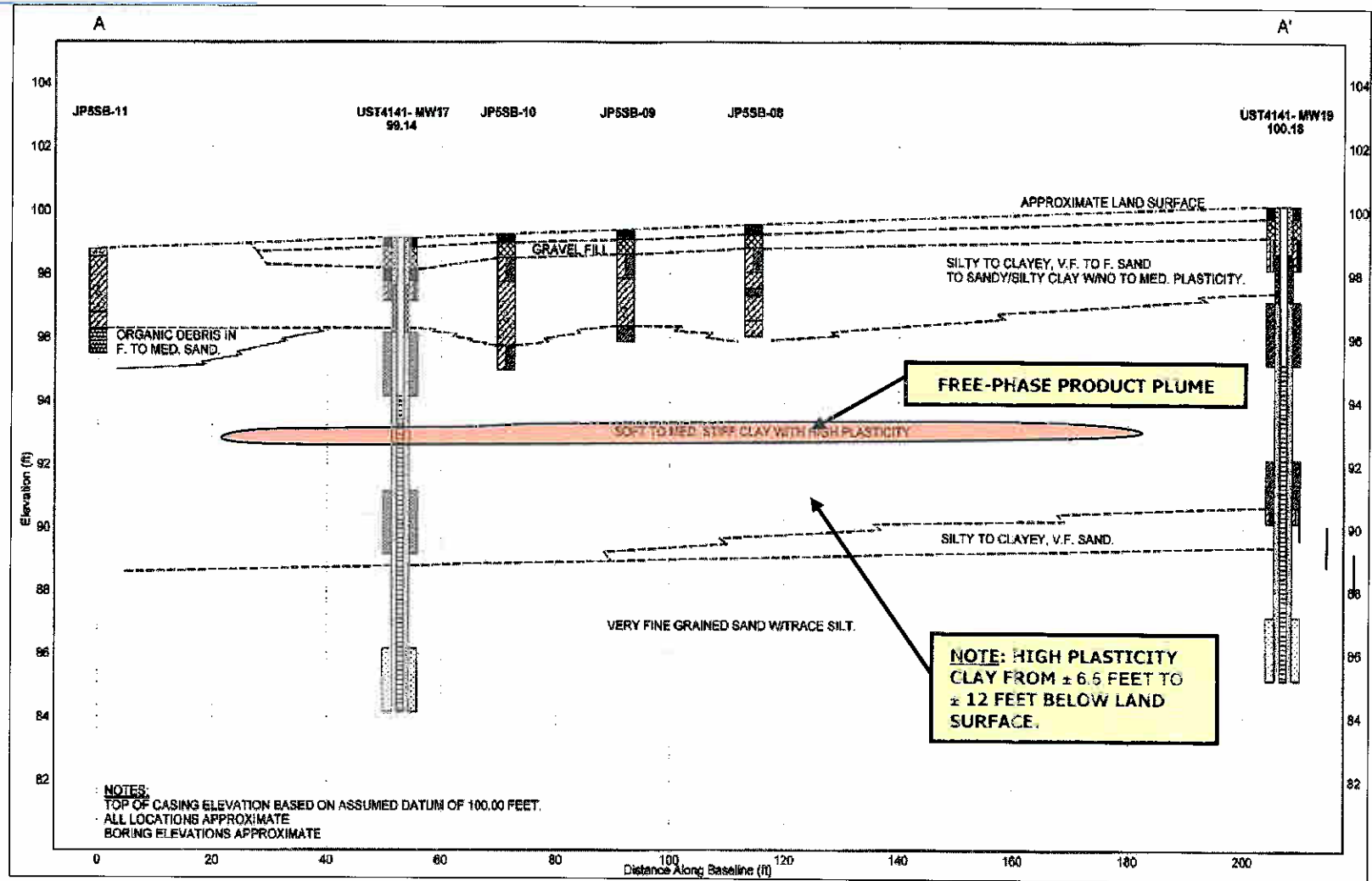
◆ Soil Contamination

- No soil contamination was detected above Residential or Industrial/Commercial MSCCs per EPA Methods 8260 or 8270 during the November/December 2005 sampling event by CATLIN. However, soil boring locations JP5SB-02, JP5SB-05, and JP5SB-12 reveled C9-C22 Aromatics above Residential MSCCs but below Industrial/Commercial MSCCs.

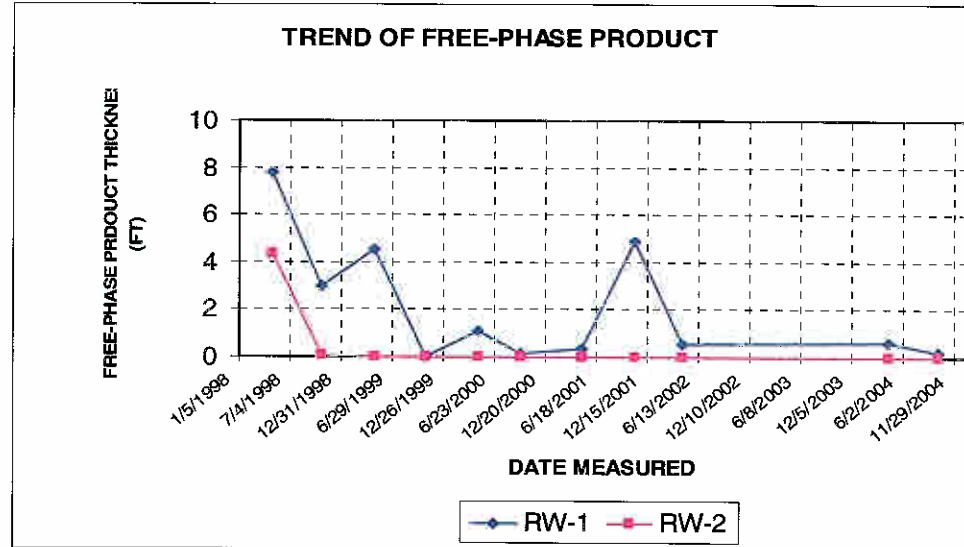
Free-Phase Product Plume As Of 3/15/2006 With Cross Section Plan View



Cross Section A-A'



Free-Phase Product Timeline



- Groundwater Depression System operated between Feb. 1994 and July 2000.
- AFVR events have been performed since July 2000 and are still performed to date.
- Timeline indicates continual presence of free-phase product with diminishing return from the remedial efforts to date. Therefore, further assessments in late 2005 and early 2006 were conducted. These assessments revealed product plume to be much larger than originally estimated.

Site Remediation Goals

To reach “Low Risk” in order to request No Further Action.

- ◆ Reduce Free-Phase Product thickness accumulations to less than 0.01 feet.
- ◆ Reduce dissolved contamination levels to less than Gross Contamination Levels. After removal of free product, groundwater sampling will be necessary to confirm goal are met.
- ◆ Reduce soil contamination to less than the Industrial/commercial maximum soil contaminant levels. This goal has been met.

Possible Technologies to Meet Goal of Free Product Removal

- ◆ Passive Skimmer System
- ◆ Excavate & Treat
- ◆ Groundwater Depression System
- ◆ Dual Phase Extraction (DPE)
- ◆ Aggressive Fluid Vapor Recovery (AFVR)

Remediation Evaluation

The Following is an Evaluation of the Most Viable Remedial Options for this Site:

◆ Skimmer System

- Low volumes of water requiring treatment/disposal.
- Smaller area of influence requires close spacing of recovery wells and/or longer duration of remediation.
- Reduced effectiveness in low permeability soils.

◆ Excavation & Treat

- Very effective if site is accessible.
- High concentration of underground utilities and other site features would make this approach difficult to address entire plume.
- High costs for treatment/disposal can be accrued with large plume

Remediation Evaluation (cont.)

◆ Groundwater Depression System

- Requires the recovery, treatment and disposal of nuisance of groundwater.
- Prior performance indicates approach may not be the most effective remedial option for this site. However, the free-phase product plume appears to be much larger than previously assumed. Therefore, groundwater depression system, if expanded, may be a viable option for removal of free-phase product.

Remediation Evaluation (cont.)

◆ Dual Phase Extraction (DPE)

- Proven performance in low-permeability soils.
- Requires the recovery, treatment and disposal of nuisance groundwater.

◆ AFVR

- High water-to-free phase product recovery ratio.
- Nuisance groundwater requiring treatment/disposal.
- Prior performance at this site indicates approach is not effective.

Remediation Evaluation (cont.)

Table comparing cost vs. effectiveness for various technologies

• Skimmer System • AFVR		
	• Groundwater Depression System • DPE	• Excavate & Treat

Life Cycle Cost Comparison

Tasks	REMEDIAL APPROACHES			
	Passive Skimmers	Excavate & Treat	Groundwater Depression	Dual-Phase Extraction
Design	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
System & Installation	\$ 774,000	\$ 544,000	\$ 252,000	\$ 200,000
Operation & Maintenance	\$ 900,000	-	\$ 721,000	\$ 514,000
Monitoring	\$ 234,000	\$ 68,000	\$ 180,000	\$ 140,000
Subtotal	\$ 1,958,000	\$ 662,000	\$ 1,203,000	\$ 904,000
20 % Contingency	\$ 392,000	\$ 132,000	\$ 241,000	\$ 181,000
TOTAL COST	\$ 2,350,000	\$ 794,000	\$ 1,444,000	\$ 1,085,000

Number of years required for each system

Op & Maintenance:	10	0	7	5
Monitoring:	15	5	10	10

NOTES: 1) Required time for remediating site will vary depending on technology implemented.

2) Costs for power requirements are not included

Recommendations

- ◆ A DPE system appears to be the most appropriate remediation option due to its applicability to the subsurface site restrictions (high concentration of underground utilities, aboveground site features and the presence of low permeability soils). However, Camp Lejeune may want to consider one of the other recommended approaches to accommodate base activities.
- ◆ Once free-phase product has been removed to less than 0.01 feet, the site may be reclassified as Low Risk.

Recommendations (cont.)

- ◆ As a Low Risk site, the GCLs are the appropriate cleanup standard and sampling of the groundwater from the area of the removed product will be necessary.
- ◆ A “No Further Action” request will be prepared for this site if the dissolved contaminant levels are less than the GCLs.
- ◆ Should the dissolved contaminant levels be above the GCLs, remediation of groundwater may be evaluated.

APPENDIX G

RISK CLASSIFICATION & LAND USE FORM FOR PROBE 52 AREA

A. RISK CHARACTERIZATION

Limited Site Assessment Risk Classification and Land Use Form

Part I - Groundwater/Surface Water/Vapor Impacts

High Risk

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

No. According to MCB Camp Lejeune and the latest Wellhead Protection Plan Update (2002), the closest active water supply well is AS-4150 not shown on Map, Figure 1B, and is located approximately 2,250 feet to the southwest of the site, and does not have known contamination.

2. *Is a water supply well used for drinking water located within 1,000 feet of the source area of the discharge or release?* YES NO

No. According to water supply well data provided by MCAS Cherry Point, no supply wells are located within a 1,000 foot radius of the site.

3. *Is a water supply well not used for drinking water (e.g., irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area of the release?* YES NO

No. Wells were not located within 250 feet of the source area.

4. *Does groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than the groundwater)?* YES NO

No. There are an adequate number of locations for additional water supply wells to be installed on other portions of the base.

5. *Do vapors from the release pose a threat of explosion because of accumulation of the vapors in a confined space or pose any other serious threat to public health, public safety or the environment?* YES NO
If YES describe.

No. There is no evidence to suggest an accumulation of vapors in a confined space or any other serious threat to public health, public safety or the environment.

6. *Are there any other factors that would cause the discharge or release to pose an imminent danger to public health, public safety, or the environment?* YES NO
If YES describe.

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

Intermediate Risk

7. *Is a surface water body located within 500 feet of the source area of the discharge or release?* YES NO

No. According to the latest GIS data provided by MCB Camp Lejeune, no surface water bodies have been located within 500 feet of the source area.

If YES, does the maximum groundwater contaminant concentration exceed the surface water quality standards and criteria found in 15A NCAC 2B.0200 by a factor of 10? YES NO

Not Applicable.

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

No. Wellhead protection areas defined by 42 USC 300h-7(e) have not yet been designated by NCDENR for MCB, Camp Lejeune. However, MCB Camp Lejeune has identified Wellhead Protection areas on the base. Based on the most recent Wellhead Protection Plan Update (2002) performed for MCB Camp Lejeune, the site is not located within a potential wellhead protection area.

9. *Is the release located in the Coastal Plain physiographic region as designated on a map entitled "Geology of North Carolina" published by the Department in 1985?* YES NO

Yes. The site is located in the Coastal Plan physiographic region.

If YES, is the source area of the release located in an area in which there is recharge to an unconfined or semi-confined deeper aquifer that is being used or may be used as a source of drinking water? YES NO
If YES describe

A Type III deep monitoring well is currently not located at the Probe 52 project site; therefore, recharge to the deep aquifer cannot be confirmed at this time. However, based on Type III deep monitoring well data from the adjacent Building AS-4141 project site, CATLIN assumes recharge is a possibility.

10. *Do the levels of groundwater contamination for any contaminant exceed the gross contamination levels established by the Department?*

YES NO

No. All historical contaminate levels have been below the current GCLs.

Part II - Land Use

Property Containing Source Area of Release

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

1. *Does the property contain one or more primary or secondary residences (permanent or temporary)?
Describe.*

YES NO

No. The property does not contain any primary or secondary residences.

2. *Does the property contain a school, daycare center, hospital, playground, park, recreation area, church, nursing home, or other place of public assembly?
Describe.*

YES NO

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

3. *Does the property contain a commercial (e.g., retail, warehouse, office/business space, etc.) or industrial (e.g., manufacturing, utilities, industrial research and development, chemical/petroleum bulk storage, etc.) enterprise, an inactive commercial or industrial enterprise, or is the land undeveloped?
Describe.*

YES NO

Yes. The current site layout primarily encompasses paved parking areas with storage buildings.

4. *Do children visit the property?
Explain.*

YES NO

No. The site is fenced in and children are not likely to visit the property.

*Is access to the property reliably restricted consistent with its use (e.g., by fences, security personnel or both)?
Explain.*

YES NO

Yes. The area is restricted by a fence.

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

Yes. The area is capped with asphalt and/or concrete. Please note that soil contamination was not observed during this investigation.

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

Not applicable. No soil contamination was observed during this investigation.

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

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

7. *Is the use of the property likely to change in the next 20 years?* YES NO
Explain.

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

Property Surrounding Source Area of Release

The questions below pertain to the area within 1,500 feet of the source area of the release (excludes property containing source area of the release):

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

The closest residence is not within 1,500 feet of the subject site.

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

A playground is located approximately 1,200 feet to the west of the subject source area. Please note, other athletic fields are located within a 1,500 foot radius of the subject source area, refer to Figure 1B.

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

As previously mentioned, the MCB Camp Lejeune is not subject to local or county zoning requirements.

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

The surrounding properties are developed and used for military support purposes, including a hangar and other various support facilities.

B. RECEPTOR INFORMATION

1. Water Supply Wells

Physical reconnaissance and review of the Wellhead Protection Plan – 2002 Update prepared by AH Environmental indicated that there are no active water supply wells located within 1,500 feet of the Probe 52 project site. The closest active water supply well is AS-4150, located approximately 2,100 feet southwest of the source area of release. Water supply wells located within 1,500 feet of the subject site are listed as “closed” within the latest database provided by Camp Lejeune to CATLIN and include AS-4140 and AS-131.

2. Public Water Supplies

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

YES NO

Yes.

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

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

3. Surface Water

There are numerous surface water bodies located within 1,500 feet of the source area of release including detention/retention ponds and drainage ditches. However, no surface water bodies have been located within 500 feet of the source area. All information regarding potential surface water receptors was provided by MCB Camp Lejeune, and is shown on the site map, Figure 1b.

4. Wellhead Protection Areas

As previously mentioned, according to the Wellhead Protection Plan –

2002 Update prepared by AH Environmental indicated that there are no active water supply wells located within 1,500 feet of the Probe 52 project site. The closest active water supply well is AS-4150, located approximately 2,100 feet southwest of the source area of release.

5. Deep Aquifers in the Coastal Plain Physiographic Region

As identified in the Geologic Map of North Carolina (North Carolina Department of Natural Resources and Community Development, 1985), the subject site lies within the Coastal Plain Physiographic Province. A deep monitoring well is currently not located at the Probe 52 project site; therefore, recharge to the deeper aquifer cannot be confirmed at this time.

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

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

6. Subsurface Structures

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

7. Property Owners and Occupants.

The Probe 52 project site is owned and operated by the Commanding General – Marine Corps Base, Camp Lejeune.